BARC
BRIDGERLAND AMATEUR RADIO CLUB

THE OHM TOWN NEWS

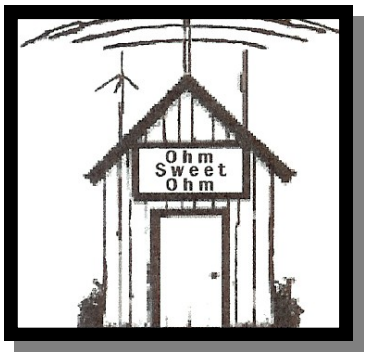
Voice of the Bridgerland Amateur Radio Club

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

March 2012

Some Contents…

ARRL Affiliated



PRESIDENT'S MESSAGE

At our club meeting in February, Don Bulter N5LZ gave an excellent presentation on what DXing is all about on the HF bands. Whether you have a beam, a vertical, a dipole, or a wire antenna, DXing is a lot of fun with many different operating modes available. Many amateurs begin with a fascination of radio communication and then combine other personal interests to make pursuit of the hobby rewarding. When I was in teenager, I had a shortwave radio and would listen to those distant foreign stations broadcasting in English. Some of the stations I remember were from Russia, Sweden, Great Britain, South Africa, and Japan. Back then I would just tune across the band to find a station and listen for where it was from. It was exciting to see how far away those stations were that I could hear. Occasionally, I would find a listing that had frequency and times for shortwave broadcast stations and try to listen for those station.

Would you like to see a list of the DX stations that are on the Amateur bands right now? One ham group in Finland, OH8X, runs DX Summit that collects these reports from different cluster nodes world-wide, and places them on the internet at their web site. Each line in the listing is a station "heard" report (called a "spot"). A report consists of the following items (in the order shown): callsign of the reporting station, the frequency (in Kilohertz), the DX station's callsign, text comments by the reporting station, the time and date in UTC when the DX station was heard, and the DX station's country (best automated guess). Amateurs report spots via their local packet radio "cluster packet radio "cluster note" (specialized packet radio BBSes), or via specialized telnet (internet) nodes.

Amateur radio is a hobby with many facets and thus attracts practitioners with a wide range of interests. Many amateurs begin with a fascination of radio communication and then combine other personal interests to make pursuit of the hobby rewarding. Being on Amateur Radio HF and Dxing to those distance stations is like travelling without leaving home. It is fun to converse with a person in a different far away country. There is also DXpeditions where some ham radio operators make trips to countries where there are few active ham radio operators. The DXpeditioners put the rare country or location on the air and try to make as many contacts as possible.

You'll find DXing to be a different world with its own procedures, language, tricks, and style. There is the thrill of the hunt and the magic of making ionospheric propagation work for you. ZL2IFB has some tips for working DX and those DXpedition pileups, and other interesting information. NG3K has a listing of announced DX operations.

73,
Cordell
KE7IK

UPCOMING ACTIVITIES

BARC Club Meeting - 10 March, 10:00 AM
Solar Panel Systems

RACES HF Net - 17 March, 8:00 AM 3920 KHz

Longmont ARC LARCFest (Longmont, CO) - 7 April

BARC Club Meeting - 14 April, 10:00 AM
Training on transmitter hunting

RACES VHF Net - 19 April, 8:00 PM

BARC Club Meeting - 12 May, 10:00 AM

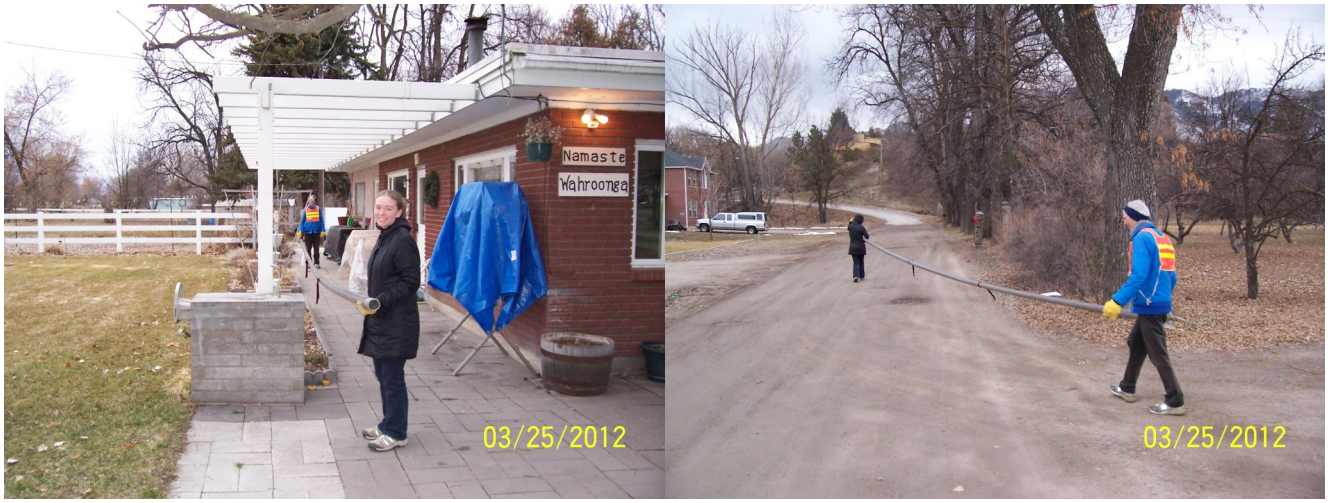
RACES HF Net - 19 May, 8:00 AM 3920 KHz

Mountain Man Rendezvous - 21,22 May

Items for Sale or Trade, Items Wanted, Items Available

This section is to be a regular part of The Ohm Town News newsletter. If you have something you would like to advertise as available or are looking for please contact the newsletter editor at newsletter@barconline.org with the details.

Since there are no items to advertise this time, I would like to give a follow-up with the results from last month. Boyd, W7MOY advertised a 40' length of aluminum irrigation pipe, a good item for an antenna mast. He said that whoever was interested in it would need to figure out how to transport the thing, especially along main street. Below are pictures of the good folks that were interested in this item, Brent Carruth, AD7VF and his daughter Celeste, KB1QKY. Boyd says "They walked the gem home some 3.5 miles in a blizzard today. Now that's dedication for you. He plans on hooking all sorts of sky wires on this gem. Watch your S meters!!"



HAM PROFILE

Bob Houghton KF7LQS

When I was a kid, I was watching Nickelodeon one afternoon and saw an episode of "Mr. Wizard's World." This was one of my favorite TV shows on Nick. This particular episode sticks out because it featured two things, a home computer flight simulator and Mr. Wizard talking on a HAM radio. Mr. Wizard was actually talking hundreds of miles away to somebody without using a phone. I knew then that I wanted to get a radio.

Flash forward to 1993, I was out with my Dad sailing up the coast of California and we were a few miles off shore. We had some charts, but GPS was still in its infancy and we could not afford a GPS receiver. The boat that Dad had just purchased was equipped with a radio--I am sure now that it was a VHF marine band radio--but Dad needed to get some quadrants for the chart and called to another ship that we could see off the bow about a mile or so away, and asked for their GPS location. We were able to get on course, after that once again I knew that I wanted to get on the radio.

In 2010, the emergency preparedness coordinator for our ward informed me about a HAM radio class that was going to be taught and proposed that we take the class together. I was thrilled. I took the class and got my Tech license. After passing the class I had to decide what type of radio I needed to get. I decided that my main purpose for taking my HAM test was emergency prep, so I wanted to get a radio that would run off standard batteries. I also wanted to get a radio that could transmit on every band that I had access too. I decided on the Yaesu FT-817, all band transceiver. This QRP radio also has access to all the HF bands and as a Tech; I could not access those bands. I upgraded to General in October of 2010.

When I first got my radio, I would tune in to the Mount Logan repeater and talk to anybody who was out there. On Tuesday at 9:00pm I thought I heard a call and replied back. I didn't know about the BARC net yet but got a very quick introduction with my interruption. I have been checking in to the net ever since.

I was able to make my first contact on HF with a HAM out of Chicago; I didn't get his QSL card because I was too excited. I helped in last year's 7QP party and had a great time. I truly love the camaraderie of the HAM radio community and look forward to testing for Extra this year.

BARC Club Meeting held January 14 at 10:00 a.m. at the CCSO, 3rd floor Classroom

Announcements:

- BARC dues for 2012 are due and can be paid by cash, check or online through PayPal at BARConline.org.
- The 2012 activities signup is almost ready – keep an eye on the BARC website.
- Magnetic name and call sign tags can be made for $6.00. Contact Shirley Larsen or Beryl Dattage.
- The 2011 BARC Christmas Party was a success with great food and lots of prizes.
- Club awards presented at the Christmas Party included Kevin Reeve: "President's Leadership Award" for his work with LOTOJA.
- Val and Jeanette Campbell were presented the "President's Spirit of Amateur Radio" award.
- Brent Carruth was presented the "President's Service" award for recruiting and teaching new operators.
- The BARConline.org Calendar function now allows entries by club members.
- BARConline.org now has an instruction page showing how to permanently turn off "wires" on Yeasu HT's.

Presentations:

Bob Houghton KF7LQS presented and discussed the operation of his 5W Yeasu FT-817 QRP all band radio. He also displayed and discussed the "miracle antenna" variable loading system for tuning a whip antenna to all HF bands for QRP operation.

Guy Hatch N7WAT displayed and discussed his portable version of the Ralph Crumrine N0KC 4-band HF antenna. This was built with help of several BARC members and operated the 20 meter band station at Field Day. Construction techniques and components were displayed.

Theo Thompson K7TWT displayed and discussed his "painter pole" mast system for mounting his Diamond X50 antenna. He welded two aluminum angle extrusions together to create a very robust and effective mast/antenna coupler.

Garth Timmins KF7ATL showed his very inexpensive and simple, but remarkably effective, 20 meter wire vertical antenna. The vertical element wire is pulled up into a tree and the four ground radials laid out and held in place on the ground with rocks – takes less than five minutes to be "on the air."

Ted McArthur AC7II demonstrated his vehicle tire hold-down mast socket built out of steel from an old bed frame. He also demonstrated and discussed his "Spud Gun" device for pulling antennas into trees. This unit is used extensively at Field Day to put up the wire antenna array used by the club.

Stephen Bevan KE7WAV showed his "speaker cord" wire dipole, his multi-band fan dipole systems and his MFJ 40 meter whip system for portable QRP operation.

Cordell Smart KE7IK showed his UHF and VHF pole mount system to support his Diamond X30 antenna. He also showed and discussed his AH4 tuner and end-fed long wire antenna system for all-band use.

Kelby Davis AD7VO showed and discussed several innovative uses for #10 cans to create simple and effective J-pole antennas and tuning systems. He also discussed his inverted-V HF antenna system and a variety of home brew antenna tuners.

Roger Ellis AE7HB showed his innovative use of a paint roller handle to mount antennas to the top of a telescoping "painter pole" mast. He also showed his SMA connector version of a mag-mount antenna for use with HT's in a vehicle.

Tyler Griffiths N7UWX showed his "walking-stick" 2-meter Yagi design that uses arrow shafts and all-thread to create an easily re-constructed antenna for portable high-gain VHF operation.

Shane Daniels N7JYX from Preston showed slides of his home station and field-deployable aluminum and PVC tube guyed mast that supports an end-fed inverted-V long wire. He also discussed use of relays to switch feed from one end to the other for bi-directional gain operation.

All in all, this was a most informative and interesting club meeting with many new ideas and methods presented. We also met some new people: Shane Daniels N6JYX from Preston and Gaylen Roberts KF7DLB from Garden City who want to become more involved with BARC and also help their local hams become more active.

BARC CLUB MEETING HELD FEBRUARY 11, 2012

Club business included a review of the 2011 BARC financial report and the proposed 2012 budget by Kevin Reeve, N7RXE. It is apparent that BARC is doing well financially and that the financial management is in good hands. The BARC budget for 2012 was approved by unanimous vote. Of note, this year there will be a budget fund that can be used to purchase needed equipment for deployments as needed. Specific items will be approved by the BARC Board, rather than waiting until the next general BARC meeting.

A very informative and interesting presentation was then given by Don Butler, N5LZ, concerning his long career in amateur radio DX and contesting operation. He first reviewed the general characteristics of DX operation, the equipment required, and the definition of "entities" considered as DX. One of the most commonly achieved DX-related awards is the DXCC, which requires authenticated radio contacts with 100 DX entities out of the total of 341. The process of making and documenting the contacts (call sign, signal report, and time), and applying for the award, was then reviewed.

Don then described the radio equipment needed for DX work. In order of importance, a high-efficiency antenna system rates above an expensive, feature-rich transceiver. A rotatable directional beam antenna on a 40-50' tower is very useful. With regard to transceiver capability, he indicated that dual VFO on both transmit and receive are needed for "split" operations common to DX QSO's. Finally, amplification may be needed to reach the maximum number of stations that can be heard.

Tools that Don has found useful in planning and managing DX operation include:

- The ARRL DXCC entities list;
- The International Prefix Allocation list;
- A world atlas, either online or in book form;
- A "great circle" world map, centered on North America;
- DX Cluster online service, such as http://nc7j.com/manual;
- A 24 hour clock, set to UTC time; and
- A paper log book, or contact logging software.

There are several online QSO logging programs; the more popular ones include:

- Ham Radio Deluxe;
- DX4Win;
- Logic8; and
- Club Log;

Finally, Don reviewed and demonstrated the DX contact process, using sound recordings of some of his recent activity. He described how "split" operation is used by many DX stations to help manage pileups. Careful listening and tuning, timing of transmission, and efficient exchange of contact information were emphasized as key to success. QSL card exchange methods and courtesies, and use of the online ARRL-sponsored "Logbook of the World" were presented.

This was one fine presentation! Don's long and highly successful career with DX and his enthusiasm for amateur radio were an inspiration to all.

ARRL Rocky Mountain Division Update -- February 2012

===== 2012 Rocky Mountain Division Convention: Save the Date! =====

The 2012 Rocky Mountain Division Convention, hosted by ARRL's Utah Section, will take place at Ruby's Inn, gateway to Bryce Canyon National Park on July 27-29. Please mark your calendars and begin thinking of a fun trip to a wonderful weekend of fun. The organizing committee is hard at working planning a super event that every ham across our Division (and beyond) is welcomed to attend.

The event, themed "Continuing the Pioneer Spirit of Amateur Radio", will be action-packed, including: Technical and non-technical seminars, midnight Wouff-Hong ceremony, a swap meet, vendors/dealers, an ARRL Forum, fun & games, mobile installation contest, homebrew boutique, VE exams, special guest speakers, lots of prizes, women's crafts, children activities, Friday BBQ dinner, Saturday pulled pork dinner, Sunday breakfast buffet, and more! Special discounted room rates are available at Ruby's Inn, and a block of RV sites are available at Ruby's Inn Campground and RV Park.

More details, including registration information, is (or will be soon) posted at www.UtahHamfest.org
We hope to see you at the 2012 ARRL Rocky Mountain Division Convention!

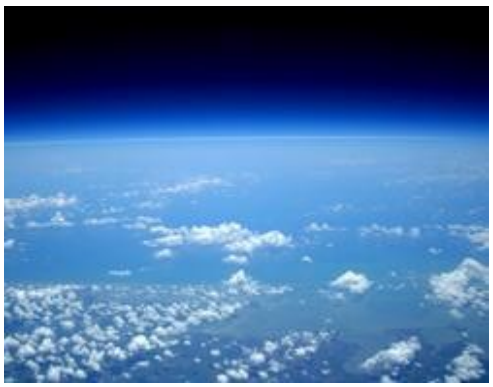
The ARRL Letter for February 16, 2012

Amateur Radio in Space: NASA Selects AMSAT Fox Satellite to Join Program

Project ELaNa -- NASA's "Educational Launch of NanoSat" managed by the Launch Services Program at the Kennedy Space Center -- announced on February 10 that the AMSAT Fox-1 CubeSat has been selected to join the program. NASA will work with AMSAT in a collaborative agreement for NASA to cover the integration and launch costs of satellites deemed to have merit in support of their strategic and educational goals. Read more here.

Amateur Radio in Space: Texas Hams Make World Record Balloon Attempt

A group of Amateur Radio operators hopes to establish a world distance record for an unmanned helium-filled balloon. The BLT-28 balloon will undertake a journey across the Atlantic and the Mediterranean, and then on to Nanjing, China. The South Texas Balloon Launch Team released the balloon at 3 PM (CST) on February 11 from Katy, Texas, just outside of Houston.
During the trans-Atlantic crossing, when out of range of shore based stations, the balloon's APRS beacon will operate on the International Space Station (ISS) packet digipeater frequency of 145.825 MHz. The balloon payload package weighs only about 5 ounces and contains a high altitude GPS tracking system and a 144 MHz FM APRS Amateur Radio transmitter. To conserve weight and battery life, no camera equipment will be on board. The maximum altitude is expected to be above 19 miles, with horizontal speeds between 100 and 150 miles per hour. Read more here.



Texas amateurs attempt a world record high-altitude balloon flight. [Photo courtesy of the South Texas Balloon Launch Team]

Amateur Radio in Space: New Satellites Reach Orbit

On February 13, a European Space Agency *Vega* rocket lifted off from Kourou, French Guiana on its inaugural flight. It carried the Laser Relativity Spacecraft to orbit along with eight student-built MicroSats and CubeSats. The student satellites will transmit telemetry in the VHF, UHF and microwave amateur bands, with one satellite also including a voice repeater. Read more here.

The ARRL Letter for February 23, 2012

Legislative News: Payroll Tax Bill Includes Provision for Amateur Radio Study

A bill that passed both the House and the Senate on February 17 -- and signed into law by President Obama on Wednesday, February 22 -- includes a provision for a study of the uses and capabilities of Amateur Radio Service communications in emergencies and disaster relief.

Section 6414 of the *Middle Class Tax Relief and Job Creation Act of 2012* mandates the completion of the study, with a report of the findings to the House Committee on Energy and Commerce and the Senate Committee on Commerce, Science, and Transportation. This study would "use the expertise of stakeholder entities and organizations" to recommend how to best use radio amateurs in emergency communications and disaster relief efforts, and how to best utilize the Amateur Radio Service in coordination with the federal government in these efforts. In addition, the study would also discuss the effects of unreasonable or unnecessary private land use restrictions on residential antenna installations and recommend ways to remove such impediments.

The bill passed in the House by a vote of 293-132. In the Senate, it passed by a 60-36 vote. Read more here.

On the Air: Republic of South Sudan Assigned Z8 Prefix

After a wait of more than seven months after being accepted as a member of the United Nations, the Republic of South Sudan received its prefix block from the International Telecommunication Union (ITU): Z8. On July 14, 2011 -- after South Sudan's admittance to the UN -- the new country became a DXCC entity by way of Section II, 1(a) of the DXCC rules. -- *Thanks to* The Daily DX *for the information*

Ham Radio in Hollywood: Blockbuster Movie Features Morse Code, Homebrew Equipment -- and Sea Monsters!

In the movie *Journey 2: The Mysterious Island*, Sean Anderson (played by Josh Hutcherson) receives a coded distress signal that comes from a mysterious island where no island should exist. Sean decides to follow the signal with the unwilling assistance from his stepfather Hank (played by Dwayne "The Rock" Johnson).

The movie opens in Dayton, Ohio with Sean on his motorcycle, being chased by police officers. Sean had been caught breaking in to a "satellite facility." When questioned by Hank, Sean confesses that he had received a coded message from his grandfather (played by Michael Caine), but his equipment was too weak to copy it; he decided to go somewhere where there were bigger antennas. The message -- a string of one and two syllable words taken from the books of Jules Verne -- makes no sense to Sean. Hank, a former US Navy cryptographer, offers to help decode the message; he feels this will be a good chance to bond with his stepson.

Immediately, Hank figures out that the message is really in Morse code: each one syllable word is a "dit," while each two syllable word is a "dah." Hank translates the message, which gives clues to the location of the grandfather's whereabouts. Read more here.

The Battleship Missouri Amateur Radio Club, KH6BB, provided all the radio gear for the movie. Both the QSL cards for KH6BB President Ned Conklin, KH7JJ, and for KH6BB can be seen on the bulletin board. The KH6BB card features the Missouri with her 16-inch guns firing. See a larger version of the photo here.

The ARRL Letter for March 1, 2012

On the Air:ARRL Publishes New Guidelines for 60 Meters

Thanks to the FCC's *Report and Order* issued November 18, 2011, radio amateurs will enjoy a number of new privileges on the 60 meter band, beginning at midnight (EST) March 5. These new privileges include a boost in effective radiated power from 50 to 100 W, as well as the ability to use CW and certain digital modes.

Late last year, the ARRL HF Band Planning Committee surveyed 60 meter operators to gather opinions about how to best use the new privileges. On the subject of creating a specific band plan, the survey results indicated little consensus beyond the fact that 5403.5 kHz should retain its status as a *de facto* "DX channel." On the other hand, survey respondents made a number of suggestions for general operating practices.

Based on the survey results and subsequent research, the committee declined to propose a specific band plan for 60 meters at this time. Instead, the committee created a "Recommended Practices" document (click here for the document). The 60 meter pages on the ARRL website have been updated to reflect the changes brought about by the *Report and Order*.

The April issue of *QST* will also include an article by ARRL Regulatory Information Manager Dan Henderson, N1ND, offering a detailed discussion of the new 60 meter privileges and recommended operating practices.

The ARES E-Letter for February 15, 2012

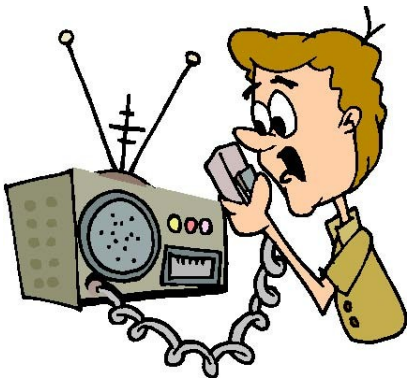
There has been extensive discussion on training and certification lately; for example, in the March issue of QST, Public Service column. In the February issue, an article on the contemporary EOC environment spoke briefly to the topic. The same EOC "types" or classifies its volunteers by their experience levels, and their training and certifications. Here is the matrix the emergency manager uses to select volunteers for specific duties during emergency or disaster situations. It provides some guidance to us as radio amateurs on training to take, and certifications to obtain, to make ourselves more valuable to the EOC professionals. This matrix is used by the Flagler County, Florida, emergency services department:

Certifications	**Type IV**	**Type III**	**Type II**	**Type I**
IS-100 Introduction to ICS	X	X	X	X
IS-200 ICS for Single Resources		X	X	X
IS-700 NIMS, An Introduction	X	X	X	X
IS-800.B National Response Framework		X	X	X
IS-230 Principals of Emergency Management		X	X	X
IS-235 Emergency Planning				X
IS-240 Leadership and influence				X
IS-241 Decision Making and Problem Solving				X
IS-242 Effective Communications			X	X
IS-244 Developing and Managing Volunteers			X	X
IS-288 The Role of Volunteer Agencies			X	X
I-300 Intermediate ICS			X	X
I-400 Advanced ICS				X
I-701 NIMS Multiagency Coordination Systems				X
I-703 NIMS Resource Management				X
CERT			X	X
Ham Radio license or GMRS			X	X
CPR			X	X
Volunteer Experience:				
- Less than 6 months	X			
- 6 Months		X		
- 1 year			X	
- 2 Years				X

Membership in **The Bridgerland Amateur Radio Club, Inc. (BARC)** is open to anyone interested in Amateur Radio. You do not need an amateur license to join. Learn more online at http://www.barconline.org/ or by emailing membership@barconline.org .

The Bridgerland Amateur Radio Club provides the following to its members:

- A repeater system that covers northern Utah from Bear Lake to Salt Lake Valley.
- Events where you can practice your radio skills in a fun learning environment.
- Club meetings are held the second Saturday each month from October to May. An opportunity to meet and learn from other amateur operators.
- Social activities where members can make friends and interact with other members.



Your tax deductible membership supports club activities and the BARC repeater system.

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The Bridgerland Amateur Radio Club, Inc.

Membership application for the year 2012

Dues are in effect January 1, 2012 through December 31, 2012
New Members Only, individual membership dues prorated quarterly
Please indicate if you or family member is an American Radio Relay League (ARRL) member

Name _____ **Call Sign** _____ **Date Paid** _____
☐ **ARRL member**

P.O. Box _____ **Street Address** _____

City _____ **State** _____ **Zip Code** _____

Home Phone ( ) _____ **Work Phone ( )** _____

E-mail _____

(The club's newsletter, THE OHM TOWN NEWS, is sent to the E-mail Address)

☐ **Individual Membership - $25** **$** _____
☐ **Addition Family members in same household - $3 ea** **$** _____
☐ **Donation for Repeater upgrades / equipment purchases** **$** _____

Total $ _____

Names and Call Signs of additional family members

Name _____ **Call Sign** _____
☐ **ARRL member** **E-mail** _____

Name _____ **Call Sign** _____
☐ **ARRL member** **E-mail** _____

Name _____ **Call Sign** _____
☐ **ARRL member** **E-mail** _____

Bridgerland Amateur Radio Club is an ARRL affiliated club

Mail your completed form and a check to: B.A.R.C., P.O. Box 111, Providence UT 84332-0111
or pay online at http://www.barconline.org/?q=node/242

B.A.R.C. is a non-profit organization

Questions for General Class License

1. (G1B07) What are the restrictions on the use of abbreviations or procedural signals in the Amateur Service?
A. Only "Q" codes are permitted
B. They may be used if they do not obscure the meaning of a message
C. They are not permitted
D. Only "10 codes" are permitted

2. (G2A03) Which of the following is most commonly used for SSB voice communications in the VHF and UHF bands?
A. Upper sideband
B. Lower sideband
C. Vestigial sideband
D. Double sideband

3. (G3A03) Approximately how long does it take the increased ultraviolet and X-ray radiation from solar flares to affect radio-wave propagation on the Earth?
A. 28 days
B. 1 to 2 hours
C. 8 minutes
D. 20 to 40 hours

4. (G4B06) What is an advantage of a digital voltmeter as compared to an analog voltmeter?
A. Better for measuring computer circuits
B. Better for RF measurements
C. Better precision for most uses
D. Faster response

5. (G5A07) What happens when the impedance of an electrical load is equal to the internal impedance of the power source?
A. The source delivers minimum power to the load
B. The electrical load is shorted
C. No current can flow through the circuit
D. The source can deliver maximum power to the load

6. (G6B04) When two or more diodes are connected in parallel to increase current handling capacity, what is the purpose of the resistor connected in series with each diode?
A. To ensure the thermal stability of the power supply
B. To regulate the power supply output voltage
C. To ensure that one diode doesn't carry most of the current
D. To act as an inductor

7. (G7C02) Which circuit is used to combine signals from the carrier oscillator and speech amplifier and send the result to the filter in a typical single-sideband phone transmitter?
A. Discriminator
B. Detector
C. IF amplifier
D. Balanced modulator

8. (G8A07) Which of the following phone emissions uses the narrowest frequency bandwidth?
A. Single sideband
B. Double sideband
C. Phase modulation
D. Frequency modulation

9. (G9C20) How does the gain of two 3-element horizontally polarized Yagi antennas spaced vertically 1/2 wavelength apart typically compare to the gain of a single 3-element Yagi?
A. Approximately 1.5 dB higher
B. Approximately 3 dB higher
C. Approximately 6 dB higher
D. Approximately 9 dB higher

10. (G0B14) Which of the following is covered by the National Electrical Code?
A. Acceptable bandwidth limits
B. Acceptable modulation limits
C. Electrical safety inside the ham shack
D. RF exposure limits of the human body

(For answers to test questions see page 13)

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Answers to questions on page 12: 1-B, 2-A, 3-C, 4-C, 5-D, 6-C, 7-D, 8-A, 9-B, 10-C