The Hellgate Static
April 2019

Hellgate Amateur Radio Club
P.O. Box 3811, Missoula, MT 59806-3811

Inside this issue:

Officers:

President: Mike Leary, K7MSO
Vice-President: Eric Sedgwick, NZ7S
Treasurer: David Herzberg, K7MTD
Secretary: Donna Pecastaing, KC5WRA

Standing Committees:

Emergency Coordinator: Jerry Ehli, N7GE
QSLs, Awards: Bob Henderson, N7MSU
Webmaster: Mike Leary, K7MSO
Static Editor: Terry Cook, KF7BQ
Radio License Exams Contact VE:
Paul Shuey, N7PAS

Repeater Advisory Committee:

Eric Sedgwick NZ7S (Chair)
David Herzberg, K7MTD
Tom Mc Ginley, K7QA
Tom Hellem, K0SN
Paul Shuey, N7PAS

Upcoming Events

- 14 April – Grizzly Triathalon
- 27 April – Riverbank Run
- 8 June Trail Rail Run
- 22-23 June – Field Day
- 30 June – Missoula Marathon
- 4 July – W7PX Special Event Station
- 18 -19 October – Boy Scout Jamboree on the Air
- 6-7 December – Skywarn Recognition Day
- 9 December – Christmas Dinner

April Meeting Program

This interesting program looks at the future of amateur radio public safety disaster communications.

Mesh technology has been around for over ten years. Over the past two years developers on the AREDN™ team have advanced the art by porting Broadband-Hamnet's extremely popular mesh firmware to the Ubiquiti airMAX line of commercial Wireless ISP routers. This has literally changed the complexion of mesh implementations from an experimental, hobby-oriented, novelty into a viable alternative network suitable for restoring some degree of Inter/intra-net connectivity "when all else fails."

More recently, the developers of this software have kicked-off a new project, AREDN, focused on taking this technology to the next level in EMCOMM communications.

AMATEUR RADIO EMERGENCY DATA NETWORK

The typical Emcomm message-passing scenario today involves the sender conveying the message to a ham, who transcribes it onto an ICS-213 form. Then the message is spoken over VHF/UHF radio to another ham who writes it down on another ICS-213 form. The form is then delivered to the recipient, who reads it and signs it. The acknowledgement is then conveyed back over the radio to the sending ham who confirms the receipt to the originator.

Emcomm "Customer" expectations aren't being met. Customer expectations differ wildly from this. They expect the continued use of tools with which they are accustomed: email, phone service, chat, and other web-based tools specific to their roles within the organization.

Over $4B in ham-compatible radios is sold to non-hams each year and most hams wouldn't recognize them to be ham radios. These devices follow the 802.11 standard and operate in several of our microwave bands. They are all around us, and coupled with the privileges our license offers, we should be using this technology to deliver on these customer expectations.

So what is AREDN?

AREDN is an RF network mesh of radio/routers operating under the FCC rules, Part 97 in the ham microwave bands, controlled by hams with a Tech license or higher. It is a high-speed data network with rates of up to 54 Mbps designed to provide a TCP/IP medium when other network infrastructure has failed. While technically capable, it is not intended to be a general Internet access alternative.

AREDN replaces the manufacturer's operating system with the following major components:

- OpenWRT, an OpenSource wireless routing framework onto which custom applications can be built

- OLSR (Optimized Link State Routing Protocol), an IP routing protocol optimized for dynamic ad hoc networks

- Web-based GUI for node configuration

- Automatic device-specific TCP/IP network configuration based on the device MAC address
  The primary objectives of the project are to empower the typical ham to become a deployable part of the network by simply installing the firmware, entering the station's call-sign and an administrative password, and then pointing the node's antenna toward an existing network node. The secondary objectives are to provide a means to monitor & manage the network and to specify a set of operational standards & services for Emcomm's utilization of the technology.

To date this technology has attracted 3 very different user types:

1. Look at the cool things you can do! They're intrigued by the autonomous nature of the network and quickly setup neighborhood networks for gaming, VoIP, etc. They tend to attract other computer types who may be enticed into Ham Radio as a result.

2. Applying it toward a need. These guys weren't looking for it, but see the value in it and apply it toward a specific need, such as Field-Day logging, race support, surveillance cameras, etc.

3. Those who have longed for it... To these guys, the technology is game-changing. They are in the process of exploiting it by building infrastructure around it.

This last type include the Emcomm guys. They are the primary target of this technology and the focus of the AREDN™ Project.

Please consider attending the April 8th HARC Meeting to learn more about the future of amateur radio disaster emergency communications.

WWV Adds MARS/Amateur Radio Information to Broadcast Format

After about 4 months of negotiation and coordination, DOD will have a provisional voice broadcast timeslot on WWV and WWVH from April 20 to 3 May which coincides with NORTHCOM Vital Connection Wisconsin. The DOD time slot on WWV will be at 10 minutes past the hour and at 50 minutes past the hour on WWVH. Future timeslots will coincide with NORTHCOM Vital Connection Ohio in June; DOD COMEX 19-3 in Aug, DOD COMEX 19-4 in Oct and NORTHCOM Vital Connection AZ in December.

Following the proof of concept this year, we anticipate that the DOD broadcast time slot will become year-round full time.

This broadcast timeslot will voice announce upcoming exercises and how the amateur radio community can become involved in various exercises. To begin, the broadcast messages will likely be static...future exercises we hope to be able to update the broadcast throughout the exercise as notional conditions change.

The broadcast message will ask listeners to provide reception reports and feedback to a specified URL.

As we build out this concept of operation, this capability can become a key communications player in a worst day type of scenario.
Thanks for all you do

Paul English
NETCOM G3/5 CUOPS ATSO HF/LMR

FCC Invites Comments on Technician Class License Enhancements

The FCC has invited public comments on ARRL's 2018 Petition for Rule Making, now designated as RM-11828, which asks the FCC to expand HF privileges for Technician licensees to include limited phone privileges on 75, 40, and 15 meters, plus RTTY and digital mode privileges on 80, 40, 15, and 10 meters. Interested parties have 30 days to comment. The Technician enhancement proposals stemmed from the recommendations of the ARRL Board of Directors' Entry-Level License Committee, which explored various initiatives and gauged member opinions in 2016 and 2017.

Specifically, ARRL proposes to provide present and future Technicians with:

- phone privileges at 3.900 to 4.000 MHz, 7.225 to 7.300 MHz, and 21.350 to 21.450 MHz.
- RTTY and digital privileges in current Technician allocations on 80, 40, 15, and 10 meters.

HARC 2019 Membership Dues

Hellgate Amateur Club primarily on membership dues for funding for our repeaters and other projects. If you haven't paid your 2019 dues, please contact our Treasurer, David, K7MTD, at the April Meeting, or you can mail a check to the Hellgate Amateur Radio Club, P.O. Box 3811, Missoula, MT, 59806-3811.

7th Area QSO Party May 4th 2019

7QP is an amateur radio contest, held annually on the first Saturday in May. The stations of the US 7th call area (Arizona, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming) become "the pursued", and the rest of the US, Canada, and the world tries to work as many of us, on as many bands/modes as possible, over an 18-hour period commencing at 6:00am Pacific Time (1300 UTC).

In the 2015 7QP, nearly 1200 stations in the 7th call area participated, and more than 6500 stations from elsewhere, including stations from more than 80 countries.

The Organizers' Goals

For the stations outside of the 7th call area, the overall number of counties worked is the score "multiplier", giving those operators a large incentive to seek out and work as many counties as possible.

For the organizers of 7QP, a key objective is to get as many of the 259 counties in these eight states activated for at least some of the contest by promoting serious "roving" mobile operation and county-line stations, plus arm-twisting the casual-operator fixed stations in under-populated counties. The challenge is that the 7th call area includes many of the most sparsely populated counties of the United States!

County size and highway accessibility is a challenge to activating a lot of counties via mobiles. Weather can also be a challenge in the northern states at higher elevations in early May.

We've been partially successful in our efforts to activate counties. Despite our best efforts, we've never had more than 209 counties activated in any single 7QP, and there are still some counties that have never been active so we still have plenty of room to grow and expand the contest.

For additional information about 7QP, see the February issue of "The Hellgate Static"or visit
http://7qp.org

NASA Is Accepting Applications For ARISS

Starting on April 1, Amateur Radio on the International Space Station (ARISS) will accept applications from

US schools, museums, science centers, and community youth organizations (working individually or together) interested in hosting contacts with orbiting crew members on the International Space Station (ISS). Contacts will be scheduled between January 1 and June 30, 2020.

Each year, ARISS provides tens of thousands of students with opportunities to learn about space technologies and communications through Amateur Radio. The program provides learning opportunities by connecting students to astronauts aboard the ISS through a partnership between ARRL, AMSAT, and NASA, as well as other Amateur Radio organizations and worldwide space agencies. The program's goal is to inspire students to pursue interests and careers in science, technology, engineering, and mathematics (STEM) and Amateur Radio.

HARC 2019 Proposed BUDGET

				Actual 2018
Beginning Balance 12/31/2018		$4,811.85		
Event Expenses				
Fourth of July	$70.00			17.99
Field Day	300.00			55.64
River Bank Run	80.00			52.00
Griz Triathlon	80.00			92.18
Skywarn	50.00			0.00
Missoula Marathon	110.00			108.95
Supplies				50.00
Total		$690.00		$376.76
Fixed Expenses				
PO Box Rent	$92.00			82.00
Treasurer Supplies	35.00			13.48
Secretary Supplies	25.00			
Static Mailing	200.00			48.75
Static Copies	300.00			
File 501c3 Report (State)	20.00			20.00
Safety Deposit Box	40.00			40.00
Total		$712.00		$204.23
Repeater Repairs				
Repeaters	$1,000.00			85.87
80 Repeater Fund	200.00			200.00
Radio Equipment Maintenance				629.17
Total		$1,200.00		$915.04
Total Expenses			$2,602.00	
Donations Recieved				
Missoula Marathon				
Equipment Sales				165.00
Cash Donations				55.00
Total		$0.00		$220.00
Dues Recieved				$1,365.00
25 members @ $35 ea.	$875.00			
Total		$875.00		
Total Income			$875.00	$1,585.00
Income Less Expenses			-$1,727.00	
Ending Balance			$3,084.85	

Classified Advertisements

Collins HF 80xx Equipment for Sale

Selling Vietnam war era portable radio set container contents.

Included are two each: HF8054A receiver, HF-8014A transmitter, HF-8064B preselector, HF-8023 1 KW solid state amplifier, HF 8032 power supply, HF 8040A antenna coupler.
One each items: power control panel, jack field plug panel, monitor/switching panel, VOX/Control/Modem panel. set of 6 manuals.

Two antenna coupler control cables and other stuff are included

All transmitter and receiver functions and frequency selection can be controlled through an RS-232 port. I used a laptop computer and it worked great! The control codes are in the included manual set. The HF-8032 amplifier power supplies are for 3 phase. They also work just fine on single phase. This equipment is in Missoula, MT.

If you are interested, please make an offer.

Call Dave at 406 543-73niner fiver K7PGY

March 2019 Attendance and Tentative Meeting Minutes

Introductions / attendance: Donna Pecasting KC5WRA, Jackie Harrington KC7RBC, Terry Cook KF7BQ, Bryce Nordgren AF7RQ, Jim Hofman N5CY, Larry Stipe K7GIS, Tom Hellem K0SN, Tom McGinley KF7QA, Dick Walton W7XT, Bryce Rowe KI7LMV, Dan Somerlott KI7HLW, David Herzberg K7MTD, Paul Shuey N7PAS, Rich Kingdon K7QNZ, John Sperry KB7JWS/AE, Eric Sedgwick NZ7S,

License Exams: Three candidates, two passed their Extra exams and one candidate passed his Technician, General and Extra exams in one sitting.

Approval of last months meeting minutes: Approved after correcting Rich Kingdon,s callsign to K7QNZ. Moved by Donna, Seconded by Rich.

Treasurer Report: By David, approved. Motion by Donna, Seconded by Paul.

Repeater Committee Report: By Paul, 147.040 repeater still has problems receiving. Waiting for snow and ice to go away to diagnose the cause.

HF Committee Report: **(a.)** Dick explained that Barry Smith, who passed away last year, left a large quantity of amateur radio equipment. Barry's wife will be moving to Arizona soon, and may donate some of the equipment that has not been sold, to our club. We would provide her with a receipt for the equipment, and the club could use or sell the equipment as it sees fit. We would need to have the material moved from her property by May 1st. Tom McGinley offered to store the equipment at a storage unit until disposition of same. A committee consisting of Tom McGinley, Tom Hellem, Dick Walton and Rich Kingdon was appointed to administer the project.

(b.) Dick spoke about possible locations for Field Day. The HF Committee will explore options for a optimal location and we will make a decision at the April meeting.

New Business: David would like to make the budget more accurately describe expenses that we can forecast in advance. He will prepare a prospective budget to be published in the April Hellgate Static. We will discuss the budget at the April Meeting.

There was also some discussion about how we can increase membership in our organization. Paul will Check with W5YI-VEC to see if we can use the Email addresses provided on applications to promote club membership.

VHF Net NCS assignments:

13 March - Dave K7MTD
20 March - Eric NZ7S
27 March - Brice AF7RQ
03 April - Donna KC5WRA

Next Meeting: April 8th