NOVEMBER 2026

18th EDITION

SWR Magazine 1:1



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Control for the HY-GAIN CD-44

AMATEUR RADIO IS NOT DEAD

CQWW 2026

From preparation to competition

NP4ET's experience from Puerto Rico

ISSN: 3068-7233

www.swrmagazine.org

Introduction

On the Cover

Our November cover features José M. Candelaria, NP4ET, at his station in Puerto Rico. His headphones, transceiver and computer place the operator at the center of a scene familiar to anyone who enjoys exploring the bands and finding new stations.

The photograph accompanies his CQWW 2026 experience and invites us to consider what goes into every contact. Before operating begins, equipment needs checking and the station needs preparing. At the radio, careful listening and concentration guide each decision.

In this issue, we share that perspective, from preparation to competition. It is an opportunity to explore contesting through the experience of the person at the controls, turning the signals he hears into encounters with fellow radio amateurs.



José M. Candelaria, NP4ET · Puerto Rico

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Contents

NOVEMBER 2026

SWR Magazine

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Section 1

On the Cover 2
Editorial 5
World News 8
CQ World Wide DX Contest 10
JOTA-JOTI 2026 15
DXpeditions 20
Amateur Radio Is Not Dead 22

Section 2

From Transmatch to ATU 26
Full Quieting 32
Arduino-Controlled HY-GAIN CD-44 38
How I Became W9ACF 46
On the Air 49
Nostalgia Corner 50

Section 3

Feminine Frequency 52
SWR Marketplace 54
Events & Activities 56
DID YOU KNOW?™: DX 58
Is It Still Relevant? TS-940S 59
FCC ID and Online Sales 61
Ham Radio Zone 63

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EDITORIAL

THE SIGNAL CONTINUES

Kjell Lindgren operating from the ISS, 2022. Photo: NASA (public domain).

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An amateur radio magazine shares something essential with a station: it needs people willing to keep it on the air. Equipment and tools help, but curiosity, knowledge and a willingness to share give meaning to every transmission.

With that conviction, we present this November issue of SWR Magazine. We continue into a new chapter, grateful for the journey so far and committed to building a space for experience, experimentation and the many ways we enjoy our hobby.

The pages of this issue reflect that diversity. Contests invite us to sharpen our skills. Technical projects encourage us to build and learn. Restoring equipment and Morse keys preserves stories that can still return to the air. Club activities and encounters with young people also remind us that sharing what we know is part of our responsibility as radio amateurs.

Each contribution brings a different perspective. Behind every article are hours of work, testing, photographs and experiences that someone chose to share with others. To our authors and contributors, thank you for entrusting that effort to SWR.

In this new chapter, Yanira Maldonado, WP4QOE, joins us as Editor-in-Chief. Her participation adds to the editorial and technical work that keeps the magazine moving forward in service to the community.

To our readers and sponsors, thank you for being with us. Reading and sharing the magazine, and inviting others to discover it, also help this project grow.

Our invitation is simple: enjoy these pages and put some of their ideas into practice. Try an antenna, take part in an activity, return to an unfinished project or help someone make their first contact. That may be where the next story we share begins.

The signal continues. Thank you for being part of it.

Less noise. More signal.

By Juan Montijo, WP4OV



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WORLD NEWS



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BELGIUM

FOSDEM welcomes amateur radio experimentation

Amateur radio will be part of FOSDEM 2027, a gathering dedicated to free software and technology development in Brussels. IARU Region 1 has announced a call for proposals for its amateur radio developer room, scheduled for the morning of January 31.

Organizers are seeking practical experiences involving new communication modes, operator tools, open hardware, satellite systems, radio astronomy and propagation monitoring. Proposals may also explain how a project was built or investigated, the challenges encountered and what participants learned.

The submission deadline is November 23, 2026. Each presentation will have a 25-minute slot, including five minutes for questions. Demonstrations and prototypes are welcome; commercial presentations will not be accepted.

The talks will be streamed and recorded. The call offers radio amateurs an opportunity to share their work with an international community of developers and experimenters.

Source: IARU Region 1, October 25, 2026.

UNITED STATES

Students build technology to communicate with satellites

Two schools in Alachua County, Florida, are incorporating amateur radio into hands-on science and technology programs. Their projects were presented at the AMSAT symposium held in Jacksonville in October.

At The Rock School, ten high school students are working on a station to track low-Earth-orbit satellites. The project combines electronics, programming and mechanical construction, including a robotic antenna-pointing system, component soldering and 3D-printed parts.

Meanwhile, Gainesville Christian Community School integrates amateur radio, electricity, electronics and computing into a technology class with 16 students.

Alongside building the equipment, participants are preparing to earn their licenses. In the longer term, program leaders hope to meet the requirements to apply for an educational contact through ARISS. That possibility still involves preparation and a formal selection process; no contact has yet been approved.

Source: AMSAT News Service, ANS-298, October 25, 2026.



View of Deal Island, Tasmania (2006). Photo: Terrafirma123 / Wikimedia Commons.
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AUSTRALIA

Amateur radio and conservation meet on Deal Island

Australian radio amateur John, VK1AX, is combining an environmental volunteering stay with on-air activity from Deal Island, identified as OC-195 in the Islands on the Air program.

The island lies in Bass Strait, between Tasmania and mainland Australia, and is part of Kent Group National Park. John and his partner regularly volunteer with the Tasmania Parks and Wildlife Service at remote locations.

According to an October 21 report from the Wireless Institute of Australia, VK1AX expected to remain until late November. In his spare time, he operates on the 80- through 10-meter bands, primarily using FT8, with some SSB activity as well.

His operating schedule depends on his availability and conservation commitments. For IOTA enthusiasts, the activation offers a chance to contact a remote island. For other operators, it illustrates how radio can complement personal interests and volunteer work.

Source: WIA, October 21, 2026; operating information from 425 DX News.

UNITED KINGDOM

Youth groups invited to take part in YOTA Month

The Radio Society of Great Britain has invited schools, universities and youth organizations to take part in Youngsters On The Air Month during December.

The UK call seeks groups interested in hosting special event station GB26YOTA and giving young people the experience of making their first contacts. Scout, Girlguiding and Cadet groups are included, alongside educational radio clubs.

The RSGB notes that these activities require a UK Full licensee to be present to supervise operators. Groups can arrange support from a local amateur radio club.

Registration and further information for host organizations are available on the RSGB website.

Source: RSGB, October 30, 2026.

CQWW 2026: From Preparation to Competition, A Puerto Rican Operator's Journey

A homebuilt antenna, a reliable radio, and six months of preparation. My experience in the CQ World Wide DX Contest reminded me that in amateur radio, outstanding results depend not only on equipment, but also on strategy, perseverance, and the desire to improve.

By José M. Candelaria Medina, NP4ET

Much More Than Making Contacts

The weekend of October 24–25, 2026, was a special challenge for me. For several years I have participated in the CQ World Wide DX Contest (CQWW), one of amateur radio's most important and busiest international contests. In previous editions, my main goal had been to work new DXCC entities, expand my list of countries worked, and enjoy the extraordinary activity that turns the HF bands into a meeting place for operators worldwide.

This time, however, I had a different goal: I did not want to participate simply to add contacts. I wanted to be competitive.

That change in mindset meant preparing better, assessing my limitations, and recognizing that achieving a strong result required far more than switching on the transceiver when the contest began. I needed to make my station more efficient while preparing myself for one of the most demanding weekends on the contest calendar.

The preparation took approximately six months.



José M. Candelaria, NP4ET, operating from his amateur radio station in Camuy, Puerto Rico.

The Challenge of a Station With Limitations

One of my biggest obstacles was the space available for antennas. At my station, the limitations were not just horizontal; I also had to consider the available height. These conditions force any amateur radio operator to think carefully about making the most of every meter of property and every installation possibility.

Rather than treating those limitations as a reason to settle, I decided to work with what I had and optimize it.

My main antenna was a homebuilt Yagi configured with four elements for 20 meters, four for 15 meters, and five for 10 meters. Building antennas has always been an important part of my experience as a radio amateur. There is nothing quite like using a system you designed and built yourself, knowing its characteristics, and working to get the best possible performance from it.

During my preparation, I focused on optimizing this Yagi to make better use of the upper HF bands. The goal was to have a station capable of competing without relying on a large commercial antenna installation.

But I still had another need: 40 meters.

Because of the height restrictions, installing an elevated dipole was not the most practical option for my space. So I decided to build and install a homebuilt vertical antenna for that band. A properly designed and installed vertical can provide low radiation angles, especially with an efficient radial system, which can be advantageous for certain long-distance DX contacts.



Homebuilt multiband Yagi antenna used by NP4ET on 20, 15, and 10 meters.

This did not mean that a vertical was necessarily better than a dipole. Every antenna has strengths and limitations, and its performance depends on the installation, terrain, and propagation conditions. In my case, the vertical was a practical solution for using 40 meters within the realities of my station.

In the end, my philosophy was simple: rather than waiting for the ideal space, I worked to make the most of what was available.

A Radio for Competition

The station also needed one essential tool: a transceiver suitable for operating for many hours in a contest environment.

It is true that you can enter the CQWW with virtually any radio capable of operating on the permitted bands and modes. Nevertheless, when the goal is to compete, the equipment's characteristics become more important.



Homebuilt 40-meter vertical antenna installed to accommodate the station's limited space and available height.

During a contest of this magnitude, an operator may encounter weak signals among extremely strong stations, multiple stations transmitting at once, and genuine pileups in which dozens of operators try to work a single station. In these circumstances, selectivity, adjacent-signal handling, receiver control, and the ability to change bands quickly can make a significant difference.

For that reason, about a month before the contest I purchased an Icom IC-7610, a transceiver I had always considered an excellent tool for this kind of activity.

I wanted a radio that would let me move quickly between bands, identify stations, and work difficult signals under demanding conditions. I did not expect the radio to do the work for me, but I did want a platform that would help me take better advantage of the opportunities propagation provided.

I also replaced my old laptop with a faster one. During a contest, logging every contact quickly and accurately is essential. A slow computer can interrupt the operating rhythm, delay QSO logging, and become an unnecessary distraction.

For logging, I used N1MM Logger+, one of the best-known programs in amateur radio contesting.

Every detail served a purpose: reducing interruptions, improving efficiency, and staying focused on what truly mattered—working stations and multipliers.

The CQWW: A Worldwide Contest From Home

For anyone who has not yet participated, it is worth explaining what makes the CQ World Wide DX Contest so special.

The CQWW is an international contest held in SSB and CW, traditionally on separate weekends. It brings together amateur radio operators from almost every corner of the planet, from those using modest stations to competitive teams with large antennas, multiple operators, and sophisticated systems.

In the SSB category, which I operated in this October edition, contacts are made using single-sideband voice transmission.

The objective is not simply to make the greatest number of contacts. The score also depends on the entities and geographic zones worked, known as multipliers, under the rules for that particular edition.

Generally speaking, each valid contact earns points, and multipliers can increase the final score considerably. A station that makes many QSOs but neglects multipliers can therefore finish with a lower score than another station pursuing a more balanced strategy.

This turns the CQWW into an exercise in planning and decision-making. You must decide when to call CQ, when to search for stations already calling, which band offers the best opportunities, and which multipliers are still missing from the log.

Propagation is constantly changing. A band may seem unproductive for an hour, then suddenly open toward regions that were previously unreachable. The stations we hear, the countries that appear, and signal strength can completely transform our operating strategy.

In other words, the contest demands continual listening, evaluation, and decision-making.

An Unexpected Lesson: Strategy Can Be Studied Too

Although I had been entering contests for years, I soon realized how much I still had to learn about the tactics used by more experienced operators.

Until then, I had focused much of my effort on the physical station: antennas, transceiver, computer, and operating conditions. All of that mattered, but I had not paid enough attention to certain strategic tools that could help me compete more effectively.

Fortunately, Osvaldo Soler, NP3N, ARRL Section Manager for Puerto Rico, offered valuable advice that helped me approach the contest from a different perspective.

One suggestion was to use the Contest Online ScoreBoard, a platform that lets you watch in real time the scores reported by participating stations that share their results. It allows you to follow the contest as it unfolds and compare your progress with that of other participants.

This tool added an interesting element to my experience: competitive pressure.

Watching other operators progress gave me a benchmark for my performance and kept me motivated. Knowing that other stations were still adding points reminded me that every contact could matter.

Of course, the scores displayed during a contest are provisional and depend on the data participants report themselves. They do not replace official results or guarantee that a displayed position will be final. Even so, they can provide a useful reference and motivation.

I want to thank Osvaldo for sharing his knowledge. In amateur radio, the experience accumulated by other operators can save us considerable time and help us discover aspects of contesting we might never have considered on our own.

Sometimes improving a station does not mean adding another piece of equipment. It means learning to use what we already have more effectively and understanding the game we are playing.

Forty-Eight Hours of Concentration

When the contest began, propagation was extraordinarily generous. The bands offered opportunities that allowed me to work entities I had never contacted before and log more QSOs than I had expected.

I entered as a Single Operator in the Low Power category. That meant the entire operation fell to me: listening, identifying stations, calling, logging contacts, searching for multipliers, and deciding when to change bands.

At a multioperator station, tasks can be shared. As a Single Operator, every decision and every minute of operation depend on one person.

It was not easy.

I spent many hours sitting at the radio, concentrating on signals and trying to maintain a steady pace. I got up only when necessary, went to sleep late, and returned to the station early. At times fatigue began to take over, but the prospect of working a new entity or finding a missing multiplier encouraged me to continue.

Every band had opportunities, and every contact could contribute to the final score. Sometimes it was necessary to leave one activity temporarily to explore another band or look for a station not yet in the log.

The challenge was to balance the number of contacts, the search for multipliers, and the efficient use of time.

I also discovered that physical endurance is part of preparation. A contest of this length is not won through technical knowledge alone. Comfort, rest, nutrition, and the ability to stay focused directly affect the quality of an operator's decisions.

When it ended, I was satisfied to have completed an experience that demanded far more of me than I had anticipated.

A Personal Best That Inspires Me to Keep Going

Reviewing the preliminary data in N1MM Logger+, I found a result that filled me with satisfaction: 1,969 QSOs and 1,468,059 points.

It is important to clarify that this is the score calculated by the program from the initial log. Subsequent log checking, possible corrections, and contact validation may change the final figure. For that reason, I do not yet regard this number as an official result.

Nevertheless, regardless of any adjustments, it represents a personal best and an extraordinary reward for the months of preparation.

I was also pleased to have worked new entities and to have demonstrated that a station built and optimized within real physical limitations can produce results that exceed initial expectations.

I am not claiming that my station compares with the world's major competitive installations. The point is that each operator faces particular circumstances, and there is always room to improve within them.

In my case, progress came from combining an optimized homebuilt Yagi, a 40-meter vertical, a suitable transceiver, a faster computer, efficient logging software, and, above all, a greater awareness of the importance of contest strategy.

Each element helped me arrive at contest weekend better prepared than in previous years.

What I Would Change for 2027

Although I finished satisfied, the contest also left me with a list of areas I need to improve before the next edition.

First is strategy. I now know I need to study operating tactics, band planning, and multiplier identification in greater depth. Knowing the equipment is not enough; you also have to understand the opportunities the competition offers.

Second is audio equipment. I used a handheld microphone throughout the contest. Although it allowed me to complete the operation, I became convinced that I need a good headset to free my hands and reduce physical strain during long operating sessions.

Third is ergonomics. I had purchased a chair I thought was adequate, but I discovered that comfort over many consecutive hours is another matter. For the next edition, I want to evaluate a gaming-style chair that will help me maintain a more comfortable posture and reduce fatigue.

Finally, I need to pay more attention to rest and nutrition. There were times when fatigue got the better of me, and I realized I cannot expect optimal performance if I neglect my body's basic needs.

These are simple but important lessons. The next contest does not begin when its starting time is announced. It begins much earlier, with every improvement, every test, and every decision we make to be better prepared.

The Satisfaction of Building, Learning, and Competing

One of amateur radio's greatest rewards is that there is always something new to learn. We can spend years building antennas, studying propagation, experimenting with equipment, and accumulating contacts, yet still encounter challenges that make us look at our station from a different perspective.

The October 2026 CQWW reminded me of precisely that.

For six months I worked to improve a station that had to fit the available space. I built solutions, purchased equipment, modernized my logging system, and received advice from someone experienced in contesting. Then, during contest weekend, I had the chance to put all that effort to the test.

The result was much more than a number on a screen. It was the satisfaction of setting a new personal best, working new entities, and discovering areas where I can still grow as an operator.

The contest also taught me that amateur radio does not have to be a solitary pursuit when it comes to learning. Even when we sit alone at the transceiver, our progress may be supported by advice, shared experiences, and knowledge passed along by fellow amateurs.

To everyone thinking about entering the CQWW for the first time, my advice is simple: start with what you have. Do not wait until you own the perfect antenna, the most expensive radio, or a station that can compete with the biggest installations. Learn the rules, know your equipment, prepare your station, and set realistic goals. If possible, study contest strategy and seek advice from experienced operators.

Every contact counts, but so does every lesson learned.

For my part, I still have plenty of work ahead. I want to improve my tactics, optimize my station, and reach the next edition with more knowledge and better operating conditions.

I am already looking forward to the 2027 CQWW.

Because ultimately, competing is not only about trying to outperform other operators. It is also about discovering how far we can go when we decide to prepare, learn, and give our best.

73 de NP4ET, from Puerto Rico.

Editorial note: The score and contact total cited here come from the preliminary N1MM Logger+ log and should not be interpreted as official results or confirmed worldwide placements.

ABOUT THE AUTHOR



José M. Candelaria Medina, NP4ET, is an amateur radio operator from Camuy, Puerto Rico. He currently serves as an ARRL Technical Advisor for the Puerto Rico Section.

JOTA-JOTI 2026: Making the Connection Possible

An initiative led by Juan “KJ” López, KP4KJ, brought amateur radio clubs and Scout leaders together to help young people connect and discover amateur radio.



A member of Troop 690 from Quebrada, Camuy, takes part in radio communications with Hatillo Radio Club, WP4HRC. Photo: Néstor T. Correa.

During a Grupo Maranatha activity in Humacao in 2025, a group of Scouts approached the amateur radio operators who were on the air. The gathering coincided with JOTA-JOTI and led to a brief introduction to amateur radio and several attempts to contact other Scout troops in Puerto Rico.

The local contacts did not materialize, but a reply came over the HF bands from Panama. At the other end was a Scout troop. For Juan “KJ” López, KP4KJ, the young people’s excitement as they spoke with Scouts outside Puerto Rico turned that unplanned encounter into the beginning of a project.

“This has tremendous potential; all it needs is good organization and coordination,” he recalls thinking.

A year later, that idea took shape as an effort to bring clubs, operators, and Scout leaders together. The goal was easy to describe but demanding to organize: to help ensure that when a young person picked up the microphone, another Scout would be there, ready to talk.

Preparing Both Ends of the Contact

JOTA-JOTI offers an opportunity to connect through radio and the internet. Making the most of it requires preparing the participants and coordinating stations so that their operating times, bands, and communication modes align.

KJ brought that need to an online meeting where operators and leaders shared resources, experiences, and suggestions. The discussion covered frequencies, repeaters, and links, along with ways to welcome young participants, explain the equipment, and help them overcome the uncertainty of making a first call.

In his interview with SWR, KJ reported that more than twenty clubs in Puerto Rico had joined the initiative. He also described coordination with participants in Panama, Costa Rica, Colombia, and Argentina to expand the opportunities for communication.

Among those who helped him develop the effort, KJ highlighted Emmanuel Cruz, NP4D; Luis Omar Cintrón, WP4RQA; and David “Red” Rodríguez, WP4PCR. His collaborators’ knowledge of Scouting helped address considerations that went beyond setting up a station.

Preparations included suggested questions to encourage conversation, a phonetic alphabet reference sheet, and sample contact logs. A temporary WhatsApp group would allow operators to announce available stations, share frequencies, and coordinate during the activity.

The questions were particularly important. Knowing how to start a call helps, but having something to share and being curious about the other person can turn a brief contact into a conversation.



Troop 572 from Carolina with volunteers from the Carolina Ham Radio Club, KP4CRC, during JOTA-JOTI 2026. Photo: Carolina Ham Radio Club.

Learning Alongside the Radio

The contributions received by SWR show different ways of introducing young people to that experience.

In Carolina, the Carolina Ham Radio Club, KP4CRC, participated alongside Troop 572. The photographs shared by KJ bring Scouts and volunteers together around an initiative intended to encourage learning, communication, and friendship.

At the Club de Leones in Isabela, the Federación de Radioaficionados de Puerto Rico, KP4FRA, worked with Troops 14 and 983. Its contribution included an introduction to amateur radio and a presentation by Jorge Jordán, KP4YR, on satellites and digital modes.

The Comunidad de Radioaficionados de Puerto Rico, CRAPR, reported on its activity at the Bahía de Jobos Nature Reserve in Aguirre, Salinas, with Troop 424 from Salinas, Troop 2212 from Coamo, and Troop 411 from Ponce. Young people of different ages shared the operating area with the participating amateur radio operators.

Hatillo Radio Club, WP4HRC, supported Troop 690 from Quebrada, Camuy. The club reported HF, VHF, and UHF communications with different troops. One of its photographs captures the experience: a young person holding the microphone beside the equipment and taking a direct part in the communication.

These encounters also build on relationships developed over the years. Club KP4RCE reported that it has worked with Troop 1777 from Cabo Rojo since 2018, offering workshops, demonstrations, and instruction in radio communications. Its account highlighted José A. Martínez, KP4CUC, for his sustained support since 2019. The continued involvement of these volunteers creates further opportunities to explore radio after an initial visit.



KP4FRA · Isabela. Jorge Jordán, KP4YR, introduces Troops 14 and 983 to satellites and digital modes. Photo courtesy of Federación de Radioaficionados de Puerto Rico.



CRAPR · Aguirre, Salinas. Participants from Troops 424, 2212, and 411 with their supporting volunteers. Photo courtesy of CRAPR.



KP4RCE · Cabo Rojo. José A. Martínez, KP4CUC, guides a young member of Troop 1777 during radio operation. Photo courtesy of Club KP4RCE.



CARG, WP4CRG · Troop 457 from Hatillo. The young participants helped assemble and use the vertical antenna for 10 meters. Photo: Juan Montijo, WP4OV.

From Assembly to Conversation

With Troop 457 from Hatillo, the Caribbean Amateur Radio Group, CARG, WP4CRG, added another learning opportunity: the young participants helped assemble and use a Sirio vertical antenna for 10 meters.

According to Juan Montijo, WP4OV, president of CARG, the Scouts used the group's repeater to communicate with different troops and amateur radio operators in Puerto Rico. On HF, they also spoke with troops in Venezuela and the United States.

The equipment they had helped prepare became part of a hands-on communication experience. The antenna, radio, and microphone took on meaning as they heard a reply and continued the conversation.

At the end of the activity, CARG presented personalized certificates to the young participants, leaders, and participating club members. The recognition provided a tangible reminder of the day and acknowledged the contributions of those who made it possible.

A Relationship That Can Continue

KJ acknowledges that bringing clubs and troops together requires time, patience, and communication. His hope is that the effort will continue and that the relationships between the two communities will grow throughout the year.

An international contact can be memorable, but it is not the only measure of the activity's value. Getting to know a station, learning to listen, asking a question, or discovering how an antenna works can also spark curiosity.

For a club looking to get started, KJ suggests an accessible first step: approach a troop, get to know its leaders, and offer a talk, a demonstration, or the opportunity to make a radio contact.

The experience in Humacao that inspired him began in just that way: with young people who approached a station and operators willing to share. The coordination effort in 2026 sought to multiply those opportunities. Its continuation will depend on preserving that willingness to teach, listen, and come together again.

> A talk, a demonstration, or a first contact can open the door to a relationship that continues throughout the year.



A reminder of the experience. CARG presented personalized certificates to young participants, leaders, and participating club members. Sample provided by Juan Montijo, WP4OV.

By: SWR Editorial Team

NOVEMBER 2026

DXpeditions

Three destinations for November

Africa and the Indian Ocean feature in this selection. Behind each callsign is a team transporting antennas, setting up stations and organizing shifts to offer new contacts. All three operations plan activity during November.

01 C8K Mozambique



Map: © WorldAtlas.com, published on cdxp.cz.

C8K · 10–20 NOV

The Czech DXpedition Team plans to arrive on November 9. Setup on November 10–11 will allow limited activity. Full operation is planned for November 12–18. Dismantling on November 19–20 will also limit activity.

Plans cover 160–6 meters, including 60 m, using CW, SSB, RTTY, FT8, FT4 and PSK. The team also announces QO-100 and a special focus on the low bands.

QSL via OK6DJ, OQRS and LoTW. Live logging will depend on local internet access.

A multi-station expedition

The eight-operator team will use directional antennas, verticals and dedicated receiving systems. When planning to work C8K, distinguish the travel dates from the days scheduled for full operation.

Source: cdxp.cz · Checked November 1, 2026.
Dates, bands and modes may change. Check the team's updates.



3X4U artwork, published by UBA.

02

3X4U · Guinea

November 11–23

From Lac de Koba, the team plans five stations on 160–6 meters, using CW, SSB, FT8 and RTTY. CW and SSB will be the priority.

QSL: M0URX's OQRS. Full log upload to LoTW after six months.

An opportunity from West Africa

The 3X4U schedule offers time to work Guinea on different bands and modes. The team will also focus on the low bands and difficult propagation paths. Check its updates before transmitting and follow the operator's instructions.



Flying Fish Cove, Christmas Island. David Stanley, CC BY 2.0 · Wikimedia Commons. Cropped. creativecommons.org/licenses/by/2.0

03

VK9XY Christmas Island

November 16–December 4

Plans cover 160–6 meters, with CW, SSB, FT8 and FT4 depending on the band. M0OXO will handle QSL requests through OQRS, with direct, bureau and LoTW options.

Website: vk9xy2026.com

Young operators on the air

Ten young operators from six countries make up the team. With YOTA, other young hams will operate remotely with support from experienced hams.

Sources: UBA and VK9XY · November 1, 2026.
Christmas Island: Australian territory in the Indian Ocean, IOTA OC-002.

Amateur Radio Is Not Dead

BY HENRYK KOTOWSKI, SM0JHF



Mikolaj, SP5ME, assists an unlicensed operator on 144 MHz FM.

For roughly two decades, as the World Wide Web has reached nearly every corner of the globe, predictions of the death of amateur radio have circulated, particularly in countries with large communities of radio enthusiasts. To paraphrase a famous remark, rumours of its demise have been greatly exaggerated. I intend to offer some evidence of that.

On the last Sunday of the summer of 2025, I visited an annual gathering of radio enthusiasts in a nature reserve some twenty miles south of Warsaw, the capital of Poland. Such events are by no means unique. On the contrary, similar gatherings appear to be increasingly popular in many parts of the world.



Tom, SQ5T, shows a tiny 430 MHz transmitter that will be hidden somewhere nearby.

Amateur radio is not dying—it is evolving, just like almost everything else in human society. Over more

than a century, this pastime has developed from the experiments of a handful of pioneers using basic inventions, through the adoption of commercial equipment and the expansion into new frequency bands, to the sudden growth made possible by surplus military equipment and advances in technology, and finally into today's digital and microwave era. The Internet did not kill amateur radio; on the contrary, it has become a useful tool. Many old-school radio amateurs, commonly known as hams, have a point when they observe what they perceive as declining interest in traditional shortwave voice operating modes. Nevertheless, there are signs of growing interest in amateur radio in countries such as China, Indonesia, Malaysia and India, as well as in Europe and the United States. Traditional DXing on the HF bands faces several challenges. HF antennas can be large, expensive, vulnerable to damage and, in many places, restricted or prohibited. Electromagnetic interference is widespread and increasingly troublesome, making weak-signal reception difficult. International travel has also become more accessible, and distant places can now be visited in person, perhaps reducing some of the excitement once associated with long-distance radio contacts. For many enthusiasts, the VHF and UHF bands offer more practical opportunities for experimentation.



Tracking a helium balloon released during the event.



Launching helium balloons has become a popular activity, demonstrating the remarkable capabilities of small, self-assembled radio modules operating as beacons and transponders, sometimes travelling hundreds of kilometres.

The gathering, known as the Mazovian Amateur Radio Picnic, was being held for the eighth time and has become a regular annual meeting place for radio enthusiasts from Warsaw and its expanding suburbs. Its purpose is to bring people together across boundaries of age, gender, background, operating mode and frequency band. Large cities offer considerable potential, with educational institutions, curious young people and relatively favourable economic conditions. Many amateur radio licences have been issued in the area, yet on-the-air activity remains relatively low. The aim of the picnic is to demonstrate practical wireless technology to youngsters, introduce experienced amateurs to current techniques and provide an informal meeting place for anyone who is, or has been, interested in amateur radio.



Getting ready for a hidden-transmitter hunt using simple homemade directional antennas.



Gregor, SP5MGS, demonstrates how to select the frequency of a hidden transmitter, or “bug.”



Off we go in search of the “radio foxes.”



Chris, SQ5NWI, shows teenager Michael how to aim a long Yagi antenna to locate a hidden 430 MHz transmitter.

This annual outdoor event is supported by a branch of the national amateur radio organisation, PZK, a local fire brigade, an emergency communications group and several suburban school clubs. Admission is free, and the picnic attracts approximately 250 visitors, with attendance depending partly on the weather. Some participants bring their children. For newcomers, one of the highlights is seeing practical demonstrations of those mysterious, invisible radio waves.

Radio clubs were once the backbone of amateur radio in Eastern Europe behind the Iron Curtain. There were several reasons for this arrangement: training potential radio operators for military service and civil defence, shortages of suitable equipment, and the need to supervise contacts with foreign stations. Today, thousands of skilled contest operators whose roots lie in the former Soviet bloc are active and successful around the world. Young people are curious and inquisitive. They learn quickly, but they can also become bored just as quickly. Presenting amateur radio as a gateway to knowledge and skills that can be useful in everyday life is a productive approach with lasting benefits. By contrast, presenting million-dollar

contest stations as typical amateur radio installations may discourage both youngsters and their parents from taking an interest in the hobby.



Tomasz, SP5RT, slowly sweeps his multi-element antenna while his son monitors the handheld radio.



Dominika, SQ5CAT, one of the growing number of female radio enthusiasts, tries an accessible approach to amateur radio direction finding (ARDF). Traditional ARDF involves running to locate hidden transmitters.

May this report serve as an inspiration to your local amateur radio group or club. Meeting in person from time to time is healthy, stimulating and can help attract new members. Particular attention should be given to teenagers, who are eager to explore and learn when offered the opportunity.



The traditional group photograph is taken at the end of the picnic, when only some of the participants are still present.

ABOUT THE AUTHOR



Henryk Kotowski
SM0JHF

A radio amateur based in Stockholm, Sweden, Henryk became interested in contesting in the early 1960s. He shares his observations from the 2025 Mazovian Amateur Radio Picnic in Poland.

From Transmatch to ATU: What Are We Really Tuning?

A perfect SWR reading may be good news for your transmitter. But what does it really tell us about your antenna's efficiency?

By Juan Montijo, WP4OV



The TUNER button initiates the impedance-matching process. A favorable SWR reading at the transmitter does not necessarily reflect the efficiency of the entire antenna system. **Photo: José Candelaria, NP4ET.**

There is something particularly satisfying about watching the needle on the SWR meter settle at 1:1. For many amateur radio operators, that small victory seems to confirm that everything is working as it should. We press the TUNE button, hear a few relays click, get the reading we want, and we are ready to transmit.

But it is worth asking ourselves one question: What exactly did we just tune?

The answer is less obvious than the name antenna tuner might suggest.

From Transmatch to Antenna Tuner



Dentron 160-10 AT Transmatch. Its front panel preserves a designation that directly describes the device’s impedance-matching function.
Photo: Serafín Martínez, KP4FIE

For decades, amateur radio operators have used impedance-matching networks to connect transmitters to antenna systems whose electrical characteristics do not always match what the equipment requires.

One historical term for these devices is Transmatch, a name that describes their purpose rather well: matching the impedance presented by the feed system to the impedance required by the transmitter.

Today, we commonly call them antenna tuners or ATUs. Although the name may suggest that we are adjusting the antenna itself, a tuner installed next to the transmitter does not physically change the antenna’s length, height, or geometry.

What it does is transform the impedance seen at the transmitter output.

Through a combination of inductors and capacitors, an ATU can present the radio with an impedance close to the 50 ohms for which it was typically designed.

The transmitter can then deliver power into a favorable load. But that does not necessarily mean the antenna is operating at maximum efficiency.

And that is where the most interesting part of this story begins.

The Meter Reads 1:1. Now What?

Imagine a station with a 100-watt transmitter, a fairly long coaxial feed line, and an antenna whose impedance differs considerably from the cable’s characteristic impedance.

Without a tuner, the transmitter might detect a high SWR and automatically reduce its output power to protect its final-stage circuitry.

We engage the ATU, obtain a satisfactory match, and the radio returns to its rated power output.

So far, the tuner has performed its job perfectly.

However, when it is installed next to the transmitter, the mismatch between the coaxial line and the antenna still exists. Achieving a match in the shack does not eliminate standing waves in the section of feed line beyond the ATU.

That does not mean all reflected power is lost, or that using a tuner necessarily involves substantial losses. The magnitude of those losses depends on frequency, cable length and characteristics, the degree of mismatch, and the efficiency of the tuner itself.

Under some conditions, the losses may be small; under others, they may be large enough to affect station performance.

That is why a 1:1 SWR reading at the transmitter confirms a good match at that point, but it is not a measurement of how much power our antenna is actually radiating.

Not All the Power Leaving the Radio Reaches the Air

It helps to distinguish three things we often treat as one: the power delivered by the transmitter, the power reaching the antenna terminals, and the portion of that energy that is actually radiated.

A transmission line has its own losses, even when it is properly matched. Under mismatched conditions, those losses can increase.

A simple example makes the difference easier to see.

In “What Does Your SWR Cost You?”, by Stan Gibilisco, W1GV, published in the January 1979 issue of QST, the author considers a 65-foot (approximately 20-meter) length of RG-58/U coaxial cable operating at 21 MHz. Using the figures in that article, its approximate loss under perfectly matched conditions is 1.3 dB.

What does that mean in terms of power?

If we feed 100 watts into that line, with an ideal match and no other losses considered, approximately 74 watts reach the antenna end. The remaining 26 watts are dissipated primarily as heat in the cable.

And we are talking about a line with an SWR of 1:1.

100 W at the input → approximately 74 W at the output

Now, if the antenna presents a substantial mismatch, the total losses in that same line may increase. How much they increase depends on the specific conditions of the system.

This example is not meant to suggest that every station loses a quarter of its power, or that RG-58/U is unsuitable for every installation. Its purpose is to show that a perfect SWR reading does not eliminate the inherent losses of a transmission line.

The tuner is not ideal, either. Its inductors, capacitors, conductors, and connections all have losses, which vary with the design and the impedance transformation required.

Finally, the antenna itself may dissipate some of the power it receives through resistive losses in its conductors, connections, loading components, or ground system, depending on the installation.

All of this leads to an important conclusion: We can achieve an excellent impedance match and still have an inefficient radiating system.

The opposite is also possible. An antenna may efficiently radiate the power it receives even when its impedance is not exactly the 50 ohms expected by our transmitter.

SWR is a valuable tool, but it does not tell the whole story.

The ATU Is Not the Enemy

At this point, it would be easy to conclude that we should simply do without the tuner. But that interpretation would be just as mistaken as attributing capabilities to it that it does not have.

In practice, many amateur radio operators face limitations of space, budget, or installation conditions. Not all of us have a tower, monoband antennas, or enough property for an optimized antenna system on every frequency.

A multiband antenna fed with a low-loss balanced transmission line, for example, can perform extremely well with a suitable tuner, even when the SWR on the line is high.



An Icom AH-730 remote antenna tuner installed at the base of a vertical antenna. This configuration allows impedance matching near the feed point, potentially reducing additional mismatch-related losses in the main coaxial feed line.
Photo: Abimael Padró, KP4RY.

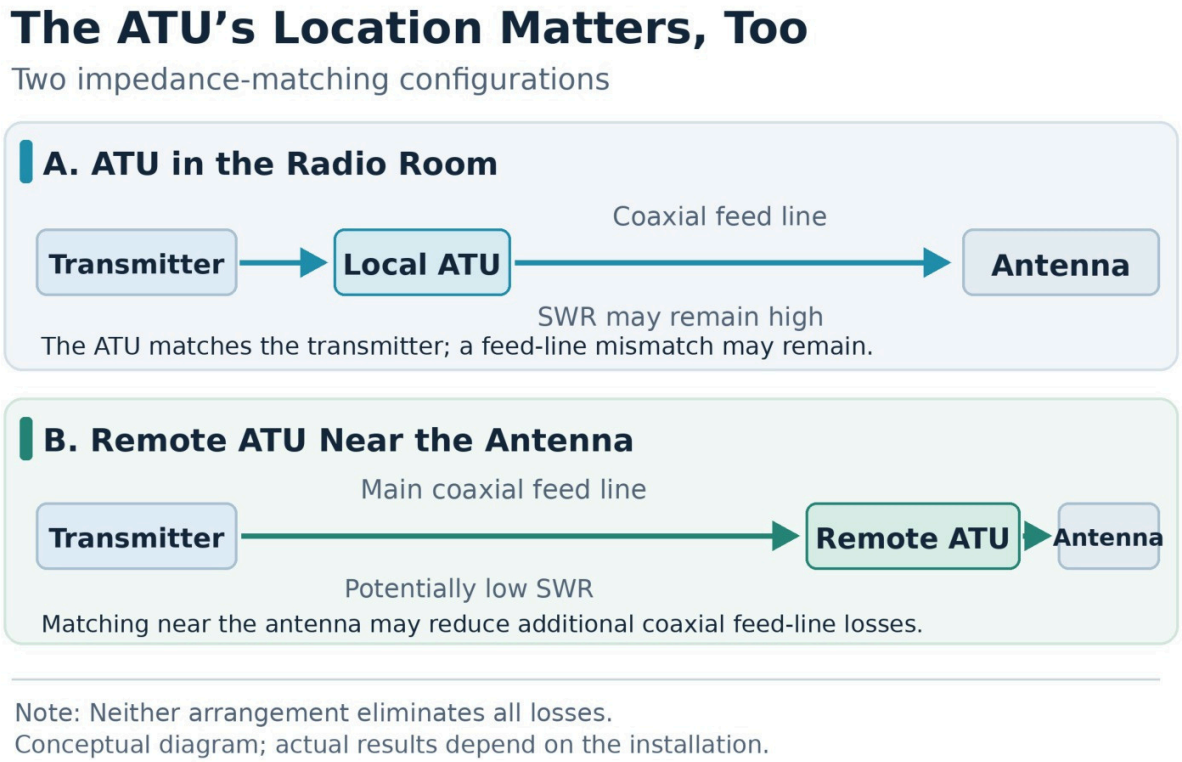


Figure 1. Conceptual comparison of an ATU beside the transmitter and a remote ATU near the antenna feed point. Original SWR PRO diagram, English version EN 1.0.

In other installations, a remote ATU located near the antenna feed point performs the impedance match before the signal travels along most of the coaxial feed line. This can significantly reduce the additional loss associated with a severe mismatch in the cable.

There are also situations in which a conventional tuner in the shack makes it possible to use an antenna effectively as its impedance changes across a band.

Every system has its own circumstances. The important thing is to understand which problem the ATU is solving—and which problems remain after we use it.

A good tuner does not turn a poor antenna into an extraordinary one. But it can allow a well-designed system to work effectively under conditions that might otherwise be difficult to manage.

Beyond the TUNE Button

Perhaps the next time we see a perfect SWR reading, we should feel the same satisfaction as always—but follow it with a second question.

What is happening between the output of the tuner and the point where our antenna transforms electrical energy into electromagnetic waves?

Knowing the characteristics of our feed line, understanding how the antenna behaves on different bands, and recognizing where losses may occur help us make better decisions.

Sometimes the most significant improvement will not come from buying another transmitter, installing a more sophisticated tuner, or obsessively pursuing an exact 1:1 reading.

It may come from shortening a feed line, using lower-loss cable, improving connections, checking the ground system, or changing the antenna's location or configuration.

And at other times, the best choice will be to keep using our ATU.

After all, amateur radio has always combined knowledge, experimentation, and practical solutions.

The next time we press TUNE and the meter reads 1:1, we can enjoy that small victory.

We simply need to remember that we have achieved a good match for our transmitter.

The real story of our signal begins well beyond the meter.

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Full Quieting at the Operating Desk

Clearing Cataracts and Getting Back on the Air

BY ALAN J. WILSON, N0XO

I've been a licensed amateur radio operator since 1977. For most of those years, my station has been a place where I could sit down, turn on the equipment, and leave the rest of the world behind. There was always another contact to make, a new antenna to experiment with, or some piece of equipment that needed attention.

Then my eyes started going downhill.

Cataracts don't arrive with a crash. They creep in, much like a rising noise floor that gradually makes a weak signal harder to copy. Dials that once looked sharp become fuzzy. Waterfall traces lose their definition. Colors fade so gradually that you hardly notice. Night driving becomes an adventure as every approaching headlight produces a spectacular display of starbursts.

Eventually, I realized I was operating through static that had absolutely nothing to do with the ionosphere.

When the Shack Started Getting Fuzzy

At first, I blamed the lighting. The fluorescent fixture above my operating desk had never been particularly good, and the radio's front panel always seemed to collect dust. I cleaned everything, adjusted the lighting, and carried on.

That worked for a while.

Frequency displays became harder to read. The small print on connectors and components required a magnifying glass and just the right angle under a bright lamp. On the computer, the fine vertical traces representing weak FT8 signals seemed to blend into the SDR waterfall. Enlarging the display helped, but the crisp definition I remembered was disappearing.

Colors weren't quite right, either. Contrast was down, although I didn't appreciate how much until later.

Night driving finally convinced me something was wrong. Oncoming headlights bloomed into large, distracting disks, and picking out lane markings became increasingly difficult. I began avoiding unnecessary driving after dark.

In the shack, I compensated the way any resourceful ham would. I increased the monitor brightness, enlarged the logging fonts, installed a better LED work light, and kept a digital magnifier handy for working with small components.

I could still operate, but I was making accommodations for a problem that wasn't going away.

Time for a Station Upgrade

When my ophthalmologist recommended cataract surgery, I approached the decision much as I would a major equipment purchase. I wanted to understand the available options, their limitations, and what I could reasonably expect afterward.

I had spent years troubleshooting electronic equipment, but this was one repair I certainly wasn't going to attempt myself.

We discussed replacement lenses, properly called intraocular lenses, or IOLs.

A standard monofocal lens provides its clearest focus at one selected distance. When set for distance vision, reading glasses are generally still needed for close work. Toric lenses can also correct certain types of astigmatism. Multifocal and other advanced lens designs may reduce dependence on glasses, although some patients experience halos, glare, or reduced contrast under certain conditions.

For me, good distance vision and contrast were priorities. I chose monofocal lenses set for distance and accepted that I would probably continue wearing glasses for reading, soldering, and other close work.

I wasn't looking for miracles. I just wanted to see properly again.

Into the Repair Shop

Cataract surgery is generally performed as an outpatient procedure, with each eye typically treated separately.

After the usual check-in, several rounds of eye drops, and some waiting, it was my turn.

The actual procedure was surprisingly quick. Once I was positioned beneath the surgical microscope, I saw bright lights and experienced some unusual visual sensations. There was no pain in my case, and the surgery itself took roughly 10 to 15 minutes.

During the procedure, the surgeon makes a tiny incision, breaks up and removes the cloudy natural lens, and replaces it with a clear artificial lens.

Modern medicine is remarkable. We can replace the optical element inside a human eye, yet I still occasionally struggle to get a stubborn PL-259 connector properly soldered.

I left the surgical center that morning with prescription eye drops, postoperative instructions, and a clear protective shield taped over my eye.

The shield made me look like a low-budget Borg from *Star Trek: The Next Generation*. Resistance was futile, particularly when it came to following the doctor's instructions.

The First Few Days

The first several hours were uneventful. My eye felt a little scratchy, watered occasionally, and remained sensitive to light. Vision was initially blurry, which I had been told to expect.

The following morning brought the first real surprise.

When the protective shield came off, the improvement was remarkable. Objects across the room had edges again. Colors appeared brighter, and things I had grown accustomed to seeing through a slight haze suddenly looked clean and distinct.

I hadn't realized how much visual information I had gradually lost.

There were still fluctuations. Some hours my vision seemed spectacular; at other times, it wasn't quite as sharp. My doctor explained that healing and visual adjustment would continue over the following weeks.

The prescription drops became part of my daily routine. I followed the schedule, wore the protective shield at night as instructed, and resisted the temptation to rub my eye.

That last instruction was harder than it sounds.

My second eye was scheduled approximately two weeks after the first. Having one corrected eye while the other still had a cataract made the difference especially noticeable. It was rather like comparing a properly aligned receiver with one that needed considerable attention.

Once both eyes had been treated, the improvement in my everyday vision became even more apparent.

Back Behind the Radio

Naturally, one of the first things I wanted to do was sit down at the operating desk.

What a difference.

The frequency display was sharp. I could read the computer monitor from a normal sitting position without leaning forward. Fine lettering that previously

required extra magnification was readable again, and the colors on the SDR waterfall looked noticeably more vivid.

Even the room itself seemed brighter.

The improvement wasn't limited to amateur radio. Distance vision was substantially better, and after my doctor cleared me to drive, I discovered just how much I had missed. Road signs were easier to read, distant objects had definition, and nighttime lights no longer produced the same overwhelming glare.

For the first time in decades, I could enjoy clear distance vision without relying on my old glasses.

There was still some adjustment involved. Monofocal lenses set for distance don't eliminate the need for close-up correction, and I knew a new prescription would eventually be necessary for reading and bench work.

My ophthalmologist advised allowing the eyes time to stabilize before obtaining those glasses.

Meanwhile, I avoided dusty projects, followed the postoperative restrictions, and left any strenuous antenna work for another day. Getting back on the air was important, but climbing around on the roof could wait.

Keeping Your Station Accessible

One thing this experience taught me is that there are plenty of inexpensive ways to make an amateur radio station easier to use, whether you're waiting for cataract surgery, recovering from it, or simply dealing with the visual changes that come with age.

Several adjustments helped keep me operating:

- **Larger fonts:** Most logging and digital-mode programs allow text and display elements to be enlarged. A few minutes spent adjusting these settings can make a tremendous difference.
- **Better lighting:** An adjustable LED work light aimed at the operating desk or workbench is far more useful than simply increasing the room's overall brightness. Position it to minimize reflections and glare.
- **Screen magnification:** Windows includes a built-in Magnifier, accessible with the Windows key and plus sign (+). It is particularly helpful when examining schematics or reading small text.
- **High-contrast displays:** Experiment with application colors and display themes. The best arrangement is the one that provides comfortable readability without excessive glare.
- **A larger monitor:** A generously sized screen positioned at a comfortable viewing distance can reduce the need to lean forward or squint.
- **Electronic logging:** Scalable fonts and adjustable display layouts make electronic logging particularly useful when vision becomes troublesome.
- **Bench magnification:** Even with excellent corrected vision, a magnifying visor or illuminated desk magnifier remains valuable for soldering, inspecting circuit boards, and reading component markings.

None of these changes requires an expensive station overhaul. Most are useful improvements regardless of whether cataracts are involved.

The ARRL also provides information concerning accessibility in amateur radio. Organizations such as the Courage Handi-Ham System have long helped operators overcome physical and visual limitations.

And don't overlook your fellow amateurs. Chances are someone in your local club has already been through cataract surgery and can offer practical advice about adapting an operating position.

A Word About Recovery

My experience was positive, but cataract surgery is still surgery, and everyone's recovery is different.

Some patients notice dramatic improvements almost immediately. Others require more time as their eyes heal and their vision stabilizes. Lens selection, existing eye conditions, astigmatism, and individual healing can all influence the final result.

Temporary scratchiness, light sensitivity, and fluctuating vision can occur during recovery. New or worsening pain, significant redness, a sudden decline in vision, or other unexpected symptoms warrant prompt medical attention.

Follow your ophthalmologist's instructions concerning prescription drops, protective shields, driving, physical activity, and the timing of new glasses.

A little patience during recovery is a worthwhile investment.

After all, most of us have waited longer for a rare DX station to come back to our call.

Back at Full Quieting

Looking back, the most surprising part of the entire experience wasn't the surgery. It was realizing how much I had gradually surrendered without noticing.

I had adapted to fuzzy displays, poor contrast, brighter lamps, larger fonts, and uncomfortable night driving. Each change seemed minor at the time. Together, they had made everyday activities, including amateur radio, considerably more difficult than they needed to be.

Cataract surgery didn't turn me into a teenager again, and I still expect to need glasses for close work. But it restored something I had been missing for years: the simple pleasure of seeing clearly.

If your radio displays are becoming difficult to read, the waterfall looks fuzzy, or night driving has become an adventure you'd rather avoid, consider scheduling a comprehensive eye examination. There may be more going on than an aging monitor or inadequate shack lighting.

After nearly fifty years in amateur radio, I have no intention of letting a couple of cloudy lenses take me off the air. There are still antennas to experiment with, projects waiting on the workbench, and plenty of contacts left to make.

Now I can actually see what I'm doing.

That's what I call full quieting.

73, N0XO

About the Author



N0XO has been a licensed amateur radio operator since 1977. An active amateur with a lifelong interest in radio communications, electronics, and experimentation, he continues to enjoy operating, antenna projects, and the technical challenges that make amateur radio an enduring hobby.

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Editor's note: This article describes one amateur radio operator's personal experience with cataract surgery. Surgical outcomes and recovery requirements vary. Always follow the recommendations of your own ophthalmologist.


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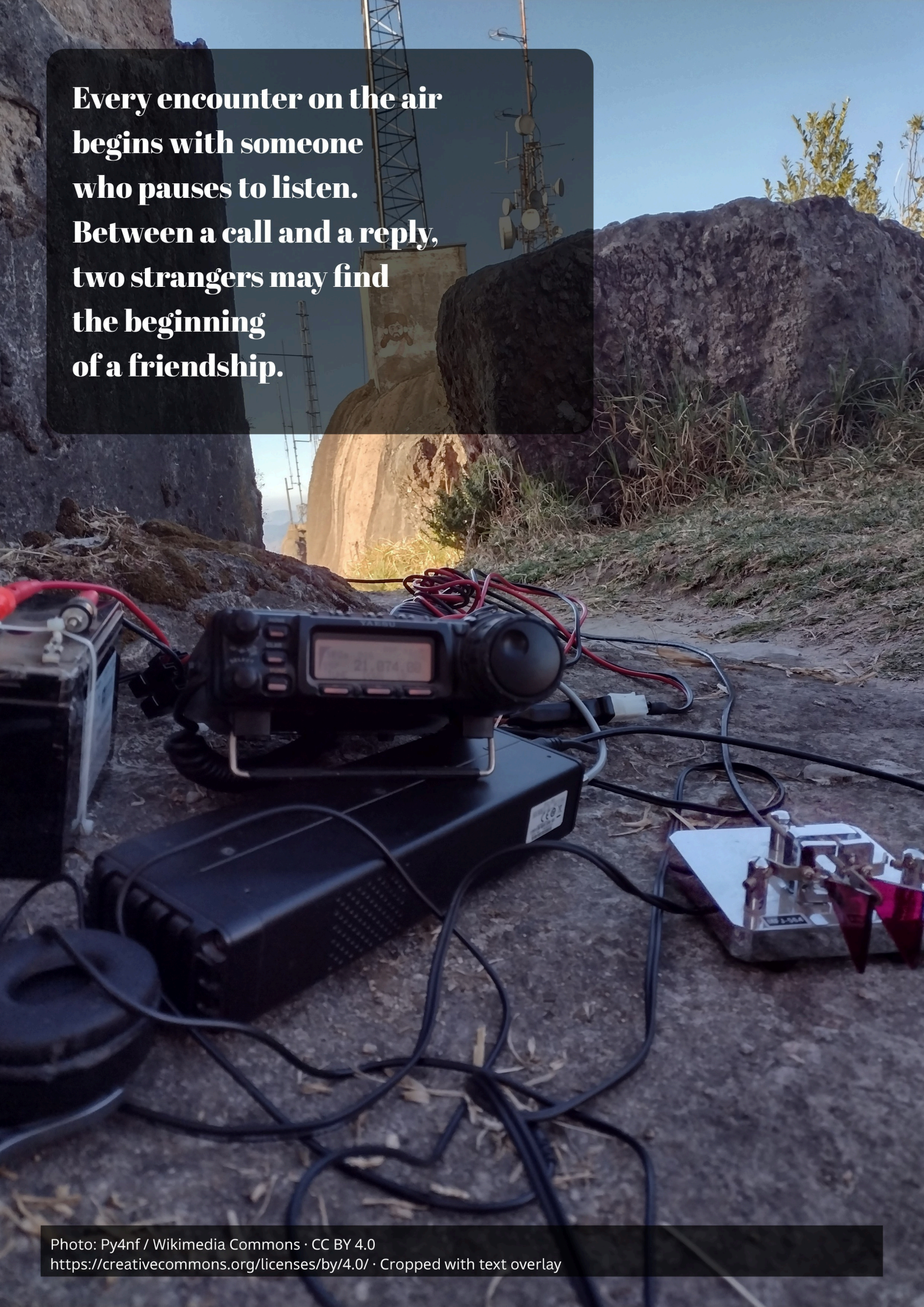


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Arduino Controlled HY-GAIN CD-44

By John F. Marks, KC3FL



The completed HY-GAIN CD-44 controller and remote digital display.

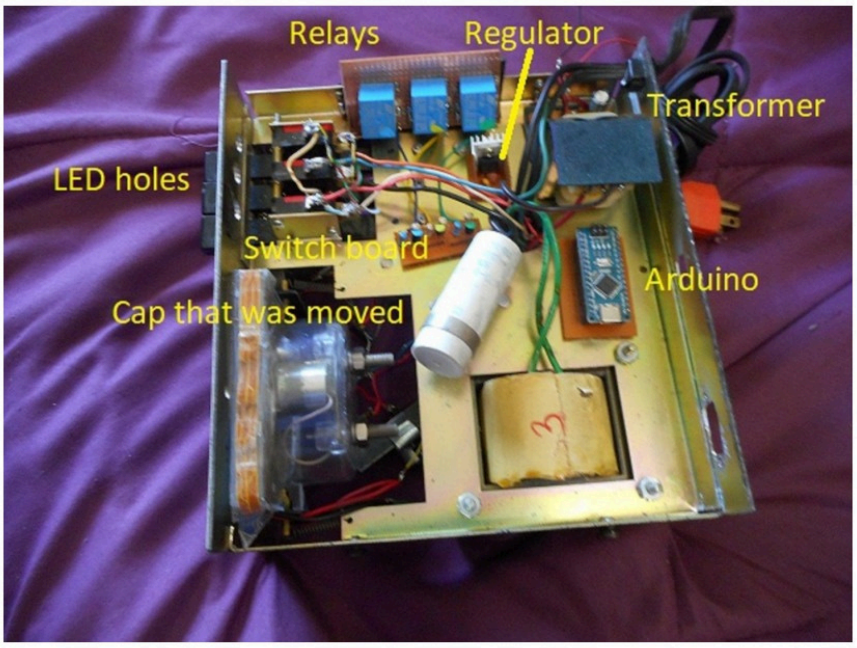
This is a simple and inexpensive way to add a digital display and a point-and-shoot feature to a HY-GAIN CD-44 rotor controller using an Arduino Nano board.

The direction indicator on the CD-44 reads the voltage across a potentiometer inside the rotor. This voltage is approximately 3 volts at full scale (180 degrees clockwise). The Arduino divides this voltage into 1,024 levels and displays the corresponding value on a seven-segment LED display, indicating azimuth in degrees.

A rotary encoder mounted on the display enclosure allows the operator to select a target azimuth. When the encoder button is pressed, the Arduino automatically turns the rotor until the selected direction is reached.

The cable connecting the display enclosure can be made long enough to accommodate stations where the rotor controller is located away from the operating position.

The original control paddles remain functional, allowing the rotor to be operated manually just as it would be with the stock controller.



Inside the modified controller: placement of the added modules and wiring.

Chassis Preparation

The first step is to move the large capacitor to create enough room for the additional power supply. If the existing wires are too short to reach a suitable mounting screw, double-sided tape can be used to position the capacitor out of the way.

Next, drill three holes below the control paddles to accommodate the three LEDs. Be sure to check what is located behind the panel before drilling.

Finally, cut the openings for the 9-pin connector and USB-C connector. I started by drilling a hole large enough to accommodate a nibbler tool, then finished the openings with a Dremel tool.

You will notice that I also replaced the original eight-terminal strip used to connect the rotor cable with a Jones-type plug. There are several ways to add a quick-disconnect arrangement to the controller, and this was the approach I chose.

Modules

I built the modification around five modules: the power supply, 12 V regulator, relays, electronic switches, and Arduino board.

Because space inside the controller is limited, using separate modules made component placement easier and helped keep the installation neat.

Power Supply

The power supply uses the transformer from a 12 V wall-wart adapter. I attached it to the chassis using double-sided tape.

A word of caution is important here. There are only a few millimeters between the line-cord connections and the metal case of the controller. Because the transformer is mounted to the chassis with double-sided tape, there is a possibility that it could become detached over time. If the line-voltage connections were to contact the metal case, the result could be dangerous.

Insulate this area carefully. In my installation, I used a 2 mm insulating piece made with a 3D printer. I also used similar insulating pieces beneath the circuit boards before attaching them to the chassis with double-sided tape.

The transformer fits neatly into a corner of the chassis.

12 V Regulator

The regulator circuit consists of a simple LM7812 voltage regulator and its supporting capacitors.

Relays

Three 12 V SPDT relays are used to short the appropriate controller paddle contacts, releasing the brake and turning the rotor.

I used 24-gauge stranded wire throughout the project. To make the wiring easier to follow, I used green for components associated with clockwise rotation, yellow for the brake, and blue for counterclockwise rotation.

Switch Board

Three NPN transistors are used to activate the relays. A 2N2222, 2N3904, or similar transistor can be used.

I mounted the relays on the foil side of the prototype board because their leads are quite short, and the five connections do not line up with the holes in the board.

I also removed the unused terminal from each relay to avoid confusion when identifying the connections used during relay operation.

Arduino Board

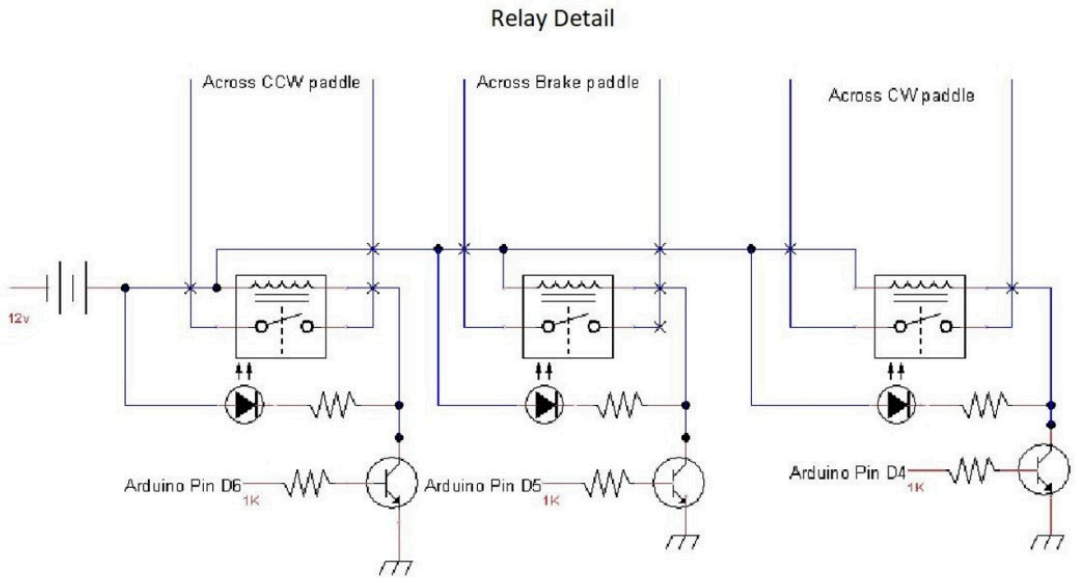
The Arduino Nano is mounted on two pin headers.

I connected a 100 mfd capacitor between pin A0 and ground to stabilize the azimuth display.

I also installed a 0.1 mfd ceramic capacitor between pin D2 and ground, along with another 0.1 mfd capacitor between pin D3 and ground, to reduce bouncing from the rotary encoder.

Be sure to cut the traces between the two headers to isolate the two sides of the Arduino.

It is necessary to ground the Arduino to the chassis to allow it to measure the voltage at the analog meter.



Relay-control diagram supplied by the author.

LED Indicators and Relay Control

The three LEDs are mounted in the holes drilled below the control paddles.

A 12 V line from the regulator board connects to the anode of each LED. A 12 V line also runs to one side of each relay coil.

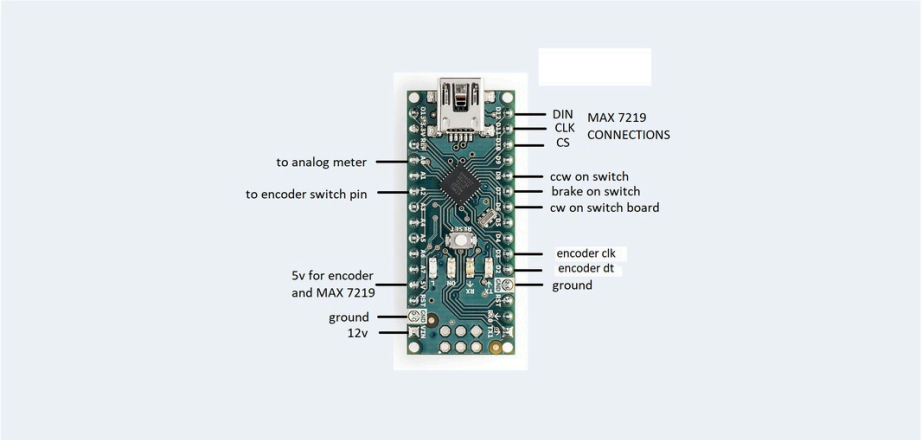
The opposite side of each relay coil connects to the collector of its corresponding transistor on the switch board.

The cathode of each LED connects through a current-limiting resistor on the switch board to the corresponding transistor collector.

The LED current-limiting resistor values can be selected according to the desired brightness.

I used 33 kΩ resistors for the blue LEDs and a 15 kΩ resistor for the red LED. These values produced a soft glow, whereas lower values, such as 500 or 600 ohms, made the indicators bright enough to be distracting.

When the Arduino determines which relay to activate, it sends a HIGH signal to the base of the corresponding transistor. The transistor then conducts, allowing current to flow through the relay coil and illuminating the associated LED.



Arduino Nano pin and connection reference provided with the project.

Arduino Operation and Calibration

The Arduino sketch begins by reading the voltage associated with the analog direction meter and converting it into a digital value.

Because the original analog meter uses a center-north arrangement, the Arduino performs some calculations to represent the azimuth correctly. For example, when the rotor moves counterclockwise past the zero-degree point, the program adjusts the displayed value to 299 rather than showing a negative reading of -1.

A target azimuth is selected using the rotary encoder. The program also adjusts the target values to accommodate the center-north configuration.

The Arduino continuously monitors the rotary encoder's push-button switch. When the button is pressed, the program determines which direction the rotor must turn.

First, the brake is released, and the red LED below the brake paddle illuminates.

After a short delay, the appropriate direction relay activates, along with its corresponding LED, and the rotor begins turning toward the selected azimuth.

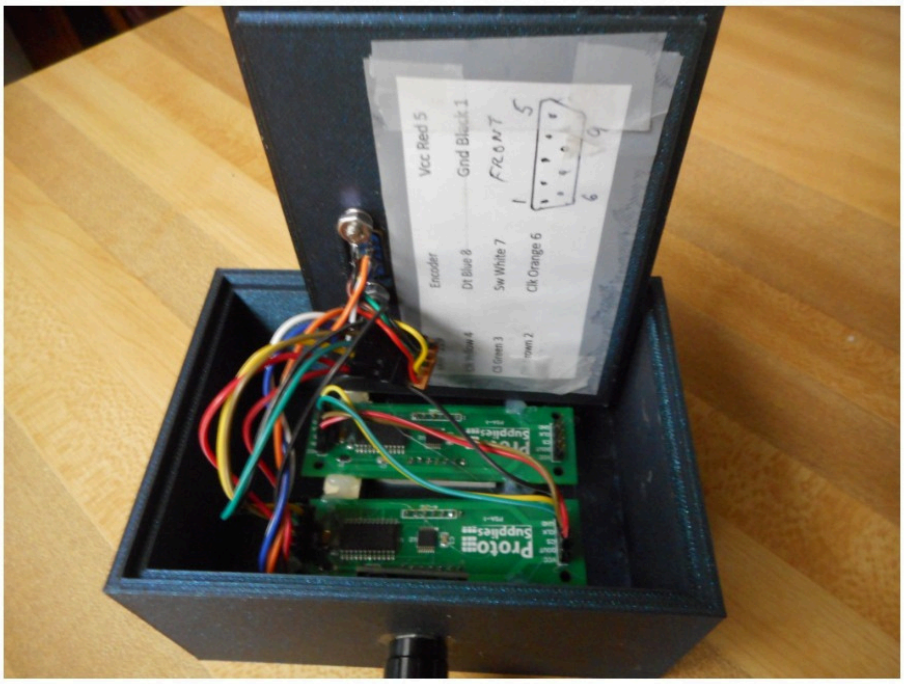
Shortly before reaching the target, the direction relay and its LED turn off, allowing the rotor to coast to a stop.

After another short delay, the brake engages, and the brake LED turns off.

The delay times can be adjusted to compensate for differences in antenna beam weight.

Because rotor potentiometers and cable lengths can vary, the system must be calibrated for the particular installation.

Line 69 of the Arduino sketch explains this calibration procedure.



The remote display enclosure, showing the assembled electronics.

Display Enclosure

The display is mounted in a project enclosure measuring approximately 5 × 3.5 × 2.5 inches.

I made the enclosure using a 3D printer.

To simplify the connections to the 9-pin connector, I mounted the connector on a small piece of prototype board and added a row of pin headers. I then used Dupont cables to complete the connections.

The display is driven by a MAX7219 chip. I used a board obtained from Proto Supplies, together with 0.56-inch, three-digit, seven-segment LED displays.

I also used a few shims inside the enclosure to position the LED displays flush with the front of the box.

Parts List

Power Supply

- Transformer from a 12 V wall-wart adapter
- LM7812 12 V regulator
- Heat sink
- 0.01 mfd ceramic capacitors (2)

Arduino and Miscellaneous Components

- Arduino Nano
- Rotary encoder
- 0.1 mfd ceramic capacitors (2)
- 100 mfd, 25 V electrolytic capacitor
- 1 kΩ resistors (3)
- LEDs and mounts (3)
- LED current-limiting resistors (3)
- NPN transistors (3)
- Female pin headers

• Male and female 9-pin connectors (1 each)
• USB cable to connect the Arduino to the rear panel
• Serial cable, DB9 male/female
• 12 V SPDT relays (3)
• Prototype board
• MAX7219 three-digit display boards (2)
• 0.56-inch, three-digit, seven-segment LED display

USB cable reference supplied by the author:

https://www.amazon.com/dp/B0GRVZ62VR

Supplementary Project Files

The project includes an Arduino sketch and references to 3D-printable enclosure files.

Arduino sketch

Rotor_10_26_26.ino

3D enclosure files referenced in the original manuscript

Rotor box back(1).stl

Rotor box(8).stl

These files are intended to complement the article and provide additional information for readers interested in exploring the modification.

Editor's Safety Note

This project involves modifications to electrical equipment, including internal power connections. Such work should be undertaken only by individuals with appropriate technical knowledge and experience. Always disconnect equipment from its power source before working inside the enclosure and observe appropriate electrical and mechanical safety precautions. The installation described reflects the author's individual project and has not been independently safety-certified by SWR Magazine. Questions concerning specific construction details, component selection, or operation should be directed to the author.

Arduino IDE — Reader guidance

Basic familiarity with the free Arduino IDE is assumed. The author recommends learning how to upload and edit a sketch, use serial functions, and install libraries before attempting calibration.

SWR Magazine

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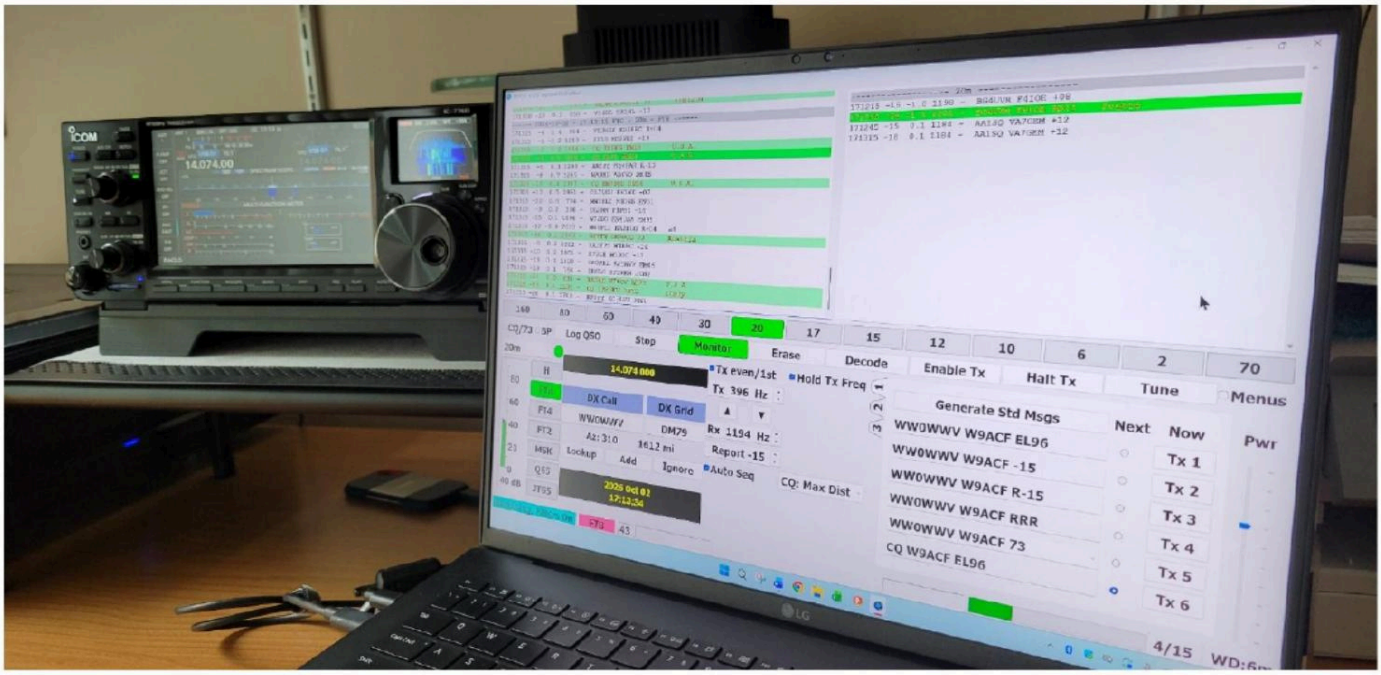


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HOW I BECAME W9ACF

A childhood fascination, a first contact, fifteen years away, and the return to amateur radio.

By Jeff, W9ACF



Jeff W9ACF's current station, with his Icom IC-7760 and digital operating setup.

When I was in grade school, my father took me to visit a friend of his who was an amateur radio operator.

When we arrived at his home, his wife directed us downstairs to find her husband, Red. As we went down the stairs, I could hear muffled voices and static coming from the basement. Red was seated at a small table in front of two radios, talking with someone. He motioned for us to sit until he finished the contact.

He called the room his amateur radio "shack" and began explaining what I was hearing and seeing. When I asked about the equipment, he told me it was Collins gear and explained that it allowed him to talk with people around the world. That possibility stayed with me and inspired me to learn more about amateur radio.

I began saving money from my paper route and eventually bought a multiband radio from Sears. I spent nearly every free moment scanning the bands for amateur radio conversations and international broadcasts. Every Sunday, a group of local hams gathered on the air to talk about amateur radio. Their conversations were so entertaining that I became a regular listener, convinced that someday I would join them on the air.

With my father's help, I made regular trips to Radio Shack and Amateur Electronic Supply in my hometown. I examined the new and used radios and read everything I could about the equipment, hoping to own a rig someday.

For my grade school graduation, I received a Hallicrafters SX-110 receiver. My father strung a forty-foot wire about twenty feet above the ground between my second-floor bedroom and the garage. He also turned a Luan door into a desk for my receiver and placed it beside a gooseneck lamp for late-night listening.

I spent countless days and evenings exploring the bands and logged every station I heard in a paper notebook. I was fascinated that amateur operators around the world each had a unique call sign, so I decided to invent one of my own.

I chose W9ACF, with "ACF" standing for "Always Chasing Females" - the sort of idea a grade-school boy would find amusing. I had no idea that the call sign I invented as a child would eventually become my own.

As an adult, I decided to study for my Technician license when the FCC eliminated the CW requirement. I saw two-meter repeaters as a good way to ease into amateur radio, listen to experienced operators, and learn proper on-air etiquette.

Even after years of listening, I was nervous about making my first contact. I waited until later in the evening, when the repeaters were less busy, and made my call. Someone answered. We had a brief conversation and signed off, leaving my heart racing.

The FCC originally assigned me the call sign KB9QZP, which I immediately disliked. By then, I knew about vanity call signs and began searching for something better. Naturally, I checked W9ACF, the call sign I had invented as a boy.

To my amazement, it was available.

I submitted the required application and fees, and when the new call sign arrived in the mail, the imaginary call sign from my childhood had become mine.

By then, I owned a home and began building my station around an Icom 746, my first rig. I installed a five-foot tripod on the roof with two- and six-meter Yagis and placed a GAP Titan DX in the backyard. Several Elmers from our club helped me set up the station, and I enjoyed making SSB contacts and talking with other hams.

My career brought me to Florida in 2005. Until then, I had remained active on the air, but after buying my home I encountered homeowners' association rules that made it clear amateur radio antennas were unwelcome. Flagpole and Ventenna installations were specifically prohibited.

For about fifteen years, I stayed away from amateur radio.

After retiring in 2020, I began exploring how I might get back on the air. I searched magazines, online resources, and catalogs for a solution. The antenna posed the greatest challenge because the homes in our community are close together, and I worried that a visible installation would attract the attention of neighbors or the HOA.

“When the new call sign arrived in the mail, the imaginary call sign from my childhood had become mine.”



Jeff's low-profile antenna installation helped make his return to amateur radio possible within an HOA-restricted Florida community.



Inside the enclosure, the support system for Jeff's Chameleon MPAS 2.0 keeps much of the installation concealed from normal view.

Photos courtesy of Jeff W9ACF

I eventually found the Chameleon MPAS 2.0 vertical. Its eighteen-foot whip appeared difficult enough to see from the road that I decided to take the chance. I purchased the antenna, an Icom IC-7300, and a power supply.

After installing the antenna, I checked it from every angle to see whether neighbors might notice it and file a complaint. To my relief, neither my neighbors nor the HOA noticed the antenna or contacted me about it, and I was able to return to the air.

The antenna covers 160 through 6 meters, and I made thousands of contacts with the station.

In the summer of 2026, I noticed that the antenna required more power than usual. I lowered it and disassembled it to find the cause. After six years of exposure to South Florida's heat and humidity, some of its components had deteriorated.

I ordered replacement parts, coax, and a mast. The repairs took about two and a half months, and I returned to the air in September.

I later sold the IC-7300 and purchased an Icom IC-7760, which remains my primary radio. Today I operate from 160 through 6 meters and can increase my output to 200 watts when needed. Over the years, I have made thousands of contacts, including more than 23,000 confirmed in my logbook.

I still enjoy amateur radio with the same childhood enthusiasm inspired by the kind Elmer who first introduced me to the hobby and the father who made it possible.

ON THE AIR

HAM RADIO CONTESTS THIS MONTH

NOVEMBER 2026 | SELECTED HF CONTESTS | ALL TIMES UTC

ARRL SWEEPSTAKES - CW

Dates: Nov. 7, 21:00 - Nov. 9, 02:59 UTC
Mode: CW
Participants: U.S. and Canada, including territories.
Exchange: Serial number, precedence, call sign, first-license year (2 digits), and ARRL/RAC section.
Note: Puerto Rico enters as section PR. Maximum operating time: 24 hours; bands from 160 to 10 m.

arrl.org/sweepstakes

WAE DX CONTEST - RTTY

Dates: Nov. 14, 00:00 - Nov. 15, 23:59 UTC
Mode: RTTY
Participants: Worldwide; everyone can work everyone.
Exchange: RST and serial number starting at 001.
Note: QTCs earn extra points and must be exchanged between continents. Bands: 80, 40, 20, 15 and 10 m.

waedc.de

JAPAN INTERNATIONAL DX - SSB

Dates: Nov. 14, 07:00 - Nov. 15, 13:00 UTC
Mode: SSB
Participants: Japan and stations worldwide.
Exchange: DX: RS and CQ zone; Japan: RS and prefecture code.
Note: From the Caribbean, the goal is to work Japanese stations. Bands: 80, 40, 20, 15 and 10 m.

jidx.org

LZ DX CONTEST

Dates: Nov. 21, 12:00 - Nov. 22, 11:59 UTC
Mode: CW and SSB
Participants: Worldwide, with a focus on Bulgaria.
Exchange: DX: RS(T) and ITU zone; Bulgaria: RS(T) and two-letter district code.
Note: LZ stations earn more points. Each station may be worked in both modes per band, from 80 to 10 m.

lzdx.bfra.bg

ARRL SWEEPSTAKES - SSB

Dates: Nov. 21, 21:00 - Nov. 23, 02:59 UTC
Mode: SSB
Participants: U.S. and Canada, including territories.
Exchange: Serial number, precedence, call sign, first-license year (2 digits), and ARRL/RAC section.
Note: The phone event uses the same exchange as CW. Working all sections is the Clean Sweep challenge.

arrl.org/sweepstakes

CQ WORLD WIDE DX - CW

Dates: Nov. 28, 00:00 - Nov. 29, 23:59 UTC
Mode: CW
Participants: Worldwide.
Exchange: RST and CQ zone.
Note: The month closes with DX activity on 160, 80, 40, 20, 15 and 10 m. The log deadline is December 1 at 23:59 UTC.

cqww.com

EVERY CONTEST IS AN OPPORTUNITY TO CONNECT WITH THE WORLD.

Editorial selection. Check the rules before operating.
In Puerto Rico: local time = UTC minus 4 hours. No WARC bands.

Before YouTube: We Learned by Reading

When Knowledge Came in Print and Every Project Began with a Page.

There was a time when learning amateur radio meant something very different. There were no YouTube tutorials, step-by-step videos, or forums where you could post a question and expect an answer within minutes. To learn, you had to search, read, study, and often start again from the first page.

On the desk lay electronics magazines, service manuals, antenna books, and circuit diagrams that, at first glance, seemed written in a language reserved for a select few. Their pages carried the distinctive smell of printed paper; some showed the marks of age, while others were filled with pencil notes. They were much more than technical publications. For many amateur radio operators, they were the gateway to a fascinating world.

One Magazine Could Change Everything



QST, February 1920. Specialized magazines were an essential source of knowledge for generations of amateur radio operators. Source: Wikimedia Commons.

Finding an article about building a transmitter, designing an antenna, or repairing a receiver was enough to spark a new interest. Perhaps we did not have all the necessary components. Maybe we lacked measuring instruments or suitable tools. But we had something that fueled every project: curiosity and the desire to learn.

We read the explanations, studied the diagrams, and tried to understand why each component occupied a particular place in the circuit. When something did not make sense, we read it again. We looked for another reference, consulted a book, or asked a more experienced fellow amateur.

We did not have the luxury of watching someone else's every move on a screen. We had to interpret the words, imagine how the circuit worked, and turn those printed lines into something real.

And when the project finally worked, the satisfaction was hard to describe.

Learning Also Meant Making Mistakes

Those who built their first antennas using information found in books and magazines know that not everything worked on the first try. Sometimes the measurements were wrong. Other times, the transmitter would not oscillate, the receiver remained silent, or the standing wave ratio was not what we expected.

Then another lesson began.

We checked connections, verified calculations, and compared results with the schematics. Every mistake offered an opportunity to understand something we had previously only read about. Knowledge did not arrive instantly: it was built little by little, through patience, observation, and perseverance.

Those experiences taught a lesson that remains valid today: knowing what to do is not enough. Understanding why it works is just as important.

For many, that was the true school of amateur radio.

The Value of Printed Pages

Specialized magazines and technical manuals served an extraordinary purpose. They allowed amateur radio operators anywhere to access knowledge developed by engineers, experimenters, and enthusiasts around the world.

A publication could introduce us to an antenna designed in another country, a modification to improve a receiver, or a technique that was just beginning to spread. Paper

connected communities thousands of miles apart, long before the Internet made instant communication possible.

Some magazines were kept for years. Entire issues were collected, articles clipped, and folders organized with schematics that might prove useful someday. In many homes, these materials became small libraries devoted to electronics and communications.

Even today, finding one of those old issues can bring back memories of long afternoons of study, unfinished projects, and experiments that ultimately brought great satisfaction.

From Libraries to the Digital World



Amateur radio station with analog equipment and test instruments. Photograph: KVDP, 2008. Wikimedia Commons.

Today we have access to an extraordinary amount of information. We can watch an antenna being built, listen to explanations of propagation, compare equipment, and learn advanced techniques without leaving home. The Internet has democratized knowledge in ways earlier generations could scarcely have imagined.

This is not to claim that people learned better in the past or to regard new technologies with suspicion. Every era has its tools, and today's tools offer wonderful opportunities.

Still, perhaps we have lost a little of the habit of stopping to study a subject in depth, consulting several sources, and taking time to understand the fundamentals before moving on to the next project.

A video can show us how to build a dipole. A good manual can help us understand why its length affects resonance, how height above ground affects its behavior, and what other factors influence its performance.

Both resources can complement each other. The difference is not necessarily the medium we use, but our willingness to learn.

A Legacy We Must Preserve

Amateur radio has always been far more than turning on a rig and making a contact. It is also experimentation, continuous learning, creativity, and passing knowledge from one generation to the next.

Amateur radio operators who learned from magazines and manuals have stories worth telling. Many started with limited resources, built their own antennas, and learned to repair equipment when a specialized technician was not always available. Their experience represents an important part of our hobby's history.

Today, those who understand electronics, propagation, antennas, and digital systems have the opportunity to share that knowledge with people just starting out. We can do it through books, magazines, videos, workshops, and conversations at our clubs. What matters is that accumulated experience is not lost.

Perhaps the best tribute to those yellowed pages is not to return to the past, but to preserve their spirit: the willingness to investigate, the patience to understand, and the satisfaction of discovering something for ourselves.

Because before YouTube, many of us learned by reading. And among those pages, beyond circuits, formulas, and diagrams, we found something that still keeps amateur radio alive: the desire to know how things work and the excitement of turning an idea on paper into something real.

Technology changes. Tools evolve. But the curiosity that leads us to turn on a transmitter, raise an antenna, and search for a signal on the other side of the world remains the same.

73 from the SWR Magazine team.

By Yanira Maldonado, WP4QOE

Feminine Frequency

Are We Letting Technology Think for Us?

Imagine a station capable of identifying signals, decoding messages, logging contacts, and carrying out tasks with less and less human involvement.

What once required hours of practice can now be accomplished with just a few clicks. Yet amid this revolution, an uncomfortable question arises:

Are we becoming better amateur radio operators, or are we simply learning to use increasingly intelligent equipment?

The advances are extraordinary. SDR transceivers let us visualize the radio spectrum; digital modes such as FT8 make contacts possible under difficult conditions; and artificial intelligence can help us understand circuits, analyze information, and troubleshoot problems.

Yet there is a difference between making good use of technology and depending on it completely.

What good is a state-of-the-art transceiver if we cannot interpret propagation conditions, identify interference, or troubleshoot a basic problem at our station?

Amateur radio has always been a laboratory for experimentation. Building an antenna, interpreting an SWR reading, or discovering why a signal disappears develops something no software should ever replace: our technical judgment.

Artificial intelligence can provide answers in seconds, but it can also be wrong. And to recognize an error, we need to understand what we are asking.

The real risk is not that our radios will become smarter, but that we will stop asking questions.

“The real risk is not that our radios will become smarter, but that we will stop asking questions.”

Now imagine an emergency in which we lose access to the Internet and the services we normally rely on. Could we keep operating? Would we know how to establish communications, use backup power, and adapt without relying on connected platforms?

Not all digital modes require Internet access. That is precisely why understanding our tools and their limitations matters just as much as knowing how to use them.

As a woman in amateur radio, I am excited by the opportunities these technologies offer new generations. They can make learning easier and open doors that once seemed intimidating.

But learning to use a tool should never mean giving up on understanding how it works.

This is not about pitting traditional radio against modern radio. Experience gives us judgment; technology expands our possibilities; and curiosity drives us to keep learning.

Perhaps the future of amateur radio will depend not on who has the most advanced equipment, but on who preserves the desire to investigate, experiment, and share knowledge.

Because artificial intelligence can help us find answers, but it should never take away our desire to seek them.

Let technology amplify our abilities, but never silence our curiosity.

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July 17 EVENTS AND ACTIVITIES SCHEDULED FOR NOVEMBER 2026

SPECIAL EVENTS

📍 Conventions, Hamfests, and In-Person Events

- **SPARC Fest — November 14, 2026**
  Pinellas Park, Florida, USA. Free equipment swapmeet and tailgate at Freedom Lake Park, from 8:00 a.m. to noon. Hosted by the St. Petersburg Amateur Radio Club. Amateur radio license exams will also be available, with advance registration required.

- **Fort Wayne Hamfest & Computer Expo — November 21, 2026**
  Fort Wayne, Indiana, USA. New and used equipment, license exams, and talks on antennas, propagation, QRP and POTA. Hosted by ACARTS at the Allen County War Memorial Coliseum, from 9:00 a.m. to 5:00 p.m. Admission: $10.

- **PARC Annual Swampfest — November 21, 2026**
  Fort Walton Beach, Florida, USA. Free equipment swapmeet and tailgate at The Hangar. Hosted by the Playground Amateur Radio Club, from 8:00 a.m. to noon.

On-the-Air / Special Operations

- **N4A — Stuart Air Show — November 13–15, 2026**
  Stuart, Florida, USA. The Martin County Amateur Radio Association and local ARES team will operate from Witham Field, alongside STEM outreach activities. Planned operating frequencies are around 14.280 and 21.280 MHz, subject to operating conditions.

- **AMI Jamboree — November 27–29, 2026**
  An AM operating event on the HF bands, from dawn on Friday to dusk on Sunday. AM International invites operators to enjoy conversations and share experiences. This gathering promotes fellowship rather than competition. Certificates will be available to participants who submit logs.

📬 DO YOU HAVE A HAM RADIO EVENT AND WANT IT FEATURED IN OUR MAGAZINE?
SEND THE DETAILS TO INFO@SWRMAGAZINE.ORG, AND WE'LL BE HAPPY TO PUBLISH IT!



EG9MM — Melilla, North Africa | November 12–15, 2026

EG9MM — Melilla, North Africa | November 12–15, 2026
A team traveling from Madrid is preparing an amateur radio expedition to Melilla, the Spanish autonomous city on the North African coast, from November 12 through 15, 2026. The operation will use the special call sign EG9MM.
The team plans to update its QRZ.com page with additional information, photographs and videos as th expedition develops. Operators interested in following the activity should look for EG9MM on the air and consult the EG9MM listing on QRZ.com for the latest expedition details.
Information provided to SWR Magazine by Daniel Cialdella.

SWR Did You Know?

RADIO HISTORY IN 100 WORDS

DID YOU KNOW?

WHY DOES DX MEAN LONG DISTANCE?



Two letters can turn an ordinary radio contact into an adventure: DX. But where did this familiar expression come from?

THE SHORT ANSWER:

DX means distance.

In amateur radio, it refers to distant stations and long-distance communication.

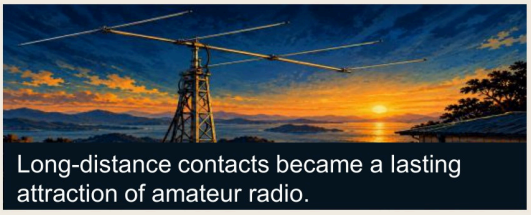


Telegraph operators developed abbreviations to communicate efficiently.

FROM TELEGRAPHY TO RADIO

DX comes from telegraphic shorthand. In 1928, Radio Record cited 'dx' for 'distance'; a 1931 article linked DX to duplex telegraph systems. Its exact origin remains uncertain.

For radio amateurs, distant contacts depend on propagation and location. DXing also inspires awards, expeditions, and connections across borders.



Long-distance contacts became a lasting attraction of amateur radio.

DX

DX is more than distance. It is the thrill of reaching farther.

QUICK FACTS:

No fixed distance
DX has no fixed distance threshold.

DXing
Seeking distant radio stations.

DXpeditions
Activating sought-after locations.

Propagation matters
Band conditions shape distant contacts.

Radio Record, Mar. 23, 1928; Oct. 2, 1931. ARRL, Chasing DX. RSGB, amateur radio terminology and DXpedition resources.

Robust, Selective, Memorable

IS THE KENWOOD TS-940S STILL RELEVANT TODAY?



Photo: Universal Radio archive.

By: SWR Editorial Team

HF with history

A classic that still invites us onto the air

Some radios are remembered for their specifications, others for the contacts they helped us make. The Kenwood TS-940S belongs in both groups. For Juan Montijo, WP4OV, it also has a personal meaning: it was his first HF radio.

Kenwood introduced it in 1985. Decades later, its front panel still raises an interesting question: how much of what we need to enjoy the bands was already available back then?

An HF station with a character of its own

The TS-940S covers the amateur bands from 160 through 10 meters, including the WARC bands, with a nominal output of 100 watts on SSB and CW. Its internal power supply and dedicated controls reflect the idea of a base station built for spending time at the tuning dial.

Two VFOs allow operation on separate transmit and receive frequencies. Direct keypad entry and memories make it easier to return to a familiar frequency. These features still make sense when chasing DX or checking into a net.

Good listening includes knowing the controls

One of its attractions is SSB Slope Tuning, which lets the operator adjust the edges of the passband to reduce nearby interference. On CW, the VBT control adjusts the receive bandwidth, over a range that depends on the filters installed.

These tools call for listening and adjustment. That involvement still matters: a difficult signal can become easier to understand when we know how to make the most of the receiver controls.





Period Kenwood advertisement and original manual. Editor's archive.

Can it fit into a modern station?

For SSB conversations or enjoying CW, a TS-940S in good condition still provides the essential functions. The antenna, propagation and the operator's skill continue to influence the outcome of every contact.

Compared with current equipment, a spectrum display and built-in USB connection are missing. Computer operation requires checking the appropriate interfaces and connections. Operators looking for immediate integration will find newer designs more convenient.

The AT-940 automatic antenna tuner was optional. It is therefore worth checking whether a particular radio has one installed, along with any additional filters. Two radios bearing the same model name may have different equipment inside.

What deserves a closer look today

Radios of this generation can still turn up at hamfests, some very well preserved or restored. Their presence brings back memories, but they also deserve a careful assessment before returning to service.

External appearance tells only part of the story. Reception and transmission on several bands, frequency stability and the response of the controls are worth checking. It also helps to know the maintenance history and what any restoration actually included.

More than four decades after its introduction, the condition of each individual radio weighs heavily in the decision. Access to repair services and replacement parts should also be part of that consideration.

Is it worthwhile in 2026?

Yes, for someone who values traditional HF operation and finds a radio whose performance has been checked. It can still earn a useful place in the shack, provided its condition matches the operator's expectations.

The TS-940S preserves a way of operating that many enjoy: turning the dial, picking out a signal among others and working the controls until it becomes clearer. For those who started with one, every contact may also bring back some of that early excitement.

Its relevance is confirmed each time it puts a radio amateur back on the air.

FCC ID and Online Sales: What Changes for Amateur Radio Operators

The new provisions strengthen oversight of equipment sales. Understanding what the FCC requires and how each platform applies those requirements matters.

FCC changes that took effect on October 13, 2026, have raised questions among people who buy and sell radios online. FCC 26-50 reinforces online marketplaces' responsibility for unauthorized equipment and introduces the display of FCC IDs in listings for devices subject to certification.

However, specific compliance deadlines apply to this display requirement: March 1, 2027, for platforms that market their own devices, have physical access to the equipment, or take ownership of it; and June 1, 2027, for those relying on information certified by third-party sellers.

There are also exemptions for listings of used equipment, certain sellers who do not meet the legal definition of high-volume sellers, and earlier listings that remain substantively unchanged. These exemptions concern displaying the identifier; they do not permit the marketing of equipment that violates other requirements.

What About Our Radios?

According to ARRL's October 16 clarification, eBay confirmed that it will not require FCC IDs for equipment that operates exclusively on amateur frequencies and does not require certification. ARRL noted that exceptions exist, such as commercial HF amplifiers.

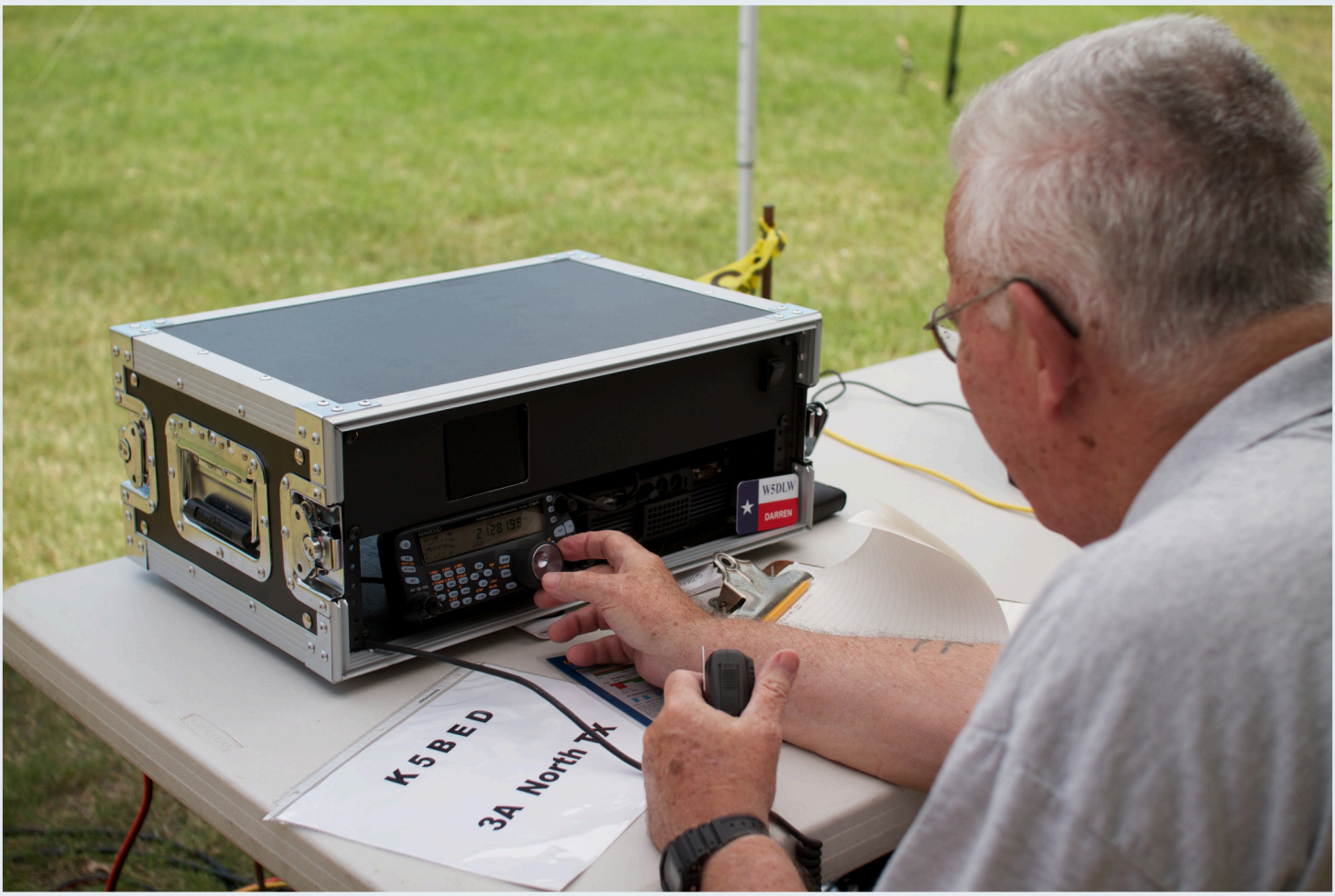
Therefore, not every device advertised as an "amateur radio" should be assumed to receive the same treatment. Its characteristics and applicable requirements must be considered.

Two Different Identifiers

An FCC ID identifies certified equipment; a call sign identifies the transmitting station. The new sales requirement does not replace the call sign or expand an operator's privileges.

For readers, the practical recommendation is to check the model, the applicable equipment authorization, and the platform's terms before buying or posting a listing. A platform's requirement may differ in scope from the federal requirement.

Sources: FCC 26-50, Federal Register, September 11, 2026, Section 2.803; ARRL, "eBay Restricts Listings of Radio Equipment, but Exempts Ham-Band-Only Gear," October 16, 2026.



Bedford Amateur Radio Club · Field Day 2012.
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RODE NET · KP3RE

Grupo Radio Operadores del Este, Inc.

RADIO OPERADORES DEL ESTE, INC. KP3RE

RED DE REPETIDORES BORICUAS

TODOS LOS LUNES
7:00 p.m. · Puerto Rico (AST)
23:00 UTC

A través de la Red de Repetidores BORICUAS

TERCER LUNES DE CADA MES
Cápsulas de historia de la radio con WP4VW "El Cibuco", desde Houston, Texas.

radiopr.org
Frecuencias, tonos de acceso y programación

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HAM RADIO Zone

Audrey McElroy, KM4BUN, honored as a young professional



Audrey McElroy. Photo: RCA.

The Radio Club of America selected Audrey McElroy, KM4BUN, for its 2026 Carole Perry Young Professional Award. The presentation is scheduled for November 21 in New York City.

Audrey graduated from Georgia Tech with high honors in electrical engineering in December 2025 and served for two years as president of its amateur radio club, W4AQL. Her outreach includes presentations on APRS balloons and encouraging young people to explore amateur radio.



Ed James. ARRL archive, 2015.

Ed James, KA8JMW, named Rocky Mountain Vice Director

ARRL announced the appointment of Ed James, KA8JMW, of Edgewood, New Mexico, as Vice Director of its Rocky Mountain Division. He will complete the term ending December 31, 2028.

An ARRL Life Member and former New Mexico Section Manager, James succeeds Mel Parkes, NM7P, who resigned effective October 10. The appointment continues his involvement in volunteer service within the organization.

Reverse Beacon Network team receives YASME award

The Reverse Beacon Network team received the 2026 YASME Excellence Award. The honor recognizes the volunteers behind a worldwide receiver network that detects signals and publishes reports in near-real time.

The team includes Felipe Ceglia, PY1NB; Nick Sinanis, F5VIH; Mark Glenn, K7MJG; Dave Pascoe, KM3T; Pete Smith, N4ZR; Dick Williams, W3OA; and Chris White, WX7V. Its data supports propagation studies.

Sources: Radio Club of America · The ARRL Letter, October 15 and 22, 2026

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There’s always another signal to discover.



AI-generated image for SWR Magazine