PCARA Update

Volume 27, Issue 4 Peekskill/Cortlandt Amateur Radio Association Inc. April 2026

Linux line-up

PCARA's latest monthly meeting took place on Saturday March 7 at Putnam Valley Library. The large Community Room has been completely renovated and the library was celebrating the room's re-opening that day.

After a short business meeting, **Andy Stewart KB1IOQ** gave a remote presentation on "Andy's Ham Radio Linux". The presentation had been arranged by Rob AD2CT after Andy was featured in Rob's video program "NorthEast HamX – Aug 2025", describing last year's ARRL New England Division Convention in Marlborough MA.

Andy Stewart KB1IOQ gives a remote presentation from Boston on "Andy's Ham Radio Linux" at the March 7 PCARA meeting.

Andy KB1IOQ explained the background to his collection of free, open-source software for amateur radio that can now be installed on a variety of Linux platforms, including the Raspberry Pi 5. The collection includes software for Antenna Modeling, for ARRL Teacher's Institute, CW, Digital Modes, Electronic Design, HF Propagation, Logging etc.

A recording of Andy's presentation has been made available by Rob AD2CT on the PCARA YouTube Channel, https://www.youtube.com/@peekskillcortlandtamateurr7670. Direct link to the Linux presentation is at: https://youtu.be/xv9YnREmeAA.

After the KB1IOQ remote presentation was complete, **John KE2DTY** gave an in-person demonstration

John KE2DTY (left) provides an in-person demonstration of "Andy's Ham Radio Linux" installed on a Raspberry Pi 5 computer at the March meeting. [Credit: AD2CT]

of Andy's Ham Radio software that he had just installed on his own Raspberry Pi 5. The Raspberry Pi 5 is a powerful (if tiny) Linux computer, reviewed in the *PCARA Update* issue for October 2024, pp 14-18.

Meanwhile a VE Test Session was taking place in the Library's Meeting Room. Seven volunteer examiners supervised three candidates, with two new Technicians and one upgrade from General to Extra as the result.

During the PCARA Breakfast held at Uncle Giuseppe's on Saturday March 21, Jon KC2BNW gave a demonstration of Meshtastic® nodes in high places.

Please make a note of the following upcoming events for your calendar.

- Saturday April 4, **Monthly Meeting**, 10:15 a.m. Putnam Valley Library. Jasper NK2Y will explain **traffic handling** — see *Continued on page 2* ⇨

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below. Arrangements for **Field Day** (June 27-28) may be another topic.

- Saturday April 4, **VE Test Session**, 11:30 a.m. Putnam Valley Library. Candidates should contact Rob AD2CT, ad2ct‘at’arrl.net
- Saturday April 18: **PCARA Breakfast**, 9:00 a.m., Uncle Giuseppe’s, Yorktown Heights, NY.
- Saturday May 2: **PCARA Breakfast** 9:00 a.m. Downing Park followed by **PCARA Foxhunt** 10:45 a.m. in FDR State Park. Rules in May issue.
- Sunday May 3: **Orange County ARC Hamfest**, Black Rock Fish & Game Club, Mountainville, NY. 8:00 a.m.
- Fri May 15 - Sun May 17: **Dayton Hamvention®**, Greene County Fair and Expo Center, Xenia OH.

Using the National Traffic System

Join Jasper, NK2Y at the April 4 meeting for an engaging presentation about the time-honored tradition of amateur radio traffic handling. For those unfamiliar — “traffic” refers to messages sent around the country or in some cases around the world via amateur radio — often for the non-amateur public. Get the basic history of the system, learn about different types of traffic nets and their common protocols, discover local and online traffic nets and get a chance to write your own radiogram. You’ll receive tips during the work session on how to send it yourself or Jasper will get your message into the traffic system for you after the presentation.

PCARA Board

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Net night

Peekskill/Cortlandt Amateur Radio Association holds a roundtable net on Tuesday evenings at 8:00 p.m. and a directed ‘Old Goats’ net on Thursday evenings at 8:00 p.m. Both events take place on the 146.67 MHz W2NYW repeater, offset -0.600, PL 156.7 Hz.

Join the roundtable to find out what members have been doing or join the Old Goats with net control Karl N2KZ for news and neighborly information.

VE Test Session March

PCARA’s latest Volunteer Examiner Test Session took place on Saturday March 7, 2026 at Putnam Valley Library, following the monthly meeting.

There were three candidates, with each person having a successful outcome. Armando Virola KA2JEM of Carmel, NY successfully passed Element 4, upgrading from General to Extra on March 9. Eugene Pryslak of Putnam Valley passed Element 2, qualifying for Technician with new call sign KE2HUQ granted by the FCC on March 10. Oleksandr Chernov from Honedale PA also passed the Element 2 test, qualifying for Technician. His new (3-land) call of KD3CUM was granted by the FCC on March 12. Well done!

VE Test Session was held on Saturday March 7 in the Putnam Valley Library meeting room.

Seven Volunteer Examiners took part in the session including Lou KD2ITZ, Rob AD2CT, Ken W1YJ, Verle W2VJ, Peter W2PDK, Joe WA2MCR and NM9J.

This ARRL VE Test Session employed the ExamTools system, using a combination of tablets, notebook computers and smartphones to administer tests and sign the paperwork.

PCARA’s next VE Test Session is scheduled for Saturday April 4, 11:30 a.m. at Putnam Valley Library, following the April monthly meeting. This will be an ARRL-VEC session, candidates should contact Rob AD2CT, ad2ct‘at’arrl.net or register direct at the ExamTools web site, https://exam.tools/reg/69b7021d6f1e8c1507424272 .

Adventures in DXing
- N2KZ

An American in Spain

It must have been an omen. After a 7 hour flight, our Boeing 767-400 taxied into Adolfo Suárez Madrid-Barajas Airport at last! A remarkable welcome was seen from my porthole window. Peeking out from a hazy cloudy sky was a brilliant rainbow.

Rainbow at Madrid Airport. *[N2KZ pics].*

Quite a beginning to a 10 day excursion visiting four different locales across central and southern Spain! My family and I were ready for adventure.

After a 75 minute puddle-jump flight from Madrid to Málaga on Southern Spain's Costa del Sol, my wife and I drove farther south along the coast to the resort town of Marbella (pronounced Mar-Bay-Ah.) We arrived and discovered paradise.

Location of Marbella and Málaga on the coast of southern Spain. *[Base map: OpenStreetMap]*

Warm and wonderful, it was 62ºF / 17ºC in the balmy February sun without a cloud in the sky. Look carefully from our balcony view over the Alboran Sea and you could see the mountaintops across the water in Morocco. Life is good!

Technical Orientation

When in Spain, you need to convert to European power standards: 220-240 volts at 50 Hz alternating current. Plugging in North American 120 volt devices without voltage conversion can produce explosive results! Many 'wall warts' and especially Apple computer and phone power supplies are designed to handle 220 volts making expatriate and tourist lives much easier.

Mountains of Morocco seen in the distance from Marbella.

Read carefully what voltages your device can handle BEFORE you plug it in! The plug standard in Spain is Type F (Schuko)— a hefty round connector with two hardy round pins and a ground tab. I much prefer using a dedicated adapter to cumbersome (and possibly dangerous and flakey) 'universal' adapters ready for many plug standards. Americans going to Spain should look for a "NEMA 5-15R to Europe Schuko CEE7/7 Power Plug Adapter SF Cable YL-2215". Plug the Schuko end into the wall outlet. Plug your device into the familiar "American" socket on the other side of the adapter. Now you have a solid connection to power. Life will be simpler when you do!

Schuko or Type F plug is used for 230 volt AC power connections in much of Europe.

My next move was to change the medium wave standard on my radio from 10 kHz to **9 kHz** spacing appropriate for European listening. You are trading in your American 530-540-550 kHz and so on progression for the European 531-540-549 kHz... scheme.

What am I hearing on 1476 kHz (or any other medium wave frequency?) Refer to the indispensable MWLIST frequency guide providing everything you might want to know about the originating broadcasters when listening to medium wave in this area of the world. (https://www.mwlist.org/mwlist_quick_and_easy.php) You are now ready to DX in Southern Spain!

Adventure Begins!

The ride from Málaga to Marbella reminded me of the Pacific Coast Highway in California. Headed south, we rode along the base of small mountains and an occasional city on highways that were remarkably clean

and smooth. This was a theme during our entire visit to Spain. All the roads were meticulously maintained without the slightest bump to navigate. We never saw a pothole! The cities were equally clean and meticulously landscaped. Most refreshing: everyone was so congenial. Strangers and friends greet each other with cordial 'good mornings' and 'good days' and there is always an air of peace and tranquility. It was so welcoming and refreshing.

Sitting on a balcony in Marbella, I did not have to look far to find exotic listening. 531 kHz hosts the powerful and multi-lingual Radio Algérie Internationale broadcasting with 600 kW from F'Kirina, Algeria — a remote location between Algiers and Tunisia. One click up on 540 kHz, you'll find 300 kW SNRT serving Marrakech, Morocco (parallel on 595 kHz.) 549 kHz is another 600 kW superpower — an Algerian relay of the lively and varied programming of Jil-FM. All three stations can be heard with very modest AM radios across the sea in Marbella, Spain and far beyond — day and night. In America, you can sample these services live and in full quality on-line via the Internet.

Domestic radio begins with the omnipresent **RNE** — Radio Nacional de España. It is the official national state-owned public service radio broadcaster offering six individual radio programming networks heard throughout Spain on FM and DAB/DAB+. Radio Nacional is their main channel not unlike America's NPR with a variety of news, talk, music and entertainment. Radio Clásica is devoted to classical music. Radio 3 serves younger demographics: Más música, más cultura, más creatividad. Radio 4 serves the Catalan population. Radio 5 is RNE's 24 hour news service and Radio Exterior España is the descendant of RNE's international shortwave service now distributed online, via DAB/DAB+ and worldwide satellite. RNE has something for everyone — and everyone listens!

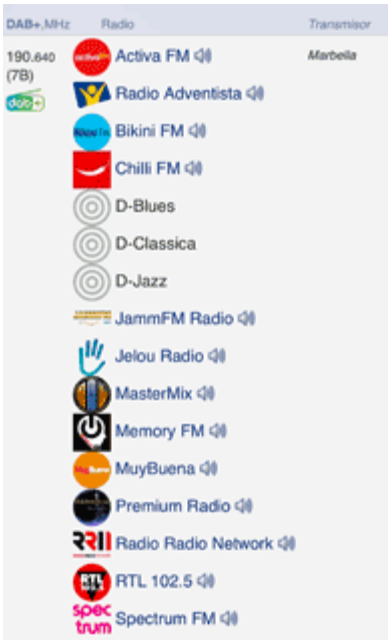
On the 30th of December 2025, RNE ceased operations of all of their 34 medium wave transmitters across Spain after 88 years of service. Suddenly, dozens and dozens of previously occupied medium wave frequencies became open for DXing. RNE stations once could be heard all over Europe and beyond at night. Now, without their signals, the medium wave band is comparatively clear for distant listening more than ever before.

Overall, very few broadcasters in Spain still operate on medium wave. I understood immediately why the FM band was so very full of stations — and — why there were so many news and talk radio stations on FM. All the legacy medium wave stations had been moved to new FM frequencies to continue operations.

A Digital Future

In turn, many stations have now taken a further step into the future by finding their slot on local high-VHF DAB/DAB+ ensembles. (FM stations in Spain do not use hybrid analog with digital piggy-back transmissions like our HD Radio in North America. All DAB in Spain is discrete digital-only in multiple station 'ensembles', broadcast within the high-VHF band of 174 – 240 MHz.)

Spain's DAB/DAB+ distributes many stations multiplexed onto a single carrier simultaneously. The audio clarity is pristine — like you are directly connected to their studio. No fading! No static! Since a multitude of stations are gathered together on the ensemble, you don't have to hunt up and down the dial to find what you want to listen to. Using your car's touch screen or manual tuner you can quickly review and select all the stations you are capable of receiving quickly and efficiently. Many areas are served by several ensembles but all the available stations combine to become a single continuous list from which to choose. It's like having an all-inclusive router with you wherever you go. Quick and easy station selection!



*One of three DAB+ ensembles that serve Marbella. This is frequency block **7B** (190.640 MHz).*

Spain is quickly proceeding to move all radio stations onto DAB/DAB+ digital broadcasting via the high-VHF band (174 to 240 MHz.) In Madrid, there are six jam-packed DAB ensembles carrying 65 audio services. In Málaga, three ensembles present 40 total stations. It is hoped that eventually all radio broadcasts will migrate to operating exclusively on DAB/DAB+ only.

Today's old-style analog FM listening in Spain can be challenging. Broadcast allocations in Spain use both odd and *even* frequencies (i.e. 100.**2** or 101.**6** MHz) — and — make use of every conceivable channel reaching

down to 87.5 MHz up to 108.0 MHz. I understand that most FM broadcast stations in Spain use circular polarization although there is no mandated standard.

One very useful feature on my AM/FM portable was used continually: The FM **DX**/**ATT**enuation switch. I encountered many places where overload and intermodulation were rampant. One frequency listing I found detailing Madrid analog FMs showed 119 FM stations on the air in this metropolis. The band is packed!

¿Hablas inglés?

Marbella, on Spain's Costa del Sol, is strategically placed directly opposite the coastline of Morocco — and — northeast of the British Overseas Territory of Gibraltar. This area seems to be an oasis for British and German tourists. Many signs around town are tri-lingual with local restaurants and clubs catering to their tastes.

Tuning up and down the FM band in Marbella, you can find broadcasts in English if you are patient and persistent. I found two stations that relay BBC programs: **Talk Radio Europe** on 91.9 MHz relays the BBC World Service evenings and overnights. TRE originates in Estapona, Spain, (just down the coast from Marbella,) specifically for English speaking listeners. Mornings on TRE you will hear "Daybreak with Dave" (Hodgson) with news and talk all about Spain. The timbre of English you hear on-the-air on the radio in Spain is almost always British-accented, reflecting their primary transient tourist audience. American-sounding English is hard to find.

TRE's Dave Hodgson. *[Credit: TRE]*

Another curious logging was a station I could just barely pull through on 99.5 FM. Evenings it would relay BBC Radio 5 Live from Britain with no local IDs at all. A fellow member of the British DX Club, Jorge Garzón – EA1FOV, helped me out with this one. It is a local outlet of the **British Forces Broadcasting Service** on the air primarily for British armed forces personnel based in Gibraltar. Fascinating!

A fun discovery was a lively and fresh music station in English: Chilli.fm with studios in the Puerto Banús neighborhood of Marbella locally on 91.5 FM with a total of four transmitters covering the entire Costa del Sol region. I was very impressed with their sophistication and slick professional presentation. First rate! They use an American-made Omnia VOLT processor for their MP3 processing and DAB+ creating a silky enjoyable sound. Listen in! https://chilli.fm.

Chilli.fm Marbella studio. *[Credit Chilli.fm].*

Right on the heels of Chilli.fm is the powerful signal of Spectrum FM on 91.3 FM also fanned out up and down the southern coast of Spain and even including the Canary Islands with multiple transmitters. You'll hear a formulaic hot pop hits format with no lack of commercials presented in English.

Another dominant signal demands attention: Málaga's Central FM "playing the hits everyday" on 103.9 FM. Their free-form format reminds me of a local community or college station. Very familiar music with live DJs in English all day long.

Spooky Tropo

Here's something I bet you have never experienced: Listening to FM in Marbella can seem oddly haunted. Sitting on the seacoast, directly across from Morocco, it is not unusual to witness early morning tropospheric ducting. While casually listening to local FM stations from Spain, the Moroccan stations can inject strong signals via tropo into Marbella, enough to capture the frequency you are tuned to. You can be listening to Whitney Houston one moment and be superseded by Moroccan chants or choruses or announcers in Arabic or French the next. Surprise!

A couple of strong AM stations in Spanish can also be heard in Marbella: 1458 kHz Radio Algeciras, part of the nationwide SER talk/news network from just west of Gibraltar — and — Radiolé on 1584 kHz with a fascinating format heralding the traditional music of Spain. It broadcasts from the autonomous city of Ceuta on the African side of the Gibraltar Strait that is governed under the auspices of Spain. Radiolé is a very unusual and educational listen introducing the world to Spain's rich musical heritage.

Marbella was the only place in Spain where I

heard some of the remaining British medium wave stations after dark: BBC Radio 5 Live on 693 kHz and 909 kHz and TalkSport on 1053 kHz and 1089 kHz. Later, after we traveled away from Marbella, we could hear, late at night, London's Lyca Radio on 1458 kHz "playing the latest Bollywood hits, as well as UK Asian hits, Bhangra, sprinkled with a few old-skool belters." I was in a new world of listening. I never knew what I would hear next.

Castles and Towers

Our adventure continued now traveling inland to the enchanting little city of Alcalá la Real along the N-432 heading towards Cordoba. The rolling mountains and ultra-modern road and tunnels made for quite a memorable ride. Along the way we marveled as we passed by the snowy Sierra Nevada mountaintops while we basked in 65ºF / 18ºC sunshine during our drive. We tried hard not to think about the coming blizzard about to hit New York City!

Location of Alcalá la Real. *[Base map: OpenStreetMap].*

In Alcalá, we stayed at a three-story walk-up B&B nestled among the narrow streets in town. Alcalá la Real is host to an ancient castle fortress: La Fortaleza de la Mota going back to 379 B.C. featuring impressive stone work and majestic views from ancient perches 3500 feet high.


Castle fortress at Alcalá la Real.

Across town, on the opposing hill from the castle, is a fairly complex telecommunications site. Nearby, a local sculptor has created a unique outdoor museum of his stone carvings, great and small, that sit within a vast forest of short and stout olive trees. Spain produces over 70% of the world's olives and olive oil. Viewing the olive trees from afar looks like an endless piece of dark green corduroy with the trees planted in long precise rows to maximize production. You would swear that the olive trees go on forever. They do!

Olive Trees on N-432 road to Alcalá la Real and Cordoba.

Since our B&B was located only about half a mile from Alcalá la Real's multiple transmitter site, FM DXing proved challenging. The FM side of my radio was totally swamped with very powerful signals. At the top of the list was the local affiliate of the Onda Cero nationwide news/talk network on 99.0 FM. Locally-run community station Radio Alcalá owned the top of the FM band on 107.6 FM. Being literally in the shadow of the towers, my ability to DX anything on FM from this location was impossible.

The most dominant local medium wave station here is an affiliate of another news/talk network — COPE from Granada — also quite strong on 900 kHz just south down the N-432 from Alcála la Real.

My most interesting catch inland was the thunderous megawatt signal (yes, one million watts) of the familiar Trans World Radio on 1467 kHz broadcasting from Roumoules, France just north of Marseille on the

French Riviera coast about 650 miles away from me. Just after 10:00 p.m. local time, TWR hits the air with a repetitive interval signal that runs for over 15 minutes. At 10:20 p.m., they begin broadcasting evangelism in Arabic until 11:35 p.m. every night... then they leave the air. Pow! It is hard to miss.

Not According to Plan

Our original itinerary was to drive south back to Málaga for one night and then catch an early flight back to Madrid and transfer to our long flight home to New York. The day before our planned return to America we received a message from United Airlines declaring that our flight back to Newark Airport had been **canceled** due to a record-breaking blizzard back home. All plans had to be re-negotiated. Every possible flight was overbooked!

Instead of flying from Málaga back to Madrid, we took the Renfe AVE high-speed train. On this trip, I traveled across land faster than any other time in my life! Our cruising speed gracefully maintained 300 km/h or 186.4 mph without a rumble — an extremely smooth ride. You could literally watch the world fly by. It was amazing to tour Spain in ultra-speed — so much to see so fast!

Spanish state railway company (Renfe) high speed train.

Welcome to Madrid

No flights were available for three days allowing us to thoroughly enjoy an extended visit in Spain's capital city, Madrid. It is a spectacular metropolis with a history almost as old as time itself. Marvel at The Royal Palace — the largest in all of Europe. Revel in the delicious cafés and bakeries all around town. You'll find many parks and tree-lined boulevards, beautiful, varied architecture and stunning churches and historical buildings — even the remains of city-limit entrances from Roman times. So much to see and do!

I found only four medium wave stations strong enough to break through the urban RFI noise of Madrid. On the contrary, the FM band was an endless blur of signals without a single frequency unused from end to end.

Within this melee, I found only one FM station primarily in English: FM 100.4 Vaughan Radio that longs for you to "Empower Your English!" It's raison d'être is to tutor their listening audience to not only become fluent in English but to also learn common figures of casual speech and intonation. Besides radio, the Vaughan Group offers in-person English language classes and diploma recognition for graduates. A station dedicated to encouraging the use of the English language... Fascinating!

Street café and bakery, Madrid.

All across Spain, I enjoyed a warmth and welcoming from everyone I met. Attempts to speak Spanish to locals are always appreciated. Your Anglo accents give you away instantly! More often than not, this clued locals to shift gears to communicate with you in English. Many of them speak English very well — a grand relief to us tourists! The feeling of welcome followed us wherever we went.

Never Far From Home

While we were waiting to find our way back to The Big Apple, we would watch up-to-the-minute reports from New York via our cell phones! Around the clock, American TV newscasts and repeat broadcasts from WABC 7 and WNBC 4 could be seen effortlessly via streaming using their phone apps 24 hours a day. Full access to YouTube was just as easy. We could also see our home surveillance cameras and view forecasts and statistics through NOAA and Weather Underground apps.

New York broadcast radio was also readily available. I could listen to Morning Edition from WAMC Albany... but it begins at 11:00 a.m. CET in Spain! (There is a six hour time difference between Eastern Standard Time and Central European Time.) It was the next best thing to being there.

I Have a Vision

Broadcast television is pivotal and popular throughout Spain. It is an essential continual conveyance of Spanish culture, news and entertainment

and a fixture in every restaurant or public place you might visit.

Television in Spain seems to be quickly leaning towards exclusive distribution via IP streaming. Many weather-worn UHF antennas can still be seen on rooftops and just about everywhere you go — but how many are actually being used? In our hotel visits, we could see a select 60 or more channels on the flat screens in our rooms specifically catering to their international tourist clientele. Several satellite TV providers also offer Spanish TV channels along with international offerings to transient foreign visitors.

Rooftop UHF TV antennas.

Also noted was the deployment of advanced cutting-edge telecommunication technologies in Spain. Radio is quickly moving toward all-digital distribution in DAB/DAB+ on dedicated frequencies on high VHF. Many popular radio services are also broadcast via television distribution providers as part of their complete entertainment packages. Spain passed a mandate in March 2025 insisting that all new televisions, over 40 inch screen size, must be capable of full 4K TV resolution using the DVB-T2 standard. TVE's La 1 channel is already broadcasting in 4K 24 hours a day. New standards of quality and reliability are being rapidly adopted with excitement throughout the country. Added value: the Government of Spain does not require annual license fees from television and radio users. You are free to go!

What Do You See?

Spain's public television broadcaster — TVE (Televisión Española) — is the fulcrum and primary source of programming throughout the country, directly associated with its radio equivalent — RNE.

TVE continually broadcasts five services: La 1 — the place to go for the important and most popular programs, La 2 — with entertainment and culture in mind, TDP Teledeporte for sports, 24 Horas '24h' TVE's all-news channel and Clan for children. TVE's offerings attract about 16% of all viewership.

Two private TV companies have a lock on the largest audiences: Atresmedia is the largest network in Spain based on two channels - Antena 3 and laSexta (6). Mediaset España offers Telecinco (5) and Cuatro (4.) Altogether, these four 'generalist' channels capture about half of all Spanish viewing.

Watching TV in our hotel rooms was an international festival of content with additional channels originating from Portugal, Germany, France, Turkey, Italy, Hong Kong, BBC News Europe from Britain, Al Jazeera from Doha and a multitude of channels, each in a different spoken language, from CGTN — the China Global Television Network.

Viewing habits in Spain are very, very similar to what you would expect in America — except everything was in Spanish! All across Spain, the world stops when local team soccer games are in progress. You'll hear cheers from every bar, restaurant, lobby and public meeting place when 'the game' is on the air.

Away from the sports channels, day and night you'll see novelas (soap operas,) shopping channels, endless amounts of talk shows, authoritative news and commentary programs and many documentaries. Honestly, all of these choices also provide a wonderful way to learn Spanish. Watch and listen carefully and you'll quickly understand what is being said.

Cuando terminan las vacaciones

(When vacation is done)

Visiting Spain was a remarkable experience - being dropped into a completely different world unlike anything you could find in North America. It is such a beautiful place where everyone seems so happy, peaceful and optimistic. How refreshing to be in a country filled with new ideas and perspectives. I'll remember the stunning seashores, wonderful museums, palaces and castles, the vast olive tree farms and being surrounded by majestic mountains. I miss it already! And now, I have to switch my radio back to 10 kHz AM spacing!

Until next month, *hasta que nos volvamos a encontrar* (until we meet again). 73s es dit dit de N2KZ "The Old Goat."

Radio Station URLs

All of these services are available on TuneIn:

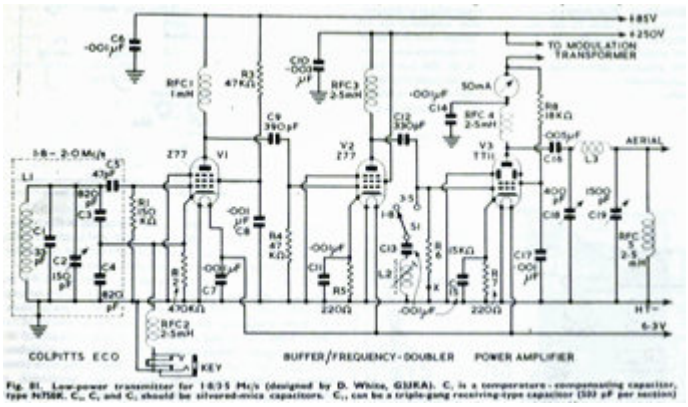
Radio Algerie Internationale: https://my.radioalgerie.dz/fr/rai
SNRT Morocco: https://snrtlive.ma/fr/alidaa-alwatania
JIL FM Algeria: https://my.radioalgerie.dz/fr/jilfm
RNE Nacional: (click 'en directo') https://www.rtve.es/play/radio/rne/
Talk Radio Europe: https://www.talkradioeurope.com
BFBS Gibraltar: https://www.bfbs.com/radio/stations/bfbs-gibraltar
Chilli.fm: https://chilli.fm
Central FM: https://www.centralfm.com/player-central-fm.html
Radio Algeciras: https://cadenaser.com/radio-algeciras/
RadioLé: (click 'directo') https://www.radiole.com

Medium frequency memories

Topic of the week on a recent **Old Goats' Net** was the amateur band where participants made their first transmissions. Your editor's choice was different from everybody else — his first transmissions were in the U.K.'s **160 meter** band, 1800 - 2000 kHz.

This particular band was a popular spot for British radio amateurs to start operation. At the time (mid-1960s) 160 meters was the lowest frequency amateur allocation. Because of band sharing with other services, power was limited to 10 watts DC input on AM/CW or 26⅔ watts PEP output on single sideband. Home construction of a 'full-power' VFO-controlled vacuum tube transmitter was not a huge challenge. By the time my U.K. license arrived from the British Post Office, I had acquired an aluminum chassis plus various parts from the local electronic store to assemble a simple AM/CW transmitter. The design came from the Radio Society of Great Britain's "A Guide to Amateur Radio" and "Amateur Radio Handbook".

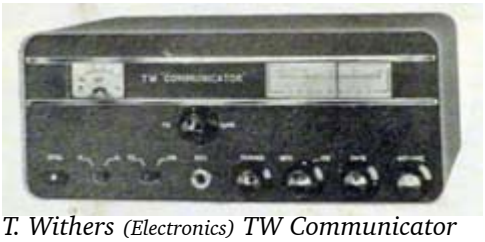
Southport radio room of six decades ago. R1155L receiver under Heathkit Mohican.



Low power transmitter for 1.8/3.5 MHz from RSGB's "Amateur Radio Handbook" and "A Guide to Amateur Radio".

The transmitter was connected via loading coil to a 120 foot bent long-wire antenna, with a Marconi R1155L World War II aircraft receiver to provide AM/CW reception over the range 200 kHz to 18.5 MHz.

The most popular band for mobile operation was also 160 meters. Shortly after I started commuting from Southport to Warrington, I had a 160 meter installation in my rear-engined Hillman Imp vehicle. The AM transceiver was a "TW Communicator", with helically-wound fiberglass "G-Whip" mobile antenna. In open country, daytime range on ground wave was around 30 miles.



T. Withers (Electronics) TW Communicator trans-receiver for 160, 4 or 2 meters.

More on medium

At the time, the medium frequency spectrum (300 to 3000 kHz) was in use by other services as well as amateur radio. The most obvious presence was **AM broadcasting** in the range 525 – 1605 kHz. Forty five miles east of Southport was the BBC's high-power transmitting site at **Moorside Edge** near Huddersfield in West Yorkshire. This site was radiating BBC **North Home Service** with 150 kW on 692 kHz plus the BBC **Light Programme** with 50 kW on 1214 kHz. Three 500 ft masts dating from 1931 supported the transmitting antennas. In September 1967, 1214 kHz was re-assigned to popular music station BBC Radio 1 while the Home Service on 692 kHz was renamed as BBC Radio 4.

BBC Moorside Edge transmitter site in 1982. Twin 500 ft masts act as radiators and support wire cage antennas. [G3VNQ pics.]

Medium wave signals arrived at Southport from other directions. Since 1937, the BBC had a transmitter at Penmon on the Isle of Anglesey broadcasting the **Welsh Home Service** with 5 - 8 kW on 881 kHz AM. There was a direct sea path between Anglesey and

MF transmitting sites received at Southport from around Liverpool Bay and the Irish Sea. *[Base map: OpenStreetMap].*

Southport, providing strong reception of 881 kHz. A significant harmonic of Penmon on 1762 kHz could also be received — just below the 160 meter band.

A more recent addition from across the Irish Sea was **Manx Radio**, established in 1964 on VHF-FM and subsequently broadcasting on 1295 kHz AM from Foxdale on the Isle of Man. It was joined in July 1964 by **Radio Caroline North** operating from the ship MV *Fredericia*/MV *Caroline*, anchored three miles off Ramsey Bay.

Radio Caroline North. Transmit antenna was a "vertical folded unipole 168 feet high" consisting of a wire cage attached to the top of the 155 ft mast. *[CC BY-SA 4.0, Credit: DWSav.]*

Power from this 'pirate' station was 20 kW on 1520 kHz (announced as 199 metres), with the sea path providing coverage of northwest England, Wales, Scotland, and the coast of Ireland. Frequency changed in December 1966 to 1169 kHz ("259 metres").

Following the UK's Marine, &c., Broadcasting (Offences) Act of 1967 — which outlawed advertising or supplying offshore stations — Radio Caroline North went off-air and was towed away from the Isle of Man in March 1968 because of unpaid bills.

In more recent years, some of the land-based AM broadcast signals have also been switched off — including Moorside Edge's 1215 kHz signal and Penmon's 882 kHz. BBC and Independent Local Radio transmitters installed in the early 1970s were switched off in 2020 - 2021. Medium frequency sites require tall towers and lots of real estate for guys and buried ground mat radials, all of which are expensive to maintain.

Medium frequency propagation changes from day to night as the ionosphere's D layer disappears and the skywave signal is reflected off the E or F layers, reaching further than ground wave. Modern radio listeners prefer the constant signal strength — and higher quality — of VHF-FM, VHF DAB or the radio-free Internet.

Maritime services

When I first came on-air from Southport, the 160 meter amateur band was shared with several other services, taking advantage of the excellent ground-wave propagation of medium frequencies across sea water. One of the biggest signals came from **Anglesey Radio** (GLV), operated by the British Post Office from Amlwch on the northeast tip of Anglesey.

Radio service for ships in Liverpool Bay and the Irish Sea began in 1903 from Marconi station **GLV** at Seaforth, five miles north of Liverpool city center. The service started with spark on wavelengths around 300 and 600 meters, changing to vacuum tube MCW transmission in 1927. Seaforth had problems reaching ships south of Anglesey and the suburban site closed in May 1960, with service transferred to a new Post Office coast station on the island of Anglesey itself. Anglesey Radio could transmit on 447 kHz and 500 kHz MCW plus 1715, 1925, 2182, 2754 and 2810 kHz AM/SSB. The 500 watt radio-telephone signal on 1925 kHz, *within* the 160 meter amateur band, was especially strong, working ships on 2009, 2527, 2104 and 2548 kHz. Two vertical masts provided transmitting antennas for the 2 MHz radio-telephone service while also supporting a Marconi "T"-

MF transmit antennas at Anglesey Radio pictured during a visit in 1977. Separate receive antennas were sited ~1 km away, fed with pressurized coax. *[G3VNQ pics.]*

antenna for 500 kHz wireless-telegraphy transmission. In the 1960s and 1970s there was steady demand for Morse code and radiotelephone service from commercial, passenger and pleasure ships approaching and departing the Port of Liverpool, plus the developing business of oil and gas exploration. The need for medium frequency service declined in the 1980s and Anglesey Radio closed in December 1986. (The station building is now home to Chris MW0LLK.) Maritime radio traffic mostly moved to high-band VHF-FM (156 - 162 MHz) — and in more recent years to satellite-based communications from Inmarsat (1626 MHz) or from Starlink (on K_u and K_a microwave bands).

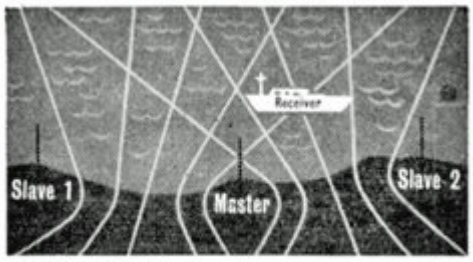
Redifon G423 transmitter at Anglesey Radio produced 500 watts carrier on 1.5 - 4 MHz DSB.

Beacons and navigation aids

In the days before satellite-based GPS navigation, ships and aircraft needed to know where they were located. A system of low-power medium-frequency **beacons** was provided in the frequency range 287 – 380 kHz. In my part of the world there were beacons on board the Morecambe Bay Light Vessel (289.6 kHz, call sign MB) and on the Bar Light Vessel in Liverpool Bay (305.7 kHz, call sign BR). Land-based beacons were often located at lighthouses and at airfields, including nearby Burscough/Ormskirk, 315.5 kHz, call sign ORM.

Nowadays, most of the marine beacons have closed down, but aeronautical non-directional beacons (NDBs) are still maintained at airports and helipads, partly as a backup alternative to satellite-based GPS, partly because of low operational cost and the long life of automatic direction finding (ADF) receivers fitted to existing aircraft.

The 160 meter band was home to more navigation aids. For the area around Liverpool there was a **Decca Hi-Fix** navigation system operating on 1900 kHz. This hyperbolic surveying system employed a chain of three shore-based stations consisting of one master and two slaves. In my case, one of the slaves was located just eight miles away from Southport. When heard over the air, transmissions sounded like a continuous series of Morse **J**s (di-dah-dah-dah). A trigger signal radiated from the prime station was followed by phase-locked continuous wave signals from each of the three stations in turn. Antennas were optimized for ground wave transmission using a guyed 32 ft vertical mast, with top capacity hat employing the upper set of guys. At a shipborne receiving station, relative phases of signals from the on-shore master and slave stations provided hyperbolic lines of position.



Hyperbolic Hi-Fix. *The hyperbolic layout provides a high accuracy service for an unlimited number of users simultaneously.*

Decca Hi-Fix as advertised in 1960.

Decca Hi-Fix transmit antenna had a vertical mast with capacity hat consisting of the top set of guy-wires.

After dark, signals from another navigation aid could be heard in the 160 meter band. **LORAN** (**Lo**ng-**Ra**nge **N**avigation) was a hyperbolic radio navigation system which came out of World War II. Loran-A used frequencies within 160 meters. At my location in Southport, transmission was centered on 1950 kHz. Over the air, it sounded like a continuous series of pulses at 33.3 or 25 pulses per second, filling an appreciable amount of RF spectrum with peak power levels up to 200 kW. Transmitting stations dating from World War II were run by the U.S. Coastguard and Royal Navy from Greenland, Iceland, the Faeroes, Hebrides and Shetland to cover the North Atlantic.

Decca hyperbolic systems were made redundant by GPS and have mostly been switched off. LORAN-A remained in use until around 1985.There has been some recent interest in a modernized version of LORAN as an alternative to the low-level, readily-jammed emissions from GPS satellites.

MF future

Medium-frequency radio services — developed long ago in the days of vacuum tubes, large transmitting antennas and skilled manual operators — have largely been replaced by solid-state systems transmitting on shorter wavelengths, with microprocessors replacing human operators and carrying out complex calculations. How long will it be before the traditional medium frequency spectrum of 300 to 3000 kHz is completely empty?

- NM9J

Leaves are Falling - N2KZ

It has been quite a long run. The first AM radio station licenses were issued just about 105 years ago in 1920. Today's forecast is rather bleak: many, many of the smaller local stations have deteriorated until they could no longer transmit. Many others could not continue for financial reasons. Listeners have gone elsewhere to the FM band or to streaming and podcasts. Times are rapidly changing.

A good example of these times can be seen in Port Huron, Michigan. Liggett Communication's Radio First group is closing down three stations to minimize losses. 1380 WPHM will be leaving the air in early April because their six-tower antenna array has passed the point of viable restoration. The license for 1380 will be turned in and cancelled. Similarly, Liggett's license for 1590 WHLX will also be returned to the FCC. WHLX (1 kW days / 102 watts nights — two-towers) requires serious repairs and the costs are prohibitive. WHLX FM translator W224DT (92.7 MHz / 125 watts) will also go silent.

Large market AM radio stations are also feeling these effects. Two local 50 kilowatt AM stations have been bending in today's rugged financial conditions. Locally, our all-news WINS, originally fixed on 1010 kHz, has been simulcasting onto full-power 92.3 MHz FM since October 2022. Their on-air identity is slowly disregarding the '1010' moniker. Legendary all-news WCBS 880 AM cashed in its format and AM callsign in August 2024 replaced by ESPN all-sports radio. It's now called WHSQ (Hudson Square — their studio location in downtown Manhattan.)

One local AM/FM pair has become a curious head-scratcher. 1190 AM WLIB (10 kW — three towers) and 98.7 FM WEPN-FM are stations looking for a new identity. For many decades, WLIB was dedicated to serving African-American listeners with R&B, Soul and Gospel music and black-oriented news broadcasts. 98.7 FM used to be the flagship station of ESPN Radio until August 2024 when ESPN moved to 880 AM replacing WCBS. It was the home of experimental 'T.J. Radio' for a few months and has now switched to a new interesting stew.

Enter 'La Exitosa' (The Successful One) — an unusual mix of American and Hispanic familiar pop hits (mostly in English) combined with announcements, sweepers and advertisements often in Spanish. This is quite a concoction to find while scanning the dial. What audience are they trying to reach? Current owner Emmis New York has been searching for a buyer for these two properties for many moons. Tune in on 98.7 FM or 1190 AM and take a listen!

Another remarkable loss of direction can be found in Charlotte, North Carolina. Their most famous station, 50 kW WBT AM 1110 had been a news/talk ratings leader since the mid-1970s. On December 11, 2025, WBT began simulcasting with 100 kW ERP on 107.9 FM as WBT-FM. Finally, on January 8, 2026, WBT's news/talk programming was removed from 1110 AM replaced by a repetitious loop of instrumental background music with an occasional voice over "WBT now on 107.9 FM — Your City — Your Station" Due to its bi-directional nighttime antenna pattern, Charlotte's 1110 AM can be heard in the New York metropolitan area very well after dark. What does this kind of 'stunting' indicate? 'We don't know what to do with this AM signal and nobody wants to buy it.' Who knows how long they will be treading water this way? What a sad waste of a 50,000 watt signal!

The world is forever changing. Welcome to the year 2026. Will the meek inherit the Earth? Who are 'the meek?' Stay tuned! - Karl N2KZ

May Foxhunt

Lou KD2ITZ has secured permission from FDR State Park to hold a **PCARA Foxhunt** on Saturday May 2, 2026. Lou suggests meeting for breakfast at Downing Park at 9:00 a.m., then proceeding to the Foxhunt at 10:45 a.m. May 2 coincides with the statewide "I Love My Park Day", which may allow participation in clean-up activities as PCARA has done once before.

[Graphic courtesy Lou KD2ITZ.]

Peekskill / Cortlandt Amateur Radio Association

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Archive: http://nm9j.com/pcara/newslett.htm

PCARA Information

PCARA is a **Non-Profit Community Service Organization**. PCARA meetings take place every month (apart from July/August break). See http://www.pcara.org for current details.

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

Sat Apr 4: PCARA Monthly Meeting, 10:15 a.m., Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley, NY. Presentation on **traffic handling** by Jasper NK2Y.
Sat Apr 4: PCARA V.E. Test Session, 11:30 a.m., Putnam Valley Library, see below.
Sat Apr 18: PCARA Breakfast, 9:00 a.m., Uncle Giuseppe's, 380 Downing Dr, Yorktown Heights, NY.
Sat May 2: PCARA Breakfast, 9:00 a.m. Downing Park followed by PCARA Foxhunt, 10:45 a.m. FDR State Park.

Hamfests

Check with organizers before leaving.
Sat Apr 18: Southeastern CT Amateur Radio Society Flea Market, St. Paul's Church Hall, 170 Rope Ferry Rd., Waterford, CT. 8:30 a.m.
Sun May 3: Orange County ARC Hamfest, Black Rock Fish & Game Club, 5 Pleasant Hill Rd., Mountainville, NY. 8:00 a.m.

VE Test Sessions

Check with the contact before leaving.
Apr 4: PCARA, 11:30 a.m., Putnam Valley Library, 30 Oscawana Lake Rd., Putnam Valley NY. Must contact VE Rob AD2CT, ad2ct'at'arrl.net. ARRL VEC.
Apr 9: WECA, Westch Cnty Fire Trg Center, 4 Dana Rd Valhalla NY. 7:00 p.m. Contact VE, rcasino48'at'gmail.com.
Apr 17: Orange County ARC, Munger Cottage, 40 Munger Dr., Cornwall NY. 6:00 p.m. Contact VE: joed99'at'verizon.net.

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