PCARA Update

Volume 16, Issue 12 Peekskill/Cortlandt Amateur Radio Association Inc. December 2015

Cake, make and take

The 2015 PCARA Holiday Dinner is being held on December 6, 2015 at 5:00 pm at the Cortlandt Colonial Restaurant. This will be the third year that we've held our Holiday celebration at this venue. In years past we have had a very pleasant and enjoyable time. The cost is $35.00 per person, with beverages being extra. Please consider joining us. **As always, all are welcome!** The menu is as follows:

Open Soup and Salad Bar
Coffee/Tea
choice of:
Prime Ribs of Beef
Grilled New York Strip Steak
Grilled Pork Tenderloin Medallions
Jumbo Shrimp with crabmeat stuffing
Chicken (Marsala, Chardonnay, Sherry, or Madeira)
Penne ala Vodka (Traditional or w/grilled chicken)
Custom Cake

In addition to having an article entitled "The Digital Fist Recorder" published in the November 2015 edition of *QST*, Mike N2HTT gave presentations on his article's project at the Mini Maker Faire held at Barnes & Noble in the Cortlandt Town Center, November 6 - November 8, 2015. The events were very well attended by PCARA members and enjoyed by numerous interested youngsters. Great job Mike!

To many, January brings thoughts of a new year but for our members, thoughts turn to the Annual PCARA Bring and Buy Auction. Start gathering up your no longer needed and gently used amateur gear and get it ready to bring with you to the January 3, 2015 meeting. You have a chance of converting some of your no-longer desired treasures into some cold hard cash! (Cha-Ching! $$$)

Mike N2HTT (right) explains his Digital Fist Recorder to members and customers at Barnes & Noble's Maker Faire.

It's been a while, but finally the 449.925 MHz repeater antenna is up, thanks to Bob N2CBH, Al K2DMV and Malcolm NM9J. Thanks especially to Bob for organizing all the hardware and spending much time on high. When the old antenna came down, the connector and driven element just pulled out of the fiberglass tube (not good). Please give the new antenna a try and let us know what you think.

Bob N2CBH attaches the new UHF repeater antenna (right).

After the Holiday Dinner on December 6, 2015 our next regularly scheduled meeting will be on January 3, 2015 at 3:00 pm at New York-Presbyterian / Hudson Valley Hospital in Cortlandt Manor, NY.

- 73 de Greg, KB2CQE

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.

Adventures in DXing

-N2KZ

Hard Work

What would it be like to install cable all day long? Thousands of people make a living rolling it out, stapling it down and snaking it through attics, basements and walls. Think about how many RJ-45, Cat 5 and coaxial F connectors are put to use every day! It is hard work, but somebody has to do it.

Cable TV F-connectors

In the last few months I have had fascinating conversations with installers. Their experiences were eye-opening. One installer told me all about his demanding life: In this career, loyalty and dedication is mandatory. Self-employed cable TV contractors must arrive at the company office at 8 am six days a week. If you miss one morning, your name is dropped to the bottom of the list.

Work is offered on an as-needed basis. Staff employees get first pick of today's work orders. What remains is handed out to contract workers until all are assigned. Some days you could receive five jobs. Other days may only hold one or two. Sometimes there are none at all.


Staff employees get first pick.

The contractor's time clock does not begin when your truck begins to roll. Each job is paid according to the tasks that are completed. An installation is usually good for about 90 minutes of billable time. Travel between jobs is on your dime. You don't get paid for the time you are driving. You don't get paid for your gas.


The remaining jobs are handed out to contractors.

Each day's schedule is a roll of the dice. If you are assigned one job in Peekskill and your next customer is in Armonk you will waste a lot of time traveling. Getting five jobs in close proximity is a gift. When the day is done, hopefully you have billed enough to make your work pay off. No one will dispute that installing is quite a hustle!


The installer may be working 30 feet up a ladder.

Cable installation is also solitary. Nearly everyone works as a one-man band. You might find yourself on a ladder as high as 30 feet up with no one down below. Accidents are the enemy. Tragic stories are made of this. One worker told me about an installer falling 28 feet to his death. Others can meet peril when bucket trucks tangle with power lines. Long-term paralysis or permanent injuries occur too often.

Weather is another challenge. You might have to fly a cable from a utility pole to a house in the pouring rain and wind. Snow is good and bad: It brings lots of work but the conditions are dangerous and require great care and lots of time to complete. Lost time is lost money. One important goal is being fast and efficient and still producing good work. Bad reputations kill careers. You want your customers to say good things on their home visit surveys!

You should make a point of hanging out with installers whenever you get a chance. I always seem to learn new tricks and hints from them that I can use for my own installations and professional life. Time is money and cable installers need to save as much as possible. They are efficient, fast and catch every detail. There's no time to be wasted!

One neat hint I saw recently was how to hang an Internet modem in record time. The installer had a piece of semi-flex hardline coax insulation that he kept in his tool harness. It was the precise length between the two mounting holes of the modem. Using a Sharpie pen, he marked the two ends of the piece of insulation, placed a screw at each mark and quickly hung the modem. No tape measure necessary! Time expended? Maybe thirty seconds!

Satellite installers have their own perspective. Instead of flying cables to utility poles, they often find themselves in strange and dangerous places – wherever they can see the sky. Just like cable installers, they spend many hours traveling, too.

The first step in mounting a satellite dish is surveying the customer's property for a good look angle to the south-southwest. You need to be able to aim the dish antenna toward the cluster of 'birds' (communication satellites) in the sky. This sometimes defies logic. Unlike mounting an old-fashioned TV antenna, height is not a primary consideration. Reception can be just as

good or better on the ground as it is up 30 feet.

I am amazed at how fast satellite installers can find a good 'hot spot.' They know their sky and they know what they can get away with! I have seen satellite dishes mounted on tree trunks, garage roofs, driveway fences or wherever a good level mount can be placed. The key to success is just that: If your mount pole is level, the rest of the installation is gravy. If it is not level, lots of time can be wasted. You don't want to go there.

DirecTV's system design benefits from 20+ years of development. The latest generation of DirecTV hardware features Slimline multiple-LNB dishes and SWiM technology. Slimline dishes use an oval design to allow the Low Noise Block down-converters to see signals from up to 5 satellites, all at once, without needing to constantly re-aim a dish at a particular 'bird.'

SWiM (**S**ingle-**Wi**re **M**ultiswitch) technology is a clever way to pass all the signals down a single cable. Combine advanced electronics and design with DirecTV's Genie series of receivers and you can create miracles! It is graceful technological complex simplicity: Simple on the outside for the customer to use — but sophisticated complexity inside filled with electronic wizardry!

I watched in wonder at a recent Slimline installation. A new mounting pole was attached to a railing high atop a three story building. A few quick ratchets of a nut wrench and the pole was perfectly level. The installer knew precisely the elevation necessary to see the DirecTV birds. He quickly found the point on the curved sliding bracket and secured it so that the dish looked precisely at the correct elevation above the horizon.

Next, he popped the dish assembly onto the top of the pipe and took an experienced guess where to point it in the sky. After attaching his signal meter to the dish, he made some quick adjustments to peak the dish for best reception. Time's up! I'd say he might have spent five minutes from beginning to end. Poetry in motion!

DirecTV SlimLine dish attached to railing atop a building.

One commentary he offered: DirecTV installers have a tentative future. Work is becoming scarce. In this new age of 'cable cutters' and Internet television, the demand for new DirecTV installations has whittled down to a trickle. Most of his work is now based on equipment repairs. Much less time is spent compared to new full installations. Working in 30 minute segments does not provide enough billable hours.

Satellite TV technology is being replaced by the Internet — a place where DirecTV no longer goes. DirecTV used to offer a satellite delivered Internet service called WildBlue, but the system was spun-off and sold to another company in 2009. There goes the future! The installer I met used to have five or more installations a day. Now he has maybe one or two. This can be rough or impossible when you are making $14 an hour.

The moral of this story? Try to make sure that you give your installer a tip! Here's why: I met one installer who was born in Namibia in West Africa. He met a girl from America and immigrated here and got married. His cousin was already an installer and taught him all the skills he needed to do this work on his own. As a new independent contractor, he then had to buy his own truck, ladder, supplies and tools to start his own business.

The flat rate for work time was $18 an hour before paying for gas and incidental supplies. After three years on the job, he was offered a staff job with the company he was freelancing for. It required long thought. The company would provide health benefits but his salary would be reduced to $16 an hour. Was it worth it? This guy thought so and went for the added benefits. It is not an easy life!

Installers deserve our respect and honor. They provide an essential service and work long hours to get the job done. Maintenance of Internet service is becoming a must in the scheme of modern life. Without them, the modern world stops. Food for thought!

Hear My Flea

About ten years ago, a good friend of mine at work, Lonnie NY2LJ, gave me a package of parts he had bought years before from Small Wonder Labs. It was a simple kit: A QRP Rock-Mite transceiver for 20 meter CW. It combined a direct conversion receiver with a QRP transmitter capable of 200 milliwatts of RF thunder!

At the time, I had used two other transceiver designs by Small Wonder Labs: A SW+40 and SW+20 (One watt output) and a DSW-II for 20 meters (4 watts.) I used the DSW-II to complete my Worked All

States QRP CW award by snagging Hawaii one weekend afternoon! (Wow!)

Lonnie's instructions were simple: "I don't have time to build it, so put it together and see how it goes." Who could turn down an offer like that? It took me nearly no time to assemble the kit and I made several contacts with it.

I am sad to say that my life was equally busy. I had shelved my Rock-Mite and had not put it on the air in ages. Two years ago, I finally purchased a 'real' transceiver from Yaesu which has distracted me ever since. Previously, I had been using a variety of kits and projects on the air with a frugal QRP frame of mind. I was cleaning out my shack and found my old friend waiting to be used. How could I say 'No?'

Rock-Mite QRP kit was soon assembled.

I had to re-discover how to operate my Rock-Mite. It has three knobs, one LED and a pushbutton. The amount of circuitry squeezed onto one tiny PC board is simply amazing. Along with a full transceiver, the Rock-Mite also offers an electronic keyer. Amazing!

I remembered that I had built this kit to its maximum potential. The three knobs control AF gain (volume,) transmitter frequency shift and transmit / receive offset. This allows you to vary the offset between transmit and receive to create a CW note to your liking. Fancy stuff!

The pushbutton allows you to adjust the speed of your on-board electronic keyer. The LED blinks as you key as a visual indicator of your output. What an amazing kit it is! The Rock-Mite sold for just $25. A quite similar kit is still available from QRP Me at: http://www.qrpme.com/?p=product&id=RM4.

Rock-Mite QRP transceiver only has three knobs, one LED and a pushbutton.

I tried to make a contact sporadically over a couple of recent afternoons but I had no luck. My Rock-Mite covers 14.053 to 14.057 MHz - perfect to reach fellow QRP enthusiasts in the upper portion of the 20 meter band. I had one close call where one station continually sent "QRZ? QRZ?" but he never really heard me.

As a QRP operator, you need to send **CQ** until your fist wears out on the quietest frequency you can find — or — try to tailgate! Patiently listen to two stronger stations having a conversation and wait until their QSO ends. Pick the stronger of the two stations and call them continually immediately after they both say 'goodbye' as dit-dit. You never know! They just might hear you!

I knew my Rock-Mite was producing a signal but I was anxious for a first QSO. I called upon Malcolm, NM9J, to see if I could sked with him at a given time and place. We touched base over e-mail and I launched into my office to give it a try. Could my tiny signal make it across the 13.2 miles to Malcolm's shack? Time would tell!

Friday, November 20th was a day to remember. My "Mr. Watson, can you hear me?" moment had come at last! At about 2130 UTC (4:30 pm local time,) my partner-in-crime and editor-in-chief Malcolm, NM9J, pointed his beam antenna to the east. His ears were ready to receive! With 200 mighty milliwatts, one-fifth of one watt, I sent my call: NM9J DE N2KZ / QRPp K. I heard his response! R R N2KZ DE NM9J UR RST 559 559. Holy cow! He heard me!

In the same spirit, Malcolm had scrolled back his transmitter's output to just five watts. I could hear him loud and clear! It was QRP heaven! Adding to the challenge: Rock-Mites use a direct conversion receiver design that is incredibly prone to overload from powerful shortwave broadcasts on nearby frequencies. I had to pull Malcolm's signal out from under a loud woman announcer praising the Lord (probably a broadcast on the 19 meter SW band) but I could still hear his solid Morse message! Yea! We heard each other!

Malcolm's e-mail comment said it all: 'The most fun I've had on 20 meters in quite a while.' Me, too! I am a dyed-in-the-wool QRP CW person. Anyone can make the ionosphere glow with 1500 watts of SSB and contact places far and near. Albeit somewhat crazy and deranged by decades of RF exposure, QRP CW fans can make contacts with much, much less than most people reflect in power! I have met other QRP folks who have completed QSOs using just *micro*watts - under one milliwatt!

Talk about adventures in DXing!

Some adventures in DXing are easy to find: Join us on The Old Goats Net, Thursday nights at 8 pm on the 2 meter PCARA repeater: 146.67 MHz -600 offset 156.7 PL. Also look for us on the PCARA Facebook page and Yahoo Group and on our web page at pcara.org. Have a wonderful holiday season and see you on the air! (If you want to sked on 20m QRP CW let me know!) - 73 de N2KZ 'The Old Goat.'

Mini Maker Faire®

Towards the end of October, Mike N2HTT was browsing through the Barnes & Noble store at Cortlandt Town Center when he noticed a poster for a **Mini Maker Faire**, scheduled for the weekend of November 6th-8th. Mike spoke with a store employee, who mentioned they had not had much response from presenters so far. N2HTT then asked if they would be interested in an Amateur Radio maker project, and they were. Mike intended to present his **Digital Fist Recorder** which appeared in November 2015 *QST*, combining modern Arduino technology with good old Morse Code.

Mike was hoping to provide background material on Amateur Radio and PCARA during the event and he explained his plan at the November meeting. As the date approached, your editor dusted off the club's publicity material and sent a note about timing of presentations to the members.

The first presentation was scheduled for Friday evening, November 6th at 6:00 p.m. I arrived at the store a little early and found Mike N2HTT with family members already there, setting up on a table near the Customer Service counter. The table was surrounded by signs and demonstration material for the Maker Faire. We erected the PCARA display sign alongside and laid out various ARRL hand-outs and *tchotchkes* imprinted with the PCARA brand.

Mike N2HTT sets out his wares at Barnes & Noble's Mini Maker Faire table, along with PCARA publicity material.

Several members came along to Mike's first presentation, including Jan KC2LLA, Lovji N2CKD, Mike N2EAB and Bob N2CBH. One member of the public expressed interest and went away with a complete selection of handouts, plus details of the Mount Beacon two-day License Exam course.

We were impressed by Barnes & Noble's demonstration of inexpensive 3D printing on the xyzPrinting *da Vinci* printer. There was also a Meccano *Meccanoid* talking robot with speech recognition and little *Ozobots* scurrying around the table as they followed color-coded lines drawn with felt marker.

Lovji N2CKD checks out xyzPrinting's da Vinci Jr 1.0 3D Printer, which was producing shark-head card holders.

Mike's next session took place on Sunday morning, November 8th at 11:00 a.m. Gary WB2HNA came along to provide support, though attendance by members of the public was rather light.

Mike's final session was on Sunday afternoon, at 3:00 p.m., with Shirley N2SKP, Al K2DMV and Jan KC2LLA present. The store was busy that afternoon and we had a good attendance for the presentation. In addition to lots of interested youngsters, one of the par-

Mike's third presentation at Barnes & Noble on Sunday afternoon was well-attended.

ticipants was a teacher, responsible for STEM subjects in Mamaroneck while another was a Cub Scout leader who wondered whether PCARA's presentation to the Cub Scouts at Furnace Woods Elementary School might be repeated for his own pack.

Mike draws a crowd of youngsters for his third presentation on the 'Digital First Recorder' at the Mini Maker Faire.

Thanks to Mike, N2HTT for presenting a subject with favorable exposure of Amateur Radio, and to Barnes & Noble for hosting the event. - NM9J

Going for gold

The Radio Society of Great Britain is the United Kingdom's national organization for Amateur Radio, with a similar role to the American Radio Relay League. The RSGB has been around since the early beginnings of the hobby and celebrated its own centenary in 2013, one year before ARRL's own centennial. I have been a member of the RSGB for quite a while, but had forgotten just how long it has been — until two recent reminders arrived in the mail.

The first recollection came with arrival of the November *RadCom*, monthly magazine of the RSGB. The "Congratulations" column lists members who have reached 70, 60 or 50 years' continuous membership of the RSGB. There underneath "50 years" was my own entry.

CONGRATULATIONS

To the following Members whom our records show as having reached 70, 60 or 50 years' continuous Membership of the RSGB.

50 years

Mr N E A Rush	G3HBZ
Mr A Ash	G3PZB
Mr M R G Simpson	G3UVM
Mr M G Pritchard	G3VNQ
Mr D C Holland	G3WFT
Mr D C H Minet	G3WPP
Mr D F Chalmers	G3WQG

'Congratulations' from Nov. 2015 RadCom.

You might notice how several G3U- - and G3W- - callsigns are clustered together around my own G3VNQ. Those G3U -to- G3W calls would all have been issued around 1965-1967.

The second reminder arrived a few days later in the form of an air-mail letter from RSGB President **Dr. John Gould, G3WKL**. He congratulated me on 50 years of membership and enclosed an RSGB 50 year callsign badge (gold pin). I had previously met G3WKL at the ARRL Centennial convention in Hartford CT. See *PCARA Update,* September 2014 for a picture.

RSGBeginnings

So how did my RSGB membership come about? I have to take you back to my days as a schoolboy in Southport, on the coast of northwest England. I had a general interest in radio and electronics, triggered by domestic radios with a shortwave band and by school physics classes. I also had friends with similar interests who read the news-stand magazines *Practical Wireless, Practical Electronics* and *Radio Constructor*.

I was given a *TransTronic* radio construction kit that contained transistors mounted on plastic carriers — it could actually transmit AM to a nearby receiver. Next, I moved on to a simple project from one of the magazines — a photoelectric door alarm that rang a bell when an infrared beam was interrupted. The design involved a cesium photocell with triode amplifier driving a relay. This was followed by a VHF regenerative receiver with a single triode that could pick up aircraft. My next project came from *Practical Wireless,* where I chose a *Roamer Seven* kit from Radio Exchange Co. This was a seven-waveband, regenerative radio, housed in an attractive leatherette case, covering long wave, medium wave, 'trawler band' and short waves.

Advertisement from Practical Wireless *features transistor radio construction kits by Radio Exchange Co..*

Somewhat to my surprise, I found the *Roamer Seven* could pick up AM transmissions on 160 meters from **local radio amateurs**, including Wilf, G3STT. I knew a friend from school whose brother-in-law, Harold G3LWK, was involved in the hobby, so I asked for an introduction. I was told to go along to my first meeting of **Ainsdale Radio Club**, which met every other Wednesday at the home of Gerry Illingworth, G8QG. Gerry's house in Clifton Road was less than a half mile from where I lived, so I set off for the venue the following Wednesday on my trusty bicycle.

Trusty bicycle (a few years later)

First contact

Formal meetings of the Ainsdale Radio Club took place in G8QG's front parlor, where I met various club members for the first time. Most were older than I was, but one or two were of a similar age, and like me, interested in taking the Radio Amateurs' Examination. I was told the Club Secretary Norman Horrocks, G2CUZ was not at the meeting that evening as he was on a motoring vacation in Wales. The meeting adjourned to the G8QG radio room where Gerry proceeded to contact GW2CUZ/M using CW on 160 meters.

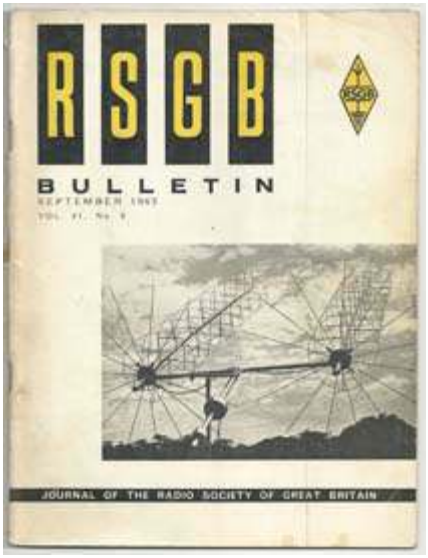
I was **impressed**. How great was that? The Hon. Secretary was a hundred miles away in the depths of Wales but he could still be reached by radio! His signal was not strong at the UK power limit of 10 watts input on 160 meters, and I could not understand Morse code yet, but the contact still left a deep impression. **Tell me more. Lead me on!**

Join in

By the next meeting Norman, G2CUZ had returned from vacation and he gave me a set of study materials for the Radio Amateurs' Examination (RAE). He also stressed the importance of joining the Radio Society of Great Britain, pointing out that the RSGB is similar to a *Union*, representing the interests of its members to the UK authorities, with strength in *numbers*.

So — I sent off my application form to the RSGB and was rewarded with a certificate saying I was now an Associate member of the Society with associate number **A4894.** Associate members did not have a transmitting license or call sign yet, but they could still quote their "A-number" on reception reports and QSL cards.

As a benefit of membership, copies of RSGB's monthly journal began arriving by mail. The *RSGB Bulletin* was required reading for all members and it included a special column "QUA Associates" by Ken Smith, G3JIX. This gave news of A-member activities plus an introduction to the Physics of radio.



RSGB Bulletin September 1965.

I still have a few copies of the *RSGB Bulletin* from 1965. It is fascinating to look back at the advertisements for desirable equipment such as KW Electronics' KW2000, the Swan-350, National NCX-5, Eddystone EC10 receiver and a variety of government surplus from World War II.

Ad. from Dec 1965 RSGB Bulletin *shows KW Electronics' KW2000 and KW2000A SSB transceivers. The price of this UK-manufactured equipment was far beyond a schoolboy's pocket — the KW2000A was £195 plus £40 for the PSU.*

Also of interest are photos of RSGB members going about their hobby. Everyday dress was a little more formal fifty years ago. Most of the pictures show men wearing suits or jacket and tie. The only informal clothing on view is worn by operators of DX stations in exotic locations — where the weather was considerably warmer than in cool Britain.

I found out that UK callsigns are issued in strict order, so it was quite possible to tell roughly when a British station was first licensed. The following table is taken from the RSGB publication "A Guide to Amateur Radio" by Pat Hawker, G3VA, 1966 edition.

BRITISH AMATEUR CALL-SIGNS

Prefix	Country	Prefix	Country
G	England	GI	Northern Ireland
GC	Channel Isles	GM	Scotland
GD	Isle of Man	GW	Wales
GB	Exhibition and Special stations		

G2 two letters	1920-39
G3 two letters	1937-38
G4 two letters	1938-39
G5 two letters	1921-39
G6 two letters	1921-39
G8 two letters	1936-37
G2 three letters	pre-1939 "artificial aerial" licences with G prefix from 1946 onwards
G3 three letters	1946 onwards
G3A - -	1946 } Year sequence began
G3D - -	1947
G3G - -	1950
G3J - -	1952
G3M - -	1957
G3P - -	1961
G3T - -	1964
G3V - -	1966
G8 three letters	1964 onwards (Sound Licence B)
G6 three letters/T	1964 onwards (Amateur Television Licence)
G5 three letters/ home call sign	1966 onwards (Sound Licence C issued to foreign amateurs for use in the UK)
Suffix /A	alternative address
Suffix /M	mobile
Suffix /P	portable
Suffix /T	amateur television

UK amateur radio G-series callsigns showing dates issued, from RSGB's 'A Guide to Amateur Radio' by G3VA, 1966.

With this table, it is possible to estimate when various calls mentioned in the article were first issued.

Mind the gap

While all this new radio activity was taking place, I was still attending Grammar School, studying for University entrance examinations. In December, I found out that I had been accepted and decided to leave grammar school for what is now known as a "Gap Year". I took a temporary job in the laboratory of a Southport company that manufactures vitamin supplements for cats and dogs, plus other products for domestic animals. This kept me busy during the daytime and provided a small amount of cash for new radio equipment.

1960's display promotes Bob Martin's Condition Tablets for dogs.

One of the items that I purchased was a better receiver — I heard about an ex-Royal Air Force R1155L HF aircraft receiver that had been modified for 240 volt AC by a local TV engineer. It was accompanied by a copy of a Codar preselector and was soon sitting in my radio room alongside the other equipment. The R1155 gave access to "top band" (1.8 MHz) and to higher frequency amateur bands, as well as an opportunity to listen to the wonders of short wave broadcast from around the world. Later I acquired a Heathkit Mohican general coverage receiver, which was all solid-sate and sufficiently portable to take along to University.

*The **A4894** receiving station, with Heathkit Mohican GC-1U on top of the ex-RAF R1155L communications receiver.*

Hit the books

I buried my head in the RSGB's "Radio Amateurs' Examination Manual" plus other material provided by Ainsdale Radio Club.

Essential reading for the Radio Amateurs' Exam.

A few months later, I was ready for the City & Guilds Radio Amateur's Examination which I sat in May 1966 at Southport Technical College. I was then taken under the wing of Harold, G3LWQ to study for the Post Office Morse Test, which required accurate sending and receiving at 12 words per minute.

I received a 'pass' in the Radio Amateurs' Exam then went on to the Morse test, which took place inside the Liver Building at the Post Office Radio Surveyor's Office, a stone's throw from Liverpool Docks.

Preparing for take-off

During all this study and waiting time, I was taking part in various Ainsdale Radio Club activities.

This included the Northern Radio Societies' Association Convention in the main exhibition hall of what was then Belle Vue Zoo in Manchester, followed by RSGB National Field Day, held in an empty field not far from my grammar school.

Norman G2CUZ (left) and Frank G3PVL during Ainsdale Radio Club's RSGB Field Day effort in June 1966. Note the individual rack-mounted 10-watt transmitters for 3 bands.

Later in the year there was another event on the club calendar, with a visit to high ground in the Pennine Hills for the RSGB Region 1 VHF contest.

It is worth remembering the technology of the day, which was long before the arrival of home computers, email and Internet. In 1965, household radio and TV sets were mostly based on vacuum tube technology, though portable radios with transistors were also becoming popular. In northwest England there were just two black and white 405-line television channels available, transmitted on VHF by the BBC and ITV. A third television channel, BBC 2, came on air in late 1965 from the new 1015 ft tubular steel mast on Winter Hill. I remember seeing the earliest transmissions on 625-line UHF, channel 62 on one of the stands at the NRSA convention in Manchester.

For UK amateurs, there were no handi-talkies, repeaters or synthesizers in 1965. Radio amateurs mostly built their own transmitting equipment, some of which was impressively rack-mounted. Vacuum tubes were extensively used in amateur transmitters, with a mixture of government surplus receivers, home-brew tube and early solid-state designs for reception.

At this point, I could not go on the air myself as I had no transmitter and no license. But all that was to change for the better in August 1966. I'll save those events for a future article, celebrating the 50th anniversary of my first amateur radio license.

Join the fold

Membership of the Radio Society of Great Britain is open to radio amateurs from other countries. This includes delivery of the Society's monthly journal, now re-named *RadCom*. ARRL members can subscribe through the following ARRL Shop page: http://www.arrl.org/shop/RadCom-Magazine-RSGB. You can also visit the RSGB's own web site: http://rsgb.org/main/ then under the "Join" menu, you will find a section on "RSGB Membership (Overseas)".

- G3VNQ, NM9J

Holiday Dinner

The 2015 PCARA Holiday Dinner will take place on Sunday December 6th at the Cortlandt Colonial Restaurant in Cortlandt Manor. Start time is 5:00 p.m.

The restaurant is at 714 Old Albany Post Road. Take the Bear Mountain Parkway to the Highland Ave exit and head north. Proceed down the hill and across the bridge. The restaurant is then on your left, near the 'rock cut'. Full directions are available at this web site: http://www.cortlandtcolonial.com/pages/directions.html .

The dinner menu is as follows:

Open Soup and Salad Bar
Coffee/Tea

choice of:
Prime Ribs of Beef
Grilled New York Strip Steak
Grilled Pork Tenderloin Medallions
Jumbo Shrimp with crabmeat stuffing
choice of Chicken (Marsala, Chardonnay, Sherry, or Madeira)
Penne ala Vodka (Traditional or w/grilled chicken)

Cost will be $35.00 per head including service and Custom Cake, but not including additional soda or alcoholic drinks.

Empire gold

Bob N2CBH draws our attention to a recent posting on YouTube. Episode 282 of "This Week in Radio Technology" (TWiRT) features an **Audio Engineering Society** presentation that Bob took part in, along with Tom Silliman, President of Electronics Research Inc. (ERI) and long-time broadcast engineer, Herb Squire. The talk was given on October 29 in the 67th floor conference room of the Empire State Building to celebrate the 50th anniversary of the Alford Master Antenna for FM broadcasting.

When the Master FM antenna that rings the 102nd floor observation gallery at the Empire State Building came into service in December 1965 it marked a revolution in FM broadcast technology. For the first time, most of a city's FM signals could share a single antenna, reducing costs and minimizing the amount of tower space needed for FM transmission from a broadcast site.

Alford Master Antenna at Empire State Building has two rings of 16 slanted dipoles around the observation deck.

The Alford antenna at Empire was the model for master antenna sites in Toronto, St. Louis, Houston, Minneapolis-St. Paul, and eventually back at Empire, where a new master antenna system was commissioned in the 1980s to supplant the original Alford. Bob, N2CBH was involved in the design of the new antenna system as you will hear in the presentation. The original 1965 Alford antenna continues to serve as a backup at Empire, being pressed into service after 9/11 to provide emergency antenna capacity for stations that were displaced from the World Trade Center.

Links: Here is the link to TWiRT video episode 282 - **Engineer's Seminar & Tribute to the FM Master Antenna**: http://youtu.be/TrEMfzEcBek

Scary picture of **Tom Silliman** repairing the new Master Antenna at Empire, by the New York Times: http://www.nytimes.com/packages/html/photo/20011231YIP/pho_YIP_130.html

For more information on **Andrew Alford** and his significant antenna work, see the following web page by MW0GKX: http://mw0gkx.co.uk/biogs/aalford.htm

Where to aim? – Al, K2DMV

I got to spend a little time with Bob N2CBH and Malcolm NN9J on Friday. I had volunteered to assist Bob with antenna work at the Repeater site. What a spot! Malcolm took a lot of pictures and I am quite sure there is an article for the *PCARA Update*.

Al K2DMV (left) assists Bob N2CBH with preparing new antenna brackets.

I got to waxing philosophical with Malcolm about several, seemingly, unrelated topics. The future of ham radio, modern youth and all their distractions, and who to recruit into amateur radio.

So I was going on about nieces and nephews and how the youth seem to view the holiday a bit differently than I did. When you have the teenagers over these days they are all focused in on their portable devices and barely talk to adults. When I was younger I loved getting to visit my Grandfather WN2MQZ, Grandpa to me, Dad to four women and one boy, Elmer to his friends.

My brother and I were always very happy to visit Gramps and so too my many cousins. If you asked any of them who got to spend quality time with him in his best years all were enthused to hang with Gramps.

An early-era technology guy.

Gramps was a World War I vet, a jazz banjoist who switched to guitar when he heard Charlie Christian play, and worked every day that he could during the great depression. He fared pretty well because he was an early-era technology guy, teletype and electronics repair.

I guess it is easy to see that he had all the ingredients to be an interesting fellow. He was somewhat shy and retiring but did pretty well with his grandchildren. I had two other Hams in the family, two uncles John K2BGJ and Richard WA2FHS. Uncle Rich WA3FHS has been SK for about five years and John K2BGJ (Elmer's son) is still an active ham.

I guess I should pose a question, is it the youth's fault or the elder's fault for not connecting and fostering a new generation of radio enthusiasts? I don't think it is the fault of the digital devices, I put them to good use myself. The other day I could not read the small

print on some cooking instructions. So, I took a picture and magnified the image so I could read it on my phone. The other day I dropped a small part that fell into a very dark area where I could not see very well. My phone saved the day as it contains a pretty bright LED flashlight. In a year previous I had APRS-IS loaded on my phone, a ham friend informed me that I was speeding, I was going like 68 mph, man I am a slow driver these days.

Digital devices can be useful for young and old.

I think it is just a matter of relevance, but that is my opinion, we all know about opinions. I like getting out of doors in reasonable and safe conditions — perhaps that is an angle to consider. Some demographics show that a greater number of the younger hams range in age from 30-54. That is a pretty good demographic to latch onto, somebody needs to figure out exactly what they would like to get out of ham radio. I read two articles regarding the current interest in ham radio both written by K0NR. The web site for K0NR's articles is http://www.k0nr.com/wordpress/ if you are interested in forming your own opinion on the matter. His articles of interest in this case are "The kids are not the future of ham radio" and "Where are the new technicians coming from?"

This would tally with what others who engage in "seat of the pants" demographics are saying. It poses another question of where should the recruitment efforts be placed. Malcolm was a bit taken back that I thought less effort should be expended on the recruitment of young folks and more on adults. But like most I would not have obtained a license if not for early exposure and adult family members who were involved in ham radio. Obviously you can't ignore the youth in regards of exposing them to ham radio. To me it is more a matter of not having unrealistic expectations of young people in this very technology-laden world.

You must be wondering what the heck inspired this innocuous little write-up of mine. The answer is simple, the Thanksgiving holiday just passed by and we needed some younger hams for some of the labor being done at the repeater site, not much more than that. [Insert emoticon here] oops this isn't an email or a text and I keep wanting to insert a smiley or a wink.

- 73 de Al, K2DMV

New UHF antenna

The date chosen by Bob, N2CBH to replace the antenna on the 449.925 MHz KB2CQE repeater was "Black Friday", November 27, 2015. The morning began with heavy mist, but the mist soon lifted and we were left with a warm, sunny day.

Prior to Friday, the existing antenna for PCARA's UHF repeater was a dual-band Diamond X500HNA. There were grave doubts about this Diamond, which flexes in the wind, tilting its pattern; has multiple metal elements inside a fiberglass tube and had failed once before. During a previous visit to the repeater site in December 2012, Bob discovered that the outer conductor of the N-type connector at the base of the X500 had parted company with the outer shield and radials. Bob silver-soldered the broken connection, straightened the twisted radials, then reinstalled the antenna. (See *PCARA Update* Jan 2013.)

The dual-band X500 was being replaced with a "Super Stationmaster" design. This is a rugged, single-band antenna which is now manufactured by Commander Technologies. The model that PCARA members had contributed to last year is an "1151-2N" — this is an omnidirectional fiberglass antenna covering 440-450 MHz. The overall length is 15½ ft, which provides a gain of 8 dBd.

Commander Technologies 1151-2N omnidirectional antenna is shown on the back of Bob's truck, after the radial kit was assembled.

Up the hill

On Friday morning, Bob headed up the hill with the new antenna tied to his truck, closely followed by Al K2DMV and NM9J. We unloaded the new antenna and assembled the radial kit while Bob prepared the new mounting bracket. The old Diamond antenna was taken down so its alloy pole could be recycled to support the new antenna.

As the Diamond X500 was brought off the roof, Bob pointed out that the N-type connector at its base had slipped out of the metal tubing once again. This

meant that electrical connection to the mounting tube and radials was intermittent at best. It was definitely time to replace this antenna.

The N-type coaxial connector with its attached radiating element had slid out of the base of the old Diamond X500 antenna.

Commander Technologies "1151-2N" UHF antenna was mounted on the alloy tube and the coaxial cable connected. Bob checked forward and reflected power at the repeater output with a brand new BDI Digital Power Sensor from his own company. Power output and SWR were wholly satisfactory.

Bob N2CBH adjusts clamps for the new UHF antenna. Old mount for the Diamond antenna is visible in the center, with support pole for 2 meters on the left.

Next, Bob raised the antenna to its working height and aligned it vertically. The fiberglass section is not quite as long as the Super Stationmaster for 2 meters. It is also farther away from the 2 meter antenna than the Diamond was, which should improve performance for both.

Finally, the mounting pole and brackets for the old antenna were removed to eliminate any rusty metal from the vicinity and tidy up the view.

Tests on the new antenna with nearby stations were quite satisfactory, so we collected all the tools, closed up the repeater cabinets and came back down to sea level.

Shortly afterward, we noted a very long, noisy squelch tail was appearing at the end of each transmission. This was soon fixed by Greg, KB2CQE when he paid a visit to the site next day and made an adjustment to the squelch control.

Greg KB2CQE makes an adjustment to the Icom repeater's squelch control, completing November's improvements to the 449.925 MHz repeater.

Try it out

Thanks to Bob and Al for all their work at the site, thanks to all members who contributed to the new antenna and thanks to the stations who provided test signals.

The 449.925 MHz repeater is not very heavily used. Please feel free to try out the new antenna — we would be very interested to see how mobile and portable coverage might have changed. And please feel free to carry on using the repeater after you have tried it out.

The view from the hill, toward the southeast. New 440 antenna is on the left, 2 meter antenna is on the right.

Here are frequency details for the KB2CQE repeater. Output frequency: 449.925 MHz, PL tone: 179.9 Hz, offset: -5.0 MHz.

- NM9J

Peekskill / Cortlandt Amateur Radio Association

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Archive: http://home.lanline.com/~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 NewYork-Presbyterian/Hudson Valley Hospital, Rt. 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 and July/August break.

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 6: PCARA Holiday Dinner 5:00 p.m., Cortlandt Colonial Restaurant.
Sun Jan 3: PCARA Meeting with Bring and Buy Auction, Hudson Valley Hospital Center, 3:00 p.m.

Hamfests

Sun Jan 10, 2016: Ham Radio University, Briarcliffe College, 1055 Stewart Ave, Bethpage, NY. 7:30 a.m.

VE Test Sessions

Dec 5, 12, 19, 26: Westchester ARC Radio Barn, 4 Ledgewood Pl, Armonk NY. 12 noon. Pre-reg. M. Rapp, (914) 907-6482.
Dec 6: Yonkers PAL Ham Radio Club, 127 N Broadway, Yonkers NY. 2:00 p.m. Pre-reg. M. Rapp (914) 907-6482.
Dec 6: Yonkers ARC, Yonkers PD, Grassy Sprain Rd, Yonkers. 8:30 a.m. Pre-reg. John Costa (914) 969-6548.
Dec 10: WECA, Westchester Co Fire Trg Cen, 4 Dana Rd., Valhalla, NY. 7:00 p.m. S. Rothman, 914 831-3258.
Dec 14: Columbia Univ VE Team ARC, 531 Studebaker Bldg, 622 W 132nd St, New York. 6:30 p.m. Alan Crosswell 212 854-3754.

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