PCARA Update

Volume 14, Issue 2 Peekskill / Cortlandt Amateur Radio Association Inc. February 2013

Thanks for the memory

The 6th Annual PCARA Bring and Buy Auction held at January's meeting didn't disappoint. **Thanks to some very generous members** who brought along some of their no longer needed riches and donated their profits to the club, the treasury increased about **$100!** Also thanks to Malcolm, NM9J who once again used his talent as an auctioneer to keep the activities moving along smoothly.

Radios and antennas changed hands at PCARA's annual Bring and Buy Auction, aided by auctioneer Malcolm, NM9J. [Photos by Ray W2CH]

Upcoming events include the Orange County Amateur Radio Club Hamfest (http://www.ocarc-ny.org/index.shtml) on Sunday April 14, 2013. Among topics at February's meeting will be about PCARA taking a club table at that 'fest. Other activities to be discussed also include (but are not limited to) PCARA hosting a Fox Hunt in May, and our annual participation in Field Day. If you are interested in helping to organize either of these events, please let us know by sending an email to mail@pcara.org.

Members and friends were showing restraint during the January PCARA auction – so as not make a bid by mistake.

Our next regularly scheduled meeting will be Sunday February 3, 2013 at 3:00 pm at Hudson Valley Hospital Center in Cortlandt Manor, NY. I look forward to seeing each of you there.

- 73 de Greg, KB2CQE

PCARA Officers

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

Contents

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 news and neighborly information.

Adventures in DXing

– N2KZ

Growing up, I loved listening to the radio. As a young adult, I worked in radio. I lived and breathed radio. Audio fidelity, audio processing and audio editing were fine arts I appreciated daily. Creating aural engineering magic was an honored skill developed after many, many years of practice and use. Listening to proficient professional audio was like enjoying fine wine. My AM/FM tuner, record turntable, big McIntosh amplifier and cherished JBL speakers could take me to heaven. What a marvelous treat audio was!

Times have changed. How I miss good audio. Today, it is almost impossible to find. Most people listen to little iPod headphones, smartphone speakers or built-in computer speakers. Some desktop PCs have accessory speakers that attempt competency because they feign bass. People will sometimes augment their televisions with surround sound amplifiers and speaker packages, but the included speakers are often only good at being pretty. Accurately reproducing sound is a challenge they will never meet.

It is also difficult to find beautiful sounding new audio to play. Long ago we learned that digital audio sounds harsh. Sampling doesn't capture harmonics and warmth the way it should. When you compress audio, you compress joy. I can look at a 72 dpi .jpeg of daVinci's Mona Lisa and get the idea, but there is nothing like the real thing. Audio is no different.

Pixelated and enigmatic

The same is true for broadcast audio. Here in New York City, the first assault came when, decades ago, ABC's WPLJ-FM started to use an elaborate three-band equalizer/processor to make them the absolute loudest station alive. Later, the broadcast industry decided to limit AM radio audio response to 9 kHz. 'Compatible' digital HD Radio has become a tireless assault on the art of radio audio whittling response to 5 kHz or less combined with an endless machine drone five channels wide. No retreat is in sight. All hope is gone!

The coming of computers took audio down to the basement. Digital studio-to-transmitter links, especially those using Internet connections, robbed music of fullness and life. Random playlists, requiring no human intervention, ruin all chances of every hearing 'a perfect segue' blending one song to another ever again. Heavily compressed music and talk, perverted further through today's 'smart' audio processors, creates the aural equivalent of grizzle. Satellite radio really does sound like listening to the world through a reversed megaphone. Oh, my poor ears!

Even on a personal level, where can you go to hear good new recordings? High fidelity, these days, is 256 kilobits per second with a 44.1 kHz sample rate. It's nothing more than ones and zeros. Many iPod files are half that rate or smaller. (I love the iTunes option of using the Apple *Lossless* Encoder to ingest music!) Audio has fallen back to the quality I knew long ago listening to my first transistor radio. Shouldn't sound reproduction be simply *amazing* in the year 2013? How could our aural standard be based on iPod earbuds? On-line audio may be disappointing, but radio audio is so sad and harsh. I may sorely miss 'high fidelity,' but this generation will never even know what 'high fidelity' is!

One thing is painfully clear: Greed is a powerful force. Radio, television, newspapers, billboards and signs are big business. To maximize profits, many think it is best to provide products with broad appeal that require the least investment up front. Corporate entities truly believe that even though the choices are few and quality is poor, public demand will continue. Or will it?

Is over-the-air broadcasting obsolete? I am beginning to think so. Technology is marching forward,

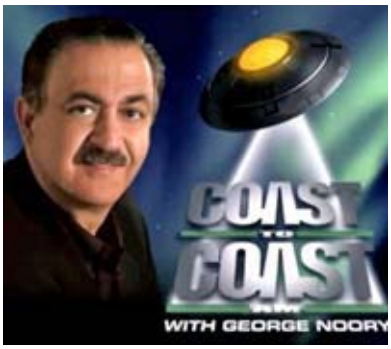
but with so many deficiencies. I now use a smartphone app that allows me to listen to over 70,000 radio stations worldwide over the Internet. I can also listen to innumerable podcasts and see videos whenever I like. Does anything really need to be 'live' anymore? With digital transmission, there is no static or fading *or fidelity*. (When it drops out, it drops out completely!) What a miracle!

Forget your dreams about high fidelity; also missing is local exclusivity. Not only do radio stations and other audio feeds lack any local content, there is no longer any guarantee that people throughout your community are tuning in at all. Who knows? You may have listeners scattered all over the world or all situated in Mongolia. With thousands of on-line 'stations' and on-demand Podcasts to choose from, is everyone in 'their own private Idaho?' I'm afraid so! Case in point: During Hurricane Sandy, I had friends ask 'Can I borrow a radio? My clock radio runs on electricity.' When was the last time you bought a radio? Is there nothing left?

Local advertisers can no longer easily reach their potential customers. You and your neighbors are losing all avenues to discover local events and information. Delivering messages and alerts with immediacy has disappeared, too. With thousands of entertainment choices, it's just not economically viable to continue local programming in the eyes of corporations holding the licenses of thousands of stations nationwide. It is so much cheaper to program them all alike.

Radio no longer has any local identity. In every city in America, radio stations have become unspecific and anonymous duplicates. Herein lies the darkest moment: No one wants to invest the time and effort needed to actually serve the public. Mass production is sufficient. 'They will listen anyway.' What a tragedy!

Today's American radio could be distributed on a handful of nationwide channels without losing any variety. Listen to AM radio at night and you'll witness dozens and dozens of stations all echoing 'Coast-to-Coast AM with George Noory.' It's no different in the daytime. You'll hear two or three talk show hosts broadcasting centrally from another part of the country repeating all over the dial. Consolidating further, local stations are now clustered into regional multiple station groups. It is so efficient and cost-effective. Right?



Even more mind-numbing and irrelevant to your world are Internet distributed music services with vague or non-existent identities. Have you ever wondered (or tried to find out!) just where Pandora, 181.FM, Addicted to Radio, GotRadio, Slacker and a million other services come from? Does it matter? Do any of them feature human beings? Is there any difference now between big corporation broadcasters and basement broadcasters? The endless lists of stations available via smartphone show no distinctions except one: The lesser entities have much lighter commercial loads! Most important: What is the business model for financially supporting tens of thousands of audio feeds? How do today's advertisers reach anybody? How do you build an identity among 70,000 competitors? What will this all evolve into, or will broadcasting cease to exist?

Basement broadcaster

Will any media service ever return their focus to local news and interests? Local newspapers are falling out of business. Locally produced radio no longer exists or is limited to a single weekday-only 6 am to 9 am time slot. During Hurricane Sandy or big snow storms, no local information was being conveyed to areas like Peekskill or Mt. Kisco. Peekskill's local AM radio station was off the air for days! Long gone is any sense of local public service. Both of Mt. Kisco's stations now relay 24/7 prerecorded religious programming. How does this serve Mt. Kisco?

The airwaves should carry local news and interests.

Yesterday, I heard my closest radio station, WREF in Ridgefield, Connecticut, on the air with only an open carrier all morning. They finally did turn the station's transmitter off before noon but their broadcasts were silenced all day long not to return until the following morning. I guess the contract engineer was just too far away or too busy to be bothered. Mt. Kisco's NPR relay of WAMC Albany is off the air again. After Hurricane Sandy, they were off the air for weeks. Will anyone ever rediscover the gold mine possible in local content? Is anyone listening? I wonder if I will live to see the day when local content becomes a new novelty. Imagine: A station on the air for your county and your county alone!

Television is not immune to this trend. Many families are deciding to 'cut the cable' and leave the world of cable or fiber-delivered subscription TV. Why pay for hundreds of channels that remain unwatched? Using a variety of Internet interface boxes, (like a Nintendo Wii, Roku box, Apple TV, a simple Blu-Ray player or, even better, an Internet-ready TV) viewers transcend cable and broadcast networks and watch what they want, when they want, online. With 'cable' subscriptions costing $200 a month or more, consumer savings could be sizable. Do television networks (or televisions themselves) need to exist? Not really. Who wants to see a continuous stream of shows, on a strict schedule in real time, when you can see everything on-demand?

Internet-TV

Welcome to the year 2013: Your entire life is now reliant on the Internet. You may have a generator installed at your house, but this does not insure having Internet or phone connections when on-grid power fails. How will you communicate? If anyone could bring the Internet down, the world would be on its knees begging for mercy! Where would people go to find out what is going on? I believe the last link to immediate local news might someday be amateur radio! Amateur's ability to provide emergency communications is becoming the only place for the public to hear what is going on as it happens on a local level.

Before you dismiss this idea, give it some thought. What other medium is poised to convey local news in an immediate way? A weekly local newspaper or monthly magazine? An automated radio station playing music from a computer or relaying a satellite talk show? A big city television station based 40 miles away? All ham radio operators have to do is press a button and they are on the air. It doesn't get more immediate than that!

Now more than ever, amateur radio is vital in providing point-to-point communications. You won't hear about local events anywhere else. Hams are prepared to communicate without grid power or the Internet! You'll hear us conveying essential messages of road closures, weather conditions including National Weather Service Skywarn spotter nets, and public safety Radiogram messages relaying personal status or requests for emergency supplies or assistance over the air. No Internet or telephones are necessary! Amateur radio operators are professional emergency responders in every way. Their services can really make someone's day. Listening to us work, as progress unfolds, can be a vital source of information like no other.

With such a lack of local broadcast radio, people may soon be tuning in to amateur chat nets for news. (Now you can hear ham radio repeaters on the same applications that deliver 'radio stations' to your smartphone like TuneIn.) Scanners are very popular where I vacation in Michigan. If your net meets on a daily regular schedule, you could become the talk of the town! Can you imagine overhearing someone say 'Did you hear the Goat's Net last night?' I'm not saying that we have reached that point, but it's starting to look like a pretty good alternative!

Listening to 2 meters is quite accessible to the general public. Battery-powered scanners are inexpensive and easy to obtain and use. Household broadcast band radios are now being marketed with integrated 2 meter receivers (most notably the C. Crane CCRadio-2.) It is so important that amateurs continue to practice and maintain emergency communication nets and make the public aware of our presence! In many ways, we may become the radio stars of tomorrow! High fidelity audio and local radio may be only a memory, but ham radio will continue to provide sunlight all through this modern age.

C. Crane's CCRadio-2 includes 144-148 MHz reception

I can only sit and wonder about the future. Yet another new television standard is on the horizon: 4K Ultra-HD. The TV industry is also rolling out digital mobile TV you can watch on a dedicated portable receiver or over a smartphone. (Portable TV? Didn't we first do that back in the 1960s?) By the way, have you watched anything new on your expensive 3D TV lately? Can high technology innovations continue to be marketed if manufacturers can't sell the miracles they create?

Tell me which of these innovations have actually revived or saved the radio industry over the decades: FMX, AM Stereo, NRSC filtering, FM Quad, compatible IBOC 'HD Radio', RDS, DRM, broadbanding AM antennas, 'smart' audio processing, data service packets and iTunes links. As an engineer, I admire the years of thought, development and dollars required to

attempt these improvements. Time has shown the secret to success is not in high technology. Basic AM or FM broadcasting is pretty good as first designed! All you have to do is open your microphones instead of relying on the drone of pre-packaged sludge. It takes more energy and effort, but the results can be amazing. Imagine a world where your entire surroundings were listening to YOU.

Also, consider just how far listeners have gone to replace what big corporation radio has taken away. We really don't want to hear songs we have already heard ad infinitum for 30 or 40 years. Prank phone calls, dirty jokes and maniacal laughter do not create a morning zoo I want to visit. After watching our last hope, satellite radio, decay and die, we have now resorted to iPods, smartphones, mp3 players and anything else we can find to replace what we used to love. Now auto manufacturers are building in Internet interfaces to deliver Pandora and such.

Karl's first transistor radio, Aud-ion two.

Think of the money and effort we've spent to replace what was once ours for free! I remember loving my first transistor radio and knowing that *everybody* was listening to Dan Ingram or Cousin Brucie. I tried to explain to my daughters that everyone could listen to the same thing all at once. To them, it was quite a novel concept. What I would do to have local radio back again!

Dan Ingram

I have a dream that someday big business media will begin to understand that all new innovations in home entertainment can be negated if there is nothing compelling to watch or listen to. On YouTube, the blurriest images with the worst sound can be a sensation if there is something that you really want to see that everyone is talking about. If it is all about your neighborhood, the interest increases ten-fold. Content and relevance IS everything. When will they ever learn? Ham radio never fades away. We are local. We are relevant. We are not dependent on big corporations! It may be our last hope. This is why I am so proud to be a part of it.

Cousin Brucie (Bruce Morrow)

– de Karl, N2KZ 'The Old Goat.'

Counterfeit products

Lovji, N2CKD draws our attention via the IBM Worldwide Amateur Radio Club to an article on Icom's web site regarding counterfeit Icom equipment. (http://www.icom.co.jp/world/notice/070308/)

In the article, Icom states that counterfeit products have become a serious concern for the company and they are fighting against them. Counterfeit products hurt Icom's business, while authorized dealers, distributors, and above all, users become victims. Counterfeit products are often sold at a low price, but are of inferior quality and performance. Use of fake transceivers, battery packs and chargers may cause safety problems including fire hazards. Genuine Icom products should be purchased from Icom authorized dealers and distributors.

One example of a fake depicted on the Icom site is the IC-V8 2 meter handi-talkie, which has differences in the logo on the front panel, a wrongly labeled front-panel button and extra labeling on the speaker/mic jacks. The color of the Icom serial number label is also incorrect, with a white background on the counterfeit model.

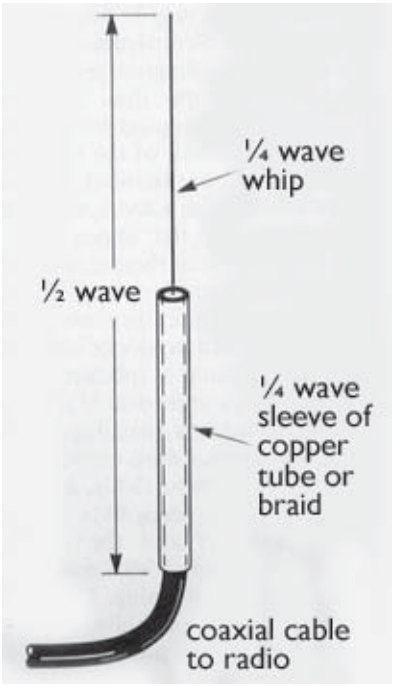
Counterfeit IC-V8 2 meter handi-talkie on right has several differences from the the genuine Icom article at left.

Additional examples on the Icom web site include the IC-F21 commercial UHF handi-talkie which has incorrect labels for the serial number and battery pack. The IC-2720H dual band 144/440 MHz mobile FM transceiver is also featured, with the counterfeit version having an incorrectly labeled hand microphone, type HM-133V.

CFR antenna

CFR — isn't that the Code of Federal Regulations? Yes it is, but it can also stand for "Controlled Feeder Radiation", a type of antenna proving newly popular in the UK.

The modern CFR story begins in the September 2012 issue of *RadCom*, the journal of the Radio Society of Great Britain, where "Antennas" columnist Peter Dodd, G3LDO, describes his experience creating a limited space 14 MHz antenna for use at an exhibition station. Peter's antenna was based on a design by James Taylor, W2OZH (*QST*, Aug 1991, pp 24-27 and *RadCom*, June 1997, pp 63-64). W2OZH described the evolution of an end-fed dipole antenna, starting with the sleeve dipole. The sleeve dipole or "Rocket antenna" is a design I remember from the UK for VHF base station field use by the UK Civil Defence organization (spelled with a 'c').



Sleeve dipole consists of a half wave dipole whose lower element is a ¼-λ metal sleeve surrounding the coaxial feeder cable.

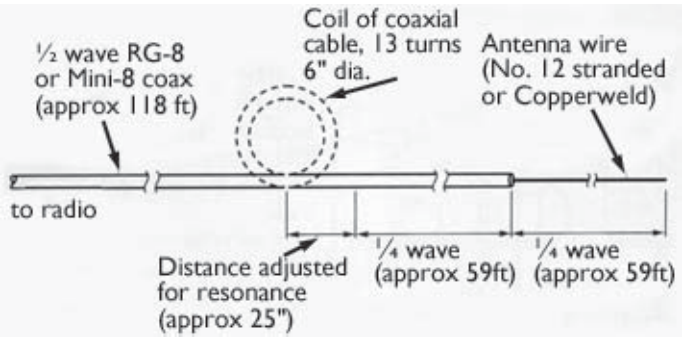
Roll up your sleeve

In the sleeve dipole, the lower leg of the dipole is a length of metal tubing, through which the coaxial feeder cable runs. The outer conductor of the coax is connected to the sleeve at the center, the bottom end of the sleeve is then open circuit. The upper leg of the dipole is connected to the coaxial cable inner conductor.

If you would like to build a sleeve dipole, take a look at the web article by Harold Melton K5VR, at the following address: http://www.athensarc.org/sleevedipole.asp . This design for two meters was modified for dual band use by Geoff Haines, N1GY in the August 2006 issue of *QST*, p 50. N1GY went on to describe a 6 meter version on his own web site at: http://mysite.verizon.net/cpthaines/id30.html .

Nothing up my sleeve

W2OZH found a way to eliminate the metal sleeve, without having common mode currents running along the outside of the coaxial cable braid. He placed a coil of coaxial cable roughly one quarter wave from the central feed point. By adjusting the position of this coil, which is close to self-resonance, a good match to 50 ohms can be achieved. W2OZH described a horizontal dipole for 80 meters fed this way and called it a "Resonant Feed-line Dipole" or RFD-1.

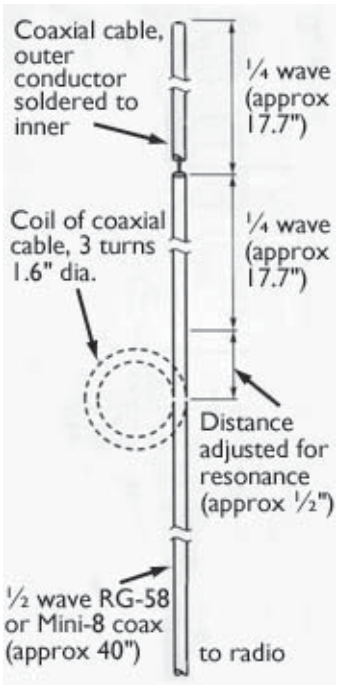


RFD-1 horizontal dipole antenna for 80 meters (3.95 MHz) as described by W2OZH. Instead of a sleeve, there is a coil of coaxial cable, preventing current on the outer braid from traveling further down the coaxial cable.

Peter, G3LDO's limited space antenna was a vertical dipole based on the W2OZH RFD-1 design. This vertical dipole for 20 meters had 16' 6" of 16 gauge copper wire supported by a fiberglass mast and fed with RG-8X type mini-coaxial cable. The coaxial cable choke was placed 17 feet from the feed point, and consisted of 9 turns, wound on a length of 4¼ inch diameter plastic pipe. G3LDO described this as a "Controlled Feeder Radiation" (CFR) dipole. In a subsequent article in *RadCom* for October 2012, G3LDO describes how he removed turns from the coaxial cable coil, and brought the coil back to resonance using a variable capacitor.

Short sleeves

In a recent G3LDO column in the January 2013 *RadCom*, John McDonald, G8PJC describes a vertical antenna for 2 meters using the CFR dipole design. The top leg of the dipole consists of 17.7 inches of coaxial cable with the outer conductor removed. 18.1 inches down the lower leg of the dipole is a coil of coaxial cable — 3 turns on a 1.6" diameter pipe. The antenna was fixed to the top of a



Vertical CFR dipole antenna for the 2 meter band (146 MHz) as recently constructed.

telescopic fiberglass mast, which could be extended to 40 feet high.

Roll your own

I made my own version of the CFR dipole for 2 meters — it was not very difficult and the parts are inexpensive. Instead of using 16 gauge wire for the top section of the dipole, I used another length of coaxial cable, but with the inner and outer conductors connected together. The large diameter of the outer-conductor should improve bandwidth. The cable used was standard RG-58 50 ohm coax, with an air-wound coil of 3 turns, 1.6 inch inner diameter. I optimized the elements for resonance at 146 MHz using my MFJ-259 antenna analyzer and found lengths of 17.4 inches for the top element and 16.6 inches for the lower element. SWR was under 1.5:1.

Bear in mind that when using coaxial cable or copper wire with an outer insulating jacket made of polyvinyl chloride (PVC), resonant lengths will be around 5% shorter than for a bare copper conductor.

CFR dipole mounted on fiberglass driveway marker.

I fastened the CFR dipole to a "Hillman 48 inch Reflective Staff". This is a fiberglass driveway marker obtainable from Home Depot. Initial adjustments, rolling the coil up and down the cable for lowest SWR, were made using vinyl tape to fasten the cable to the fiberglass pole. Once everything was optimized, I used nylon cable ties for a neater and longer-lasting installation. For clarity, the photos show the cable ties before their long tails were cut off.

Detail of CFR dipole. Inner conductor of coax feeder is soldered to inner and outer conductors of top radiator.

The antenna performed just about as well as a Diamond mobile whip of similar length, without the need for a ground plane or radial elements. I would recommend this design whenever a simple, low cost antenna is needed. It should also be a good design for a long, horizontal HF antenna to avoid attaching the feeder in the center, dragging down the middle of the suspended wires. Another advantage of the CFR dipole for HF is that it can be easily rolled up on a cable drum since — unlike a conventional center-fed dipole — it does not have that length of feeder connected at the middle.

Detail of CFR dipole's coaxial cable coil.

Nothing new under the sun

As Peter Dodd, G3LDO points out, the CFR dipole is not a new design. As well as the article by W2OZH in *QST* for 1991, the tuned coaxial trap was also described by A.F. Stahler (then) AA6AX in *73 Magazine* for June 1978. VHF antennas with a coaxial coil choke have also been described by J.C. Bishop, VK2ZOI on his web site: http://vk2zoi.com.

But this design for a simple dipole antenna that can be slung between two supports, or supported on a fiberglass rod or fastened to a telescopic fiberglass mast is well worth reviving. Give it a try!

- NM9J

New license plate

Gary, WB2HNA reports that New York State's Department of Motor Vehicles has an updated design of "Ham Radio Operator" amateur radio callsign plate.

Custom plates are available for various volunteer Emergency Services, including: Civil Air Patrol, Emergency Medical Technicians, Volunteer Firefighters and Amateur Radio. Details are available at http://www.dmv.ny.gov/emerg.htm.

The custom charge for an Amateur Radio plate is $35.00 initial fee when you first order the plate, plus an annual fee of $6.25, payable when you renew your registration. A copy of your FCC license must be submitted with the application form.

New license plate design features an orange "Amateur Radio" circle with a map of New York State, radio tower and the Morse Code symbols for "CQ DE..."

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
N2CBH:	448.725MHz -5.0, PL 107.2Hz

PCARA Calendar

Sun Feb 3: PCARA monthly meeting, Hudson Valley Hospital Center. 3:00 p.m.

Hamfests

Sun Mar 3: LIMARC Hamfest, Levittown Hall, 201 Levittown Parkway, Hicksville, NY. 9:00 a.m.
Sun Apr 7: Southington ARA Flea Market, Southington High School, 720 Pleasant Street, Southington, CT. 8:00 a.m.
Sun Apr 14: Orange County ARC Hamfest, Wallkill Community Center, 2 Wes Warren Road, Middletown, NY. 9:00 a.m.

VE Test Sessions

Feb 2: Yonkers PAL Ham Radio Club, 127 N Broadway, Yonkers NY. 2:00 pm. Contact: M Rapp, 914 907-6482.
Feb 3: Yonkers ARC, Yonkers PD, Grassy Sprain Rd, Yonkers. 8:30 am Contact D Calabrese, 914 667-0587.
Feb 14: WECA, Westchester Co Fire Trg Cen, 4 Dana Rd., Valhalla, NY. 7:00 p.m. S. Rothman, 914 831-3258.
Feb 25: Columbia Univ VE Team ARC, 2960 Broadway, Columbia University, 115 Havemeyer Hall, New York NY. 6:30 pm. Alan Crosswell, 212 854-3754.

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