



PCARA Update



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Back to work

Now that summer's coming to an end and everyone's had an opportunity to unwind and relax, it's time to get back to the serious business of amateur radio. PCARA has a new presence on Yahoo! Groups. The previous PCARA Yahoo! Groups account was deactivated due to an extended period of inactivity. The new PCARA Yahoo! Groups page can be found at: http://groups.yahoo.com/neo/groups/Peekskill_Cortlandt_Amateur_Radio_Assoc/info.

To subscribe to PCARA Yahoo! Groups just send an email to: [peekskill_cortlandt_amateur_radio_assoc-subscribe "at" yahoogroups.com](mailto:peekskill_cortlandt_amateur_radio_assoc-subscribe@yahoogroups.com), and follow the instructions.

This time 'round I hope we can use PCARA Yahoo! Groups more effectively in sharing articles and topics of interest as well as keeping members up to date on club activities and functions.



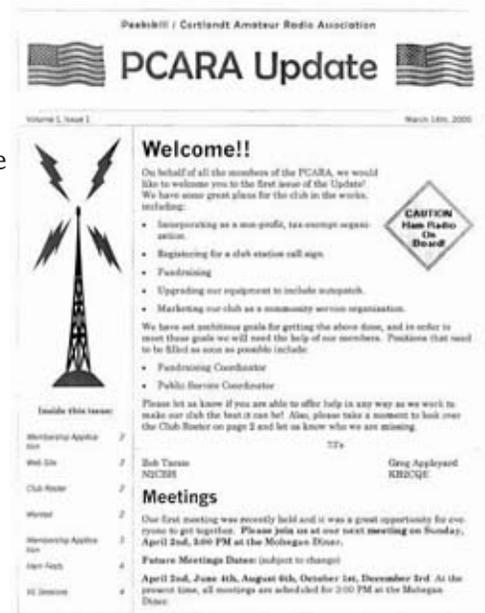
Screen shot of PCARA's new Yahoo! Group.

Over the summer Malcolm, NM9J, Joe, WA2MCR, and I had an opportunity to rummage through the PCARA archives. Amid the papers and official documents, we came across copies of the first few issues of the *PCARA Update*. It's amazing to see that as a nascent organization we had some **very** ambitious goals and plans, most of which were accomplished. In the thirteen years since, our goals have become less ambitious, reduced to worrying if we have enough money to pay for our liability insurance and if we have enough people for Field Day. I would like to find a way to recapture some of that early enthusiasm and excitement and reenergize our path forward. Please feel free

to share your thoughts and ideas on how we might be able to achieve this – the September meeting would be an excellent opportunity.

Our next meeting is on September 8, 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 Update, Vol 1 No 1, Mar 2000.

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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

Screw Missing

A friend in need is a friend indeed. Thumb Radio is that kind of friend. It's quite a story!

When we vacation in mid-Michigan, my daughter Sarah and I will venture out every morning in our mini-van. Our quest is to emerge just beyond the dense pine trees into the open air. We will park off the road looking for a good spot for transmitting. You can see across the planting fields for dozens and dozens of miles. The sky is breathtakingly endless all around you as far as the eye can see. Not only do our eyes feel free, it also allows my two-way radio to be heard in the county seat across the ether in Bad Axe.

I use my trusty Icom IC-T7H handi-talkie amateur radio transceiver to join The Old Goat's Net on the Lake Huron Amateur Radio Club repeater every morning at 8:30 am. This morning, something was different. I could hear the net controller, Rick KC8GQL, but he kept dropping out. I checked in successfully, but then found I could not transmit. What was going on? A tiny



Icom IC-T7H handi-talkie, with antenna screw arrowed in red.

metric screw had fallen away from the housing of the radio, making the antenna connection unusable. The BNC connector no longer had a secure ground to chassis. Sarah and I were out of business. Rats!

After a few minutes pawing through the metric screw drawers in the back of the store without results, a friend at Hein's Hardware in Port Austin suggested I visit

Thumb Radio in Bad Axe. Thumb Radio has been in business for decades as the source for two-way radio in Huron County and beyond. Sarah and I jumped back into our minivan and headed south down M53. Just as you enter town, the tall communications tower gives them away. Thumb Radio is hard to miss!

We walked into the store with our tale of woe. The two ladies behind the counter could not have been nicer. They found a cardboard junk box of old

Kenwood HT parts and said "Have a look." There sat about a dozen old carcasses left over from industrial HTs that had seen hard labour. I came prepared with my Xcelite 'bluey' mini-Phillips screwdriver in hand. In a couple of minutes I found a replacement screw and was back in business. They gave me a million-dollar smile. I was so happy. They were so happy. It doesn't get better than this!

To Thumb Radio, I am forever thankful. You put me back on the air! I bet you have put many, many people back on the air. Thank you for making my vacation happy again!

As a postscript, amateur radio and Thumb Radio are no strangers. The Lake Huron Amateur Radio Club repeater's callsign is N8LFR in memory of the grandest of Old Goats, Bill Stocker, who is now a silent key. Bill worked at Thumb Radio for years and years. Bill was also the trustee of the LHARC repeater in Bad Axe we use daily and served as the Chief Engineer for the local PBS TV station down south in Ubyly. The grand fraternity of ham radio goes on and on. I am so proud to be a ham.

Monitoring Ends

After 34 years of publication, one of the great radio publications of all time is closing its doors. *Monitoring Times*, based in Brasstown, North Carolina, has long been an invaluable source of information for shortwave listeners, scanner enthusiasts and anyone else who listens beyond the standard broadcast bands. Their December 2013 edition will be their last.

Owners Bob and Judy Grove will be retiring and closing up shop. Their business was truly a labor of love. The contributors and editorial staff are all dedicated listeners with boundless enthusiasm about their hobby. We will certainly miss legendary MT columnists like Larry Van Horn and Doug Smith. I was honored to be a part of the Monitoring Times family for several years back in the 1990s as author of MT's American Bandscan column. For an interesting interview on the life and Times of publisher Bob Grove, take a look at an episode of the popular Ham Radio



"Ham Radio Now" interview by Gary Pearce KN4AQ with MT's Editor Bob Grove, W8JHD.

Now webcast at: <http://www.youtube.com/watch?v=ZKSKXEF68ho>.

CQ CW OPS

The QSY Society is now conducting a weekly net to help hams increase their code speed. Look for them every Sunday night at 9 pm on 80 meters at 3576 kHz CW. Net chair Scott, W2NTV, welcomes all who wish to check in. Fast, slow or absolute beginner, this net is for you.



Scott, W2NTV.

According to Scott: "The purpose of the net is to promote CW and to have fun while learning and improving your skills in a non-threatening environment." As a backup, Scott monitors the Mount Beacon repeater (146.97 MHz, -600 kHz offset, 100 PL) for verbal questions or comments during the net. Print out this helpful list of traffic net Q signals and you should be all set: <http://www.zerobeat.net/drakelist/arlnet.html>.

Remember *all* licensed hams (even Technicians!) can operate CW between 3525 and 3600 kHz, so this is a terrific opportunity to get on HF for the first time! (Technicians are limited to 200 watts output or less.) Shy about operating? Just listen in and see what you can copy!

S L O W Code

How slow can you legally go when sending CW? An often-used mode for very low powered beacons or very low frequency beacons (or both) is QRSS. Just how slow is QRSS slow? Dits can last 10, 30 or even 60 seconds long! QSOs can take hours. When you are looking to capture the very last microwatt you can, this mode can make all the difference.

You read the results by feeding received audio from your transceiver or receiver into your computer. Programs like ARGO or Spectran (both available at:



Screen shot of ARGO QRSS viewer software.

<http://www.sdradio.eu/weaksignals/>) will resolve this CW version of snail mail and you'll eventually see what has been sent. This is quite similar to the mes-

sage delivery system used to communicate with deep-water submarines at VLF frequencies.

Is it legal? A recent conversation on a QRP web reflector chewed this rag until it was in shreds! Here was the argument: FCC regulations require you to ID your transmissions every ten minutes. What if it takes more than ten minutes to send your callsign? Tempers flared! What controversy! My reply?

"How did it come to this? I had never been arrested in my whole life! The bust had been bitter. They handcuffed me and seized my equipment. They crushed my perf boards and took my AA batteries. They hustled me off to a waiting police car as the neighbors watched. They pulled down my dipoles and cut them into pieces. My wife felt the terror as she watched the flashing lights fade into the distance. How did they ever catch me?"

Here I was 'in the tank' with a bunch of big guys who sweat. Intimidated and scared, I kept my mouth shut. One guy, with a big scar across his skull, looked at all of us and said: 'What are you in for?'

Each prisoner answered one at a time. It was a gruesome inventory: Multiple murder one. Shooting six people in a convenience store during armed robbery. Holding policemen hostage during an act of terrorism.

They finally got around to me. 'Hey, puny, what are you in for?'

'I was sending QRSS on 7040 kilohertz.' Groaning, they all moved away from me. Even these thugs banished me. How could I? If I ever get out of jail, I swear I will preach sense into all who will listen.'

Do you think they'll ever give my key back so I can send again?

Weather or Not

Broadcasting from the top of the GE Building in midtown Manhattan for decades, the 750 watt voice of NOAA All-Hazards Weather Radio KWO35 is suddenly off the air. Problems started around July 22 when the station left the air temporarily. During the next few days several outages occurred until August 6 when the station was taken off the air indefinitely.



KWO35 is atop the GE Building in mid-town Manhattan.

NOAA posted this notice on their website: “Due to interference issues with the U.S. Coast Guard, the New York City transmitter has been temporarily taken out of service while a solution is being formulated. During this time, the transmitter may be returned to service intermittently to determine if the interference issue has been resolved.” I wonder what troubles this station?



It is certainly very odd to not hear the constant voice of KWO35 on 162.55 MHz anymore. In the meantime, it has provided a unique opportunity to experience what lies underneath on this frequency that we can usually never hear. Most dominant at my QTH on 162.55 MHz is WXL40 with a full kilowatt from Harrisburg, PA. I've also heard forecasts from Weatheradio stations as far away as Vermont, New Hampshire and Maryland and Washington, D.C. when the tropo skip allows.

As for other weather frequencies, the mid-Hudson Valley station, WXL37 on 162.475 MHz with one kilowatt from Illinois Mountain across the river from Poughkeepsie, just hasn't been up to full signal strength since hurricane Sandy passed through. At my QTH, the Poughkeepsie station now shares the frequency with WXM80 from Riverhead, Long Island



NOAA Weather Radio transmitters around SE New York.

depending which station captures my receiver at a specific spot. As of this writing, I have heard Manhattan's KWO35 return for few hours every once in awhile. Will it ever return permanently?

Low-Fi Solution?

It has often amused me how little audio fidelity has improved over the years. Back around 1960, I received my first transistor radio featuring a two inch speaker or the little earphone you could use when you didn't want to disturb others. Now the portable audio standard is the smartphone, with an even smaller speaker and two very marginal sounding ear buds. Misery! (especially if you remember hi-fi systems from

long ago.)

Enter a new-fangled device that can be adapted to anything that provides Bluetooth connectivity or accepts a stereo mini plug: The SoundLink amplified speaker. You can connect to it wirelessly (via Bluetooth) within about 100 feet or easily hardwire it to your portable device or computer. The SoundLink incorporates two speakers as a stereo pair. A built-in battery adds portability allowing you to be completely wireless for hours and hours of play. It sounds refreshingly nice.



Bose SoundLink Bluetooth Mobile speaker II works wirelessly with Apple, Android, BlackBerry and other devices.

The SoundLink is husky enough to fill a small party and can be used many ways with or without Bluetooth. Want to hear truly high fidelity 20 meter CW? It makes quite a compliment to a little Small Wonder Labs SW+20 QRP rig! I usually hide mine behind the screen of my laptop computer. It really adds enjoyment to online audio-visual playbacks. Fun never sounded this good! Find details at <http://www.bose.com/soundlink>.

So, until next month, remember to join us Thursday nights at 8 pm on the PCARA two-meter repeater for The Old Goat's Net. Make sure you ID every ten minutes or else! 73s de N2KZ 'The Old Goat.'



Route 202

When visiting HVHC for the next PCARA meeting, be aware of new road works which began this spring.

Route 202/Rt 35, west of the Taconic State Parkway is undergoing major reconstruction. Road widening will provide additional travel lanes in both directions along Route 202. There will be a replacement bridge over Hunter Brook, plus new traffic signals on Rt. 202 and the Bear Mountain Parkway extension.

Further west, Route 202 has been widened from the junction with Conklin Avenue past the Hudson Valley Hospital Center. The exit road from the hospital has been realigned with Lafayette Avenue, and a new, four-way traffic signal is now operational, with turn lanes. Lane markings are not very clear at the moment, so take care. Turn lanes will also be provided at the Conklin Avenue junction, where a new traffic signal is scheduled for switch on, week commencing Sept 2.

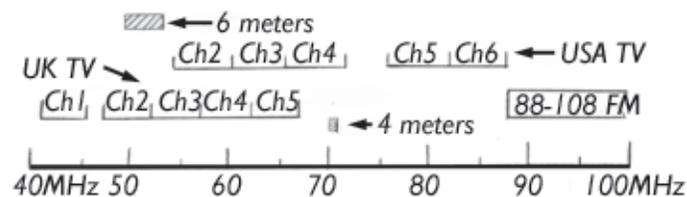
Anyone for 4 metres?

In *QST*'s "World above 50 MHz" column for July and Sept 2013, columnist Jon Jones, NOJK suggests that U.S. amateurs might one day have access to the "4 meter" band.

The 4 metre band (British spelling) has been available for quite some time in the UK and other European countries, but it may not be so familiar in North America. So, let me give you a little background.

TV overlap

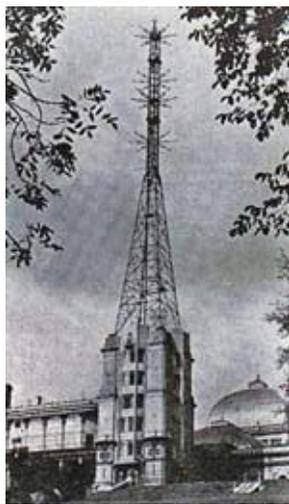
If the 4 meter band — 70.0 - 70.5 MHz — was available in the USA, it would overlap with part of TV's Channel 4. But with the changeover from analog to digital TV broadcasting in the USA, there has been a major reduction in the use of low-band VHF TV channels 2-5. A query of the FCC TV station database (<http://www.fcc.gov/encyclopedia/tv-query-broadcast-station-search>) shows only three USA Digital TV stations licensed to use physical channel 4 (66 - 72 MHz): WHBF-TV (IL), KSNB-TV (NE) and WACP (NJ). The main reason for this near abandonment of low-VHF seems to be the high noise level from oil burners, lawnmowers, power-line insulators etc., plus the likelihood of co-channel Sporadic-E interference. In the heyday of analog, viewers would put up with horizontal interference bars and noise sparks floating across their analog picture tubes, but with digital television, this type of interference just causes the picture to freeze then disappear entirely.



Lowband-VHF frequency allocations, UK and USA.

History channel

For the origins of the 4 meter band, we need to go back into some radio history. When the BBC began UK TV broadcasts for London in 1936, it was from Alexandra Palace on Channel 1, 45.0 MHz vision carrier. The 41.5 - 45 MHz channel did not overlap with the then 56 MHz (5 meter) amateur band. But after World War II, as VHF television coverage expanded across the UK, there was a need for additional channels. Unfortunately, one of the new UK TV channels 2 to 5 (51.75-66.75 MHz vision carriers) overlapped the postwar 5 meter



UK's first TV transmitter at Alexandra Palace, London, on Channel 1, 41.5 - 45 MHz.

allocation at 58.5-60 MHz and so the radio amateurs had to give up their lowest VHF band. The first VHF TV transmitter for my part of northern England was at Holme Moss, high in the Pennine Hills. It operated on channel 2, covering up any 6 meter signals from the USA.

The Radio Society of Great Britain argued that transfer of the 5 meter band from amateur radio to television — as well as inability to use the new 6 meter band — was a major loss that should be compensated. In 1956 the UK authorities allocated a narrow band of **70.2-70.4** MHz for amateur use — a wavelength of **4.3** meters. The band was later expanded — the widest allocation that I remember was from 70.025 to 70.7 MHz.

Toe in the water

When I first arrived on the 4 meter band in the late 1960s, it was quite different from the other HF and VHF bands. The band was only allocated within the UK and a few UK-dependent countries, so there was little or no commercial equipment available — almost everything was home-brew or adapted. My first transmitter was a home-built, crystal controlled circuit with a Mullard QQV03-10 dual-tetrode tube as the power amplifier (equivalent to the 6360 tube). Most radio amateurs were using AM at the time. War-surplus FT-243 quartz crystals were readily available, with



Mullard QQV03-10 dual tetrode.



FT-243 quartz crystals.

two of the stock frequencies being 7806 and 7800 kHz. When multiplied by 9, they produced the popular 70.26 calling frequency and 70.20 working channel.

Fascinating folk

Another difference from the other amateur bands was the group of friendly people who appeared on 4 meters. It seemed to be a mixture of dedicated experimenters, impecunious students (myself included), with the occasional bank manager and musician mixed in. Power on 4 meters was limited to 50 watts DC input (133 W PEP out), so there wasn't the usual hierarchy of high power big guns and low power little pistols. The lack of commercial equipment meant most people had either home-brewed their transmitters, or they had converted inexpensive military surplus equipment or private mobile radios onto 70 MHz. The transmitter in a PMR mobile was often around 71-74 MHz, so it was a short move down to 70 MHz.

Ex-WD equipment

I had a couple of military surplus radios for 4 meters. The first was an R220 receiver, manufactured by Marconi for low-band AM reception. In army service, the R220 was housed in a large cabinet with its companion B43 transmit-

ter, for use at the end of a point-to-point radio link for Anti-Aircraft communications. Frequency range was 70.0 - 95.0 MHz AM, with one crystal controlled channel. I modified my own R220 to continuously monitor 70.26 MHz. My R220 had a carrier-operated relay, which could be used to silence the audio until a signal appeared — this was the first time I encountered a squelch circuit. Continuous monitoring of 70.26 brought me all sorts of interesting QSOs, including contacts with Gibraltar and Iceland when the band opened.



R220 was a single-frequency ex-military AM receiver covering 70-95 MHz.

Another military radio that I used on 4 meters was the B44 transceiver. This was a large, green hermetically sealed metal box with a tripod mount, for portable use by Anti-Aircraft teams.



B44 Mk III transceiver had three crystal-controlled AM channels in the range 60-95 MHz.

Frequency range was 60.0-95.0 MHz with three crystal controlled channels and an RF output of 3 Watts AM. The design was supposed to have sufficient fidelity to allow operators to recognize each

other's voices.

The B44 was a tube transceiver intended for use from a well-charged 12 volt battery. The high voltage (B+) power supply was derived from a self-rectifying vibrator inside a sealed metal can. Radio amateurs who came across this self-contained transceiver, powered by 12 volts DC, immediately thought "mobile". I made use of my own B44 in a mobile capacity, but mostly while parked. Running the vibrator while in motion — with the car battery charging — was likely to result in the vibrator's contacts becoming welded together.



B44 transceiver mounted on tripod for field use.

Rely on Pye

As well as military surplus, I had several ex-PMR (private mobile radio) transceivers that I modified for 4 meters. As mentioned in the *PCARA Update* for June 2012, the main supplier of PMR equipment in the UK was Pye Telecommunications. I had a variety of Pye models including the all-tube Pye Ranger, the hybrid Pye Cambridge with tube transmitter and solid state receiver, and the high-power Pye Vanguard which had a dash-mount remote control connected to the trunk-mount main unit.



Pye Vanguard AM25T transceiver used at G3VNQ, has 25 watts output.

Antennas for 4 meters were a little smaller than on 6 meters. For many years, I had a 3 element Yagi manufactured by the UK company J-Beam, horizontally mounted on a rotary mast and fed with 75 ohm TV coaxial cable. I still have that antenna down in my basement — it is slightly knocked about by many moves. The folded dipole radiator is 85 inches long. While at Southport, I also had a 4 meter vertical dipole antenna, for working mobile stations.



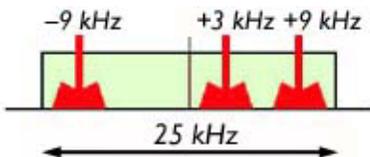
Work on the VHF antennas at G3VNQ, Southport, with Wilf, G3STT (left) and Harold, G3LWK assisting. The 4 meter 3 element yagi is lowest on the mast.

Mobile antennas were relatively simple — all you needed was a quarter wave vertical. A favorite type was the Pye VA100 mobile stainless steel whip, manufactured at Finglas in Ireland and cut to a length of around 41 inches. This antenna had a hinge-type base which allowed the radiating element to be set at a convenient angle, even on a sloping part of the vehicle body. A 41 inch mobile antenna for 4 meters is a more reasonable length than a quarter wave for 6 meters — which is around 16 inches longer.

For mobile to base working, low-band VHF (68- 88 MHz) has a greater simplex range than high-band VHF (146 - 174 MHz). Organizations in the UK making use of low-band usually needed to cover wide areas — for example, the County Police and Fire services, Mountain Rescue volunteers, plus power utilities and membership service organizations like the Automobile Association.

Area coverage schemes

The Police and Fire services had been allocated an interesting choice of frequencies, with their mobiles in the low-band range of 80.0 - 85.0 MHz and their base station transmitters using mid-band frequencies of 97.0 - 102.0 MHz. Most police forces were on AM, with an area coverage scheme that used multiple base station transmitters on hilltop sites. The different base station transmitters were operated on the same channel, but with slightly different frequency offsets — for example -9 kHz, +3 kHz and +9 kHz away from the nominal center channel frequency. When received through the wideband IF

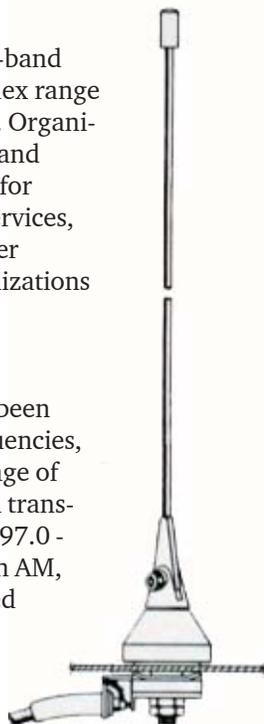


AM area coverage scheme with three hilltop sites. Hilltop transmit frequencies are offset from the center frequency of the 25 kHz wide channel.

VHF transmissions. This required a different technique of synchronous or quasi-synchronous carriers to prevent interference between multiple hilltop sites.

Communication from Police and Fire Headquarters to the hilltop sites was handled by duplex radio links in the high-VHF bands: 146-148 MHz and 154-156 MHz. (146-148 MHz is outside the European 2 meter amateur allocation of 144-146 MHz.)

You may have noticed that the base station frequencies used by Police and Fire were within the international 88-108 MHz FM broadcast band. At the time, BBC FM broadcasts were in the range 88-96 MHz — so it was quite possible to tune in police transmissions on a standard domestic receiver, if the coverage extended above 97 MHz. (Such listening to non-broadcast services is actually *illegal* in the UK.)



Pye VA100 quarter wave mobile whip for 68-175 MHz.

of a 25 kHz spacing AM receiver, any heterodynes from multiple carriers would be filtered out by a low-pass audio filter, leaving just the 3 kHz bandwidth audio modulation.

The Metropolitan police in London and the Lancashire Constabulary in NW England used **FM** rather than AM for their



Lancashire Police were pioneers of mobile FM.

During the late 1960s and 1970s, UK local radio was growing and started making use of the 97-102 MHz spectrum. Police and fire transmissions moved higher in the broadcast band, but by the late 1980s, the ITU required the whole of 88-108 MHz to be vacated by mobile services in favor of European FM broadcasting. During 1987-1989, the UK Police moved their mobile operations to high-band VHF, on their previous link-band frequencies. The Fire service moved in the opposite direction, with their base stations relocated to 70.5-71.5 MHz at 12.5 kHz channel spacing — right next door to the 4 meter amateur allocation.

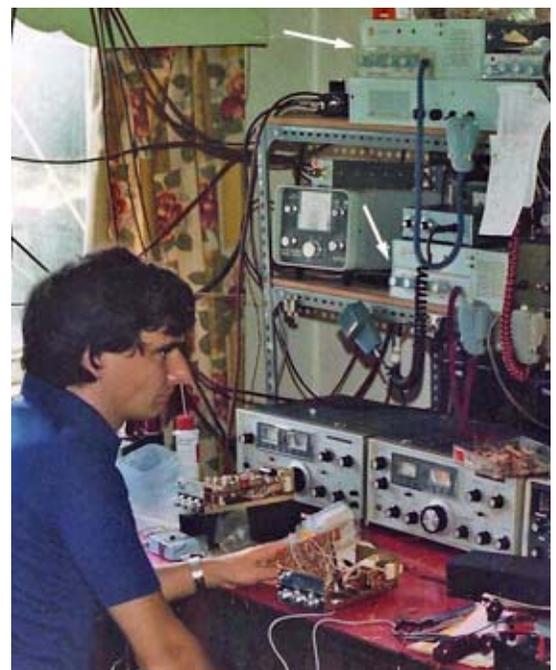
This type of frequency move with tighter channel spacing can result in a lot of surplus equipment, some of which has been put to good use on the amateur bands.

In the last decade, the UK emergency services have moved again, this time away from analog transmission on VHF up to the “TETRA” terrestrial trunked network service which is provided by Airwave on digital UHF.

Amateur techniques

During the 1960s, when I first became interested in amateur radio on the VHF bands, most operation was crystal-controlled AM with some CW. For long distance contacts, the procedure was to call CQ on your own crystal-controlled transmit frequency, then announce that you would be “tuning low to high” or “high to low” for possible calls. Reception would be on an HF communications receiver connected to a VHF converter. The operator at the far end would have his own selection of transmit crystals ready and choose the one most likely to be tuned to first. Starting a contact was a laborious business that might take several minutes — with the chance that somebody other than yourself could be tuned into first.

By the late 1960s, VHF techniques were changing, as SSB and VFO-control became more popular. In 1967 I obtained a “G2DAF” SSB



G3VNQ shack in Southport in 1978. Two Pye Cambridge transceivers for 2 meters and 4 meters are arrowed. SSB transverters for 2 meters and 4 meters were tucked away on the first shelf, driven by the Yaesu/Sommerkamp HF equipment immediately below.

transmitter for the HF bands and subsequently built transverters for 4 meters and 2 meters, shifting the SSB transmit signal from 28 MHz up to the VHF bands. Transmitter output from these transverters was around 100 watts PEP from QQV06/40A (5894) dual tetrode tubes.



Mullard QQV06/40A dual tetrode tube.

The change from AM to SSB and the ability to reply to a DX station *immediately* on its own frequency brought about a major improvement in range and efficiency. It did not take long for the old AM high-to-low tuning techniques to fade away, with contests becoming predominantly SSB/CW events. I acquired Yaesu HF radios that could transceive, so it was possible to take all equipment plus a Honda generator to a mountain top.

These days, with the availability of suitable surplus equipment, local activity has mostly shifted over from AM to **FM**, while **SSB** and **CW** are still popular for DX work.

Missing countries

Not everything was rosy on 4 meters. In the early days, the band was only available in the UK and a few UK dependencies. When the bands were open, this left a lot of countries in Europe within range, but without any activity. Slowly other countries granted allocations around 70 MHz. The Republic of Ireland was one of the first, and contacts across the Irish Sea were always very welcome. After I left the UK, more European countries have allowed 4 meter operation, though the picture is still quite patchy. For the latest information, see the 4 Meter website, <http://www.70mhz.org>.

Propagation and odd signals

Four meters was an interesting band for propagation studies. Under “flat” conditions, mobiles could be worked out to 20 miles or so. SSB stations equipped with a beam antenna were easily audible up to 100 miles away, with CW stretching even further. Under extended tropospheric conditions, the band could open to a distance of a few hundred miles, especially across a sea path, bringing most of the UK and Ireland into range. Tropo contacts were marked by slow fading, with occasional waits for the signal to build back up again. When Sporadic-E propagation was present, the range increased up to 1000 miles or more, the only problem in the early days being the lack of distant amateur stations, so far away. Aurora and meteor scatter contacts are also possible on 4 meters.

Unusual signals could crop up from time to time on 4 meters. In parts of Eastern Europe, FM broadcasting was still on low-VHF, from 65 MHz to 73 MHz. Some of these broadcast frequencies fell within the UK 4 meter band — so when there was a Sporadic-E opening to Eastern Europe, wideband FM signals would come booming through. These signals did not sound too good on a narrowband communications receiver, but on the old military radios with their

HOME SERVICE: Medium Wave							
Name	kc	m	kW		kc	m	kW
CS I	272	1102.9	200	Bratislava	1232	243.5	100
Praha	638	470.2	150	CS I	1286	233.3	100
Bratislava	701	427.2	100	Praha	1484	202.2	2
Praha	953	314.7	100	Bratislava	1484	202.2	2
Praha	953	314.7	15	CS I	1520	197.3	1
Bratislava	1097	273.5	150	Ostrava	1594	188.0	2
FM:	Mc	kW			Mc	kW	
Praha	68.96	4	No-Moravia	69.08	4		
	71.63	4	West Slovakia	66.32	4		
East Bohemia	69.35	4		68.84	8		
	67.22	1	Mid. Slovakia	66.98	8		
No.	70.58	4		69.68	8		
	72.20	4	East Slovakia	72.50	8		
We.	69.56	8		68.87	8		
	67.34	8	Zilina	66.38	8		
So.	70.07	8		69.50	1		
	66.83	8		71.60	1		
Mid-Moravia	69.86	8	Tatry	69.20	1		
	71.87	8		67.28	1		

Czechoslovakia broadcast stations from the 1965 World Radio TV Handbook. Yellow highlight shows transmitters within the UK 4 meter band.

wide IF bandwidths, the quality could be quite impressive. I can remember driving around Scotland on a summer vacation, listening to excellent wideband FM reception from 4 meter broadcast stations 1,000 miles away in Czechoslovakia and Poland.

Another unusual signal that would sometimes pop up at the bottom edge of 4 meters came from the BBC. When I lived in Southport, the Royal Birkdale Golf course, was only 2 miles away. Whenever there was a major event like the Open Championship taking place, BBC TV would mount an extensive outside broadcast operation, with fixed and mobile cameras positioned around the course. In order for presenters and cameramen to hear instructions from the mobile control room, the BBC employed an FM “talkback” channel, just below 70 MHz.



Royal Birkdale Golf Course in Southport, was home to the Open Championship — and some interesting signals.

The wideband military surplus receivers in my shack would pick up this signal without a problem. It was fascinating to hear instructions from the mobile control room while watching the outgoing live program on the shack TV set. I gained some additional insight into BBC operations at Royal Birkdale from Southport engineer Ray Garry, G8ALG, who provided the public address equipment for these major events.

Primary user

The last unusual signal I’ll mention showed up from time to time at weekends on the 4 meter band. Wideband FM carriers would appear, carrying teleprinter traffic and occasional voice communications. During one 4 meter contest I can remember the operator asking fellow stations if they were suffering amateur interference. I found out what the source was one rainy day at a mobile rally (hamfest) in

Leeds, Yorkshire. The Territorial Army had set up a demonstration station at the rally, operating under canvas. The TA is a volunteer reserve force in the UK which conducts exercises over weekends. Their demonstration station had teleprinter and voice equipment multiplexed onto a carrier in the 4 meter band, feeding a Yagi antenna. This was for point-to-point links with other TA Units.



Larkspur C41 transmitter and R-222 receiver for UK military communications. C41 wideband FM transmitter provided up to 35 watts RF output, 50-100 MHz.

Amateur radio was a secondary user on 4 meters, so we had to defer to the primary user whenever they needed the band. Under normal circumstances, the RSGB Contest organizers would check with the Ministry before scheduling a contest to avoid a clash over a busy weekend — but something must have gone wrong with the scheduling arrangements for the “QRM contest” that I remember.

Amateur Radio is a secondary user on several bands that are shared with the UK military. The impression I had was that this was mostly an amicable arrangement — amateur radio operators would “keep the band warm”, while the military was not using those frequencies. Amateurs would be transmitting, observing occupancy and reporting any unauthorized interlopers. When the band was needed by the primary user, we would get out of the way and operate somewhere else. (There were also rumors that introduction of some amateur QRM to the weekend warriors may not have been accidental.)

Enough reminiscing

So — those are some of my reminiscences about the 4 meter band from my time in Southport during the 1960s and 1970s. Later on, commercial equipment became available for the 70 MHz band, and in the early 1980s, after I moved to Rochdale, I acquired a Yaesu FT902-DM HF transceiver with matching FTV-901 transverter and band-module for 70 MHz.

Coming right up-to-date, FM transceivers for 70 MHz are now available from Chinese manufacturers such as Wouxun. And Icom’s latest IC-7100 all-mode 1.8-440 MHz transceiver actually includes 70 MHz coverage as standard for the appropriate countries. Perhaps one day these radios will be authorized for amateur use on 70 MHz in the USA.



- NM9J, G3VNO

PCARA Update archive

The *PCARA Update* club newsletter has been produced as a **.PDF** file and distributed electronically ever since the December 2001 issue.

Previous issues of the *Update* from original editor Joe Ellman KC2DWP (now KR2V) were printed out, duplicated, collated, then distributed by Joe via the U.S. Mail. Attempts have been made in the past to recover the electronic originals, but they appear lost and only low-quality paper copies remain. Then, as mentioned by Greg KB2CQE on page 1, a bundle of papers was recently discovered in Joe, WA2MCR’s basement. They included high-quality printed originals of the newsletter from Mar 2000 to Nov 2001.

A start has been made on scanning these early volumes so they can be made available electronically. Scanning black and white originals with optical character recognition does not provide such good quality as creating PDFs directly. But the early newsletters still provide a fascinating record of the beginnings of PCARA, when many new activities were underway. Keep an eye on the club’s Internet web site pcara.org for these early issues as they are republished.

Repeater news

In late August, the W2NYW 2 meter repeater on 146.67 MHz was experiencing some receive problems. Bob, N2CBH and NM9J paid a visit to the site — where tall weeds were threatening to overwhelm the equipment cabinets. The weeds have been trampled into submission.

New antenna arrangements, installed in November-December 2012, were still in place and operating satisfactorily. Bob checked antenna connectors around the duplexers, and tightened several loose connectors on both 2 meters and 440. Most of the RF connectors are good quality silver-plated brass, but one N-type connector which was not tightening correctly is only nickel-plated. Bob is working on a replacement for the cable and connector.



Bob, N2CBH checking the PCARA repeater equipment on August 24.

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 Sept 8: PCARA monthly meeting, Hudson Valley Hospital Center. 3:00 p.m.

Hamfests

Sun Sept 8: Candlewood ARA Western CT Hamfest, Edmond Town Hall, 45 Main St., Newtown, CT. 8:30 am.

Sun Oct 6: Hall of Science ARC Hamfest, NY Hall of Science, 7-01 111th Street, Flushing Meadow, Corona Park Queens, NY.

Sat Oct 13: Bergen ARA Hamfest, Westwood Regional High School, 701 Ridgewood Rd., Washington Township, NJ. 8:00 am.

VE Test Sessions

Sept 7: Yonkers PAL Ham Radio Club, 127 N Broadway, Yonkers NY. 2:00 pm. Contact: M Rapp, 914 907 -6482.

Sep 8: Yonkers ARC, Yonkers PD, Grassy Sprain Rd., Yonkers. 8:30 am Contact D Calabrese, 914 667-0587.

Sep 12: WECA, Westchester Co Fire Trg Cen, 4 Dana Rd., Valhalla, NY. 7:00 pm. S. Rothman, 914 831-3258.

Sep 16: Columbia Univ VE Team ARC, 531 Studebaker Bldg, 622 West 132nd Street, New York, NY. 6:30 pm. Alan Crosswell, 212 854-3754.

Sep 20: Orange County ARC, Munger Cottage, 395 Hudson St, Cornwall NY. 6:00 pm. Contact: Thomas R. Ray, (845) 391-3620.



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