



# THE OHM TOWN NEWS

*Voice of the Bridgerland Amateur Radio Club*

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

## January 2012

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ARRL Affiliated

*Happy New  
Year*



# PRESIDENT'S MESSAGE

A new year and it should be a great year for surfing the radio waves. The Solar Cycle 24 is expected to peak mid 2013 so the next few years are going to be good for the 10 and 12 meter bands. The 10 meter band is great for making those global DX contacts. The Technician class operators need to take note of this for they also have privileges in the 10 meter band. Technicians can operate SSB between 28.3 and 28.5 MHz, and CW, RTTY and data from 28.0 to 28.3 MHz (up to 200 watts PEP). A 10m half wave dipole is only 16 feet long, so you don't need a big area for the antenna. Here are some common frequencies that are generally recognized for certain modes or activities on 10 meters.

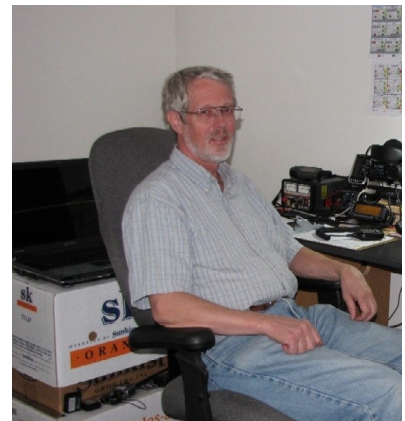
<b>28.060</b>	<b>QRP CW calling frequency</b>
<b>28.070 - 28.120</b>	<b>Data</b>
<b>28.120 - 28.189</b>	<b>Automatically controlled data stations</b>
<b>28.190 - 28.225</b>	<b>Beacons</b>
<b>28.300 - 28.500</b>	<b>SSB VOICE (28.400mhz calling)</b>
<b>28.385</b>	<b>QRP SSB calling frequency (QRP = 5 watts or less)</b>

In other parts of the radio spectrum, the increased need for wireless data has the National Broadband Plan (NBP) recommending that additional new spectrum be made available. The skyrocketing demand for mobile broadband services may affect the present radio spectrum that is reserved for amateur radio use. The NBP report recommends that the FCC should make 500 megahertz of spectrum available for broadband use within the next 10 years including 300 megahertz between 225 MHz and 3.7 GHz within five years.

Another area that wireless broadband growth could be impacting is GPS. A company called LightSquared is proposing building a network of ground-based satellite stations for a 4G wireless broadband network. A brief description is here, <http://www.pnt.gov/interference/lightsquared/>, of the potential interference to GPS receivers from the LightSquared network, or search the internet with the phrase "GPS LightSquared interference".

Many years ago, Broadband over power line (BPL) was to bring high speed digital data transmission over public eclectic power distribution lines. In the areas that it was deployed, there was interference to other users who used radio frequencies in the 10 to 30 MHz spectrum. The power lines are unshielded and acted as an antenna to the BPL frequencies. After years of use in those areas, BPL was terminated due to diminishing number of users, low data throughput, maintenance cost, and interference.

It will be interesting to see how the FCC handles the LightSquared GPS problem.



73  
Cordell  
KE7IK

# UPCOMING ACTIVITIES

Rocky Mountain Division Net - 11 January, 7:30 PM  
IRLP Node No: 9871

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BARC Club Meeting - 14 January, 10:00 AM  
Portable Antennas - Normal Location, See Below

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RACES HF Net - 21 January, 8:00 AM 3920 KHz

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Northern Colorado ARC Winter Hamfest (Loveland, CO) - 21 January  
For more info see [www.ncarc.net/](http://www.ncarc.net/)

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Albuquerque Winter Tailgate Swapfest (Albuquerque, NM) - 28 January  
For more info see [www.RockyMountainDivision.org](http://www.RockyMountainDivision.org)

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BARC Club Meeting - 11 February, 10:00 AM

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Aurora Repeater Association Swapfest (Henderson, CO) - 12 February  
For more info see [www.n0ara.org/meetings.html#swapfest](http://www.n0ara.org/meetings.html#swapfest)

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RACES VHF Net - 17 February, 8:00 PM

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BARC Club Meetings are normally on the 2nd Saturday  
of the month at 10:00 A.M. on the 3rd floor of the Cache  
County Sheriffs Complex on 200 North and 1225 West, Logan, Utah.

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ARES Meetings are usually held on the Third Wednesday  
of each month at 7 P.M. at the Cache County Sheriffs Complex.  
Contact Tyler Griffiths for more information.

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Bridgerland Amateur Radio Club (BARC) membership dues for 2012 are now being solicited. Club membership is open to anyone who is interested in Amateur Radio. You do not need to have an amateur license to join us. The purpose of BARC is to advance general interest and welfare of amateur radio, to promote radio knowledge, cooperation and exchange of information between members, and to provide public service support for community activities in our area. Hams from around Cache Valley attend the monthly club meetings to learn about the different aspects of amateur radio, discuss radio topics, and to enjoy the fellowship of one another. This club is for you! So help make it as good as it can be!

The BARC membership application is on our club web site, <http://www.barconline.org/join-barc> or on page 12 in this newsletter. You can use the application form and send your payment in, or join online and pay via PayPal.

Thank you for your support. Cordell KE7IK

# HAM PROFILE

## Laurie Littledike KF7DKM

Thinking of amateur radio early in her life seemed impractical, but since training and mentoring have been so available recently, Laurie Littledike, KF7DKM, decided to try the hobby. Amateur radio fits into her background of math, science, computer software and database design and development. She retired at the end of September 2011 from 25-plus years at the USU Research Foundation and Space Dynamics Lab. For eleven years, Laurie managed the Electronic Office program, a software system on UNIX that offers a Web interface into several facets of business operations such as contracts and grants, logistics and visitor tracking. In addition to managing the software development she acted as webmaster and database administrator, technical tasks that she still enjoys. During earlier participation in Space Dynamics Lab projects, she soaked in some of the science and engineering involved in infrared radiometry and spectrometry, thanks to a few patient engineers and technicians who repeatedly answered her questions. One of the most exciting events in her time at the lab was to act as backup in test data acquisition for a radiometer that flew on the space shuttle. Climbing the launch tower for testing and watching USU instruments launch from Kennedy Space Center still rank high on her favorites list.



Although her college degrees were put to good use in the public schools, Laurie enjoyed being married and a stay-at-home mother living in several states in the Mountain West. Now a divorced grandmother of five, she decided to prepare for travel and emergencies by trying out local training for a Technician License. Without a rig for a few months, she wasn't certain that this was such a winning idea. But once she got a tri-band handheld unit, she was hooked. Now she has a 2m-70cm mobile unit that worked well in Little Red and Bike the Bear. Substituting as net control seems like a mix of long-ago receptionist jobs covering twelve phone lines and teaching school.

There are so many Elmers to thank! A complete list would be too long. One is a must though. The BARC Ladies Net has provided a great start-up environment, thanks primarily to AD7HL. Thanks, too, for patient mentoring from former coworkers in BARC and LDS emergency communications specialists. From batteries to Anderson connectors, she's enjoying all she's learning. Laurie's next tasks will be to get a General License and learn more about antennas and the hardware side of electronics. Great fun!

# Record Setting High Altitude Balloon Flight Stirs Memories of Past BARC Balloon Flights

By Tyler Griffiths N7UWX

Most BARC members may not remember but BARC was heavily involved in High Altitude Balloon Flights back in the 1990's. They were loaded with GPS's, ATV equipment, packet radio (this was before APRS) and data loggers from Campbell Scientific. Some of our members devised some very sophisticated cut down and parachuted systems so we could retrieve them before they got too far away. The only way to track these flights was by Direction Finding and Map Reading. At first we just flew the old latex weather balloon type balloons but then we got hooked up with Gill Moore and were able to fly some BIG high pressure commercial balloons that could fly over 100K feet. We were even able to get a special GPS that the US Military had to approve so we could get those readings that were over 100K. Back then the GPS's were not enabled to be as accurate and not able to work at high altitudes like they are now.

So of course this stirred up lots of excitement for Old Time BARC members and ham radio operators across the globe when on Sunday December 10<sup>th</sup> the California Near Space Project launched 4 high altitude balloons from the San Jose area. Their APRS call signs were K6RPT -11, -12, -13, -14. The -13 and -14 balloons were designed to go very high for a rather short flight and landed in Nevada. The -11 and -12 balloons were designed to go longer distances. Balloon -12 got to Indiana before coming down. But the real fun was when -11 kept going and going and going. It went all the way across the continental US and headed over the Atlantic at an altitude of over 100,000 feet. When it got about 400 miles off shore US stations were no longer able to hear it so the call was put out to Europe to listen for it. Only problem was Europe uses 144.800 for APRS not the standard US frequency of 144.390. Apparently some European Hams got the call and switched their stations over and it got picked up by CU2IE in Logona Portugal and last heard by EB6AOK-3 and went down in the Mediterranean Sea. Some of the APRS packets, as it traveled across the US, even got heard by stations in Utah. (see map below) One of the interesting things is that this package was run by 4 Eveready 8X Ultimate Lithium AA batteries and they lasted the distance, 6000+ miles and a new record of 136506 feet altitude.

For more information on the -11 balloon you can go to:

[http://www.californianearspaceproject.com/CNSP-11\\_info.html](http://www.californianearspaceproject.com/CNSP-11_info.html)

<http://tech.slashdot.org/story/11/12/14/1655245/atlantic-crossing-by-amateur-radio-high-altitude-balloon>

<http://www.popsci.com/technology/article/2011-12/amateur-radio-balloon-makes-record-transcontinental-transatlantic-flight>

[http://www.theregister.co.uk/2011/12/14/transatlantic\\_balloon/](http://www.theregister.co.uk/2011/12/14/transatlantic_balloon/)

To see the tracks on APRS.FI you can go to:

<http://aprs.fi/?call=K6RPT-11& s=ll> or

<http://tinyurl.com/6lq22pu>

# Building your Grab and Go Kit

## Part 1 - Fuses

By Kevin Reeve, N7RXE

Many Amateur Radio Operators enjoy Ham Radio as a hobby, but also want to be prepared to assist with communications, especially during an emergency. This newsletter column will focus on items for your grab and go kit. The items I will suggest are based on my own experiences, usually from a moment when I was away from home and realized I did not have something I needed. This month we will discuss fuses.

Your radio, power supply, car, motor home, travel trailer, and many other devices you have or will encounter use automotive style fuses, the most popular being Glass and Blade style.

### Glass

The most common type of glass fuse you will need is the AGC style. These are round glass fuses with silver looking caps on the end of them. They were used in automobiles until around 1990. You will find these fuses still used in power supplies, and also in the power cord of your mobile and HF radio. AGC fuses are 1 ¼" in length, and a ¼" in width. Your 12 volt cigarette lighter or 12 volt adapter may use one of these fuses.

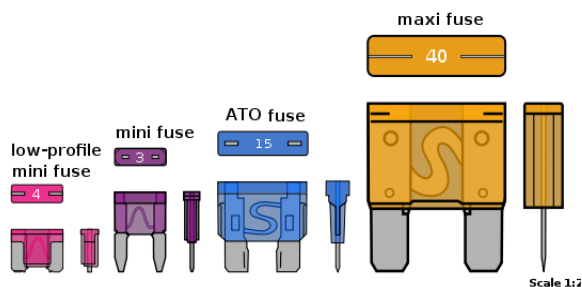


**AGC® Fuse**

If you have build a power cable for your handheld, you may have used the smaller 5\* 20mm glass fuses. If that is the case make sure you have some of these in your kit.

### Blade

Blade fuses started becoming popular in the 90's with vehicles. The Rig Runner and similar power distribution systems popular with Amateur Radio use blade style fuses. While there are 4 sizes of Blade fuses, the ATO and Mini are the ones you are most likely to encounter.



## Amperage

Fuses are rated by both voltage and amperage. All you need to worry about is the amperage for AGC, ATO, and Mini fuses. While you should stock a variety of amperage sizes (5, 10, 15, 20, & 30 Amp sizes) you will want to check your amateur radio gear and make sure you have the exact amperage fuses recommended by the manufacturer on hand. You can take out the fuse and find its amperage rating printed on the fuse. Some mobile radios may have 7 or 8 amp fuses installed. You will find fuses at Wal-Mart, RadioShack, and Harbor Freight as well as any automotive part store around town. Some will have variety packs with many amperage styles available. I found a nice pack of 60 blade and another pack of glass at Harbor Freight. The 5 \* 20 mm glass fuses will be found at electronic stores like Radio Shack, as they are popular in home audio and other electronic devices.

The goal here is to have a variety of fuses you can use to keep your equipment on the air in an emergency, at any time. While they might just come in handy for your own use, I can guarantee you will use them to help others out of a bind as well.

More info on fuses including color coding can be found online at.  
[http://en.wikipedia.org/wiki/Fuse\\_%28automotive%29](http://en.wikipedia.org/wiki/Fuse_%28automotive%29)

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## Items for Sale or Trade, Items Wanted, Items Available

Item # 1 Helix antenna, designed for the Ham TV band. 439.00 MHz. Calculated gain about 11-12 Db. Boom length about 9'. 18" square reflector mounted on rear with type N connector. If you want to try Amateur TV or other on 70 CM, come and first one gets it.

Item # 2 Short wave receiver. National NC 125. An inherited item, has a few years on it, a tube version, Coverage 600 KHz to 36 MHz. Band spread dial and main tuning, VFO tuning and other typical controls. Add an antenna, speaker, or headphones and probably a physical with TLC. If you need one for a budding enthusiast, grandkids, or mother in law, come and 1st. gets it.



For further information contact:  
Boyd Humpherys W7MOY  
[bjhumpherys@gmail.com](mailto:bjhumpherys@gmail.com)  
328 East Riverdale Ave.  
Logan, Utah 84321

# The ARRL Rocky Mountain Division update January 2012

===== Seeking the Thrill of Ham Radio: QRSS style =====

It's a new year, we'd like to add a new feature of our monthly Division-wide communication: to spotlight hams who are participating in or promoting the seemingly endless fun and magic of ham radio. Does this describe you or your group? If so, please touch base ([n5zgt@arrl.org](mailto:n5zgt@arrl.org)) and we'll feature someone or some group in a future Division-wide email for all to enjoy.

Kicking off this feature, let's glance at a group in southern New Mexico and other parts of the country, spearheaded by David Hassall WA5DJJ, that's involved in QRSS. QRSS is extremely slow speed CW, to the tune of single dots lasting 3-6 seconds (or longer), sent and received with the aid of free software to communicate great distances using very low power. Why such slow speed? Think of a dark scene that you'd like to take a photograph of (without a flash). Setting the camera for a short exposure period would result in a dark or black photo. However, setting the camera for a long exposure period allows seemingly indiscernible light in the scene to be added, or integrated, and captured to produce a brilliant photo despite the dark scene.

Similarly with QRSS, the lengthy CW dits and dahs in conjunction with tight filters allow the receiving station to pull the very low power signal out of the noise for a successful contact.

What does "low power" mean in the realm of QRSS? David has communicated to New Zealand on 30 meters with less than 250 milliwatts (mW). Pushing the envelope further, he recently communicated from Las Cruces, New Mexico to Pensacola, Florida with a mere 8.5 microwatts (uW). That's the amount of power a digital wristwatch runs by or, put another way, more than 11 MILLION times less RF power output than a typical 100 watt HF transceiver.

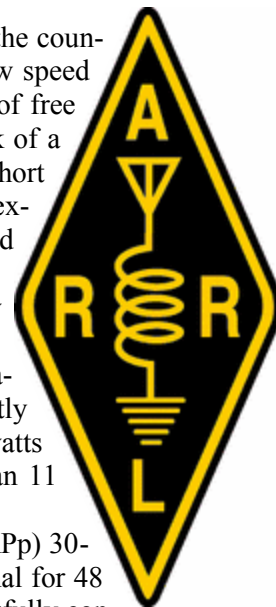
Over New Year's weekend a group of 15 hams, led by Dave, each put a very low power (QRPP) 30-meter transmitter on the air beginning at 0000UTC December 31, 2011 and kept them operational for 48 hours to see how many signals each could receive. A participating ham in New Zealand successfully copied the following stations: KE5OFK\*, WB5UEW\*, P29ZL\*, KC7VHS\*, W1BW, ZL1EE, K5DLA\*, NM7J\*, WE4DX, N5BL\*, G0PKT, WB5FKC\*, KD5SSJ\*, KC5VR\*, N5CWW\*, K7TP, WA5DJJ\* (\* indicates associated to the Las Cruces group).

The typical QRSS transmitter is simply composed of three transistors, a crystal controlled oscillator, buffer, power amplifier and microprocessor programmed with the station's call sign. They were powered with a 5 or 12 volt source and measure approximately 2 x 2.5 inches. The typical antenna is a resonant dipole.

For more information about QRSS please contact Dave Hassall WA5DJJ ([dhassall@zianet.com](mailto:dhassall@zianet.com)) or Cash Olsen KD5SSJ ([qrss.kd5ssj@gmail.com](mailto:qrss.kd5ssj@gmail.com)).

You may also find David's QRSS page quite interesting:

[http://www.zianet.com/dhassall/QRSS\\_A.html](http://www.zianet.com/dhassall/QRSS_A.html)



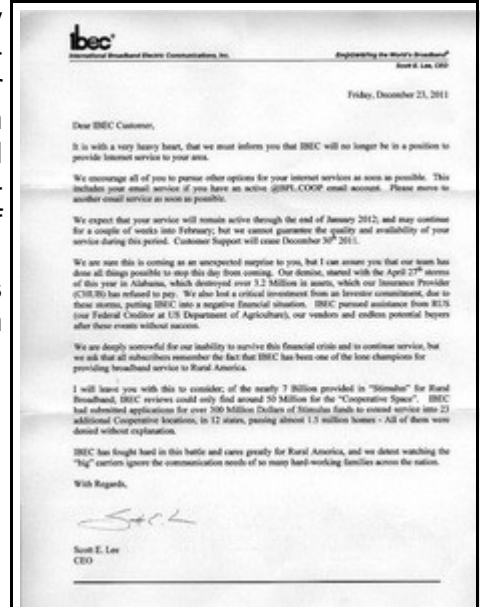
## The ARRL Letter for January 5, 2012 BPL Provider IBEC Announces Shutdown

IBEC -- one of the very few remaining operators of Access BPL systems -- has announced that it is closing down. In an undated announcement that appeared on the IBEC website, the company announced that it has "no other option than to close our doors and cease operations." IBEC claims that it cannot recover financially from the April 2011 tornadoes in Alabama that "ravished [sic] some of our major service areas." IBEC provided Internet service via broadband over power lines (BPL) to rural communities.





"While we regret the loss of jobs brought about by IBEC's BPL business failure, in the long run the rural areas that IBEC was trying to serve will be better served by broadband technologies that are superior to BPL and do not pollute the radio spectrum," said ARRL Chief Executive Officer David Sumner, K1ZZ. "While initially IBEC was cooperative in addressing the ARRL's concerns about interference to licensed radio services -- including Amateur Radio -- the ARRL was dismayed to find that the systems as actually deployed fell short of meeting even the inadequate requirements of the FCC's rules. We hope that this latest in the long string of Access BPL failures will persuade the few remaining fans of BPL to turn their attention elsewhere." Read more [here](#).



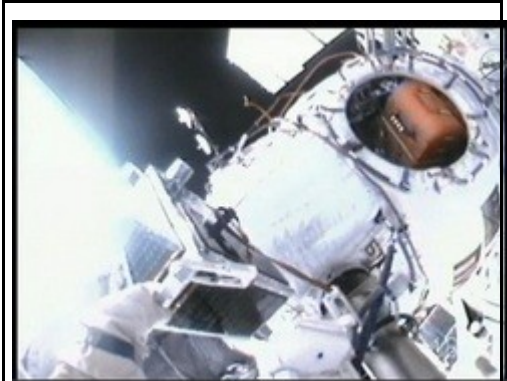
In this letter dated December 23, 2011, IBEC notified their customers that it would be discontinuing service. According to a utility company that serves portions of Tennessee and Virginia, they only found out about IBEC's closure on January 3, 2012. Click [here](#) for a larger image.

## Amateur Radio in Space: ARISSat-1 Re-enters Earth's Atmosphere, Falls Silent

According to [AMSAT](#), [ARISSat-1 stopped transmitting](#) on the morning of January 4. It is believed that the satellite re-entered the Earth's atmosphere around 0700 UTC (+/- three hours) and was destroyed soon after. Telemetry reports showed that the temperature aboard ARISSat-1 had been rising as the atmospheric drag began to affect the satellite. The predicted decay location is an open part of the South Atlantic, well west of Angola.

The last telemetry reports indicated that the internal temperature had topped 167 degrees Fahrenheit and was rising rapidly. Konstantin Vladimirovich, RN3ZF, sent a reception report of a pass at 0842 UTC and stated, "The telemetry was absent, voice messages were not legible, very silent and interrupted. Most likely, I saw the last minutes in the life of the satellite." The last full telemetry captured was received from ground stations as the satellite passed over Japan at 0602 UTC on January 4.

ARISSat-1 was [deployed](#) from the International Space Station on August 3, 2011 during EVA-29 on by Cosmonaut/Flight Engineers Sergei Volkov, RU3DIS, and Alexander Samokutyaev. The satellite carried a student experiment from Kursk State University in Russia that measured atmospheric density. Students from around the world provided the voices for the FM voice announcements.



Sergei Volkov, RU3DIS, and Alexander Samokutyaev deployed ARISSat-1 from the ISS on August 3, 2011. [Screenshot courtesy of NASA TV]

AMSAT President Barry Baines, WD4ASW, said that ARISSat-1 marked a new type of satellite that captured the attention of the national space agencies around the world. "With ARISSat-1, we have we have been able to design, launch, and operate a unique educational opportunity," he explained. "By designing an educational mission aligned with NASA's Science, Technology, Engineering and Mathematics goals, radio amateurs around the world have been able enjoy a new satellite in orbit."

ARISSat-1 achieved several "firsts" for Amateur Radio in space, including the first flight test of the AMSAT Software Defined Transponder, which included an FM voice downlink cycling between student messages, spoken telemetry and SSTV; a 16 kHz bandwidth linear transponder; a CW beacon

carrying telemetry and call signs of radio amateurs (noting their significant contributions to Amateur Radio in space) and a robust, forward-error-corrected 1kbps BPSK digital downlink carrying satellite telemetry and Kursk experiment telemetry.

## ***Ham Radio in Hollywood: Amateur Radio Makes Its Debut on Last Man Standing***

If you watched the January 3 episode of *Last Man Standing* -- the ABC hit situation comedy starring Tim Allen as Mike Baxter, KA0XTT -- you were in for a treat. While this episode didn't feature Amateur Radio per se, it did show Mike's shack in the background. Viewers could see the DXCC, Worked All States, Worked All Continents and the Morse Code Proficiency Certificate -- all provided by the ARRL -- in the first scene. Later on in the show, Mike records his video blog. Sharp-eyed viewers spotted the *2011 ARRL Handbook* underneath the mini-tripod, next to issues of *QST*!



In the opening scene of the January 3 episode of *Last Man Standing*, viewers get their first glimpse of Mike's shack -- along with his impressive wall of ARRL awards and his QSL card collection. Mike's wife Vanessa (played by Nancy Travis) and his boss Ed (played by Hector Elizondo) also appear in the scene. [Screengrab courtesy of ABC]



Make Baxter, KA0XTT -- played by Tim Allen -- records his video blog. Notice the tripod is on top of the *2011 ARRL Handbook*, next to a stack of *QSTs*. *Last Man Standing* airs on Tuesday nights at 8 PM (Eastern) on ABC. [Screengrab courtesy of ABC]

The episode airing on January 17 will introduce Mike Baxter as KA0XTT. According to *Last Man Standing* Producer John Amodeo, NN6JA, Mike will have a QSO on the show. "We had two Amateur Extra class staff members complete a QSO on 10 meters and we recorded it," Amodeo explained. "Unfortunately, we were set up on a stage that is basically a Faraday cage. The very QRP signal made it radio-to-radio. We varied the RIT [receiver incremental tuning] to give it a little extra SSB sound, but I don't think the signal made it much past the stage walls. The recording will be on the show. We thought our ham viewers would get a kick out of it. Non-hams will think it's just distorted." Read more [here](#).

## ***Yaesu's Amateur Radio Division Breaks with Motorola, Changes Name to Yaesu Musen***

After four years under the Motorola umbrella, Yaesu has split from that company. According to Vertex Standard President and Chief Executive Officer Jun Hasegawa, effective January 1, 2012, Motorola will keep the Vertex Standard Land-Mobile Division, while the amateur, marine and air-band will be under the Yaesu Musen banner. The new company will be known as Yaesu USA in the US. Read more [here](#).



# ARRL Rocky Mountain Division Scholarship established

Fellow Hams:

It is with great pleasure that we announce the establishment of a new scholarship to be administered by the ARRL Foundation: the ARRL Rocky Mountain Division Scholarship.

Here are the details:

- This scholarship is intended to provide funding for the educational expenses of a young Rocky Mountain Division amateur radio operator who is pursuing higher education.
- One scholarship of \$500 will be awarded annually to a qualified applicant. If the recipient is not already an ARRL member, he or she will also be awarded a one-year League membership.
- The applicant must be a resident of our Rocky Mountain Division (Colorado, New Mexico, Utah, Wyoming), but he or she may use the award towards a degree at any fully-accredited university or college within the United States.
- The applicant must submit a letter of recommendation from a sitting officer of an ARRL-affiliated club attesting to the applicant's regular activity on the amateur radio spectrum and within the Amateur Radio community.
- The applicant must be a graduating high school senior or undergraduate student, and a US citizen.
- The scholarship is for the exclusive use of the recipient to be applied towards tuition, books, fees and other educational expenses.

**SUPER-DUPER IMPORTANT NOTE:** The application deadline for all ARRL Foundation scholarships, including the newly formed Rocky Mountain Division Scholarship, is FEBRUARY 1. If you are active within a ham club, personally know a qualifying young ham, or know somebody who knows a qualifying young ham, please help us spread the word fast and wide so interested applicants can meet the looming deadline.

Further details and a web-based application are available at <http://www.arrl.org/scholarship-descriptions>

This scholarship, initially funded with proceeds from last August's 2011 ARRL Rocky Mountain Division Convention (Taos, New Mexico), is hoped to become a gift that keeps on giving with the interest and support of members across our Division. Individual hams, organizations, and future conventions interested in contributing towards its fund may do so any time by check payable to the ARRL Foundation, "ARRL Rocky Mountain Division Scholarship" written on the memo line, and mailed to:

ARRL Foundation  
225 Main Street  
Newington CT 06111

The ARRL Foundation, Inc. awards more than 70 scholarships to young hams who are pursuing higher education, and is a not-for-profit organization operated under IRS Tax ID # 23-7325472. All contributions will be acknowledged with a tax receipt letter and are deductible to the full extent of the law.

Please help spread the word to suitable candidates; that February 1 application deadline is just around the corner!

Happy New Year and 73,

Brian Milesosky N5ZGT, Rocky Mountain Division Director Dwayne Allen WY7FD, Rocky Mountain Division Vice-Director Division website: [www.RockyMountainDivision.org](http://www.RockyMountainDivision.org)

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ARRL Rocky Mountain Division  
Director: Brian P Milesosky, N5ZGT  
[n5zgt@arrl.org](mailto:n5zgt@arrl.org)  
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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](mailto: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 Extra Class License

1. (E1A11) What is the first action you should take if your digital message forwarding station inadvertently forwards a communication that violates FCC rules?
  - A. Discontinue forwarding the communication as soon as you become aware of it
  - B. Notify the originating station that the communication does not comply with FCC rules
  - C. Notify the nearest FCC Field Engineer's office
  - D. Discontinue forwarding all messages
2. (E2A09) What do the terms L band and S band specify with regard to satellite communications?
  - A. The 23 centimeter and 13 centimeter bands
  - B. The 2 meter and 70 centimeter bands
  - C. FM and Digital Store-and-Forward systems
  - D. Which sideband to use
3. (E3C02) What is the cause of auroral activity?
  - A. Reflections in the solar wind
  - B. A low sunspot level
  - C. The emission of charged particles from the sun
  - D. Meteor showers concentrated in the northern latitudes
4. (E4A08) Which of the following instruments 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. (E5B05) How long does it take for an initial charge of 20 V DC to decrease to 7.36 V DC in a 0.01-microfarad capacitor when a 2-megohm resistor is connected across it?
  - A. 0.02 seconds
  - B. 0.04 seconds
  - C. 20 seconds
  - D. 40 seconds
6. (E6D06) What function does a charge-coupled device (CCD) serve in a modern video camera?
  - A. It stores photogenerated charges as signals corresponding to pixels
  - B. It generates the horizontal pulses needed for electron beam scanning
  - C. It focuses the light used to produce a pattern of electrical charges corresponding to the image
  - D. It combines audio and video information to produce a composite RF signal
7. (E7D05) Which of the following types of linear voltage regulator places a constant load on the unregulated voltage source?
  - A. A constant current source
  - B. A series regulator
  - C. A shunt current source
  - D. A shunt regulator
8. (E8D10) What is the polarization of an electromagnetic wave if its magnetic field is parallel to the surface of the Earth?
  - A. Circular
  - B. Horizontal
  - C. Elliptical
  - D. Vertical
9. (E9A09) What is meant by antenna gain?
  - A. The numerical ratio relating the radiated signal strength of an antenna in the direction of maximum radiation to that of a reference antenna
  - B. The numerical ratio of the signal in the forward direction to that in the opposite direction
  - C. The ratio of the amount of power radiated by an antenna compared to the transmitter output power
  - D. The final amplifier gain minus the transmission-line losses (including any phasing lines present)
10. (E0A08) What does SAR measure?
  - A. Synthetic Aperture Ratio of the human body
  - B. Signal Amplification Rating
  - C. The rate at which RF energy is absorbed by the body
  - D. The rate of RF energy reflected from stationary terrain

(For answers to test questions see page 14)



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Answers to questions on page 13: 1-A, 2-A, 3-C, 4-D, 5-A, 6-A, 7-D, 8-D, 9-A, 10-C

