



Clay County Amateur Radio Emergency Services

Media Info



The Orange Park Amateur Radio Club



The Orange Park Amateur Radio Club

and

Clay County Amateur Radio Emergency Services



Invite you to join them for ARRL Field Day on June 28 & 29

WHERE: Orange Park High School

2300 Kingsley Ave, Orange Park, FL 32073

WHEN: Saturday, June 28, 1:00pm thru Sunday, June 29, 2:00pm

For more information, please contact Scott Roberts, KK4ECR

Public Information Officer at (904) 759-7812 or kk4ecr@gmail.com

Amateur Radio (Ham Radio) is a popular hobby and service in which licensed Amateur Radio operators (hams) operate communication equipment. ARRL's volunteer Amateur Radio operators help their community in good times and bad, through community events, disaster response, and other various programs.



Clay County Amateur Radio Emergency Services

General / Contact Information

Clay County Amateur Radio Emergency Services
P.O. Box 65456
Orange Park, Florida 32065

Officers

Emergency Coordinator.....Adrian Gray, K4AWGagrayt1@comcast.net 904-772-4376
Chief Assistant EC.....Mark Fields, N4QLC.....mark5461@yahoo.com 904-553-5460
Assistant EC.....Mike Hendershot, K4MKHmike.k4mkh@gmail.com
Assistant EC.....Joe Bassett, W1WCNw1wcn@comcast.net
Assistant EC.....Ray Cook, WD4SENwd4sen@bellsouth.net
Assistant EC.....Peter Duzant, K4PAD.....k4pad@hotmail.com
Assistant EC / Public
Information OfficerScott Roberts, KK4ECR.....kk4ecr@gmail.com..... 904-759-7812

Call Sign: KI4UWC

The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Since 1935, ARES has provided radio communications in North America and around the world in times of need.

In these modern times of cellular phones and the Internet, we take instant communications for granted. We forget how fragile our communications systems are. We forget that only one critical piece of communications infrastructure has to fail or become overloaded to render it unusable in times of emergency!

Every ARES member in the United States is licensed by the Federal Communications Commission (FCC) to own, maintain and operate private radio equipment. We use VHF and UHF radios for local communications, and HF (short wave) radios for statewide and international communications. We can use this network of amateur repeater stations to send emergency messages.

ARES is part of the American Radio Relay League (ARRL). ARRL is recognized by the International Amateur Radio Union (IARU), the organization which links together all the national amateur radio societies in the World.

Clay County Amateur Radio Emergency Services meets on the first Tuesday of each month at 7:00pm at the Clay County Public Library, Fleming Island Branch, located at 1895 Town Center Boulevard, Orange Park, FL 32003.

For more information visit the Clay County ARES website: <http://www.clayares.org>.



The Orange Park Amateur Radio Club

General / Contact Information

Orange Park Amateur Radio Club
P.O. Box 1029
Orange Park, Florida 32067-1029

2014 Officers

PresidentGreg Fitcher, N4RVD gfitcher@icloud.net..... 904-716-0187
Vice PresidentJim Winfrey, KJ4SBG ic_812@yahoo.com
SecretaryKasey Tate, KJ4SBH
Public Information OfficerScott Roberts, KK4ECR kk4ecr@gmail.com..... 904-759-7812

Welcome to the Orange Park Amateur Radio Club (“OPARC”).

We have many aspects of the hobby in which you can be involved:

1. Antique Radios
2. ARES – Amateur Radio Emergency Service
3. Morse Code
4. HF Contesting (DXING)
5. Digital modes using HF and VHF
6. ARDF – Amateur Radio Direction Finding or Fox Hunting

Call Sign: K4BT

Our monthly meetings are the third Thursday of the month at 7:30 pm. They will be in the cafetorium at Orange Park High School located at 2300 Kingsley Ave, Orange Park, Florida 32073.

For more information about the Orange Park Amateur Radio Club, visit the website: <http://www.oparc.net>.



**Clay County Amateur Radio
Emergency Services**



**The Orange Park Amateur
Radio Club**

For Immediate Release

For additional information contact:

Scott Roberts
2361 Oak Hammock Lane
Orange Park, FL 32065
904-759-7812
kk4ecr@gmail.com

“Who ya’ gonna call? Orange Park Amateur Radio Hams!” Public Demo of Emergency Communications June 28-29

Orange Park, Florida, June 11, 2014 – Despite the Internet, cell phones, email and modern communications, every year whole regions find themselves in the dark. Tornadoes, fires, storms, ice and even the occasional cutting of fiber optic cables leave people without the means to communicate. In these cases, the one consistent service that has never failed has been Amateur Radio. These radio operators, often called “hams” provide backup communications for everything from the American Red Cross to FEMA and even for the International Space Station. Your Town’s “hams” will join with thousands of other Amateur Radio operators showing their emergency capabilities this weekend.

Over the past year, the news has been full of reports of ham radio operators providing critical communications during unexpected emergencies in towns across America including the California wildfires, winter storms, tornadoes and other events world-wide. When trouble is brewing, Amateur Radio’s people are often the first to provide rescuers with critical information and communications. On the weekend of June 28-29, the public will have a chance to meet and talk with Orange Park ham radio operators and see for themselves what the Amateur Radio Service is about as hams across the USA will be holding public demonstrations of emergency communications abilities.

This annual event, called "Field Day" is the climax of the week long "Amateur Radio Week" sponsored by the ARRL, the national association for Amateur Radio. Using only emergency power supplies, ham operators will construct emergency stations in parks, shopping malls, schools and backyards around the country. Their slogan, "When All Else Fails, Ham Radio Works" is more than just words to the hams as they prove they can send messages in many forms without the use of phone systems, internet or any other infrastructure that can be compromised in a crisis. More than 35,000 amateur radio operators across the country participated in last year's event.

"The fastest way to turn a crisis into a total disaster is to lose communications," said Allen Pitts of the ARRL. "From the earthquake and tsunami in Japan to tornadoes in Missouri, ham radio provided the most reliable communication networks in the first critical hours of the events. Because ham radios are not dependent on the Internet, cell towers or other infrastructure, they work when nothing else is available. We need nothing between us but air."

Repeaters: 146.925 MHz
CC ARES Station Call sign — K14UWC
Website — <http://www.clayares.org>

Repeaters: 146.67 MHz
OPARC Station Call sign — K4BT
Website — <http://www.oparc.net>
...an American Radio Relay League affiliated club...



Clay County Amateur Radio Emergency Services



The Orange Park Amateur Radio Club

In the Orange Park area, the Clay County Amateur Radio Emergency Services and the Orange Park Amateur Radio Club will be demonstrating Amateur Radio at Orange Park High School on June 28 & 29. They invite the public to come and see ham radio's new capabilities and learn how to get their own FCC radio license before the next disaster strikes.

Amateur Radio is growing in the US. Currently there are 48 members of the Clay County Amateur Radio Emergency Services and 93 members of the Orange Park Amateur Radio Club. In addition, there are now over 700,000 Amateur Radio licensees in the US, and more than 2.5 million around the world. Through the ARRL's Amateur Radio Emergency Services program, ham volunteers provide both emergency communications for thousands of state and local emergency response agencies and non-emergency community services too, all for free.

To learn more about Amateur Radio, go to www.emergency-radio.org. The public is most cordially invited to come, meet and talk with the hams. See what modern Amateur Radio can do. They can even help you get on the air!

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OPARC Station Call sign — K4BT
Website — <http://www.oparc.net>
...an American Radio Relay League affiliated club...*

What is Field Day?



ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!

It is a time where many aspects of Amateur Radio come together to highlight our many roles. While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate Amateur Radio to the organizations that Amateur Radio might serve in an emergency, as well as the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions.

We use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums — these are all large, preplanned, non-emergency activities.

But despite the development of very complex, modern communications systems — or maybe because they ARE so complex — ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio people (also called “hams”) are well known for our communications support in real disaster and post-disaster situations.

What is the ARRL?

The American Radio Relay League is the 150,000+ member national association for Amateur Radio in the USA. ARRL is the primary source of information about what is going on in ham radio. It provides books, news, support and information for individuals and clubs, special events, continuing education classes and other benefits for its members.

What is Amateur Radio

Often called “ham radio,” the Amateur Radio Service has been around for a century. In that time, it’s grown into a worldwide community of licensed operators using the airwaves with every conceivable means of communications technology. Its people range in age from youngsters to grandparents. Even rocket scientists and a rock star or two are in the ham ranks. Most, however, are just normal folks like you and me who enjoy learning and being able to transmit voice, data and pictures through the air to unusual places, both near and far, without depending on commercial systems.

The Amateur Radio frequencies are the last remaining place in the usable radio spectrum where you as an individual can develop and experiment with wireless communications. Hams not only can make and modify their equipment, but can create whole new ways to do things.

For More Information visit: www.arrl.org



Backgrounder: Amateur Radio Emergency Communication

For More Information:

Allen Pitts, W1AGP
Media and Public Relations Manager
(860) 594-0328
apitts@arrl.org

What do Amateur Radio operators do during and after disasters?

Amateur Radio operators set up and operate organized communication networks locally for governmental and emergency officials, as well as non-commercial communication for private citizens affected by the disaster. Amateur Radio operators are most likely to be active after disasters that damage regular lines of communications due to power outages and destruction of telephone, cellular and other infrastructure-dependent systems.

How do Amateur Radio operators help local officials?

Many radio amateurs are active as communications volunteers with local public safety organizations. In addition, in some disasters, radio frequencies are not coordinated among relief officials and Amateur Radio operators step in to coordinate communication when radio towers and other elements in the communications infrastructure are damaged.

What are the major Amateur Radio emergency organizations?

Amateur Radio operators have informal and formal groups to coordinate communication during emergencies. At the local level, hams may participate in local emergency organizations, or organize local "traffic nets" using VHF (very high frequencies) and UHF (ultra high frequencies). At the state level, hams are often involved with state emergency management operations. In addition, hams operate at the national level through the Radio Amateur Civil Emergency Service (RACES), which is coordinated through the Federal

Emergency Management Agency, and through the Amateur Radio Emergency Service (ARES), which is coordinated through the American Radio Relay League and its field volunteers. Many hams are also involved in Skywarn, operating under the National Weather Service and provide emergency weather information to the NWS for analysis and dissemination to the public.

Is Amateur Radio recognized as a resource by national relief organizations?

Many national organizations have formal agreements with the Amateur Radio Emergency Service (ARES) and other Amateur Radio groups including:

- Department of Homeland Security -- Citizen Corps
- Federal Emergency Management Agency
- National Communications System
- Salvation Army
- National Weather Service
- Association of Public Safety Communications Officials

What are some examples of emergencies involving Amateur Radio?

- Japanese Tsunami 2011
- Joplin Tornado 2011
- Southeast Tornadoes 2011
- Virginia Earthquake 2011
- Hurricane Irene 2011
- BWCAW Fire 2011
- San Diego Blackout 2011
- February tornado outbreak - 2008
- Oregon Storms - 2007
- Hurricanes Katrina and Rita -- 2005
- Earthquake in Central California -- December 2003
- Northeast blackout -- August 2003
- Shuttle Columbia recovery effort -- February 2003
- World Trade Center and Pentagon terrorist attacks -- September 2001
- Flooding in Texas and Louisiana (Storm Allison) -- June 2001
- Fires in Los Alamos, New Mexico -- May 2000
- Hurricane Floyd -- September 1999
- "500-Year Flood," Grand Forks, N.D., and East Grand Forks, Minn. - April 1997
- Western U.S. floods - January 1997
- Hurricane Fran - September 1996
- TWA plane crash - July 1996
- Oklahoma City Bombing - April 1995

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Amateur Radio FAQ

What is Amateur Radio?

Amateur radio (also called **ham radio**) is the use of designated [radio frequency spectra](#) for purposes of private recreation, [non-commercial](#) exchange of messages, [wireless](#) experimentation, self-training, and emergency communication. The term "amateur" is used to specify persons interested in radio technique solely with a personal aim and without direct monetary or other similar reward, and to differentiate it from [commercial broadcasting](#), public safety (such as police and fire), or professional [two-way radioservices](#) (such as maritime, aviation, taxis, etc.)

What is an Amateur Radio Operator?

An **amateur radio operator** is someone who uses equipment at an [amateur radio station](#) to engage in [two-way](#) personal communications with other amateur operators on [radio frequencies assigned to the amateur radio service](#). Amateur radio operators have been granted an [amateur radio license](#) by a governmental regulatory authority after passing an examination on applicable regulations, electronics, and radio theory and operation. As a component of their license, amateur radio operators are assigned a [call sign](#) that they use to identify themselves during communication. There are about three million amateur radio operators worldwide

Why are Amateur Radio Operators also called "Hams"?

"Ham: a poor operator. A 'plug.'"

That's the definition of the word given in G. M. Dodge's "The Telegraph Instructor" even before there was radio. The definition has never changed in wire telegraphy. The first wireless operators were landline telegraphers who left their offices to go to sea or to man the coastal stations. They brought with them their language and much of the tradition of their older profession. In those early days, every station occupied the same wavelength-or, more accurately perhaps, every station occupied the whole spectrum with its broad spark signal. Government stations, ships, coastal stations and the increasingly numerous amateur operators all competed for time and signal supremacy in each other's receivers. Many of the amateur stations were very powerful. Two amateurs, working each other across town, could effectively jam all the other operations in the area. Frustrated commercial operators would refer to the ham radio interference by calling them "hams." Amateurs, possibly unfamiliar with the real meaning of the term, picked it up and applied it to themselves in true "Yankee Doodle" fashion and wore it with pride. As the years advanced, the original meaning has completely disappeared.

Who is the Typical Ham?

Amateur Radio operators come from all walks of life -- movie stars, missionaries, doctors, students, kids, politicians, truck drivers and even your average neighbor next door. They are of all ages, sexes, income levels and nationalities. They say "Hello" to the world in many languages and many ways. Whether they prefer Morse code on an old brass telegraph key, voice communication on a hand-held radio, or computerized messages transmitted via satellite, they all have an interest in what is happening in the world, and they use radio to reach out.

Anyone you know could be an Amateur Radio operator or "ham" --no matter what age, gender, or physical ability. Wait until you see what you can do with ham radio!

What's the Appeal of Ham Radio?

You can communicate from the top of a mountain, your home, or behind the wheel of your car. You can take radio wherever you go! In times of disaster, when regular communications channels fail, hams can swing into action assisting emergency communications efforts and working with public service agencies. For instance, it was the Amateur Radio Service which kept New York City agencies in touch with each other after their command center was destroyed during the 9/11 attack. Ham Radio came to the rescue during Hurricane Katrina, where all other communications failed.

At other times, you can even talk to Shuttle astronauts or bounce signals off the moon! You can use telegraphy, voice, digital, even images in communication with other hams.

Some hams like to build and experiment with electronics. Computer hobbyists enjoy using Amateur Radio's digital communications opportunities. Those with a competitive streak enjoy "DX contests," where the object is to see how many hams in distant locations they can contact. Mostly we use ham radio to open the door to new friendships over the air or through participation in one of more than 2000 Amateur Radio clubs throughout the country. There are over 600,000 radio amateurs in the United States and over 2,000,000 worldwide.

Where Can I Get More Information?

The best ways to learn about Amateur Radio is to talk to hams face-to-face. Hams take pride in their ability to "Elmer" (teach) newcomers the ropes to get them started in the hobby. There is probably an Amateur Radio club near you that will welcome your interest.

For more information about **Clay County ARES** and **The Orange Park Amateur Radio Club**, contact **Scott Roberts at (904) 759-7812** or visit us on the web at

<http://www.clayares.org> – Clay County ARES

<http://www.orparc.net> – Orange Park Amateur Radio Club

You can also give call the ARRL at 1-800-32-NEWHAM or complete an online form (<http://www.arrl.org/prospect-ham-info-request>) for an Amateur Radio prospect package.



Ham Radio...

...Getting the message through for your family and community



Amateur Radio, often called "ham radio," has consistently been the most reliable means of communications in emergencies when other systems failed or were overloaded.

www.Emergency-Radio.org

Simply Put—Ham Radio Works!

Most of the time, things work fine. But despite the development of very complex systems—or maybe because they ARE so complex—ham radio has been called into action again and again to provide communications when it really matters.

Why Ham Radio Works So Well.

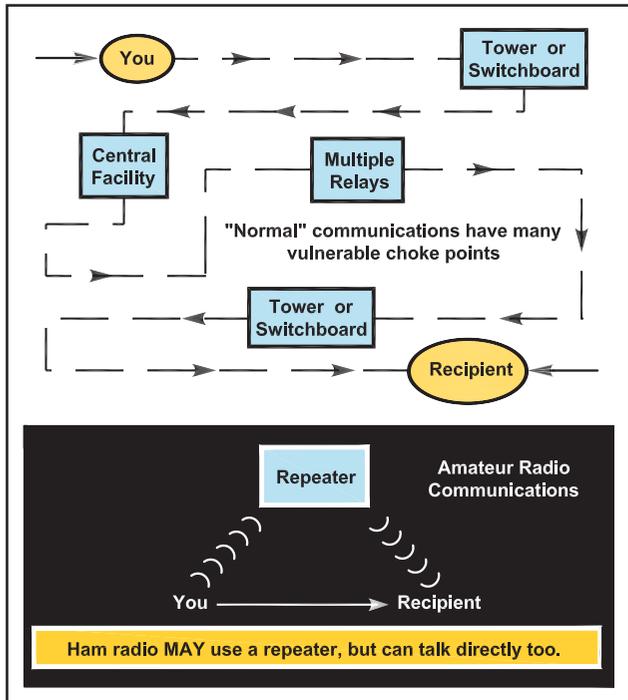
Telephones, cell phones, Internet, trunk lines, satellite phone—to get a message out they all have to go through many vulnerable choke points and need electric power. Even if the system is functioning, these systems can be overwhelmed by the number of cries for help and families seeking information.

Ham Radio is Different.

While hams MAY use the Internet or a repeater system, they do not HAVE to do so! Hams can "go direct" and talk straight through to each other because each station is fully independent. Hams can operate just fine without other infrastructure. By selecting the right frequencies, hams can talk across town or around the world.

In an emergency, when your family's lives may be at risk, which communications system would YOU want to have?

Hams meet on the air and in person. There are about 630,000 hams in the USA with ham radio clubs and gatherings all over the country.



Hams communicate using microphones, telegraph or Morse code keys, computers, TV cameras and even their own satellites.

Ham radio operators provided emergency communications during these recent events:

- Earthquake in Hawaii—2006
- Flooding in Northeastern States—2006
- Hurricanes Katrina, Wilma and Rita—2005
- Wildfires in Texas, Oklahoma and New Mexico—2005
- Hurricanes Charley, Frances, Ivan and Jeanne—2004
- Tsunami in Asia—2004
- Earthquake in Central California—2003
- Hurricane Isabel—2003
- Northeast Blackout—2003
- Shuttle Columbia Recovery Effort—2003
- Wildfires in Colorado—2002
- Flooding in Kentucky—2002

- World Trade Center, Pentagon and Western Pennsylvania Terrorist Attacks—2001
- Tropical Storm Allison—2001
- Fires in Los Alamos, New Mexico—2000
- Hurricane Floyd—1999
- Flooding in Texas—1998
- Hurricane Georges—1998
- "500-Year Flood" in N.D. and Minn.—1997
- Western U.S. Floods—1997
- Hurricane Fran—1996
- TWA Plane Crash—1996
- Oklahoma City Bombing—1995

Hurricanes, Ice, Snow, Tornadoes, Storms and SKYWARN

The National Hurricane Center in Florida relies on its ham radio station, WX4NHC, to receive reports from hams in affected areas (www.wx4nhc.org). The National Weather Service uses ham radio operators for their "SKYWARN" program to get ground level reports of events that are missed by Doppler radar.

Ham radio operators by the hundreds volunteered for service to the devastated areas of the Gulf Coast after Hurricane Katrina and her sisters Rita and Wilma pounded a five state area and destroyed other communications systems. For their life-saving work, the hams received commendations from the President and Congress as well as international praise. It truly proved the saying, "When all else fails, ham radio works!"

Within minutes of the September 11, 2001 terrorist attacks, ham operators communicated from emergency operations centers as other systems failed. The ham operations continued for weeks as the amateurs handled emergency and other important messages for disaster and government agencies as well as for displaced families.

Hams use all sorts of radios and antennas on a wide variety of frequencies to communicate with other hams across town or around the world. They use ham radio for personal enjoyment, for keeping in touch with friends and family, for public service communications and to experiment with radio technology.

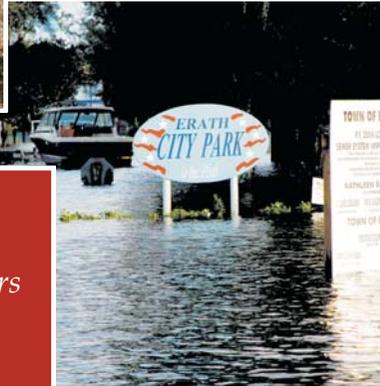
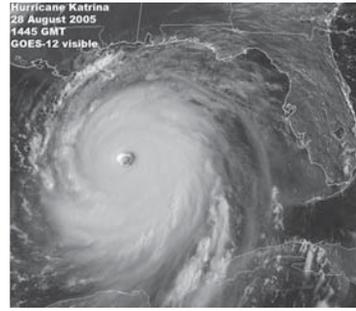
Boaters, RVers and outdoor enthusiasts also use ham radio as an excellent way to maintain communications from wherever they are.

Big station or small and portable, hams enjoy the security of knowing they can get a message through in almost any situation without depending on a fragile infrastructure that can fail or be overloaded.

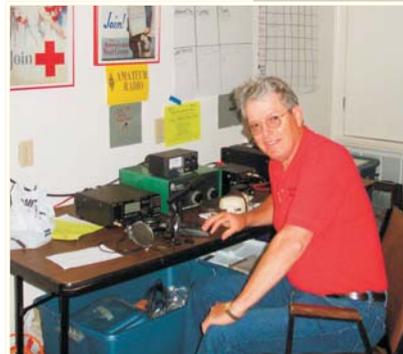


FEMA advises that in a crisis you should plan to be totally on your own for at least 3 days —

How will YOU communicate?



The National Weather Service uses ham operators for its "SKYWARN" program to get ground level reports of events that are missed by Doppler radar.



"Amateur"

ám'e-túr - noun

A person who engages in an art, science or other activity purely for the personal interest or self-improvement value of it, rather than a financially compensated profession.

- Amateur athlete
- Amateur astronomer
- Amateur musician

You Can Have This Capability for Yourself and Your Family—

Getting Your Own Ham Radio License

Unlike some other types of radio services, you need an FCC license to communicate with a ham radio. There are three levels of Amateur Radio licenses, and getting your first one is not all that hard. Many people pass their FCC exam in a week of spare time study and there are lots of groups and people who will help you.

You can get help from a local club at www.arrl.org/findaclub.

There is even an online, self-teaching course at www.arrl.org/cce/courses.html#ec010.

Costs

In general, you can expect to spend about \$40 in books and fees to earn your first license. With another \$200 you can purchase your first radio and the gear you will use to get on the air for yourself and start making contacts. Of course good, used equipment is available for less.

Joining an Emergency Communications Group

To join the Amateur Radio Emergency Service (ARES), you must have a ham radio license. ARES members constantly learn more about emergency operations and practice regularly by providing aid to non-emergency events like parades, marathons and drills.

ARES

ARES has formal, national agreements to provide emergency communications aid for FEMA, DHS, The American Red Cross, the Salvation Army, and many other response organizations.



Simply stated, ham radio provides the broadest and most powerful wireless communications capability available to any private citizen anywhere in the world.

What is the ARRL?

Founded in 1914, the American Radio Relay League is the 150,000-member national association for Amateur Radio in the USA. Other countries have their own national associations.

ARRL is the primary source of information about what is going on in ham radio. It provides books, news, support and information for individuals and clubs, special events, all sorts of continuing education classes and other benefits for its members.

Amateur or "ham" radio has been around for a century. In that time, it's grown into a worldwide community of licensed operators using the airwaves with every conceivable means of communications technology. Its practitioners range in age from youngsters to grandparents.

Ham radio attracts those who have never held a microphone as well as the technical expert who grew up with a computer. Even rocket scientists and a rock star or two are in the ham ranks.

Most, however, are just normal folks like you and me who transmit voice, data and pictures through the airwaves, use the Internet, lasers and microwave transmitters, satellites and TV, and even travel to unusual places near and far to make contact.

Where do I start?

Go to:

www.emergency-radio.org

You can find more information to get started on the Web site or contact the local group listed below:



Scott Roberts

Public Information Officer

Clay County Amateur Radio

Emergency Services

Orange Park Amateur Radio Club

(904) 759-7812

kk4ecr@gmail.com

Amateur Radio...

Serving Your Community



Events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums — these are all large, preplanned, non-emergency activities.

Amateur Radio people (also called “hams”) are well known for our communications support in disaster and post-disaster situations. But did you know we also provide communication services to the public during special events?

How Amateur Radio Works With Event Sponsors and Public Safety Officials

We’re called “amateurs” because we are not paid. Our services are provided at no charge. Like amateur sports, we do it for the love of it! We may be called “amateurs,” but our communications services are professional.

Amateurs and their equipment can interface with both public safety efforts and event organizers.

Our equipment can be made operational quickly inside a building, in a mobile command post or out in field units.

Hams are trained, organized volunteers willing to meet the communications needs of the event sponsor.

Police and fire radios are for tactical or operational traffic in emergencies. Amateur Radio offers administrative radio communications options for use in your overall management and coordination of the event.

Hams have a readiness to receive specific training for your individual event.

You have instant communications from the starting line to the finish line, the official's area, net control, water stations, aid stations, medical facilities, sag wagons, floats, grandstands, parking areas, review stands and medical command facilities.

Once the necessary introductions have been made, the rest is easy because Amateur Radio people are indeed the experts in meeting communications requirements of every sort. This is what we love to do!

Our radio messages can go to just one location at your event, or event-wide, instantly. Hams can even track the locations of multiple mobile units in real time and display them on a map.

**It's symbiotic.
You need us,
and we want
to help.**



What's Needed for Event Communications?

- The event organizers want Amateur Radio help to be there.
- The event organizers and participating amateurs meet and agree on Amateur Radio's role in the operation.
- Everyone understands and endorses the operational plan.

You will want to place radio amateurs in a lot of different areas. This, of course, will depend on the specific nature of your event, but some places might be: mile markers, half-mile markers, the reviewing stands, start and finish lines, water and aid stations, sag wagons, parking areas, medical stations, event HQ, shadowing coordinators, message centers, floats, and scoring areas.

Relationship to Event Organizers

All event officials should have a clear understanding of the operational plan that defines our role, what we can and cannot do. Amateurs are volunteer, experienced and trained communicators.

The communications plan is developed jointly between the organizers and the hams to meet the needs of the event. A post-event review aids in making the next event even better.

Participating Amateur Radio operators need to be identified by vest, badge or other easily recognizable item and given area access.

Liaison is always maintained with the event leadership to provide flexibility as situations change.

What Do the Hams Get Out of It?

Besides the basic enjoyment in using our hobby and knowing we are serving our neighbors, we get practice!

No two special event operations are going to be the same. Your operational plan will depend on your own requirements and your resources. But hams are adaptive! They've been providing public service communications for a century in all sorts of situations.

**If you want a GREAT event,
you need great communications.
We can help.**



ARRL *The national association for*
AMATEUR RADIO
225 Main Street • Newington, CT USA 06111
(860) 594-0200 • www.arrl.org

Or contact the Amateur Radio group
in your community by calling:

Scott Roberts
Public Information Officer
Clay County Amateur Radio
Emergency Services
Orange Park Amateur Radio Club
(904) 759-7812
kk4ecr@gmail.com



Science
Technology
Experimentation

We Do That!

***...with Amateur
Radio***



Ham Radio
in the 21st Century

Dreams Begin Here!

Science Technology Experimentation



Careers

"Having the ability to watch the raw packets flow back and forth on the two meter Amateur Band in the AX.25 protocol increased my ability to understand the landline X.25 protocol and other forms of data communications. Another ham, Phil Karn, KA9Q, developed TCP/IP applications. Ham radio is a fun way to experiment and has led to careers for myself and many people in new computer technologies."

— Gary Wilson, IT Manager, K2GW



Mixing radios with computers

D-Star, APRS, Winlink2000, PSK and more!
Sure your dashboard GPS might tell you where you are. But how about seeing where *other* people are located in real time and sending them messages, email, text or pictures for free as you go along? Hams do that with modern hybrids of radios and computers.

The "Software Revolution" began when computer memory costs dropped and hams were quick to integrate the power of the soundcard into radio communications. With radio's transmitting and the computer's encoding capabilities, digital signals have blossomed around the world to the point where it is hard to tell where the radio stops and computers begin. New "hamware" for Windows, Mac and Linux applications is coming out almost daily.

A Nobel Prize?

K1JT is Joe Taylor. He won The Nobel Prize for his work in radio astronomy. He also has developed the WSJT computer programs allowing burst ham radio communications to ricochet off the trails of meteors.

Discover New Technology



Healing

John Kanzius, K3TUP, had an idea — killing cancer cells with radio waves. This had been tried before with poor results. John's experience in ham radio had taught him that radio energy (RF) can heat objects. But his idea went further. What if the cancer cells were tricked into taking in a metal target *inside* just the tumor cells? John was aware of "nanoparticles." If the tumor cells could be made to take in these metallic bits, and if they could then be heated up with RF, would that kill off the tumor or the patient? Recent university animal testing gave the answer — the tumor was destroyed. Now researchers are following John's lead in exploring a host of life-saving applications.

Green Radio

Larry Barr, K5WLF, has lived "off-grid," so it was only natural that he'd look for ways to combine Renewable Energy sources with Amateur Radio. His "Solar Powered Ham Station" started out in response to a need for an autonomous station to serve as Net Control for bicycle races each year. A generator would do the job, but they're noisy, require refueling and can be a fire hazards. Instead, Larry uses a pair of Uni-Solar US-64 photovoltaic (PV) panels — giving him total independence and truly "wireless" capabilities.



SuitSat was an Amateur Radio installed inside a surplus Russian space suit. It became an independently orbiting ham radio satellite deployed by the crew of the International Space Station. It was so much fun, hams plan to do it again!



SETI - ARGUS

Perhaps the most ambitious microwave SETI project ever undertaken without Government equipment or funding, *Project Argus* is an effort to deploy and coordinate roughly 5,000 small radio telescopes around the world, in an all-sky survey for microwave signals of possible intelligent extra-terrestrial origin. Traditional research grade radio telescopes can view only a small fraction of the sky at a given time. *Project Argus* employs much smaller, Amateur Radio telescopes, built and operated by SETI League members.

Your Amateur Radio license is also your ticket to the **Amateur Satellite Service** worldwide. Over 18,000 hams already use the satellite radios of the service. They communicate with both voice and data into the farthest reaches of the globe with little more than a few watts RF and a handheld antenna.

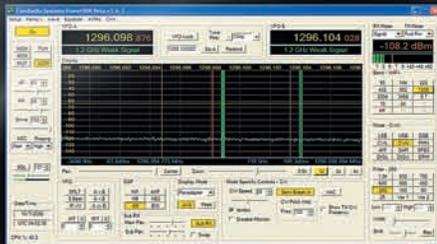


—Today and Tomorrow!



TIME and SPACE

Everyone knows that time is money. But did you know that it's also frequency? Time also varies with the density of gravity. Time and frequency are different ways to look at one of the fundamental dimensions of the universe (to be more precise, the frequency of a radio wave is defined by the number of its cycles per second, and the second is defined by the frequency of a specific atomic interaction — mathematically, time and frequency are inverse measurements of the same thing). While my interest in time and frequency started with the simple desire to be able to measure my ham transmitter's frequency, it led me into nooks and crannies of precise measurement as a hobby in and of itself. I've become a "time-nut."
— John Ackermann, N8UR



SDR Radio — the radio IS a computer A whole new radio is just a download away

Since the beginning of radio itself, signals arrived at antennas and were processed by bits of hardware so that the information they carried could be understood by human beings. Regardless of the design, the common element of every radio was hardware — a technology locked into place and difficult to change. Today's amateurs have entered a new era. They've surpassed many of the limitations of hardware by using *software* instead. They're still sending and receiving signals, but now they're using computers to create "virtual" radios that can change in an instant, operating with any type of signal at the click of a mouse button. This incredible technology is known as **Software Defined Radio** and it promises a future that those early experimenters would never have dreamed possible.

Amateur Radio on the International Space Station (ARISS) is a volunteer program which inspires students worldwide to pursue careers in science, technology, engineering and math through Amateur Radio communications opportunities with the International Space Station (ISS) on-orbit crew. ARISS is an international working group, consisting of delegations from nine countries including several countries in Europe as well as Japan, Russia, Canada, and the USA. The organization is run by volunteers from the national amateur radio organizations and the international AMSAT (Radio Amateur Satellite Corporation) organizations from each country.



Satellites, Balloons and the Moon?

Amateur Radio operators were quick to realize that they could ricochet a radio signal through space off a passive reflector. After all, they had been bouncing signals off the ionosphere for decades. Amateurs now bounce signals off large balloons, the ionized trails of meteors, satellites and even the moon itself, with JT65 and MAP65.



Amateur Radio — Your scientific national resource!

The Amateur Radio Service frequency bands are *the* place in the usable radio spectrum where you as an individual can develop and experiment with wireless communications. Hams not only can make and modify their own equipment, but can create whole new ways to do things.

You sure can't do that with a cellphone!

Getting Your Own Ham Radio License

There are three levels of Amateur Radio licenses, and getting your first one is not all that hard. Many people pass their FCC exam in a week of spare time study and there are lots of groups and people who will help you.

You can get help from a local club at:
www.arrl.org/findaclub.

There is even an online, self-teaching course at: www.arrl.org/cce/courses.html#ec010.

Costs

In general, you can expect to spend about \$40 in books and fees to earn your first license.

With another \$200 you can purchase your first radio and the gear you will use to get on the air for yourself and start making contacts. Of course good, used equipment is available for less.

Simply stated, ham radio provides the broadest and most powerful wireless communications capability available to any private citizen anywhere in the world.

It's not your Granddaddy's Radio anymore!



ARRL *The national association for*
AMATEUR RADIO

What is the ARRL?

Founded in 1914, the American Radio Relay League is the 150,000-member national association for Amateur Radio in the USA. Other countries have their own national associations.

ARRL is the primary source of information about what is going on in ham radio. It provides books, news, support and information for individuals and clubs, special events, all sorts of continuing education classes and other benefits for its members.

Amateur or "ham" radio has been around for a century. In that time, it's grown into a worldwide community of licensed operators using the airwaves with every conceivable means of communications technology. Its practitioners range in age from youngsters to grandparents.

Ham radio attracts those who have never held a microphone as well as the technical expert who grew up with a computer. Even rocket scientists and a rock star or two are in the ham ranks.

Most, however, are just normal folks like you and I who transmit voice, data and pictures through the airwaves, use the Internet, lasers and microwave transmitters, satellites and TV, and even travel to unusual places near and far to make contact.

Where do I start?

Go to:

www.WeDoThat-radio.org

You can find more information to get started on the Web site or contact the local group listed below:

Scott Roberts

Public Information Officer

Clay County Amateur Radio

Emergency Services

Orange Park Amateur Radio Club

(904) 759-7812

kk4ecr@gmail.com