PCARA Update

Volume 3, Issue 12 Peekskill / Cortlandt Amateur Radio Association Inc. December 2002

History repeats itself?

In March of 1966, the Town of Cortlandt purchased a van to be used as a Radio Communications Truck for Civil Defense. The brand new vehicle cost $1800 and was equipped with multiple radios, batteries, and a generator. This bit of local history was provided by **Bill Hellman, NA2M** who happened to be a radioman with the Town of Cortlandt Civil Defense almost 37 years ago. History shows us that this type of resource was available in the past, and hopefully through PCARA's efforts and perseverance, something similar will be available once again.

"READY TO ACT: Cortlandtown Civil Defense is ready for any emergency. A new truck, carrying communication equipment has been put into service. Communication can be maintained with the doctors' answering services, and all Civil Defense frequencies, town county and state. Power is furnished by batteries and a generating plant. In center is Martin DeMaso, Chief Radioman; James Short, left and William Hellman, right, both Radiomen."
Peekskill Evening Star, March 23 1966.

Elections will be held at the December 1st meeting. Mike, N2HTT has stepped up and thrown his hat into the ring as a candidate for Secretary/Treasurer. At this time I would like to thank outgoing Secretary/Treasurer Joe, KR2V for three years of generous and dedicated service to PCARA. Without his efforts, PCARA would not be the viable and dynamic organization that it is today. On behalf of the membership of PCARA, thank you Joe!

The new 2m repeater and cavities are up and running on the hill. Bob, N2CBH and Malcolm, NM9J have been very busy tweaking the system. With a bit more antenna work the job will be complete. Our thanks, Bob and Malcolm!

To each of you and your families, I wish a **very** happy and healthy Holiday Season. I hope to see each of you at the December meeting!

— 73 de Greg, KB2CQE

VE test session

PCARA's first CW Class comes to a conclusion on Thursday evening, December 12 with a **VE Test Session** to be held at Hudson Valley Hospital Center. The test session begins at 7:30 p.m. and all elements will be available, not just the 5 words per minute element 1 code test.

If you decide to come along to the test session, remember to bring your current amateur license plus a photocopy, any current CSCEs, photo-ID and the $10.00 test fee. The fee rises to **$12.00** in 2003, so this might be your last chance for a test at the old fee.

PCARA Election

The PCARA Annual Election will be held on December 1st at the holiday gathering. This will only take a few minutes and accommodations will be made for members who would like to vote, but are unable to attend. Positions and candidates are as follows:

President - Greg, KB2CQE
Vice President - Bob, N2CBH
Secretary/Treasurer - Mike, N2HTT

Holiday gathering

The December Meeting/Holiday Dinner will be held at The Reef Restaurant on Sunday December 1, 2002 at 3:00 p.m. We need a headcount to provide to the restaurant no later than November 25, 2002. If you are planning on attending the Holiday Dinner, please email me at kb2cqe@arrl.net, with the number of people in your party, no later than November 25, 2002.

Payment (i.e., cash) will be collected that afternoon at the restaurant. The cost is $26.00 per person.

"At the Reef" is located on Route 9 at Annsville Circle in Cortlandt Manor.

— 73 de Greg, KB2CQE

So You Want to Buy an HF Rig? – Part II N2CBH

Last time I talked about how one might go about selecting a good "experienced" HF rig. This month I'll talk about a **new rig** purchase. When I stopped and thought about it, I realized that this is a tougher article to write than the previous one. First, I have to confess that I have never purchased an honest to goodness, brand new, never been handled, never been abused, and never been used rig! So how does a guy who has never done it tell someone else how to do it? I wish I had a good answer but I don't. I think that by experience I know what to look for so I'll plunge ahead anyway!

For starters, you should ask yourself — what kinds of HF operation are your favorite and how will the rig be used? These are important issues because some radios are better for certain things than others. If you are into backpack radio and QRP, there are a number of choices in the realm of compact rigs. One might think that an Icom IC-706 would be a logical choice but in my opinion it isn't. It's a great rig but not for lugging and QRP! Power consumption is the problem. Sure you can dial the output down to a couple of watts to conserve battery power but the receiver sucks a couple of amps all by itself. The Yaesu FT-817 is a better choice. This is because the FT-817 was designed with QRP in mind and with power conservation in mind. This is an illustration of what you have to think about.

Yaesu's FT-817 is a better choice for low power operating.

Maybe CW is your thing. Almost every HF rig on the market has a key jack and most have built-in keyers too. But wait — this doesn't mean that any rig with a key jack is the best for CW. Check out the receiver specs thoroughly. Remember my series of articles on receiver specs? They are still available on the PCARA web site, http://www.pcara.org. Take another look, as there is much good information about receiver performance. For CW operation the receiver is everything. Make sure you inquire about what kind of filters come standard and which others are available as options. Does the rig have digital signal processing (DSP)? If so, which type? Most rigs have audio frequency DSP and some of the newer models now sport intermediate frequency (IF) DSP. Which is better? I would be inclined to say a rig with both. Remember that in the case of CW, having all the options to narrow the signal passband is always better than not having them.

There are many choices. Foreign or domestic-produced is one choice you can make. Manufactured or kit form is another. Yes, even though Heathkit is long-gone from the kit business there are others who have taken up the challenge. There are basically four Japanese makers I am sure you are all familiar with — Kenwood, Yaesu, Icom, and Alinco. Domestic makers include Ten Tec, Elecraft, MFJ and SGC. Kits are fun but if you decide to go for a kit, remember you will be building a transceiver. If you haven't built a kit of any sort, this is not the kind of project to start with. Kit building can be a lot of fun and might well be the subject of a future article.

Another good question to ask yourself is how are you going to use this equipment? Will you operate primarily voice or CW? What about other non-voice modes like PSK31 or RTTY? CW oriented rigs are a bit different than those general rigs designed for anybody, anytime type of use. As discussed earlier, filtering can be quite extensive and expensive in a rig designed primarily for non-voice use and contesting. So if you are going to be a casual user and not operate much CW or any of the other non-voice modes, don't worry too much about Collins filters and 100 settings of DSP filtering. Most of the new stuff will be satisfactory for most uses. Try to get a good fix on the front panel and the controls that are available. Some rigs are simple and intuitive to operate. Others can be maddening. For example, I like simple and I **hate** menus! The Icom IC-706 is a menu-oriented radio when it comes to the front panel. I wouldn't select the IC-706 as a shack radio for this reason. In all fairness, the IC-706 was designed for mobile and portable use where small size is important. It's hard to cram a lot of buttons and knobs on such a small front panel, so menus were needed to make the unit feature-rich and compact. If you have trouble with small buttons and knobs, be careful in your selection because some radios are built for small hands. If you have difficulty seeing small things and pushing small buttons, the larger shack rigs are better. The Kenwood TS-570 and the Yaesu FT-920 are examples of rigs with well

The Icom IC-706 MkIIG is a small mobile radio covering 1.8 MHz to 440 MHz. Settings are changed through one of the five separate menus.

The Kenwood TS-570 has larger, friendlier controls than mobile or portable transceivers.

laid-out front panels with large, plainly marked controls.

Once you select a radio, try something before you buy it. Go to the manufacturer's web site or try calling their customer service department to inquire about the radio. See just what it takes to get an answer to some questions that you have. Many companies discourage telephone calls by using the Internet as a main source of communication with the customer. This is not a bad thing if the company replies to inquiries in a timely manner. If they don't, this may be an indication of the kind of service you might expect when you have a problem with your rig down the road.

Recently, I had a very good experience with the Kenwood America web site, http://www.kenwood.net. I emailed an inquiry as to how to order parts and I had an answer in a couple of hours. I ordered the parts that day — problem solved. You might want to try this with Ten Tec or Yaesu just to see how it goes.

The next thing you have to decide is where you are going to make your purchase. Mail order houses are everywhere in the pages of *QST* and *CQ* magazines. But wait! There are several reputable dealers in our area that you can purchase just about anything from — Ham Central in Poughkeepsie, Lentini Communications in Newington, CT and KJI Electronics in Caldwell, NJ. You will pay more at these stores but they have something that is worth the extra cost. You can go to the store and actually see what you are buying before you make a decision. This can be important, particularly if you are making a first-time purchase. If you know what you want you certainly can save money buying mail order.

No matter whom you buy from, inquire about the store's return policy and how warranty service is taken care of. Some stores will have you send the equipment back to the manufacturer, others have their own service departments. Ask lots of questions. If you feel as though the salesman is hurrying you, remember last month's advice: move on. Don't be pressured by anyone. Make sure you understand exactly what you are buying and what comes along with the purchase price.

If you decide to use mail order I do have one piece of advice. Don't call the 800 number just to ask a lot of questions. Look up the local number for the store and call them. The 800 number is there for the convenience of someone who is ready to place an order.

I hope that this installment is helpful in making your next acquisition. Remember the rules of the road: ask lots of questions, do lots of research and know yourself as an operator. If you do these three things, making a selection will be easy and rewarding. I look forward to working you soon with your new rig.

— 73 de N2CBH, Bob

Knobbly hints

Here are some amateur radio hints I've come across over the years. You might find them useful.

Control knobs: Perhaps you need to clean up an old item of equipment and the rotary control knobs are in a filthy state. Or perhaps you've acquired some second-hand knobs for use on a piece of home-brew equipment. To give the ribs of each knob a thorough clean, first remove the knobs from the equipment — you may need a small screwdriver, or a 1/16" Allen key to remove the setscrew. If there is no setscrew, the knob probably pulls straight off. Now find an old **toothbrush** and use a small amount of toothpaste to give the knobs a brisk cleaning. Wash off the toothpaste with water, dry gently and you will have a clean set of control knobs ready for use. (Hint: don't hand the toothbrush back to its original owner!)

Filthy knobs can be cleaned with an old toothbrush.

Control knobs often have an indentation, an engraved line or a molded groove to indicate the direction the knob is pointing. Sometimes this line is difficult to see — especially on dark colored controls. Manufacturers often highlight the mark using contrasting paint. If there is a line or indentation but no paint, you can use **White Out** or **Liquid Paper** correction fluid. The brush supplied with the Liquid Paper bottle will probably be far too wide, so use a pin or a miniature screwdriver blade to add the smallest amount to the engraved line, then clean off any excess before it dries.

Concentric controls on a Yaesu FT-7100m highlighted with Liquid Paper.

Sometimes you may have a control knob with no clear indication of where it is pointing, and no engraved line to fill in with paint. In that case, you can cut a thin sliver of **vinyl tape** and stick it to the front face of the knob. Vinyl tape is available from Radio Shack and Home Depot in a variety of different colors for electrical work, but I find that white is the best choice for dark colored controls. You can also use this same idea to fill the engraved line on a control knob with a thin stripe of white vinyl tape instead of paint.

— Malcolm, NM9J

Repeater news

On November 2, Bob N2CBH transported the new 2 meter repeater and the new Decibel Products duplexer up to the repeater site. Bob, Greg KB2CQE and NM9J were prepared for all sorts of work to fit the Micor repeater inside the existing metal case, but it turned out that the cabinet would fit without any modification. The new duplexer sits nicely on top of the repeater cabinet for a neat installation.

Greg KB2CQE and Bob N2CBH test the new 2 meter repeater after installation on November 2. The repeater is in the red-brown metal case, with the duplexer at the top. The old repeater can be seen on the open shelving at right.

The next weekend, Bob N2CBH fixed the problem of "birdie" whistling noises on the transmissions by changing out the power amplifier in the Micor repeater. Another problem was deterioration of received signals — this appeared to be the result of an unwanted signal close to the repeater input. In addition, the repeater's dual-band antenna on the tower seemed to have lost its upper support and was waving around in the wind. This may explain some of the varying signal strength and crackles experienced on 146.670 and 449.925MHz.

As a temporary measure, Bob and Rich WZ2P fixed a commercial two-element folded dipole antenna above the roof of the site building. This antenna is some 100 feet lower than the antenna on the tower, but it is further away from possible sources of QRM and is a known good performer. Coverage on the temporary antenna is not quite so good at the outer fringes, but weak signal performance is much more consistent.

The opportunity was taken to fine-tune the repeater's "SmartSquelch" settings. If you have a good, strong signal into the repeater, you will experience a very short squelch tail followed by a 20 wpm CW "K" courtesy tone after you drop carrier. If your signal is weak, the squelch tail is extended to prevent your fluttery mobile signal being chopped off, and you will hear a lower-frequency "chirp" courtesy tone.

Bob N2CBH and Rich WZ2P install a temporary antenna for the 2 meter repeater on the roof of the building.The tower is visible in the background.

The new controller has a temperature sensor monitoring air temperature outside the repeater cabinet. This temperature is announced on the hour.

Audio quality is better than the old repeater, but one consequence is that the 156.7 Hz encode tone is at a lower level. Hint: 146.67 MHz is less crowded nowadays, so program two adjacent memory channels into your radio, one with PL decode and one without.

In early November, you may have experienced a very short time-out unless the repeater's carrier was allowed to completely drop. This problem has been fixed and the controller is now maintaining a 5 minute time-out period after each courtesy beep.

— NM9J

Field Day Results

One of PCARA's more popular events of the past summer was our entry in **Field Day** from the top of Bear Mountain. The weather was much better than for our first FD entry in 2001.

2002 Field Day results are available in December's *QST* and on the ARRL web site (http://www.arrl.org/members-only/qst/contests/results/2002/fd.pdf); PCARA's entry in section 2A appears on page 101 of *QST*. Here are the results for 2001 and **2002**:

Peekskill/Cortlandt ARA, W2NYW

	2001	**2002**
QSOs:	450	**718**
Power:	2 (<150W)	**2 (<150W)**
Participants:	16	**15**
Total score:	1,540	**2,096**
ARRL Section:	ENY	**ENY**

Yaesu VX-7R triband hand held – AB2ML

Yaesu has done it again... The company had a really good radio with their VX-5R. (I have not owned one myself but the reviews of the radio are very good.) I do have the VX-150 2 meter hand held and can say it is an excellent radio.

Recently I was in the market for a dual-band HT, but I was not sure what brand I would go for. I was thinking about dual receive and found there were several models with that capability.

Not long ago, club member Ray Nahl, W2CH purchased two new hand-held radios and brought them to a meeting for show and tell. The two radios were the Kenwood TH-F6A tri-band (144 MHz, 220 MHz, 440 MHz) and the Yaesu VX-7R tri-band (54 MHz, 144 MHz, 440 MHz). I had the opportunity to examine them both. I did not get a chance to check them out in detail, but I was able to experience the size and feel of the two.

I had been saving for purchase of a dual-band HT and was now very interested in one of these new models. The price of the radios is about $100 higher than most dual-band radios, but these were tri-band, so that justified the extra cost to me. I subsequently decided on the VX-7R because of my experience with the Yaesu VX-150. The VX-7R also has 220 MHz at 300 mW, which sort of makes it a quad-band.

Yaesu VX-7R 50/144/440 MHz 5W FM transceiver

After another couple of weeks I had the money saved and ordered the VX-7R. I was thrilled when I saw the VX-7R(B) black version in an advertisement in *QST*.

When the radio arrived, I was entering the club repeater frequency pairs into memory without the aid of the manual, because I was familiar with the method of accessing the menus. This came from my having the VX-150 and through some trial and error, I found that the method is essentially the same.

The VX-7R has a very solid feel, and the submersibility feature was appealing. I was always worried about getting my HT wet but not now.

Yaesu claims the radio can be underwater for 30 minutes at 3 feet. I would not subject my brand new radio to such a test, but it will probably hold up in the rain should the occasion arise. The VX-7R is also rated Mil. Spec. for shock and vibration. A 1300 mAh lithium ion battery powers the radio. The battery can be charged through the radio, which takes 15 hours, or using the optional drop-in rapid charger it takes 2½ hours.

The sixteen keys allow direct frequency entry and have double functions. The squelch is adjusted via a menu control instead of a knob — but this is no problem once you are familiar with where the item is in the menu system. The squelch can be adjusted while scanning simply by pressing the MON/F and 0 (SET) keys. This brings the squelch numbers to the display, and turning the dial changes the level.

Yaesu VX-150 2 meter transceiver

The menu system is divided into 8 sections, each with its own set of sub-menu items. A couple of keystrokes or a turn of the dial changes the setting for that item. Icons can be set in place of the alphanumeric indications for VFO, Memory, etc.

The radio has a “Strobe” LED on the front panel, which indicates the mode the radio is in — receive, transmit, sub-band, main band and dual receive.

The colors of the strobe function can be customized, or the strobe can be turned off to save battery life.

The performance of the radio is outstanding. The sensitivity on receive is very good, and I am able to hit all of the local repeaters and a few distant ones. Receive audio is very clear and reports I have received so far indicate that transmit audio is very good as well.

The radio has an antenna extension, which must be used when transmitting on six meters. It also improves lower frequency reception on the short wave bands. The radio has extended receive, covering 495 kHz to 999 MHz (cell blocked).

As far as memories go it has plenty. There are 450 regular memories, 10 one-touch memories, 10 hyper-memories, and 20 sets of band edge memories. Then on top of that, there are 280 pre-programmed marine channels and 89 preprogrammed short wave frequencies.

There is a memory group function that lets you organize your channels in nine groups of 48 channels each. There are ten NOAA weather channels preprogrammed in, with a weather alert feature also available.

In my opinion, after reading through the manual a couple of times the radio is very easy to use. Some features that I have not mentioned yet include the spectrum analyzer, waveform monitor, adjustable backlighting, and display contrast.

I’ve had the radio for about a month now and can say I am very happy with it. I would recommend it to anyone looking for a nice, rugged tri-band (quad-band) handheld radio. — Mark, AB2ML

Peekskill / Cortlandt Amateur Radio Association

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Newsletter contributions are always very welcome!

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.

PCARA Repeaters

W2NYW:	146.67 MHz -0.6, PL 156.7Hz
KB2CQE:	449.925MHz -5.0, PL 179.9Hz
N2CBH:	448.725MHz -5.0, PL 107.2Hz

PCARA Calendar
Sun Dec 1: Holiday Gathering plus annual election, *At the Reef* Restaurant, Rt 9 at Annsville Circle, Cortlandt Manor.
Thu Dec 5-12: PCARA CW classes continue at HVHC, 7:30 P.M. **V.E. test session:** Thursday Dec 12.

Hamfests
Sun Feb 23: Long Island Mobile ARC, Indoor Hamfair, 9:00 A.M., Levittown Hall, 201 Levittown Parkway, Hicksville NY.

VE Test Sessions
Dec 1, Jan 5: Yonkers ARC, Yonkers Police Dept., 1st Precinct, East Grassy Sprain Rd, 9:00 A.M. Contact: Daniel Calabrese, 914 667-0587.
Dec 7: Candlewood ARA, Brookfield Center, Brookfield CT. 11:30 a.m. Contact F. Sileo, 203 438-0218.
Dec 9: Split Rock ARA, Hopatcong, NJ. 7:00 P.M. Contact K2GG@ARRL.NET.
Dec 10: Crystal Radio Club, Rockland Co Fire Trg Ctr, Firemans Memorial Drv, Pomona NY, 7:00 P.M., contact Robert Chamberlain 845 354-7340.
Dec 12: PCARA, HVHC, 1980 Crompond Rd., Cortlandt Manor NY. 7:30 P.M. Contact Malcolm, NM9J.
Dec 12: WECA, Fire Training Center, Dana Road, Valhalla, NY. 7:00 P.M. Must preregister w/Sanford Fried, 914 273-2741.
Dec 16: Columbia Univ ARC, Watson Labs, 612 W 115th St. New York, NY 10025, 6:30 P.M. Contact Alan Crosswell, 212 854-3754.

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