

# SHORT CIRCUITS

## Newsletter of the Kent County Amateur Radio Club

September 2024

---

Officers			Repeaters	
President	Jim Moore	KC3BTV	146.970 (-) 77hz pl Dover	
Vice-President	Hunter Grier	W3CZ	146.910 (-) 77hz pl Camden	
Secretary	Tim Reisinger	KC3OO	147.300 (+) 77 hz pl N3YMS	
Treasurer	Tom Libertore	N3ARX	444.550 (+) 77hz pl Dover (down)	
			442.450 (+) 127.3 hz pl Harrington	
			449.775 (-) 114.8 hz pl N3IOC Felton	

---

### Happenings

September 10	Membership Meeting, Kent County EOC, 19:00
September 12	AUXCOMM Meeting, 19:00
September 14	<b>VE Testing</b> , Wyoming Methodist Church, 09:00
September 14	Family Preparedness Day, Brecknock Park, Camden, more below
September 14	Dewey Triathlon, more info below
September 25	DARC Meeting, Salisbury, see <a href="https://www.qsl.net/darc/">https://www.qsl.net/darc/</a> for details
October 5	MS Bike to the Bay (Delaware), more info below
October 8	Membership Meeting, Kent County EOC, 19:00
October 10	AUXCOMM Meeting, 19:00
October 12	Apple-Scrapple Festival, Bridgeville, more info coming
October 23	DARC Meeting, Salisbury, see <a href="https://www.qsl.net/darc/">https://www.qsl.net/darc/</a> for details
October 26	Annual ARRL SET (Simulated Emergency, Details to be announced
October 28	Emcomm Meeting, EOC, 19:00
November 12	Membership Meeting, Kent County EOC, 19:00
November 14	AUXCOMM Meeting, 19:00
November 20	DARC Dinner Meeting, Salisbury, No program. See <a href="https://www.qsl.net/darc/">qsl.net/darc</a> for details
November 25	Emcomm Meeting, EOC, 19:00
December 7	Rehoboth Marathon, more info coming
December 14	<b>VE Testing</b> , Wyoming Methodist Church, 09:00
January 14, 2025	Membership Meeting, Kent County EOC, 19:00
January 25-26, 2025	Winter Field Day, more to come

### Hamfests

- September 7 **Delmarva Swapmeet**  
Delmarva Amateur Radio Club  
QTH of Al Waller K3TKJ, 34087 Old Hickory Rd, Laurel, DE 19956  
**Contact:** Jim Jester, KC3ITR at 443-356-5677 or Arthur Parks N3EAK at [amparks6@gamial.com](mailto:amparks6@gamial.com) **Talk-in:** 146.82 (-) (156.7 PL) Admission Free
- September 8 **ARRL Southern New Jersey Section Convention and Hamfest Gloucester County ARC**  
Gloucester County 4H Fairgrounds, 235 Bridgeton Pike (Rt 77), Mullica Hill, NJ 08062  
**Contact:** Sheldon Parker , K2MEN, 643 Betty Rose Ave. Gibbstown, NJ 08027  
Phone: 1-609-417-7802 **Email:** [k2men@comcast.net](mailto:k2men@comcast.net) **Talk-In:** 147.180 PL 131.8

October 6      **CARA Fest 2024**  
**Columbia Amateur Radio Association**  
Howard County Fairgrounds, 221 Fairgrounds Road, West Friendship, MD 21794  
**Contact:** Andy Protigal , N3AWP, 6431 Skipton Drive Hanover, MD 21076  
Phone: 410-218-3815 **Email:** [n3awp@arri.net](mailto:n3awp@arri.net) **Talk-In:** 147.390 MHz (+) 156.7 Hz PL

November 2    **Delmarva Swapmeet**  
Delmarva Amateur Radio Club  
QTH of Al Waller K3TKJ, 34087 Old Hickory Rd, Laurel, DE 19956  
**Contact:** Jim Jester, KC3ITR at 443-356-5677 or Arthur Parks N3EAK at  
[amparks6@gamial.com](mailto:amparks6@gamial.com) **Talk-in:** 146.82 (-) (156.7 PL) Admission Free

October 20    **RF Hill Amateur Radio Club Hamfest 2.0**  
**RF Hill Amateur Radio Club**  
Upper County Campus of the Bucks County Community College, 1 Hillendale Rd. (Use  
Blooming Glen Rd. entrance 40°22'57.2"N 75°16'26.3"W)), Perkasie, PA 18944  
**Contact:** John Morrell , KB3EWV, RF Hill ARC P.O. Box 336 Perkasie, PA 18944-0336  
Phone: 215-399-7685 **Email:** [rfillarc@yahoo.com](mailto:rfillarc@yahoo.com)

More hamfests listed at [www.arri.org/hamfests](http://www.arri.org/hamfests). Check at the web site, or call the contact person, before going to any hamfest to make sure it has not been canceled, as many are and have been.

## Editor's Comments

I didn't realize how big Parks On the Air (POTA) was until I began to dabble in it at the end of June. Since then I've gotten 16 different Countries, 46 States, and 358 (348 on CW) contacts with 272 different parks. This group offers many different awards in the form of online certificates that can be downloaded and printed out, if you wish. All of this, unlike other group's awards, are free. Just the cost of a piece of paper and the ink in your printer. When you register with the website as a "hunter" it keeps track of your awards for you, you don't need to upload a log, the "activator" uploads their logs. It is a neat way to spend some time on the air. And yes, all modes are used, even the "dark side" (FT8). So crank up that HF rig and see who you can contact. Even "mic shy" people can do this as a complete QSO is only a signal report, your State, and maybe a "73". Short, sweet, to the point!

POTA for the "hunters" can be a very enjoyable pastime as it just takes looking over the bands to find that signal calling "CQ POTA". But for the "activators" who actually go to the parks and set up a piece of equipment that will get to those hunters, it can be quite different, and many things must be taken into consideration, or should be, before putting out that signal to the world. It also applies, somewhat, to the people who attend the public service events and set up a station to watch the field. That one thing is being "situational aware".

What is situational awareness? It is being in a position to monitor most of your surroundings, like don't park where you have a busy walking area to your back, be facing it. Don't get so involved that you don't look around the area now and then. As the "Sheriff" in a publication I get says, "Don't look like prey, and the predators won't mess with you." With the change in our society at this point in time, that one point is important to remember.

PVRC reflector had an interesting piece, included below, about a third component in our atmosphere. It is an interesting read, and the video included in the internet link was also interesting. May this be one of the reasons we have an SFI of 250 with an A of 12 and a K of 5 and lousy propagation? Who knows since it is just now being explored, but it might tend to shoot holes in our climate change theories as more is discovered about its actual effects on our planet. Stay tuned for more!

I also apologize, I forgot to send out reminders for articles this month to contributors.

## President's Column

A few random thoughts for your consideration this month...

The club is scheduled to have a guest presentation at our September meeting by Brian Pasternack on the revival of the Delaware Packet Network and the attempt to build an RF backbone along the East Coast.

With all of the recent solar storms, propagation has been terrible recently especially on 80 meters. I frequently check into the 3rd Region Net at 1600 in the afternoon and often I cannot hear the stations from western Pennsylvania and as it turns out they cannot hear Delaware stations. Thankfully there have been other stations in between that have been willing to serve as relay stations in order for the net to operate. That is where hams can shine to "just make it work" in a creative fashion. All hams with 80M privileges are encouraged to participate in local traffic nets to listen and learn. The Delaware Traffic Net meets at 2330Z on 3905KHz Monday-Saturday and the Delmarva Emergency Net meets Sunday at the same time and frequency. The 3rd Region Net meets every day at 1600 local time at 3918KHz.

I dislike what Microsoft has done with Windows 10 in hiding the sound control panel. That panel is needed to set the volume levels for digital operations and I spent considerable time searching for it, frequently in vain. I ran across a shortcut to get there without searching. Do a right click on your desktop and create a new shortcut. In the next window type "control mmsys.cpl" (without the quotes) and hit next. Name the shortcut – I used "Sound Control". Click finish and now you have a direct link to the sound control panel on your desktop.

For those who may use Winlink, there is now a winlink packet station in Kent County at my QTH. The station is KC3BTV-10 at 145.050MHz.

Keep pushing out those RF waves,  
Jim KC3BTV

## The Emcomm Corner

As a prelude to the SET in October, we had a statewide simplex exercise on August 20 and 24. There were 15 stations statewide including DEMA, 3 EOCs, and hospitals in New Castle and Sussex County. In Kent county portable stations were set up at Milford Senior High School, Caesar Rodney High School, Dover High School, Smyrna High School, and a listening station at Lake Forest High School. With the 30 ft antennas used by the portable stations there was good contact with each other and with the Kent County EOC using the statewide simplex frequency as well as the Kent county primary and secondary simplex frequencies. Each station, in turn, transmitted a message giving location, transmitter and antenna information and all of the other stations recorded their ability to receive. The exercise was conducted with time slot windows for each station to transmit making efficient use of resources without doubling. Overall there were about 90 messages sent. Thanks to Paul N3BUH, Bob K3JLY, Diane KB3SVU, Hunter W3CZ, John KC3WTP, Larry K3LT, and Doug KB3PRW for participating in the exercise.

The time to work out the problems – "What I shoulda done" – is during an exercise. Problems will arise in an actual emergency but how we handle those problems is worked out in the course of drills. One of the habits we need to work on is documentation during the event. In a real casualty you may not have the time or memory to reconstruct what just happened if you don't log things as they happen. Was a particular message sent or received? Who did it go to? Remember, if it isn't written down it didn't happen. Another thing is equipment familiarity. Do you know how to use/program the equipment in the go kits? When things go south is not the time to learn.

73,  
Jim KC3BTV  
Kent EC

## AUXCOMM News

Good things are happening at the, now not so new, Sussex County Emergency Operations Complex. It is still called the "EOC", which hasn't changed since the early eighties when the first one was built, which is now the County Records Center. Amateur radio started supporting the county Emergency Operations Department there in 1985 with Hurricane Gloria.

As you are probably well aware the management of the day to day operations has fully migrated to the Incident Command System (ICS). I have related before in this column, that the ICS is the FEMA required method for all response and recovery operations. It is really nice to have the complete structure in place and functioning, and in only a few short months. However, it's been a busy time getting used to new faces and ideas, good ones (ideas) I might add. The changes are positive, and seem to be well accepted by everyone. OK, so not everybody likes change; but consider it "evolution". The Dinosaurs didn't, and now they're just old fossils! New times and challenges require new thinking. The response plans of the early 2000's cannot accommodate the changes and growth that has occurred in the state and county in the last twenty years. The AUXCOMM Management Team is working through what seems to be an endless pile of new issues and changes to keep up with the pace of change. Some issues have been easily accommodated, others have been under discussion for months. Some we've never had to address before.

The AUXCOMM Group is managed in the ICS format, and also CERT, that we are now partnered with, which fits in relatively well. The three active CERT teams in the county are ICS compliant also. In the planning stages is a joint AUXCOMM – CERT exercise tentatively scheduled for later this month at the Sussex Campus of the Delaware State Fire School, located on the other side of the Georgetown Airport, which will involve the new AUXCOMM/CERT Trailer. The trailer has been under development now for seven months. Progress has not always moved forward steadily, but we're a long way forward from what we inherited. The latest change is a new county policy that will have AUXCOMM volunteers certified to tow the trailer. The next roll out of the trailer will be September 14<sup>th</sup> in Dover, unfortunately the same day as AUXCOMM will be supporting the county MCU in Dewey Beach for what will probably be the last running of the Dewey Beach Sprint Triathlon. The changes and growth in the Route One Corridor are making it nearly impossible to hold events like this. By the way, Bill Saunders, N3ID, will be managing this event and can use a few more hams. Email him at [WS3EOC@gmail.com](mailto:WS3EOC@gmail.com) if interested. I'll be in Dover with the trailer, sadly missing the historic event in Dewey.

In the partnership with CERT we are seeing some interesting cross training with CERT members becoming interested in amateur radio, and AUXCOMM people taking the CERT course when it's been offered. There's another one coming the weekend of September 20 – 22 with several registering for it. This is making the AUXCOMM / CERT combination a more resilient and capable group to support the EOC and its outreach to the people and communities of Sussex County. The CERT program teaches preparedness, both individual and community, which is something we all should be focusing on whenever possible. Today's world and its issues and hazards present far more complex problems than even 20 years ago. Here's hoping change and growth will be our evolution, moving us forward successfully into the future. This month, September, by all the charts out there, should give us the peak of the 2024 Hurricane Season. It ain't too late yet to prepare you and your family for what could possibly come.

Later, 73

John S. Ferguson K3PFW  
Auxiliary Communications Leader  
County CERT Coordinator  
Sussex County EOC

## Club Happenings

### Dewey Beach Triathlon

If you have an amateur radio license, a 2m/70cm transceiver, and a willingness to help your community for a Saturday morning, why not volunteer to help with the 2024 Dewey Beach Triathlon on Saturday, September 14<sup>th</sup>?

This event includes a half-mile ocean swim, 15 mile bike ride, and a 3.5 mile run. No, you won't have to be doing any of that, but you will be stationed at critical points along the course to observe, assist, and report as needed. We will be supporting the Sussex County Mobile Command Unit (MCU), so all participants will need to be registered with Sussex County AUXCOMM for this event. Volunteer registrations must be in by September 10th so that we can provide final assignments for everyone. Let us know if there is a time period or location you would prefer, and we'll try to accommodate that. Most locations begin at 0700 and will be completed by noon.

If you have not already signed up, now would be a great time to get on the roster by responding to this email, or sending an email to [ws3eoc@gmail.com](mailto:ws3eoc@gmail.com) with 2024 Dewey in the subject line. Event information is available from the organizer's website <http://www.deweybeachtriathlon.com/>

73's  
Bill, N3ID

### VE Testing Available

There will be a scheduled VE exam given by the club on September 14 at the Wyoming Methodist Church at 9:00 AM. All persons wanting to test for a license or an upgrade are welcome. Walk-ins are also welcomed. Candidates need to obtain their Federal Registration Number (FRN) before sitting for an exam. More information, and a description of how to obtain a FRN, is available at [www.arrl.org](http://www.arrl.org), look under "Get Your License" on the upper right side of the website.

### Family Preparedness Day

Family Preparedness Day will also happen on September 14 at Brecknock Park in Camden starting with setup at 9:00 AM and opening to the public at 10:00 AM until 2:00 PM. The club trailer will be there and this will give the public exposure to ham radio for disaster communications. Contact our EC, Jim for more information.

### K1USN SST Open Premieres on September 13

CW operators are invited to celebrate the fourth anniversary of the K1USN weekly Slow Speed Contest (SST) by participating in a new event, the K1USN SST Open (SSO). From its inception in September 2020, the twice-weekly SST has encouraged CW newcomers to join with experienced operators in a relaxed contest at speeds less than 20 WPM. Participants are encouraged to operate at 12 WPM or less so that CW newcomers can participate at a pace that is comfortable for them.

A new SST OPEN UDC file for N1MM Logger+ has been designed to handle the 50 bonus point scoring New CW Slow Speed scoring multipliers exist to encourage slower speed operation (done via the 3830scores.com submittal form):

20 wpm or less x 1  
15 wpm or less x 2  
10 wpm or less x 3

The SST Open takes place on Friday, September 13 from 2000 UTC to 2359 UTC. The exchange is your name and US state, Canadian province, or "DX" if located outside of the US or Canada. More information on the SSO is available at [www.k1usn.com/SSO.html](http://www.k1usn.com/SSO.html) or questions, email [k1usn.radioclub.sst@gmail.com](mailto:k1usn.radioclub.sst@gmail.com)  
The regular SST occurs every Friday at 20:00-21:00 UTC (4-5pm EDT) and Monday at 00:00-01:00 UTC (8-9pm EDT) and encourages new comers to CW contesting by having speeds under 20 wpm. Look at [www.k1usn.com](http://www.k1usn.com) for more details.

## Technician License Class

If you or anyone you know is interested, here is the information for our upcoming, free, live Technician Class Licensing course on Zoom. Please feel free to share the following announcement on line or at your club meetings.

A free, weekly, live, Amateur Radio Technician Class Licensing course on Zoom will begin on Thursday, Sept 5, and will run through Thursday, October 17 (7 sessions). The three-hour sessions will start at 6:30 PM Eastern Time. These are the classes that we have been holding for years sponsored by the National Electronics Museum. Please publicize this with anyone you know that you think would be interested. Those wishing to sign up should email me at [roland.anders@comcast.net](mailto:roland.anders@comcast.net).

Thanks.  
73,  
Rol Anders, K3RA

## MS Bike to the Bay (Delaware)

On October 5 the Multiple Sclerosis (MS) of Delaware will hold the Delaware Bike to the Bay to raise funds for the MS Society. Amateur radio volunteers are needed to cover the route and at the eight rest stops along the way. The route starts at Dover and ends at Cape Henlopen Park in Lewes. If interested in helping out, contact Jim Baker at [N3XKJ@arrl.net](mailto:N3XKJ@arrl.net) for information or to volunteer.

## Apple-Scrapple in Bridgeville

On October 12 the town of Bridgeville will be hosting at annual Apple-Scrapple Festival. Teams of operators with HT's are needed to walk around, enjoy the food and car show and report anything of need. Besides the great food and activities, there will be many vendors displaying crafts and other commercial products. If interested, contact Bill N3ID, at [ws3eoc@gmail.com](mailto:ws3eoc@gmail.com).

## Useless facts of the Month

The sun evaporates about a trillion tons of water a day. (Thirsty sucker, huh??!!)

The average American spends 9 years watching TV (I wonder how much time playing radio??)

An average of three billion cups of tea are consumed daily worldwide. (I wonder how much coffee??)

The Battle of Gettysburg, fought from July 1 to July 3, 1863, is considered the most important engagement of the American Civil War. The Battle of Gettysburg was also the costliest battle of the Civil War, with 51,112 casualties (23,049 Union and 28,063 Confederate). Gettysburg was a victory for the Union forces and is considered by many experts to have been the turning point in the Civil War. It marked the last attempt of the Confederates under General Robert E. Lee to invade the north and move the conflict out from the area of Virginia. (I lost a Great-Uncle there!)

As past Olympian champions know, "bringing home the gold" can't be taken literally. That's because Olympic gold medals are made primarily from silver. As per International Olympic Committee regulations, modern Olympic gold medals are required to be made from at least 92.5% silver, and must contain a minimum of 6 grams of gold coating. When the first modern Olympics were held in Athens in 1896, the first-place winners were actually awarded silver medals, since silver was more sought-after at the time, while the runners-up got bronze medals.

## Tidbit of Information of the Month Department

### Voice of America station in CNMI announces closure

By KIMBERLY B. ESMORES

The U.S. Agency for Global Media has announced that it will be closing its Robert E. Kamosa Transmitting Station in the CNMI after decades in operation. The station broadcasts the Voice of America transmission to Asia.

In a letter from USAGM's William S. Martin, director of operations and stations division, a big change is taking place at the U.S. Agency for Global Media's Robert E. Kamosa Transmitting Station. "The change is a discontinuation of all shortwave radio transmissions at our Saipan and Tinian sites, the first step in closing the station," he said.

According to Martin, on June 26, the USAGM—an independent federal agency that oversees the Voice of America, Radio Free Asia, and other U.S. funded international civilian broadcasters—announced it was closing REKTS, its two shortwave radio transmission sites, on Saipan and Tinian. Martin explains that the USAGM operates the Saipan and Tinian sites to broadcast multi-language radio programming from Radio Free Asia and Voice of America into the East Asia region. "Broadcast operations on the islands go back many decades, with the U.S. government building its first transmitting station on Saipan almost immediately after the U.S. entered World War II in December 1941," he said.

While shortwave radio was an effective and popular way for people in media-deprived countries to access international news and information during WWII and the Cold War, Martin says shortwave use has fallen dramatically almost everywhere since the invention of the internet and the fall of the Soviet Union in the 1990s.

"As audiences turn to other media and people increasingly access news and information from digital and other platforms, many international broadcasters that were once active on shortwave have reduced or completely eliminated their shortwave operations altogether," he said. Further, Martin said shortwave broadcasting is increasingly expensive, especially compared to other platforms that are more popular with global audiences. "USAGM and other broadcasters have sought to balance maintaining costly legacy shortwave operations with investing in other platforms that reach much larger audiences," he said.

For REKTS, Martin said the challenge worsened when Category 5 Super Typhoon Yutu ravaged the CNMI in October 2018 and the station's transmission infrastructure was destroyed. "USAGM sought to restore the station's transmission capabilities, but budgetary constraints limited efforts to restore its full functionality," he said.

Ultimately, Martin says USAGM is not abandoning shortwave, but it is reducing broadcasts in places with no discernible shortwave audience and consolidating its global transmission network. The REKTS closure is a consequence of this consolidation effort.

Thanks to the Saipan Tribute

### What Is Ham Radio: A Newcomer's Guide

BY CRAIG CAUDILL AUG 19, 2024

#### What Is Ham Radio: A Newcomer's Guide

Two years ago, in my home state of Kentucky, we had a devastating tornado that traveled nearly 200 miles, leveled towns, killed scores of people, and left widespread devastation. When emergency responders started hitting the scene, they heard amateur (ham) radio operators systematically offering reports, relaying desperately needed information, and, in general, offering massive amounts of communication assistance.

Ham radio, or amateur radio, has remained a steadfast communication method since its inception. This form of communication has retained its importance and relevance in a rapidly digitizing world. While many might perceive it as just another hobby, ham radio celebrates camaraderie and serves as a useful backup communication method when modern systems fail. This explainer about what is ham radio aims to delve

deeper into the topic, offering insights into how ham radio works, how to get started, and addressing some commonly raised questions.

### **What Is Ham Radio?**

At its core, ham radio is about communicating over specific radio frequencies designated for amateur use. But it's much more than that. It's about creating connections, often forging deep friendships with individuals you may never meet. The thrill of connecting with someone from a different continent or someone down the road, sharing stories, and learning about others' way of life and radio kit is fun. (Check out our round of the best ham radios)

### **The Activity and Practice of Amateur Radio**

Unlike the commercial frequencies used by radio stations that broadcast music or news, ham radio frequencies are purely for two-way interactions. Hams can communicate locally or try for more distant contacts, aiming for communications as distant as the International Space Station or bouncing signals off the moon. The versatility of the ham radio is evident in its varied uses. Beyond simple voice communication, some modes involve digital signals, morse code, and even image transmission. This varied range of communication styles allows for continuous learning and experimentation.

### **The Newcomer's Guide to Ham Radio**

Beginning your journey into ham radio is more manageable than it might initially seem. While the technology and jargon might feel overwhelming, the global community of hams is known for its welcoming nature and eagerness to guide newcomers. My experience with ham groups and clubs has always been beneficial. Now, mind you, ham operators tend to be on the nerdy side. But it is such a helpful nerdiness that draws you in. I got into learning ham operations as a means of emergency backup. There has never been a question I have asked of my ham friends that went unanswered. They are so willing to help. There are a few basic steps that I have found that will help you get started.

#### **Step 1: Education**

Numerous online resources, books, and courses are tailored for beginners. These materials will introduce you to the basics of radio theory, operating procedures, and communication ethics. I successfully tested and obtained my first ham radio license utilizing an app on my phone as a study tool. The app took me through multiple test versions, graded me, and then offered help on the things I missed during practice testing. For those old-schoolers or more conventional learners, picking up a ham study book is the way to go.

#### **Step 2: Obtain a Ham Radio License**

This step requires passing an examination. To ensure operators are well-versed with this hobby's technicalities, ethics, and regulations, a structured licensing process is in place, primarily in the United States, divided into three levels: Technician, General, and Extra.

**Technician:** This class license is the entry point for new amateur radio operators. Candidates for this level are tested on basic radio theory, regulations, and operating practices. Upon successfully passing the Technician examination, operators earn the privilege to operate on all VHF/UHF amateur bands and a few privileges on the HF (shortwave) bands. This is ideal for local and regional communication.

**General:** This class license demands a more in-depth understanding of radio theory, modalities of communication, and regulations. Acquiring the General license opens the door to worldwide communications, granting privileges on multiple HF bands capable of long-distance communication.

**Extra:** This class license is the pinnacle of amateur radio licensing, requiring an extensive knowledge of advanced radio theory, antenna design, and more complex aspects of ham operations. Passing the Extra examination grants operators all available U.S. Amateur Radio operating privileges on all bands and all modes. The structured nature of this licensing ensures that as operators progress from Technician to Extra, they acquire a deeper understanding and proficiency in ham radio operations, making the airwaves a knowledgeable and safe space for communication.

#### **Step 3: Get the Best Ham Radio Equipment for You**

Once licensed, it's equipment time. For novices, there are starter kits that contain all the essentials. As you delve deeper into the hobby, you might invest in more advanced equipment, antennas, or even building your gear. Joining a local ham radio club can expedite this process, as these clubs often conduct training sessions, group discussions, and even group equipment purchases. I got started with an inexpensive handheld radio to learn the ropes. Then, after practicing and learning, meeting with my local radio club, and seeking advice from friends, I graduated to a more advanced handheld unit and then onto a mobile unit mounted in my vehicle. This progress is shared among new users. I have not leaped yet to the next likely portion, the home antenna and unit. These setups can exponentially increase my reach far outside my region or state when I have the necessary license requirements.

## **FAQs**

Why are Amateur Radio Operators also called "Hams"?

Amateur radio operators are also known as radio amateurs or hams. The term "ham" as a nickname for amateur radio operators originated in a pejorative usage (like "ham actor") by operators in commercial and professional radio communities and dates to wired telegraphy. Even among hams, this is a debatable topic, but you won't likely find amateur radio operators upset about using the term "ham."

What is the point of a ham radio?

Primarily, it's a hobby. But it's also an essential tool during emergencies, a means of experimenting with radio technology, and a unique way of fostering friendships far and wide.

Does anyone still use the ham radio?

Yes, ham radio has a dedicated and thriving global community. Technological advancements have not diminished its allure, with many enthusiasts of all ages participating actively. Technology has allowed ham to go digital, and you can now use ham frequencies over your cell phone. Or go deep on using the old-school technology as well.

What is the difference between ham radio and familiar radio?

Ham radio is interactive, with two-way communication, whereas commercial radio typically involves broadcasting to a passive audience.

Thanks to Field and Stream via the ARRL Letter

## **Nasa makes discovery 'as important as gravity' about Earth**

Story by Sarah Knapton

A new planet-wide electric field that is as fundamental to Earth as gravity has been discovered in a major scientific breakthrough. The ambipolar electric field, which begins 150 miles above the planet, has been described as a "great invisible force" that lifts up the sky and is responsible for the polar winds. The polar winds interact with the jet streams to help drive the majority of weather patterns across the globe. Until now, the field had only been theorized, but a Nasa team, which includes scientists from the University of Leicester, has now sent a rocket into the field and measured it for the first time. It means Earth now has three energy fields: gravity; the magnetic field, which shields the planet from cosmic radiation; and the ambipolar electric field.

Dr Glyn Collinson, the principal investigator of the Endurance Mission at Nasa Goddard Space Flight Centre in Greenbelt, Maryland, said: "Whenever spacecraft have flown over the poles of the Earth they have felt this supersonic wind of particles called the polar wind. "There must be some invisible force lurking there responsible for this outflow, but we've never been able to measure it because we didn't have the technology. This field is so fundamental to understanding the way the planet works. It's been here since the beginning alongside gravity and magnetism. It's been wafting particles to space and stretching up the sky since the beginning."

The field has been hard to detect because it is extremely weak, just 0.55 volts. But it is enough to nearly treble the scale height of the ionosphere – part of the upper atmosphere that sits between 30 and 600 miles above sea level. The scale height describes how quickly the atmosphere fades away, meaning the ionosphere remains denser at greater heights than it would without it. "Despite being weak it's incredibly

important, it counters gravity and it lifts the skies up. It's like this conveyor belt, lifting the atmosphere up into space," added Dr Collinson. "A half a volt is almost nothing – it's only about as strong as a watch battery. But that's just the right amount to explain the polar wind." Understanding the atmosphere is crucial to the evolution of Earth and could help scientists spot other planets that could be habitable. The team believes that any planet with an atmosphere is likely to have an ambipolar field.

To launch into the ambipolar electric field, scientists needed to travel to the world's most northerly launch pad, on the site of Ny-Alesund in Svalbard, Norway, just a few hundred miles from the North Pole. The mission, which began in 2016, was named Endurance after the ship that carried Ernest Shackleton on his voyage to Antarctica in 1914. Prof Suzie Imber, a space physicist at the University of Leicester, and co-author of the paper, said: "Svalbard hosts the only rocket range in the world where you can fly through the polar wind and make the measurements we needed."

The team found that hydrogen ions, the most abundant type of particle in the polar wind, experience an outward force from this field, which is 10.6 times stronger than gravity. Alex Glocer, the Endurance project scientist at Nasa Goddard and co-author of the paper, said: "That's more than enough to counter gravity – in fact, it's enough to launch them upwards into space at supersonic speeds."

The discovery of the field was announced in the journal Nature. Dr Collinson added: "What makes Earth the special place that we all call home? One of the reasons may be to do with the energy fields that our planet creates. "One of them is gravity. It's important for life because it's holding our atmosphere up. The second field is the magnetic field that's protecting our planet from the stream of particles that comes from the sun. "Our rocket has discovered, and finally measured, number three. Now that we've finally measured it, we can begin learning how it's shaped our planet as well as others over time."

Ed note: the whole article can be found at:

<https://www.msn.com/en-us/news/technology/nasa-makes-discovery-as-important-as-gravity-about-earth/ar-AA1pEuva?ocid=socialshare&pc=DCTE&cvid=97a3a17bcb8843feaa0cca7b2d34c1e2&ei=23>

Thanks to The Telegraph and PVRC reflector

## **Joke of the Month**

### **Medical Paperwork**

Due to a job transfer, Brian moved from his hometown to New York City. Being that he had a very comprehensive health history, he brought along all of his medical paperwork.

It wasn't long before he went for his first check up with his new doctor.

After browsing through the extensive medical history, the Doctor stared at Brian for a few moments and said, "Well there's one thing I can say for certain, you sure look better in person than you do on paper!"

## **Quote of the Month**

"It is hard to imagine a more stupid, or more dangerous way of making decisions, then by putting those decisions in the hands of people who pay no price for being wrong."

Thomas Sowell