



THE OHM TOWN NEWS

Voice of the Bridgerland Amateur Radio Club

>>>>>>> <https://www.barconline.org> <<<<<<<<

October 2017

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ARRL Affiliated



PRESIDENT'S MESSAGE

The September issue of QST contained an article on 'Applying the Lesson of Field Day All Year Long' by Mike Corey KI1U who is the ARRL Emergency Preparedness Manager. He started his article by saying that 'Field Day is a beloved combination of Amateur Radio education, contests, public service experimentation and fellowship'. Another word he should have added was 'fun'.

For me, Field Day is an adventure in applying what I know in setting up remote stations, getting them working, and also learning from others on their remote station setup. For example the awesome trailer and radio equipment setup that Theo Thomson K7TWT has. It is configured so it can be used anywhere anytime. Theo can setup and get the equipment going but it goes a lot faster if he has help in the setup. Same goes with the Field Day setup. We use various radios connected to laptops that allow for logging contacts. The laptops are networked so that each radio station can see the contact log information from all the stations. For the antennas, we have various ways of putting them up by using the spud gun to string guy lines in the trees to elevate the antennas or using a vertical mast for the antenna. One person would have a difficult time, but a group that helps out makes it a lot quicker to get the antennas up. The setting up of the radios, antennas, laptops, logging software, and getting the network running all takes time. Individuals helping to complete those tasks for the Field Day operations are gaining experience in what is needed for setup, operating, and teardown of any remote stations.


Once the radio equipment and the antennas are set up, the Field Day stations are ready for making contacts. The listening and operating skills might be a little unpracticed if they haven't been used since the previous Field Day. But with a little time and practice, making contacts becomes easier. To keep in practice with listening and making contacts, there are many events throughout the year that an individual, club, or group can participate in like the CQ World Wide SSB and ARRL Phone Sweepstakes. Contests are a good way to help improve listening and operating skills throughout the year.

In all, the lessons we learn at Field Day and other radio activities/events improve our ability as a radio amateur and as a public service volunteer. In our "Communication Toolbox", which is our radio antennas, and our skill and knowledge, it is important to continue to improve our radio skills whenever we can.

73

Cordell
KE7IK

UPCOMING 2017 ACTIVITIES

- 11 Oct, 7:30 PM - ARRL Rocky Mountain Division Net** 147.200/IRLP Node:9871
- 12 Oct, 7:00 PM - ARRL VEC License Test Session @** BTC on 600 West, Logan Room 840. ([More Info Here](#))
- 14 Oct, Swaptoberfest** — In place of Club Meeting for October ([Info on page 4](#))
- 18 Oct, 7:00-9:00 PM** — Cache County **ARES meeting** at the Sheriff's Office
- 19 Oct, 8:00 PM RACES VHF Net** 449.650 pl 100.0 Mt. Pisgha 147.180 Snowbird 147.20 IRLP
- 20-22 Oct, JOTA-JOTI** — Jamboree on the Air—Jamboree on the Internet
BARC not participation as a club this year. ([General Info](#))
- 28 Oct, 3:00 PM - ARRL VEC License Test Session @** BTC on 600 West, Logan Room 840. This test follows the one day Technician License class from 8 to 3. ([More Info Here](#))
- 04 Nov, 8 AM—5 PM - Utah State RACES Conference** — Davis Conference Center, Layton, UT (sign up at <https://www.utah.train.org/>)
- 08 Nov, 7:30 PM - ARRL Rocky Mountain Division Net** 147.200/IRLP Node:9871
- 11 Nov, BARC Club Meeting** - Making your own QSL cards - Quintin Gardner
Also will include elections for BARC club leadership for 2018
- 15 Nov, 7:00 PM** — **Cache County ARES Meeting** Cache County Sheriff's Office 
- 18 Nov, 8:00 AM** — **RACES HF Net** 3920 KHz
- 02 Dec, 8:00 AM - ARRL VEC License Test Session @** BTC on 600 West, Logan Room 840. ([More Info Here](#))
- 06 Dec, BARC Club Meeting/Christmas Party**
- 13 Dec, 7:30 PM - ARRL Rocky Mountain Division Net** 147.200/IRLP Node:9871

For more calendar information see the barconline.org/calendar

Local Radio Nets:

The **Weekly BARC net** is for BARC members and anyone else that would like to check in, held **every Tuesday night at 9:00 P.M.** local time on the Mt Logan BARC Repeater and Linked Systems (146.720)

The **ARES** monthly net is the **1st Tuesday** of each month on 146.720 at **8:00 P.M.**

All ARES members are invited to check in and participate

The **BARC Ladies Net** is every **2nd and 4th Tuesday** at **8:00 P.M.** on 146.720 and all licensed lady amateur operators are invited to check in



BRIDGERLAND AMATEUR RADIO CLUB

Online

SwaptoberFest

Saturday October 14th, 2017, 8:00 AM -Noon



146.72 PL 103.5 * Intertie 449.650 PL 100 * DMR 447.000/447.125

*** B T C West Campus – East Doors ***

1400 North 1000 West Logan, UT- 7:00 AM Set Up

Refreshments

Admission & Tables Free





Cache Valley

EMERGENCY PREPAREDNESS

FAIR

**Saturday October 7, 2017
9 AM-5 PM**



Green Canyon High School

2960 Wolf Pack Way
North Logan, UT 84341
(3000 N & 100 E, North Logan)



**Classes,
Presentations,
Kids booths,
Door prizes
and more!**

Free Admission

Questions?!
Call Lynn Wright 435.535.5767 or
Brittany Andrus 435.363.5692

FUN FOR ALL

*Classes taught
throughout the day
including:*

**Mark Anderson (Anderson
Seed and Garden)**

USU extension services

Pandemics

The Bridgerland Amateur Radio Club

ONE DAY HAM LICENSE CLASS



October 28th, 2017
8:00 am – 5:00 pm
Bridgerland Technical College
Room 840
www.barconline.org/licensing/



If you wanted to get an amateur radio license but never had the time, now is your opportunity! The FCC has changed the rules so that Morse code proficiency is not required. To obtain the entry-level Technician license, all one has to do is pass a multiple-choice exam. With a Technician Class License, one may participate in Amateur Radio and enjoy privileges for operation on the HF amateur bands, use of VHF & UHF repeaters, participation in local Amateur Radio Emergency Services (ARES), the annual American Radio Relay League (ARRL) Field Day, and many other activities.

The course will step through the information needed to pass the FCC Technician License exam. Preparation prior to participation in the course and the exam is strongly encouraged. More Information and study guides can be found at: <https://barconline.org/licensing/> or email one_day@barconline.org

Two forms of identification (at least one must have your photograph) will be required to take the exam. All license exams will be offered (Technician, General and Extra) at this testing session. If upgrading bring original and photocopy of current license. \$15.00 test fee; cash preferred, checks ok, no credit cards
<https://barconline.org/licensing/>



The ARRL Letter for September 21, 2017 Amateur Radio Emergency Net Active in Wake of Earthquake in Central Mexico



The FMRE National Emergency Net (Red Nacional de Emergencia or RNE) activated Tuesday on 7.060 MHz following a magnitude 7.1 earthquake in the central Mexico state of Puebla at 1814 UTC. The epicenter was some 75 miles southeast of Mexico City, which also felt the temblor and suffered damage.

FMRE President Alfonso Tomez, XE2O, said participation from Mexican radio amateurs has been excellent, and two mobile communication units have been deployed, one south of Mexico City, where communication problems have been reported, and the other in communities surrounding the city, where communication problems exist. A FMRE representative has been stationed in the emergency operations center in Mexico City as well. Most of the traffic, Tomez said, has involved missing persons.

The FMRE National Emergency Net also may use 3.690 MHz and 14.120 MHz as well as IRLP reflector 9200 channel 08, and *EchoLink*.

Tomez said communication problems persist because of the heavy volume of calls and message traffic over the cell telephone networks. Around 300 people have been killed and 30 buildings collapsed, he said. The earthquake came 32 years to the day after a 1985 magnitude 8.0 earthquake struck Mexico City, killing some 9,500 people in and around the capital city. Just one week ago, a magnitude 8.1 earthquake struck off Mexico's southern coast, killing more than 60 people and causing considerable damage.



FCC Opens 630- and 2200-Meter Bands; Stations Must Notify UTC Before Operating

The FCC has announced that the Office of Management and Budget has approved, for 3 years, the information-collection requirement of the Commission's March 29 *Report and Order* ([R&O](#)) that spelled out Amateur Radio service rules for the two new bands -- 630 meters (472-479 kHz) and 2200 meters (135.7-137.8 kHz). Notice of the action appeared in the September 15 edition of the *Federal Register*. Before using either band, stations must [notify](#) the Utilities Technology Council ([UTC](#)) that they plan to do so. If UTC does not respond within 30 days, they may commence operation.



On March 27, 2017, the FCC adopted the 2012 World Radiocommunication Conference (WRC-12) implementation *Report and Order* ([ET Docket 15-99](#)), amending its Amateur Radio rules to -- in the FCC's words -- "provide for frequency-sharing requirements" in the two bands. Section 97.313(g)(2) of the new rules requires

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that, prior to starting operation in either band, radio amateurs must notify UTC that they intend to operate by submitting their call signs, the intended band(s) of operation, and the coordinates of their antenna's fixed location. The new rules do not permit any mobile operation.

"Amateur stations will be permitted to commence operations after a 30-day period, unless UTC notifies the station that its fixed location is located within 1 kilometer of Power Line Carrier (PLC) systems operating on the same or overlapping frequencies," the FCC said. PLC systems are unlicensed. "This notification process will ensure that amateur stations seeking to operate [on 630 or 2200 meters] are located beyond a minimum separation distance from PLC transmission lines, which will help ensure the compatibility and coexistence of amateur and PLC operations, and promote shared use of the bands."

ARRL 630-Meter Experiment Coordinator Fritz Raab, W1FR, advised radio amateurs who anticipate using either band to read the *Federal Register* posting "to understand frequencies, power limitations, and operating modes permitted." Experimental Group participant Ed Cole, KL7UW, has been operating as WD2XSH/45 with 100 W into a 43 × 122-foot base-loaded inverted L, achieving about 3 W ERP. In a message to the Top-band Reflector, Eric Tichansky, NO3M, noted that during his operations as part of the ARRL Experimental Group and with his own FCC Part 5 Experimental license, he enjoyed "many cross-country QSOs at QRP power levels" using a 67-foot top-loaded vertical that shares the radial field for his 160-meter antenna. The [Antennas by N6LF](#) website offers more information.



HamSCI Presents Initial Eclipse Results at ARRL-TAPR Digital Communications Conference

At the 36th annual ARRL and TAPR Digital Communications Conference ([DCC](#)), held September 15-17 in St. Louis, members of the HamSCI group presented preliminary evidence that the August 21 solar eclipse had a significant effect on HF propagation. The DCC is geared toward technically minded Amateur Radio operators who specialize in building and designing hardware and software to support digital communication and radio.

In their presentation, "[HamSCI and the 2017 Total Solar Eclipse](#)," HamSCI members Nathaniel Frisell, W2NAF; Bill Engelke, AB4EJ; Josh Katz, KD2JAO; Spencer Gunning, K2AEM, and Josh Vega, WB2JSV, showed initial results of the Solar Eclipse QSO Party (SEQP) and other HamSCI eclipse experiments. Their presentation demonstrated that the number of 14 MHz Reverse Beacon Network (RBN) spots decreased, while the number of 1.8 MHz and 3.5 MHz spots increased during the eclipse totality. The HamSCI researchers say this suggests a decrease in both maximum usable frequency (MUF) and D-layer absorption during the eclipse.



John Ackermann, N8UR, described his work in making wide-band recordings during the eclipse in his presentation, "How to Fill a Terabyte Disk: Using Software Defined Radios in the HamSCI Solar Eclipse Experiment."

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From left to right, NJIT Research Professor Nathaniel Frissell, W2NAF, and NJIT students Josh Vega, WB2JSV; Spencer Gunning, K2AEM, and Josh Katz, KD2JAO, with TAPR President Steve Bible, N7HPR, at the 36th Annual ARRL and TAPR Digital

In addition to the conference presentation, three New Jersey Institute of Technology (NJIT) HamSCI papers were included in the conference *Proceedings*. "[HamSCI and the 2017 Total Solar Eclipse \(Experiment Description\)](#)," by Frissell et al., details the procedures for the HamSCI eclipse experiments. "[The H.A.R.C. Database and Visualization Utilities](#)," by Katz et al., describes a database for unifying RBN, PSKReporter, WSPRNet, and other Amateur Radio propagation data in one place for research purposes. Vega's "[Developing a Solar Eclipse Simulation for Greater Good](#)" describes how to simulate the SEQP using the *PHaRLAP* raytracing toolkit and [SAMI3 model of the eclipsed ionosphere](#).

HamSCI team members announced that the HamSCI Workshop will be held at NJIT in Newark on February 23-24.

JOTA 2017 Organizers Urge Scout Stations to Register Now

Scouting's Jamboree on the Air/Jamboree on the Internet (JOTA/JOTI) event takes place over the October 20-22 weekend, and organizers are urging Scout stations planning to participate to [register](#) now. The world JOTA-JOTI team has activated its online sign-up system.

"Our number one message at this time is to register their station and get ready for [JOTA](#)," JOTA Coordinator Jim Wilson, K5ND, told ARRL. "It's time for Scout groups to bring together their open action items -- ordering patches, printing handouts, gathering equipment, reminding staff members, verifying location, and getting the word out to the Scouts to be prepared for a fabulous experience talking with other Scouts across the country and hopefully around the world."

JOTA is the world's largest Scouting event, held annually over the third full weekend in October, and Scouts of any age can participate -- from Cub Scouts to Boy Scouts and Venturers, male and female. During JOTA, Amateur Radio links Scouts with other Scouts and hams, locally and worldwide. Since the first JOTA in 1958, millions of Scouts have met each other through this event to exchange ideas and share experiences via ham radio. Many contacts made during JOTA have resulted in enduring friendships and connections.

According to the World Scout Bureau, the 2016 JOTA had nearly 1.3 million Scout participants from more than 30,000 locations, and reached 156 countries.



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The World JOTA-JOTI team has published a [Participant's Guide](#) to help Scouts to get on the air and the internet for the largest Scouting event in the world. They've also published a brief history of the [60 years of Jamboree on the Air](#) as well as the [Top 10 Challenges and Activities in 2016](#) that might provide ideas for your event this year. An [online scheduling tool](#) is available too.

For participating via *EchoLink*, two conference nodes now have been designated for Scout contacts -- *JOTA-365* (node 480809) and *JAMBO* (node 832996). Visit the K2BSA Radio Scouting page for [more information](#) on frequencies, including D-STAR, DMR, and IRLP.

The ARRL Letter for September 28, 2017

Advisory: Requests for Information from the Public and the Press

Many individuals have loved ones in Puerto Rico, and they are understandably hopeful that Amateur Radio operators can relay messages to them. As a result, some are contacting amateurs with requests to pass message traffic to the island.

At the same time, individual amateurs and clubs have reported that local media representatives have contacted them to request information about Amateur Radio involvement in Puerto Rico. This likely will increase as word spreads in the national media about our activities.

For inquiries from the public, ARRL advises that these individuals be informed that amateurs traveling to Puerto Rico to support the American Red Cross effort will be tasked with handling outbound traffic *only*. Members of the public concerned about family and friends in Puerto Rico should access the American Red Cross [Safe and Well Website](#). Status information from friends and relatives in Puerto Rico will be entered into the system as it arrives from amateurs stationed there.

For media inquiries, please ask reporters to [contact ARRL directly](#). A system has been established at ARRL Headquarters to respond to media inquiries in a timely and accurate manner.



"Force of 50" Steps Up to Assist Hurricane-Ravaged Puerto Rico

Members of the Amateur Radio community have volunteered to assist in the ongoing recovery from Hurricane Maria, which devastated Puerto Rico and Dominica and, to a lesser extent, the US Virgin Islands. This week, 50 of the most accomplished US radio amateurs responded within 24 hours to a call from the American Red Cross (ARC) to deploy to Puerto Rico and provide emergency communications assistance there. At the ARC's request, ARRL rallied the US Amateur Radio community to provide up to 25 two-person teams of highly qualified hams. ARRL CEO Tom Gallagher, NY2RF, said that more than 350 answered the call, from nearly every state.

"This generous outpouring of response represents the finest qualities of the Amateur Radio community," he said. "These individuals are dropping whatever they are doing now, heading off to an extended hardship-duty assignment, and offering their special talents to Americans who have been cut

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off from their families, living amid widespread destruction and without electrical power since Hurricane Maria struck the Caribbean region last week."

The group's principal mission will be to move health-and-welfare information from the island back to the US mainland, where that data will be entered in the Red Cross [Safe and Well](#) system. The Salvation Army Team Emergency Radio Network ([SATERN](#)) has been asked to assist these operators when they check in with tactical, health-and-welfare (H&W), and Safe and Well messages.

SATERN and other active nets are not accepting incoming H&W inquiries. The Caribbean Emergency and Weather Net (CEWN) is taking incoming H&W inquiries via e-mail [for Dominica](#). The Puerto Rico Federal Affairs Administration (PRFAA) is taking inquiries (only one per sender) via e-mail [for Puerto Rico](#). Inquiries should include the full name and location of both the sender and the individual(s) being sought and the sender's e-mail address.

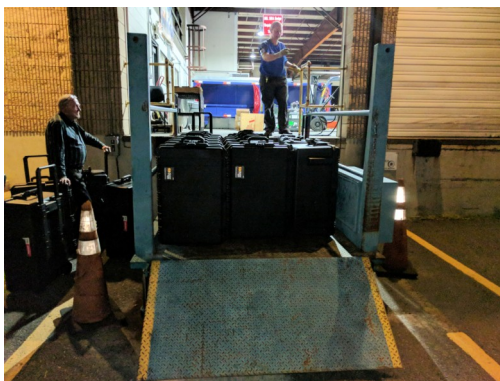
The group will be in Puerto Rico for up to 3 weeks. ARRL has equipped each team with an HF transceiver, software, a dipole antenna, a power supply and all connecting cables, fitted in a rugged waterproof container. In an unprecedented and crucial move, the Federal Emergency Management Agency (FEMA) agreed to help get the Ham Aid gear to Puerto Rico.

The League also is sending two VHF repeaters, a dozen hand-held transceivers, five mobile radios, what Gallagher described as "5 cubic feet of batteries," a number of small 2-kW portable generators, and solar-powered battery chargers. The hams and their equipment will be sent to Red Cross shelters extending from San Juan to the western end of the island.

In addition, ARRL has committed to purchasing up to \$50,000 worth of new Ham Aid gear for this and for future emergencies.



Denis Santiago, WP4KJJ (right), and Raul Gonzalez, KP4RGD, organized the communication network in Puerto Rico and operate the station at American Red Cross's temporary San Juan headquarters, "with a great number of hams who left their families to help Puerto Rico to recover," ARRL Puerto Rico Section Manager Oscar Resto, KP4RF, told ARRL.



Ham Aid kits are packed and ready for shipping at ARRL Headquarters.

ARRL's Emergency Preparedness Manager Mike Corey, KI1U, said this was the first time in the nearly 75-year relationship between ARRL and the ARC that such a request for assistance had been made. "Hurricane Maria has devastated the island's communications infrastructure," Corey said. "Without electricity and telephone, and with most of the cell sites out of service, millions of Americans are cut off from communicating. Shelters are unable to reach local emergency services. And, people cannot check on the welfare of their loved ones. The situation is dire."

The [Yasme Foundation](#) announced this week that it has made a grant to ARRL's [Ham Aid](#) fund, in support of the

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Amateur Radio response to the recent hurricanes in the US and Caribbean. The Ham Aid fund was created in 2005 in response to the need for equipment and resources to support the Amateur Radio response to hurricanes Katrina, Rita, and Wilma.

A September 27 [CNN report](#) documented the personal impact of the storm on Puerto Rico and Amateur Radio's role in the recovery.

How You Can Help

ARRL President Rick Roderick, K5UR, has asked for contributions to ARRL's [Ham Aid](#) fund. "Equipment has been flying out the door since Hurricane Harvey struck the US mainland," he emphasized. "From meeting requirements in aid of Hurricane Irma victims in the US Virgin Islands and Florida, our store of Ham Aid kits has been depleted."

ARRL's Ham Aid program loans Amateur Radio equipment kits to established Amateur Radio Emergency Service (ARES®) groups and partner agencies during disaster responses, in order to establish Amateur Radio communication support. Ham Aid is supported by donations from individuals and corporations, including many of our ham radio industry partners.



ARRL has previously staged Ham Aid equipment in Texas as well as supplied kits to Florida, the US Virgin Islands, and Puerto Rico. With the Ham Aid inventory depleted, donations are needed now. Contributions to Ham Aid are 100% tax deductible. To donate online, select "Ham Aid" from the [ARRL donation form](#). To donate by mail, print a donation form, and mail it with your check payable to ARRL, noting "Ham Aid" on the memo line of your check. Mail to ARRL, 225 Main St., Newington, CT 06111 USA.



Questions for The Extra Class License

1. (E1D02) What is the amateur satellite service?
 - A. A radio navigation service using satellites for the purpose of self training, intercommunication and technical studies carried out by amateurs
 - B. A spacecraft launching service for amateur-built satellites
 - C. A radio communications service using amateur radio stations on satellites
 - D. A radio communications service using stations on Earth satellites for public service broadcast
2. (E2B13) How many lines are commonly used in each frame of an amateur slow-scan color television picture?
 - A. 30 or 60
 - B. 60 or 100
 - C. 128 or 256
 - D. 180 or 360
3. (E3C12) How does the maximum distance of ground-wave propagation change when the signal frequency is increased?
 - A. It stays the same
 - B. It increases
 - C. It decreases
 - D. It peaks at roughly 14 MHz
4. (E4A08) Which of the following instrument would be best for measuring the SWR of a beam antenna?
 - A. A spectrum analyzer
 - B. A Q meter
 - C. An ohmmeter
 - D. An antenna analyzer
5. (E5C10) When using rectangular coordinates to graph the impedance of a circuit, what does the vertical axis represent?
 - A. Resistive component
 - B. Reactive component
 - C. The sum of the reactive and resistive components
 - D. The difference between the resistive and reactive components
6. (E6D01) How many turns will be required to produce a 5-microhenry inductor using a powdered-iron toroidal core that has an inductance index (A L) value of 40 microhenrys/100 turns?
 - A. 35 turns
 - B. 13 turns
 - C. 79 turns
 - D. 141 turns
7. (E7A03) Which of the following can divide the frequency of a pulse train by 2?
 - A. An XOR gate
 - B. A flip-flop
 - C. An OR gate
 - D. A multiplexer
8. (E8A03) What type of wave does a Fourier analysis show to be made up of sine waves of a given fundamental frequency plus all of its harmonics?
 - A. A sawtooth wave
 - B. A square wave
 - C. A sine wave
 - D. A cosine wave
9. (E9A11) Which of the following factors determines ground losses for a ground-mounted vertical antenna operating in the 3 MHz to 30 MHz range?
 - A. The standing wave ratio
 - B. Distance from the transmitter
 - C. Soil conductivity
 - D. Take-off angle
10. (E0A11) Which of the following injuries can result from using high-power UHF or microwave transmitters?
 - A. Hearing loss caused by high voltage corona discharge
 - B. Blood clotting from the intense magnetic field
 - C. Localized heating of the body from RF exposure in excess of the MPE limits
 - D. Ingestion of ozone gas from the cooling system

(For answers to test questions see bottom of [page 14](#))

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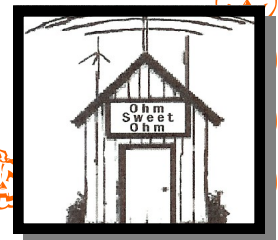
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Answers to questions on [page 13](#): 1-C, 2-C, 3-C, 4-D, 5-B, 6-A, 7-B, 8-A, 9-C, 10-C