BARC
BRIDGERLAND AMATEUR RADIO CLUB

THE OHM TOWN NEWS

Voice of the Bridgerland Amateur Radio Club

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

October 2012

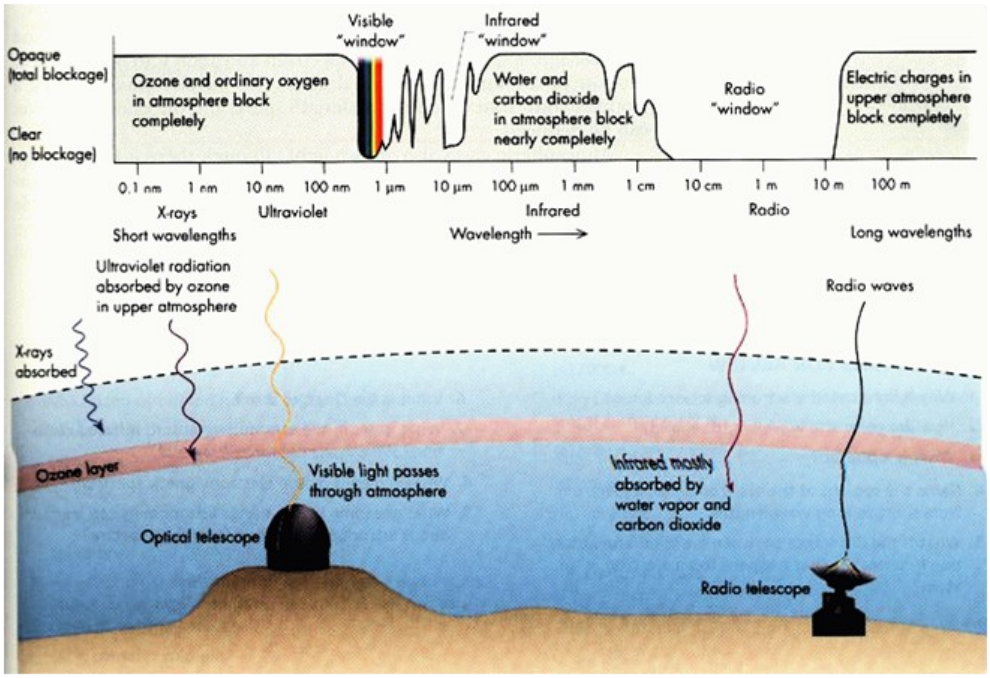
Some Contents…

ARRL Affiliated

PRESIDENT'S MESSAGE

In the QST October issue, an article on "Those Mysterious Signals" discussed sounds that may be like noise to us but are of interest to radio astronomers. As ham radio operators, we are listening for those distance ham radio operators but also hear static crashes from far off lightning storms or electrical interference that may be caused by power lines or electrical equipment in your home or the neighborhood. The electrical equipment could be a doorbell transformers, toaster ovens, electric blankets, ultrasonic pest control devices, electric bug zappers, heating pads, touch controlled lamps, etc. It is the local electrical and atmospheric noise that gives us the most problem noise and can vary from day to day and morning to evening. This other mysterious signal noise is cosmic noise which is a low level noise that is present 24 hours a day on all bands. From the picture below, there is only a small radio window that the cosmic noise can reach the earth and is in the upper HF and VHF bands.

Cosmic noise is of interest to Radio Astronomers who studies celestial objects at radio frequencies. Radio astronomy is conducted using large radio antennas referred to as radio telescopes, that are either used singularly, or with multiple linked telescopes utilizing the techniques of radio interferometry and aperture synthesis.



The National Radio Astronomy Observatory has many facilities for exploring the universe. It has the world's largest fully steerable radio telescope. Most of what we know about the Universe comes from information that has been carried to us by light. But visible light is only a small part of the electromagnetic spectrum. By examining the frequency, power and timing of radio emissions from the celestial objects, astronomers can improve our understanding of the Universe.

There are many other sites around the world that have radio telescope installations. One site is the Australian Square Kilometre Array Pathfinder (ASKAP) in Western Australia. ASKAP is made up of 36 identical antennas, each 12 meters in diameter, working together as a single instrument to achieve a total collecting area of approximately 19,300 square miles. Here is a video taken under the night sky during the ASKAP testing phase.

So when you have those days of noise at S-9, atmospheric noise, electrical, or a geomagnetic storm may be the likely culprit. But when things are quite and have very low noise, you might able to hear the cosmic noise that started its journey thousands or even millions of years ago.

73,
Cordell
KE7IK

UPCOMING ACTIVITIES

ARRL VEC-listed Local Radio test — 11 October, 7:00 PM (Info on web site)
At the ASTE Building at USU, Room 108, 1498 North 800 East, Logan, UT

Swaptoberfest (in place of Club Meeting) — 13 October
Located at the Cache County Fairgrounds Pavilion,
450 South 500 West in Logan, UT

RACES VHF Net — 18 Oct, 8:00 PM 447.00 IRLP 145.49 Promontory 147.18 Snowbird

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285 TechConnect Radio Club Fall TechFest (Lakewood, CO) - 3 Nov (Info here)

BARC Club Meeting - Elections — 10 November, 10:00 AM

RACES HF Net — 17 November, 8:00 AM 3920 KHz

BARC Club Meeting - Christmas Party — 5 December
Meet at 6:00 PM, Eat at 6:30 at the Coppermill Restaurant

ARRL VEC-listed Local Radio test — 11 October, 7:00 PM (Info on web site)

RACES VHF Net — 20 Dec, 8:00 PM 447.00 IRLP 145.49 Promontory 147.18 Snowbird

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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

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.

In connection with the SWAPTOBERFEST, we try to always have a ARRL-VEC supported Amateur Radio Exam. The EXAM will be prior to the SWAPTOBERFEST, on the Thursday evening just prior to the 'fest. So, that is **Thursday, October 11, 2012** at **7:00 pm** sharp at USU's ASTE (Ag. Systems Technology and Education) building (Room 108 @ 1498 North 800 East, Logan, UT 84321). This will be our first test session that will utilize the new Amateur Extra Exams. Please preregister at the BARC website (www.barconline.org) by clicking the "How To" tab, then clicking the "Get Licensed" tab, finally clicking on RSVP and completing the form. The next test will be on Saturday **December 8** at 8 am at the same location.

Some shots of LOTOJA this year

The Bear 100: Aid Stations at Temple Fork and Rangers Dip

The ARRL Letter for September 6, 2012
ARRL Recognizes: Bob Bruninga, WB4APR, Wins August *QST* Cover Plaque Award

The winner of the August *QST* Cover Plaque award is Bob Bruninga, WB4APR, for his article "Rethinking Electrical Power for the Ham." *Congratulations Bob!* The *QST* Cover Plaque award -- given to the author or authors of the best article in each issue -- is determined by a vote of ARRL members on the *QST Cover Plaque Poll web page* . Cast a ballot for your favorite article in the September issue today.

The ARRL Rocky Mountain Division Update
September 2012

===== Jamboree on the Air (JOTA) =====

Jamboree on the Air (JOTA) is an annual Scouting event that uses amateur radio to link Scouts around the world, around the nation, and in your own community. Held on the third full weekend of October each year, this worldwide jamboree requires no travel, other than to a nearby radio amateur's ham shack.

Last year over 750,000 scouts took to the airwaves in JOTA, and this year JOTA will occur on the ham bands from Saturday, October 20 at 00:00 hours local time to Sunday, October 21 at 24:00 hours local time. If you are interested in participating in JOTA, or hosting a JOTA opportunity for your local Scouting unit, now is the time to make plans, rally the ham club, reach out to nearby Scout troops and packs, etc.

There are many ways for you to introduce the wonderful world of ham radio to scouts during JOTA. Contact your local Scout council office (http://scouting.org/LocalCouncilLocator.aspx) and ask how you might be able to help. Contact your local Scout troop/pack leader and ask if they'd like to spend time talking to fellow scouts all over the nation or world this weekend. If your club has a club station, or the ability to set up in a public location Field Day style, invite scouts and their parents to get on the air from it. Or, at the very minimum, simply get on the airwaves, call "CQ JOTA" (or answer similar CQs from other stations) and enjoy QSOs with eager scouts from all over.

The International Space Station (ISS) has even been active on the air to greet scouts during JOTA.

Additional details about JOTA, including suggested calling frequencies, JOTA patch order information, JOTA activity ideas, and more can be found at http://www.arrl.org/jamboree-on-the-air-jota as well as http://www.scouting.org/JOTA.aspx (source of some text above).

The ARRL ARES E-Letter for September 19, 2012
Reading List: When GPS Leads to SOS

This New York *Times* article doesn't mention ham radio as such, but it presents a scenario we may face in the future: When GPS Leads to SOS. -- Mike Harla, N2MHO, EC, Cumberland County, New Jersey

Here's another NY *Times* article that will lend some perspective on spectrum needs versus technology advancement and efficiency as applied to the cellular, broadband services, but is applicable to all radio spectrum use. I learned a lot from this piece: Carriers Warn of Crisis in Mobile Spectrum - As data usage multiplies on mobile devices, carriers say they need more spectrum, but scientists and engineers say newer technologies can improve efficiency. - K1CE

Another recommendation for your reading pleasure and/or induction of cognitive dissonance: Space Weather: What Emergency Managers Need to Know by Elaine Pittman on March 26, 2012, in *Emergency Management* newsletter. -- K1CE

Letters: Internet-based Systems' Fallibility

As a regular reader of the *ARES E-Letter*, I've watched the newsletter consistently espouse the use of D-STAR for disaster response and emergency communications services. One of the ARRL's catchy slogans, which is really more than just a slogan as it rings true is: "When all else fails, Amateur Radio."

Here in the mid-peninsula area south of San Francisco, we regularly train using simplex among hams, relaying as needed, to ensure all exercise participants get the messages. Among other things, these exercises encourage us to put up more effective antennas to ensure we can communicate across our cities on simplex and not rely on the numerous local repeaters.

I have nothing against D-STAR, IRLP, EchoLink, or repeaters. They can be very useful systems when they are available. My concern is the emphasis on relying on the availability of the Internet for emergency communications. I would like to suggest that any emergency exercise that uses the Internet to pass traffic, also include direct ham-to-ham communication to pass traffic. Furthermore, the *ARES E-Letter* should encourage this direct communication so that we will truly be prepared for an emergency when/if the Internet is not available: "When all else fails, Amateur Radio." -- Rich Stiebel, W6APZ, Palo Alto, California, CERT, ARES/RACES, *w6apz@sbcglobal.net* [Stiebel sent this follow-up note: Our last Monday night ARES/RACES net was called "Rubber Ducky Night." Everyone checking in was asked to use their hand-held with either the stock rubber ducky, or an after-market antenna that mounted on their hand-held, i.e., an antenna that one could walk around with on the radio to simulate what communications would be like if our homes' outside antennas were knocked down. Yes, the net took a bit longer with people relaying messages for those who could not be heard by the entire net, but it was good practice." - Ed.]

From ARRL HQ: Lessons Learned from Isaac

As we all know every event has lessons to teach us, whether the event be big or small. Isaac, while not packing the punch of Katrina or Ike, still had a tremendous impact on the Gulf coast. In the aftermath lessons emerged for your staff at HQ.

As we've seen in the past, a Major Disaster Emergency Coordinator (MDEC) would have been a huge asset. Hurricanes have a tendency to remind us of this since the operational level rises from the local level to the section level as state assets come into play and typically involve many sections (Isaac involved 13 and Irene in 2011 involved 19 sections). The idea of an MDEC is not new and more information can be found on the ARRL website. Having that go between during multi-section events would be a great tool in the toolbox.

We have also seen the value of contest stations during an emergency. When net control stations were needed during Isaac, contesters volunteered their skills and stations to serve. When planning, be sure to reach out to the contest community. These top of the line stations and operators with sharp skills can and want to assist.

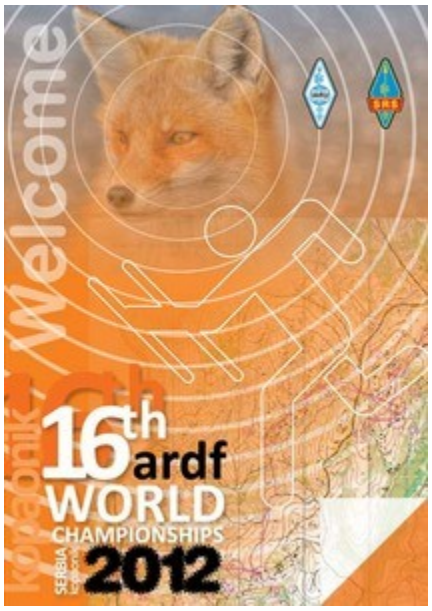
And finally, the methods we use to get information from the field could use some improvement. Our primary method for receiving updates is via e-mail. The e-mails give us a snap shot of what is happening, but they lack hard numbers. A modernization of our on-line reporting system, for both major disasters and routine ARES activations, may need to be considered. Information from the field is critical: It keeps us aware of Amateur activity, provides us with information to share with national partners, and helps increase our visibility to media and the public.

Lessons learned has been a buzz word in disaster response for many years and these lessons are important. However, what matters is lessons applied. I've been amazed at how many times the same lessons learned emerge again and again with each disaster. Lessons applied is how we get prepared for the next one. It shows that we don't suffer from disaster amnesia. Here at HQ we'll work on building from the lessons learned, as we did after Irene and the 2011 Halloween Nor'easter.

And finally, I invite ARES groups and others to share your lessons learned and lessons applied with us at HQ. Remember, someone else may have faced the same problem, found a solution, and can share the results. 73, Mike Corey, KI1U, ARRL Emergency Preparedness Manager

The ARRL Letter for September 20, 2012
ARDF Update: A Baker's Dozen of Medals for ARDF Team USA

By ARRL Amateur Radio Direction Finding Coordinator Joe Moell, K0OV



As they packed their suitcases in preparation for the World Championships of Amateur Radio Direction Finding (ARDF), the members of Team USA were eager, but they had no idea that they would return home with 13 medals. Team USA has participated in these biennial championships since 1998, and the most medals they had won any time so far had been two, with no golds. This year, however, would be different; their practice sessions and training camps would make them better prepared than ever.

The sport of ARDF -- also called foxtailing, foxhunting and radio-orienteering -- has undergone many changes since the first World Championships in 1980, but the basics remain unchanged. A championship course has five transmitters in a mapped area of rural and wooded terrain, typically 1000 acres or more. When Fox #1 comes on the air, contestants set out from the start as and try to be the fastest to "punch in" at all required transmitters and then make it to the finish line in another part of the forest. Read more here.

DXCC News: ARRL DXCC Desk Approves 11 Operations for DXCC Credit

On September 19, the ARRL DXCC Desk approved the following 2012 operations for DXCC credit: 3B8/IW5ELA (Mauritius); E40VB (Palestine); JY8VB (Jordan); 9A8VB (Croatia); E7/UA4WHX (Bosnia-Herzegovina); 4O7VB (Montenegro); Z38VB (Macedonia); ZA/UA4WHX (Albania); YU9VB (Serbia); EY8/UA4WHX (Tajikistan), and UN/UA4WHX (Kazakhstan).

The ARRL Letter for September 27, 2012

On the Air: Hams From Five Countries Help Put Kosovo On the Air for the First Time

Hams from England, the US, the Netherlands, Croatia and Finland went to Kosovo earlier this month to help with the first Amateur Radio activation in that country. [Nigel Cawthorne, G3TXF, photo]

On September 12, the Autoriteti Rregullativ i Telekomunikacionit (ART) -- Kosovo's telecommunications regulatory authority -- created the necessary legal framework for the development of an Amateur Radio Service in the Republic of Kosovo by approving its Regulation for Amateur Radio Services. Although not formally assigned a prefix by the International Telecommunication Union, Kosovo will use the **Z6** prefix. Currently, Kosovo does not count toward the ARRL's DXCC Award, as it has not been assigned a prefix by the ITU (per DXCC rule II.1.a), nor has it been recognized by the United Nations (per DXCC rule II.1.b).

Nigel Cawthorne, G3TXF, and Bob Barden, MD0CCE/N2BB -- members of the Chiltern DX Club (CDXC) -- were part of a team of operators led by IARU Region 1 President Hans Blondeel Timmerman, PB2T, that activated Z60K, the first Amateur Radio station in the Republic of Kosovo. Along with Cawthorne, Barden and Blondeel Timmerman, the team included the following radio amateurs: Nik Percin, 9A5W; Emil Balen Zdravko, 9A9A; Emir Mahmutovic, 9A6AA; Martti Laine, OH2BH; Jorma Saloranta, OH2KI, and Pekka Holstila, OH2TA. Click here for Cawthorne's and Barden's account of the Z60K activation.

The ARRL Letter for October 4, 2012

Public Service: The Weather Channel to Begin Naming Winter Storms

Beginning this winter, The Weather Channel will begin naming what it calls "noteworthy winter storms." As The Weather Channel explained on its website, "[a] storm with a name is easier to follow, which will mean fewer surprises and more preparation. In addition to providing information about significant winter storms by referring to them by name, the name itself will make communication and information sharing in the constantly expanding world of social media much easier." Unlike the National Hurricane Center -- which has named tropical storms and hurricanes since the 1940s -- the National Weather Service does not name winter storms. Read more here.

Amateur Radio Fun: New QuickStats Now Available on ARRL Website

Four new poll questions have just been published on the QuickStats page on the ARRL website. Let your voice be heard!

- Have you built a project using an Arduino microcontroller?
- Do you subscribe to any Amateur Radio e-mail lists (reflectors)?
- Do you prefer extended conversations on the air, or short contacts?
- Was public service the primary motivation for getting your Amateur Radio license?

Visit the QuickStats page and be sure to bookmark it in your browser. Results from this QuickStats poll will be published in the January 2013 issue of *QST* on the QuickStats page, located in the rear advertising section of the magazine. Along with monthly poll results, *QST* QuickStats offers colorful charts and graphs that highlight interesting Amateur Radio statistics.

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A note from Kevin Reeve (N7RXE): There are 5 new Cube Sats in Space, all with amateur radio freq on them. Here is some information if you are interested in monitoring them.

Space Station Deploys Five CubeSats

http://www.arrl.org/news/space-station-deploys-five-cubesats

A comment from Gary Roberts (AG1T): I have been able to listen to a couple of them. It has been really neat to do so.

If you have a satellite tracking program, they are a little in front of IIS. About 5 minutes or so. You can decode the AX.25 data or listen for the CW. The drift in frequency due to doppler is kind of different to get used to (especially listening on CW). But it is all fun!

Questions for Technician Class License

1. (T1C10) How soon may you operate a transmitter on an amateur service frequency after you pass the examination required for your first amateur radio license?
A. Immediately
B. 30 days after the test date
C. As soon as your name and call sign appear in the FCC's ULS database
D. You must wait until you receive your license in the mail from the FCC

2. (T2B05) What determines the amount of deviation of an FM signal?
A. Both the frequency and amplitude of the modulating signal
B. The frequency of the modulating signal
C. The amplitude of the modulating signal
D. The relative phase of the modulating signal and the carrier

3. (T3B06) What is the formula for converting frequency to wavelength in meters?
A. Wavelength in meters equals frequency in hertz multiplied by 300
B. Wavelength in meters equals frequency in hertz divided by 300
C. Wavelength in meters equals frequency in megahertz divided by 300
D. Wavelength in meters equals 300 divided by frequency in megahertz

4. (T4B01) What may happen if a transmitter is operated with the microphone gain set too high?
A. The output power might be too high
B. The output signal might become distorted
C. The frequency might vary
D. The SWR might increase

5. (T5C01) What is the ability to store energy in an electric field called?
A. Inductance
B. Resistance
C. Tolerance
D. Capacitance

6. (T6B10) Which semiconductor component has an emitter electrode?
A. Bipolar transistor
B. Field effect transistor
C. Silicon diode
D. Bridge rectifier

7. (T7B08) What should you do if a "Part 15" device in your neighbor's home is causing harmful interference to your amateur station?
A. Work with your neighbor to identify the offending device
B. Politely inform your neighbor about the rules that require him to stop using the device if it causes interference
C. Check your station and make sure it meets the standards of good amateur practice
D. All of these choices are correct

8. (T8B11) What is a commonly used method of sending signals to and from a digital satellite?
A. USB AFSK
B. PSK31
C. FM Packet
D. WSJT

9. (T9B01) Why is it important to have a low SWR in an antenna system that uses coaxial cable feedline?
A. To reduce television interference
B. To allow the efficient transfer of power and reduce losses
C. To prolong antenna life
D. All of these choices are correct

10. (T0B03) Under what circumstances is it safe to climb a tower without a helper or observer?
A. When no electrical work is being performed
B. When no mechanical work is being performed
C. When the work being done is not more than 20 feet above the ground
D. Never

(For answers to test questions see page 12)

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Answers to questions on page 11: 1-C, 2-C, 3-D, 4-B, 5-D, 6-A, 7-D, 8-C, 9-B, 10-D