



HAMRAG

September 2018

Sept. 14th **Satellite Communications & Equipment**

JoAnne Maenpaa - K9JKM

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Next Meeting: Satellite Communications • Friday September 14th • 7:00 PM
Location: St. Anthony Medical Center • Foundation Room • 5666 E. State Street Rockford, IL

President's Message

Greetings all,

Here it is September already and there are many things happening this time of the year within the club. First of all is our annual fund raiser on September 22, 2018 at the 2018 Radio Expo held at the Boone County Fairgrounds. If you have anything radio related and would like to donate and or have the club try to sell for you there are a couple of options you have. First of all is to bring the items to the meeting on the 14th along with a description and what you would like to sell it for and your bottom dollar price. This will work just like last year where the club charges 15% of the sales price for items under \$100.00 and 10% for items over \$100.00. If you may have too many items to bring to the meeting you can also contact myself or Kurt Eversole to possibly make arrangements for pickup. We will also be at the Boone County Fairgrounds on Friday, September 21 from 1:00 – 4:00 PM doing setup and you can bring items there. When you arrive please call me at (815) 262-0294, or call KC9NEX on the 146.610 repeater and we will come out and get your items. If you have any other questions please contact me or Kurt for information.

For those who enjoy the Friday Night Fun Net, and our Monday Night Information Net and have never had the opportunity to meet (Jimmy), James Dorsey he will have a table next to us at the 2018 Radio Expo, tell your friends and stop out to meet him.

On another note to let you know what the club has been doing, we have purchased two new updated Yaesu Fusion Repeaters through their upgrade program and will be installing them within the next couple of months. There are also some other things in the works and information will be forthcoming as they come closer to implementation.

Elections are right around the corner so think what you can do for the club and volunteer for one of the positions which may be open, the club is only as good as the people willing to get involved and help.

Also something to be thinking about is the nominations for the Ham of the Year. Please fill out the form and get it turned in.

That is enough rambling for now, hope to see you at the next meeting on the 14th.

73, Gordon Seaman KC9NEX
2018 RARA President
kc9nex@gmail.com



2018 RARA Officers & Board

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Editor's Note

Thanks to everyone that provided information and links for this very full monster size Hamrag. With a little help we are heading in the right direction to make the Hamrag a great resource again.

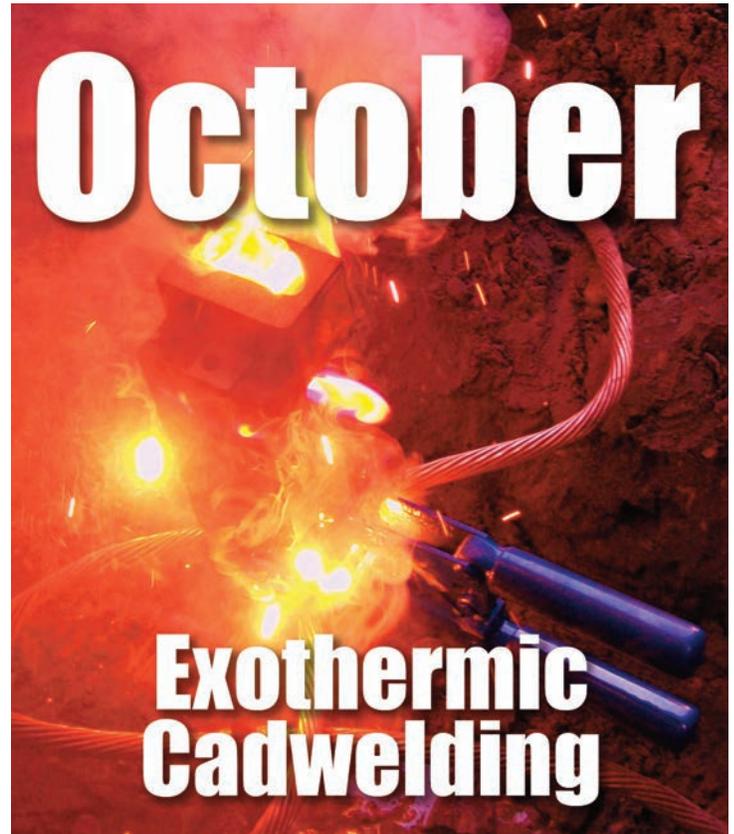
Thanks
Lynn Long KD9IFP
Hamrag Editor
randy@rdlgraphics.com.



Meets every Friday morning from 8 am until about 10:00 am. An informal gathering of ham folks, no affiliations necessary, good food and good company.

Everyone is welcome to attend.

**"The Spring Garden Family Restaurant"
4820 N. 2nd Street
Loves Park, IL 61111**



RARA Repeaters

Both repeaters (146.610 and 147.000 (both have a pl 114.8)) will function with both digital and analog radio signals, but the repeaters require time to determine whether the signal is digital or analog. To operate the repeater properly you must first be sure the frequency is clear, then key and hold the microphone button down for 1-2 seconds. Then begin speaking. If you fail to do this, the first part of your message will be lost.

RARA Mission Statement

A member association with common interest of public service to the community through the use of amateur radio.

Election Time

Nominations for 2019 Officers and Directors will be made at the September 14th meeting. Nominations will be finalized and presented to club members in the October Hamrag and at the October 12th meeting. RARA club members will vote for Officers and Directors at the November 9th meeting.

I ask that all members participate by emailing me at kc9nex@gmail.com before our September 14th meeting if you are interested in any one of these positions, have questions about responsibilities, or recommend another member for a position.

Below are general descriptions of the responsibilities for each position.

President (Open for 2019)

Presides at all meetings according to the Rockford Amateur Radio Association's constitution, by-laws and rules of order. Appoint all committees, sign official documents and carry out the recommendations of the Board of Directors. The President is also Chairman of the Board.

Vice President (Open for 2019)

Presides over meetings if President is absent and coordinate meeting presentations.

Secretary (Open for 2019)

Keeps meeting minutes, roll of members, provide applications for membership, and oversee amendments, changes & additions to the constitution and by-laws.

Treasurer

Is the custodian of monies received and expended, keeping records and issuing the Treasurer's Report to the Board of Directors monthly.

Directors (4+)

The Board of Directors shall include these Officers, a minimum of four Directors, and current editor of the monthly bulletin (Hamrag).

Other Openings/Opportunities To Serve

The President also appoints the Hamrag editor, webmaster, and repeater committee chairperson. Contact me if you are interested in any of these positions.

73,
Gordon Seaman
KC9NEX

Sell Your Extra Stuff At 2018 Radio Expo

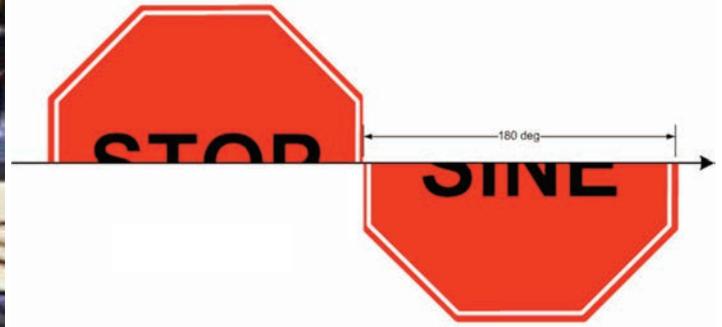
RARA will have tables again this year at the Belvedere Hamfest. We are looking for good used ham related items to be donated for sale to raise funds or items you would like to sell and give RARA part of the sale price as a donation.

Your choices are as follows:

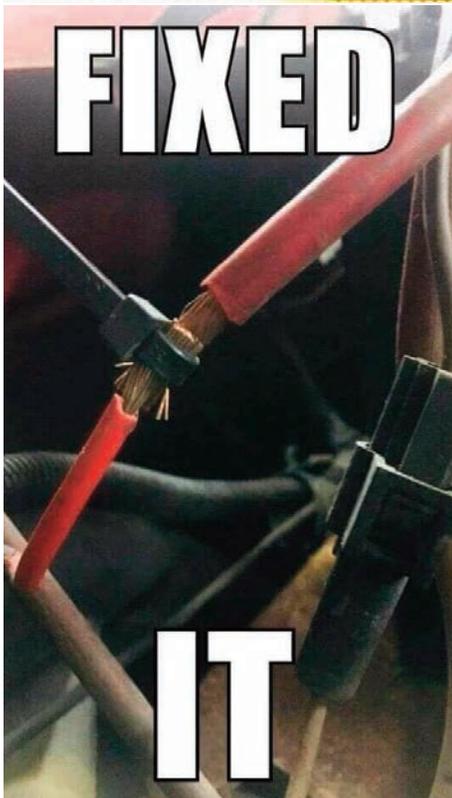
1. Donate the item and RARA gets whatever we can sell it for as a total donation.
2. You're not interested in a total donation but have an item that sells for less than \$100.00. 15% of the final selling price goes to RARA.
3. You're not interested in a total donation but have an item that sells for more than \$100.00. 10% of the final selling price goes to RARA.

Items need to be brought to the Boone County Fairgrounds between 1:00pm and 4:00pm on September 21st. Access to the hall is restricted so you will need to contact Gordon KC9NEX via the 610 repeater and someone will meet you in the parking lot. Contact Gordon if you need other arrangements made. **Include: a description, is it working/non-working, your asking price and your bottom selling price on all items.**

Ham Funny



Mentioning Baofeng or CB in a ham group is like:



Satellite Links, Apps & Software

Ham Radio Satellite Software

Windows

- Ham Radio Satellite Explorer App
- SimpleSat

Mac

- MacDoppler

Smart Device Apps

Ham Radio Satellite iPhone/iPad Apps

- Satellite Explorer Pro
- GoSatWatch
- ProSat
- SatelliteTracker
- TrackSats
- HamSat

Ham Radio Satellite Droid Apps

- HamSatDroid
- AMSATDroid

General Ham Radio Satellite Info

- Amateur Radio Satellite Info - N2YO.com - <http://www.n2yo.com/satellites/?c=18>
- All Satellites Frequency List - <http://www.ne.jp/asahi/hamradio/je9pel/satelist.htm>
- Spreadsheet of the uplinks and downlinks of each satellite - <http://www.ne.jp/asahi/hamradio/je9pel/satslist.xls>
- DK3WN SatBlog - http://www.dk3wn.info/p/?page_id=29535
- AMSAT-UK - <https://amsat-uk.org/about/>
- AMSAT Home Page - <https://www.amsat.org/>
- Ham Radio Satellite Primer - ARRL - <http://www.arrl.org/files/file/Technology/tis/info/pdf/0004036.pdf>
- Amateur (ham) Radio Satellites - RAMMB - Colorado State University - <http://rammb.cira.colostate.edu/dev/hillger/amateur.htm>
- Amateur Radio Satellites - KA7FVV - <http://ka7fvv.net/satellite.htm>

- Geek Prepper - <https://geekprepper.org/long-range-communications-using-ham-radios-satellites/>
- Ham Radio Satellite Presentation - <https://www.k5nd.net/2018/01/ham-radio-satellite-presentation/>
- Tutorial on ham radio satellite tracking - <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&cad=rja&uact=8&ved=2ahUKewjRzJjmuYPdAhVi7YMKHdglCQUQtwlwBXoECAoQAQ&url=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DxiSuLV6sOvI&usg=AOvVaw39HCGMnp7JauV4CpTym2QU>
- ARISS and Satellite Communication Resources <http://www.arrl.org/ariss-and-satellite-communication-resources>
- KB6NU's Ham Radio Blog <https://www.kb6nu.com/category/operating/satellites/>
- Ham radio satellite tracking Amateur Radio Satellites <https://www.karhukoti.com/satellites?category=amateur&title=ham%20radio%20satellite%20tracking>
- FM Satellite Frequency Summary <https://www.amsat.org/fm-satellite-frequency-summary/>
- FM Satellite Frequency Summary and Programming Charts <http://freefishnj.blogspot.com/2018/05/fm-satellite-frequency-summary-and.html>
- Getting started on amateur radio satellites http://rsgb.org/main/files/2012/07/satellites_radcom_mar07.pdf
- Contact the ISS <http://www.ariss.org/contact-the-iss.html>
- HAMSATS! Getting Started With Satellites https://k4lrg.org/assets/hamsats_larg_university_2018_05_19_abridged.pdf

Ducie Island 2018



VP6D

VP6D Ducie Island DXpedition gear on its way to transport vessel

The equipment to be used for the VP6D Ducie Island DXpedition later this year is on its way to the M/V Braveheart in New Zealand. The Braveheart, captained by Nigel Jolly, K6NRJ, will transport the DXpedition team and their equipment to Ducie Island. Elecraft radios in the shipment are the same ones used by the successful Baker Island KH1/KH7Z DXpedition. Consolidated on five pallets, the shipment weighs more than a ton and a half and will fly via Hong Kong for delivery.

"It's been a busy several weeks to get all the equipment consolidated, integrated, tested, and packed for shipment," a DXpedition news release said. "The next major milestone will be in October when team members begin their journey to meet the Braveheart in French Polynesia.

The DXpedition has been nearly 16 months in the planning and coordination. Ducie is the 19th most-wanted DXCC entity, according to Club Log." The Perseverance DX Group (PDXG) is sponsoring the DXpedition, set for October 20 – November 3, 2018.

Thanks to the VP6D Ducie Island DXpedition

Amateur Radio

From the CQ Newsroom:

Petition Drive to Save WWV/WWVH Sept. 15 Deadline

The National Institute of Standards and Technology (NIST) has eliminated funding for the continued operation of time/frequency standard stations WWV and WWVH in its Fiscal Year 2019 budget.

Tens of thousands of radio amateurs and other users of the shortwave spectrum rely on these stations as sources of accurate time and precise frequency measurement, as well as a wealth of propagation data. (WWVB, on 60 kHz, which provides time data for so-called "atomic clocks," would continue to be funded.)

Two petitions have been started on the White House's "We the People" petition site calling for restoration of funding for these two essential radio stations. Each needs at least 100,000 electronic signatures by mid-September to generate a response from the White House.

The petitions can be found at:

<https://petitions.whitehouse.gov/petition/main-tain-funding-nist-stations-wwv-wwvh>

(As of now, needs just over 90,000 more signatures by September 15)

<https://petitions.whitehouse.gov/petition/main-tain-funding-nist-stations-wwv-wwvh>

(As of now, needs over 98,000 more signatures by September 17)

CQ urges its readers and friends – and anyone else who finds value in the continued operation of WWV and WWVH – to sign one or both petitions and to contact your representatives in Congress to explain the need for these stations to continue to operate. Congress has the last word on the federal budget and can modify department proposals as it sees fit.



Programs 2018

September - Satellite Communications
 October - Exothermic/Cadwelding
 November - Contesting
 December - Power Pole & Cable Assembly

Programs 2019

January - Awards Banquet

Meetings

September 14, 2018
 General RARA Meeting 7:00 pm at OSF

September 18, 2018
 RARA Board Meeting 7:00 pm at OSF

October 12, 2018
 General RARA Meeting 7:00 pm at OSF

October 16, 2018
 RARA Board Meeting 7:00 pm at OSF



Ham Testing

The following applicants were successful:

Gorski, Richard W. - KD9IUZ
 Upgrade to General

Pamp, Benjamin W.
 Technician

Stephan, Brian J
 Technician

Amateur Radio exams are held the 3rd Saturday of every month in Rockford IL. The next session is 9 AM September 15, 2018.

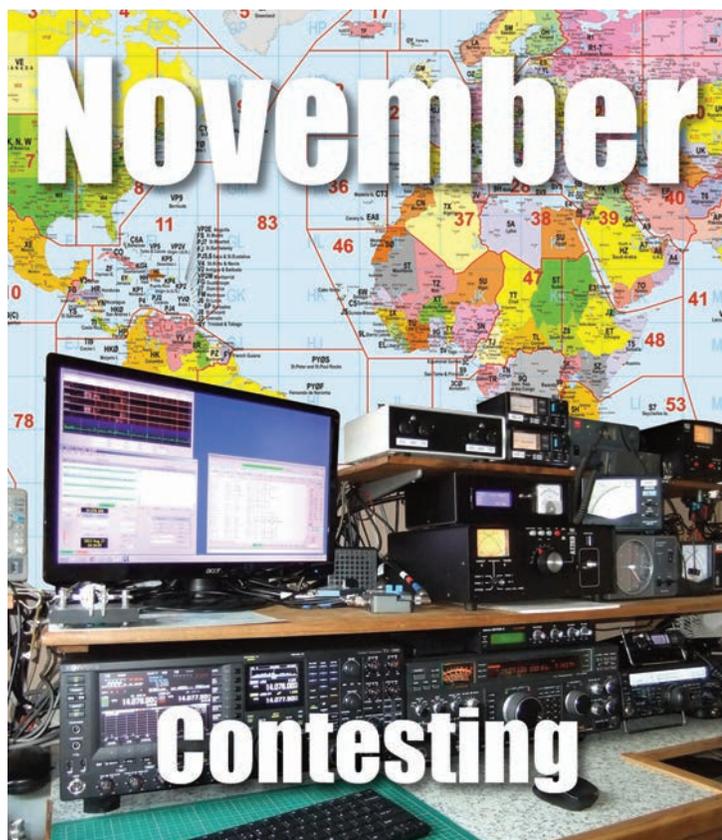
Walk-ins welcome. Check-in is from 9AM-10AM, no exams started after 10:30.

We require two signature ID's and one photo. If you are a licensed Amateur Radio operator bring a copy of your FCC ULS page with your call sign. If you are using a CSCE for exam credit, bring the original and a copy (We need to see the originals & keep a photocopy of each). No copier on site. The test fee is \$14.00. Bring a non-programmable calculator.

Location:

OSF St Anthony Medical Center
 5666 E State St (Bus US20) Rockford IL
 Exams are held in the St Francis Room
 (Main Entrance then turn right).

Jim Holich AB9SX
 jholich@comcast.net



A New FT8 (FT8CALL) with Rag Chew Abilities

So you say FT8 isn't true ham radio? QSOs are too mechanical and impersonal. For your rag chewing pleasure, try FT8CALL Note: This software is a "work-in-progress".... posted by Layne AE1N



So you say FT8 isn't true ham radio? QSOs are too mechanical and impersonal. For your rag chewing pleasure, try FT8CALL Note: This software is a "work-in-progress".... posted by Layne AE1N

FT8 has taken over the airwaves as "the" digital communication mode for making QSOs over HF/VHF/UHF. The mode has been widely popular as the latest offering in K1JT's WSJT-X application. FT8 stands on the shoulders of JT65, JT9, and WSPR modes for weak signal communication, but transmits much faster with only slightly reduced sensitivity.

The idea with FT8Call is to take the robustness of FT8 mode and layer on a messaging and network protocol for weak signal communication on HF, similar to FSQ and Fldigi with a keyboard-to-keyboard interface.

FT8Call is a derivative of the WSJT-X application, restructured and redesigned for keyboard-to-keyboard message passing. While the WSJT-X group maintains copyright over the original work and code, FT8Call is a derivative work licensed under and in accordance with the terms of the GPLv3 license.

For the most up-to-date listing of build downloads, check the FT8Call release announcements (<https://groups.io/login?r=%2Fg%2Fft8call%2Fsearch%3Fq%3D%2523release%26ct%3D1>) and FT8Call Release Downloads Wiki (<https://groups.io/login?r=%2Fg%2Fft8call%2Fwiki%2FFT8Call-Latest-Release-Download-Links>). The application is distributed using the WSJT-X installer on Windows. For Linux, it is distributed as an AppImage, a single file executable that can be run portably on your Linux desktop or RaspberryPi, as well as a .deb. AppImage is an untraditional approach to distributing Linux software so if you've never dealt with an AppImage before, all you need to do is 1) Download the AppImage for your platform; 2) Set the AppImage file to be executable; 3) Run the AppImage file

Operation – If you've used Fldigi or WSJT-X before, you'll feel right at home with FT8Call. The premise is that FT8Call changes the encoding structure of FT8 modulated messages, breaking up long free text messages into multiple transmission frames / cycles.

For more information check out the YouTube video at: <https://www.youtube.com/watch?v=dXugwC5VeOk>

**LAST CHANCE
TO SEND IN
YOUR DESIGN.**

Ammo Box Radio Go Box Challenge

**LAST CHANCE
TO SEND IN
YOUR DESIGN.**

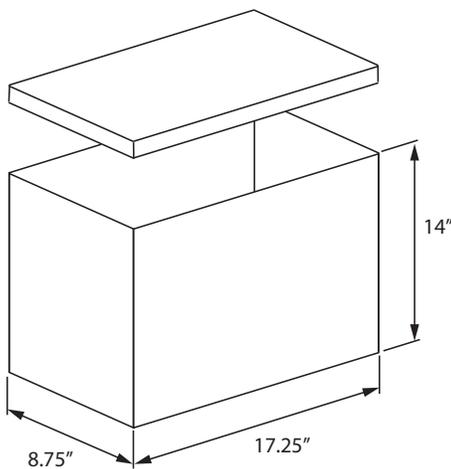
The Challenge:

To design a HF/UHF/VHF self-contained and internally powered radio go box using one of the two ammo boxes shown.

The concept of this type of go box is that it would be a grab and go ham shack. A quick and easy setup when you might have only minimum time to react, lack of structures or trees to deploy antennas and still provide quality communication services to a community in need.

Rules:

1. All radio components, support gear (including chargers and converters) and batteries must fit within the box. Antennas and solar panels can be externally carried.
2. All components (including antennas) must be off the shelf items that can be bought at a store or on-line (list part numbers and source).
3. The system needs to be compatible with 120v, 12v and solar power sources.
4. A basic wiring schematic and equipment placement diagram to prove concept must be provided.
5. A basic deployment diagram showing antenna and optional solar panel location is required.
6. Stats on minimum and maximum power required during operation, along with the projected run time just off the internal battery.



Large Box
The lid is removable.

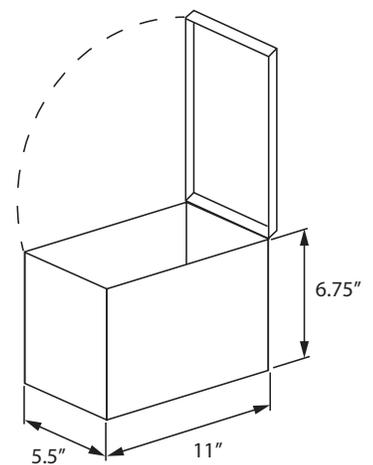
Send or give your design to:

Randy Long AC90F
randy@rdlgraphics.com

I will post some of the design ideas on the website and try to feature others in the Hamrag.

This is meant to be a fun challenge that will help some of the non-tech hams design and build a useful tool.

**LAST CHANCE TO
SEND IN YOUR DESIGN.**



Small Box
The lid is attached.



Meeting Minutes

Aug. 10, 2018

The meeting started at 7:00 pm with Gordon Seaman, KC9NEX, conducting the meeting.

Number of people attending: 27

Introductions of all in attendance were made.

July Meeting Minutes

The June 13, 2018 meeting minutes were read by Gordon Seaman, KC9NEX. There were no additions or corrections. A motion to approve was made by Randy Long, AC90F. The motion had a second by Jim Holich, AB9SX. The motion passed.

Treasurers Report

The Treasurers report was read by Jennifer Van Zielegghen, KD9FMJ. The current balance is \$6338.71. A motion to approve was made by Jim Holich, AB9SX, and seconded by Lynn Long, KD9IFP. The motion passed.

Old Business

There was none

New Business

There was discussion that if the club wanted a table at the Wheaton Ham Fest, on January 20, 2019 we would have one available.

There was a motion made by Fred Minor which failed as no second was recorded.

Program Information

Program Subject: Portable operations

Presenter: Jennifer Van Zielegghen, KD9FMJ

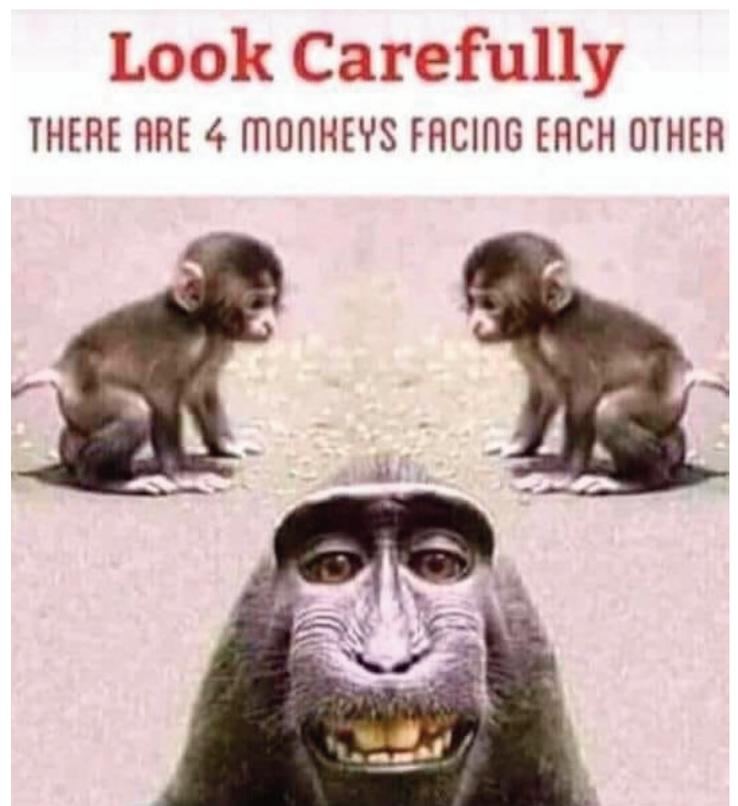
Comments: Jennifer brought in an array of equipment that she uses in her forays operating portable and her activation's of POTA events. There was much discussion of why she chose the equipment she has chosen and uses. The presentation was very well presented and there were many positive comments.

Adjournment

A motion to adjourn was made by Randy Long, AC90F. A second was offered by Ron Callahan Jr., N2RON. The motion passed.

The meeting concluded at 9:30 pm.

The meeting minutes were taken by and submitted by Gordon Seaman KC9NEX.



Area Nets

Monday Night RARA Information Net

The purpose of the net is to disseminate RARA related information as well as other Amateur Radio related information. As a club sponsored activity, please check in with Jimmy, KC9GCR, (net control). 146.610 - offset (pl 114.8) RARA repeater at 8:00 pm, every Monday, except on holidays.

Tuesday Night Tech Net

at 8:00 pm, 145.110 (pl 123.0). Tony, N9ARB, is net control.

Wednesday Night Stephenson County ARES (Amateur Radio Emergency Service) Net

at 7:00 pm on 147.390 + offset (pl 114.8). N9ARB, Tony, is net control.

Thursday Night Northern Illinois ARES (Amateur Radio Emergency Service) Net

at 7:00 pm on the 147.195 + offset (pl 114.8) repeater with either Marianne, KT9KS; Sean, W9STR; or Ricky, WX9RLT, as net control.

Thursday Night Northern Illinois Skywarn net

at 8:00 PM on the 147.195.

Friday Night Fun Net - Every Friday night at 8:00 pm on the 146.610 - offset (pl 114.8) RARA repeater with Jimmy, KC9GCR, as net control.

HF Net Information - Head on over to the RARA website and take a look at the "Nets" page. We now have listings and links to great HF nets.



September's US Route 66 On the Air Special Event Marks 19th Year

The 19th annual Route 66 On the Air special event, celebrating the storied highway between the west

coast and the US heartland, gets under way on September 8 and continues until September 16. The Citrus Belt Amateur Radio Club (CBARC) of San Bernardino, California, sponsors the event, which will feature 21 stations -- including two rovers -- operating from sites along or near the path of US Route 66. Sporting W6-prefix 2 x 1 call signs, the stations will be active on CW, SSB, and digital modes, as well as some VHF and UHF repeater operation.

Through story, song, film, and television, the highway -- also known as "The Will Rogers

Highway" and "The Mother Road" -- came to symbolize the spirit of the freedom of the open road, inspiring many to see America. Stretching nearly 2,500 miles from California to eastern Illinois, US Route 66 was established in the mid-1920s. After it had been replaced piecemeal by the Interstate Highway System, it was formally removed from the US Highway System in 1985, although segments of the highway now have been designated a National Scenic Byway -- Historic Route 66.

Started by the Northern Arizona DX Association, the US Route 66 Special Event offered a way for radio amateurs to "relive the ride," CBARC said on its website. CBARC assumed sponsorship of the event a couple years after the inaugural running, and it has become a staple of the September special event schedule.

From The ARRL Newsletter Aug. 2018

An Amazing Recovery: ARISS Packet System Revives

Similar to the AO-7 satellite resurrection several years ago, the Amateur Radio on the International Space Station (ARISS) packet radio system on the International Space Station (ISS) has begun working again. NASA ISS Ham Radio Project Engineer Kenneth Ransom, N5VHO, said over the weekend that reports he'd received indicated that the NA1SS packet signal returned in mid-August.

"No idea how long it will last, given the degrading state of the current hardware. The longer it lasts, the better," he said. Ransom said the revived system will fill the gap until a replacement packet module is flown to the ISS later this year and is installed by the crew on a time-available basis.

The packet signal on 145.825 MHz has been copied in Europe, South America, India, and elsewhere. In another August 25 post, Mark Pisani, KK6OTJ, reported copying the packet system during an 18° pass over southern California and said he worked KB6LTY through the system. "Heard over Patagonia Argentina!" Francisco Rodriguez, LU2WBA, enthused in a post on August 24 at 2323 UTC. "Welcome back!" An August 17 post from Marco Antonio, PU2MUS, in Brazil indicated that the system was not active at that time.

Earlier this summer, ARISS hardware team members on the ground reported that they were able to locate a functional duplicate of the ISS packet module that had been in use on the ISS for 17 years before it failed more than a year ago.

ARISS has expressed hope that the new packet system hardware could be online again by the end of November.

Indonesian Hams Take Advantage of Satellite for Post-Earthquake Communication

Amateur Radio volunteers in Indonesia have been taking advantage of the LAPAN-ORARI (IO-86) ham satellite in addition to HF on 7.110 MHz as the Lombok area recovers from two recent earthquakes. The death toll has topped 400. A second powerful earthquake in the area on August 5 killed at least 98 people and seriously injured more than 200 others.

Power in the area has been disrupted, and Kardi Wibisono, YB9KA, and Untung "Adi" Riadi, YB9GV, of the West Nusa Tenggara Region chapter of ORARI, the Indonesian national Amateur Radio organization, have been leading efforts to provide communication to areas lacking cellular coverage. That has included hauling batteries to run repeaters taken down by the power outage. Four repeaters are reported to be operating in the disaster area. ORARI Headquarters has asked for more repeater support from its Bali Island region and issued an official request to help with logistics and additional volunteers in Lombok.

In addition to designating the HF National Emergency Frequency of 7.110 MHz, VHF frequencies have been established and the LAPAN-ORARI (IO-86) satellite has been activated to assist with communication. Launched in 2015, IO-86 carries an FM transponder and an APRS digipeater. The Central Java Region of the Indonesian Search and Rescue Council sent in a team to join the national rescue operation in Lombok and ORARI volunteers.

Indonesian President H. Joko "Jokowi" Widodo is YD2JKW. -- Thanks to Southgate Amateur Radio News via IARU Region 1; Dani, YB2TJV, and AMSAT News Service

More on next page.....

From The ARRL Newsletter Aug. 2018

Ham-Astronauts among First Nine Astronauts Scheduled to Fly on Commercial Spacecraft

Three radio amateurs are among the initial nine NASA astronauts scheduled to fly on commercial spacecraft to the International Space Station. Others in the group are studying for their ham licensing exams in order to take part in Amateur Radio on the International Space Station (ARISS) school radio contacts, or because they have expressed interest in supporting ARISS events. The women and men chosen will be the first to fly on one of two commercial spacecraft.

SpaceX plans to fly a two-person crew -- Robert Behnken, KE5GGX, and Doug Hurley -- in Crew Dragon atop a Falcon 9 rocket from Kennedy Space Center. A Boeing CST-100 Starliner capsule on an Atlas V vehicle from Cape Canaveral will carry a three-person crew -- Eric Boe, Chris Ferguson, and Nicole Aunapa Mann, who attended an ARISS introductory talk at Johnson Space Center (JSC) and voiced interest in doing ARISS contacts in the future.

Boe and Ferguson, along with Josh Cassada, Victor Glover, Michael Hopkins, KF5LJG, and Sunita Williams, KD5PLB, will also be on the commercial spacecraft on later trips following the first test flights.

Behnken earned his license with help from the ARISS team at JSC in 2005. Hopkins got his license in 2011 and made ARISS school contacts in early 2014. Within the Amateur Radio community, however, he may be best known for installing the ARISS Ham Video system in 2014, shortly before wrapping up his ISS duty tour.

Glover has been studying for his ham radio license at Johnson Space Center with a little mentoring from ARISS team member Kenneth Ransom, N5VHO. Cassada spoke in person to students taking part in an ARISS contact at an ISS education conference in 2016, at the time

telling the ARISS team that he wanted to get his ham radio license.

Williams has supported a large number of ARISS contacts on the ISS throughout her career, and Ransom said that Williams "is already looking forward to talking to kids through ARISS during her tour of duty."

"The men and women we assign to these first flights are at the forefront of this exciting new time for human spaceflight," JSC Director Mark Geyer said. "It will be thrilling to see our astronauts lift off from American soil, and we can't wait to see them aboard the International Space Station."

AMSAT has issued the second call for papers for the 2018 AMSAT-NA Annual Meeting and Space Symposium.

The event is set for November 2 - 4 at the US Space and Rocket Center in Huntsville, Alabama. Proposals for papers, symposium presentations, and poster presentations are invited on any topic of interest to the Amateur Satellite community. Send (mailto:n8fgv@amsat.org) a tentative presentation title and abstract as soon as possible, with final copy by October 15 for inclusion in the printed Proceedings. Thanks to AMSAT News Service.



From The ARRL Newsletter Aug. 2018

Radio Amateurs Receive Images from Chinese Lunar Satellite

Some earthbound radio amateurs and sky watchers have received images from a tiny Chinese satellite now orbiting the moon. In May, China launched the DSLWP-A and DSLWP-B microsattellites — also known as Longjiang-1 and Longjiang-2 — into a lunar transfer orbit, although Longjiang-1 was apparently lost in the process and likely remains in deep Earth orbit. They were deployed as secondary payloads with the Queqiao relay satellite as part of the Chang'e 4 mission to the far side of the moon. DSLWP stands for "Discovering the Sky at Longest Wavelengths Pathfinder." The satellite will test low-frequency radio astronomy and space-based interferometry, and while it carries Amateur Radio and educational payloads, no transponder is aboard.

The Chang'e 4 mission will be the first-ever attempt at a soft landing on the far side of the moon. The Chang'e-4 lander and rover are scheduled to launch in December. The Harbin Institute of Technology (BY2HIT) developed and built the DSLWP spacecraft and is overseeing that mission. The microsat also carries optical cameras from Saudi Arabia.

An open telecommand protocol allows radio amateurs to take and download images. The spacecraft transmits on 70 centimeters (435.400/436.400 MHz) with 250/500 bps GMSK using 10 kHz wide FM single-channel data, with concatenated codes or JT4G. JT4 uses four-tone FSK, with a keying rate of 4.375 baud; the JT4G sub-mode uses 315 Hz tone spacing and 1,260 Hz total bandwidth.

According to an article in GBTimes (<https://gb-times.com/a-tiny-chinese-satellite-is-orbiting-the-moon-and-allowing-radio-amateurs-download-images>), Longjiang-2 (DSLWP-B) used its own propulsion system to slow down and enter

lunar orbit, while the relay satellite "continued past the moon to its special destination." Longjiang-2 has used a student-developed camera to take images of the moon, Mars, the sun, and other celestial objects. Data and images have been downloaded by hams and satellite tracking enthusiasts around the world, including the US, Brazil, China, the Netherlands, and Italy.

The Harbin Institute of Technology team also operates LilacSat-1, a 2U Amateur Radio CubeSat launched as part of the European QB50 initiative, and LilacSat-2 (CAS-3H), an Amateur Radio and technology test satellite.

The Queqiao communications relay satellite is required for the lunar far-side landing to facilitate communication with a not-yet-launched lander and rover because the moon's far side never faces Earth, and some significant scientific measurements from the dark side of the moon require real-time contact with Earth. Queqiao was developed by the China Academy of Space Technology (CAST).

The Harbin Institute of Technology Amateur Radio Club has invited more radio amateurs to get involved with the DSLWP mission, and QSL cards have been designed for different flight phases for amateurs who successfully receive telemetry or make contact.



From The ARRL Newsletter Aug. 2018

Digital Mobile Radio Hotspots May Be Interfering with Satellite Uplinks, AMSAT Reports

This week, AMSAT News Service (ANS) cited an August 27 report from AMSAT Vice President-Operations Drew Glasbrenner, KO4MA, saying that a digital mobile radio (DMR) signal has been interfering with the AO-92 (Fox-1D) satellite's 435.35 MHz uplink frequency. Glasbrenner said hotspots, repeaters, terrestrial simplex, and "anything not satellite" should never transmit in the segments 145.8 – 146.0 MHz or 435 – 438 MHz by international band plan. Well-known satellite enthusiast Patrick Stoddard, WD9EWK/VA7EWK, told ARRL that one DMR hotspot operating on the AO-92 uplink frequency in the St. Louis area has shifted to another frequency. But, he added, "I think there are still issues, since not all hotspots will report their frequencies and positions to websites such as BrandMeister or via APRS, where they appear on other sites such as <http://aprs.fi>."

"There are others surely operating near satellite uplinks," Stoddard added. "For many, the 435 – 438 MHz satellite subband is a big piece of quiet real estate in a busy part of the 70-centimeter band for weak-signal work, repeater links, amateur TV, and other possible uses."

Stoddard points out that FCC Part 97 addresses Amateur Radio operation in these segments, although regulations in many other countries may not be as detailed. §97.3(a)(7) defines Auxiliary Stations as, "an amateur station, other than in a message forwarding system, that is transmitting communications point-to-point within a system of cooperating amateur stations."

Stoddard said this would include remote bases, EchoLink and IRLP nodes, and hotspots used for digital voice modes, as well as stations using these hotspots and nodes. Auxiliary stations may

not transmit in the 145.8 – 146.0 and 435 – 438 MHz satellite subbands (among others in the 2-meter and 70-centimeter amateur bands), per §97.201(b).

§97.3(a)(40) defines a repeater as, "an amateur station that simultaneously retransmits the transmission of another amateur station on a different channel or channels." Stoddard said that because most hotspots operate on a discrete frequency, they would not qualify as repeaters, even if they operate like a repeater, per §97.205(b).

§97.101(a) stipulates, "In all respects not specifically covered by FCC Rules, each amateur station must be operated in accordance with good engineering and good amateur practice." Stoddard remarked, "Whether the hotspot is interfering with a satellite downlink in a particular area, or it is interfering with the satellite uplink affecting a much larger area, this would not be good amateur practice."

In addition to subbands where hotspots are not permitted, Stoddard said, §97.101(b) is also relevant. It states, "Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the Amateur Service frequencies. No frequency will be assigned for the exclusive use of any station."

Stoddard noted that frequencies used by satellites are usually incapable of being changed and are coordinated in advance of launch, while hotspots typically are frequency agile, and the frequencies used by those systems can be changed to avoid potential interference to satellites and other stations.

Thanks to AMSAT News Service, Patrick Stoddard, WD9EWK/VA7EWK

<https://www.amsat.org>

2018 Radio Expo

Northern Illinois' Largest Hamfest

Dealers!
Radios!
Computers!
Electronics!
Raffles!
Talk-In
Repeaters

Saturday
September 22nd, 2018

Boone County Fairgrounds
8791 IL-76, Belvidere, IL 61008
42°28.10' x 87°56.44'

Indoor Market 8am-3pm
Flea Market 6am-3pm
Breakfast - Lunch
Bring The Family
Hourly Drawings
VEC Testing 9am-Noon

147.255+ 114.8PL Rockford
444.725+ 107.2PL Rockford
(System Fusion)
147.150+ 107.2PL Chicago



RV's or Motor Homes
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Email wa9orc@gmail.com Chicago FM Club
Flyer on website <http://www.chicagofmclub.org> 1118 N. Carlyle Ct.
Arlington Heights, IL. 60004

CFMC reserves the right to make any necessary changes required
Vendor setup is Friday, September 21 from 9:00 - 4:00 PM with security over night.

The 66th W9DXCC Convention

**Friday-Saturday
September 14-15, 2018
Hyatt Regency Schaumburg
Link - www.w9dxcc.com**

2018 Banquet Speaker

We are pleased to announce that our 2018 Banquet speaker will be Bob Schenck, N200. Bob is a veteran DXer, DXpeditioner and QSL manager, and is CQ magazine's DX Editor.

Licensed in 1965 as WN2RJJ, Bob's introduction to ham radio was the annual Novice Roundup contest, and he has been hooked on DXing and contesting ever since. He is a veteran of more than two dozen DXpeditions to over a dozen countries. He has served as a QSL manager for over 100 DX stations and another 100-plus DXpeditions for more than 35 years. Bob is the founder of the QSL Managers Society, which serves as a single point of contact for stations seeking a QSL manager, works to preserve old DX and DXpedition logs, and promotes a code of ethics among QSL managers.

Bob was inducted into the CQ DX Hall of Fame in 2008. He is president of the International DX Association (INDEXA), president of the South Jersey DX Association, a charter member of the Old Barney Amateur Radio Club, and is trustee of a local repeater. He lives in Tuckerton, New Jersey, with his wife Beth, KF2BQ, and is a father and grandfather.

We look forward to Bob sharing his experiences - "DXpeditions My Way" - with us at W9DXCC 2018.

2018 Programs: Great Things To Do When Conditions Are Poor

We are in the tweens -- the period between sunspot highs and lows. This is when the high bands are poor and unpredictable and the low bands have yet to come into their own.

So what's a DXer to do?

Plan a DXpedition -- What Happens If?

Glenn Johnson WØGJ

Go to an Island -- Baker Island

Don Greenbaum N1DG

FT8 DXpedition Mode -- Will DXing Ever Be the Same?

Ned Stearns AA7A

Kosovo Became a New DX Entity Jan 22, and How I Got There

Jim Fenstermaker K9JF

Save Puerto Rico One QSO at a Time

Val Hotzfeld NV9L

Plan Your Year -- Propagation Update

Carl Luetzelchwab K9LA

Everything I Ever Needed To Know About Amateur Radio I Learned From My Elmer -- And Other Popular Myths

Dan Henderson N1ND

ARRL Forum

Kermit Carlson W9XA
Carl Luetzelschwab K9LA
Ron Morgan AD9I
Dick Isely W9GIG
Dan Henderson N1ND

RARA Membership Form

If you would like to join the Rockford Amateur Radio Association, please fill out the form below and mail it (with the membership fee payment) to the address shown at the bottom of the form. If you would like to join at our next meeting (see cover for meeting details), fill out the form and bring the form with your payment to the meeting and see our treasurer, Jennifer Van Zieleghe, KD9FMJ.

Thank you for your support!



MEMBERSHIP APPLICATION

website: w9axd.org

Membership Type: New Renewal

Annual Fees: \$20 - Student (up to age 24)

\$35 - Adult \$25 - Senior (age 62+)

Above rate includes the
RARA monthly newsletter, Ham Rag, via email
Ham Rag via USPS: \$12 extra

Name: _____

Call Sign: _____

Email Address: _____

Address: _____

Town: _____ State: _____ Zip: _____

Home Phone #: _____ Work #: _____

Cell #: _____ Ext: _____

Radio Interests: _____

May we make your phone and e-mail available for other RARA members only? Yes No

Comments: _____

RETURN THE COMPLETED FORM TO:
ROCKFORD AMATEUR RADIO ASSOCIATION
P.O. BOX 8465
ROCKFORD, ILLINOIS 61126

All membership applications to become either a new member or to be reinstated as a member of RARA must be approved by the RARA board.

Approved: _____ Membership Year ____/____/____ to ____/____/____