



THE OHM TOWN NEWS

Voice of the Bridgerland Amateur Radio Club

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

March 2010

Some Contents...

Presidents Message	2
Ham Profile: Kevin Reeve (N7RXE)	3
2010 Club Budget Voting Form	4
Upcoming Activities	5
D-Star update information	6
ARRL newsletter information	8-11
Test Questions for Extra Class License...	12



PRESIDENT'S MESSAGE

For the past several years, we have been at the bottom of one of the lowest solar activity cycles in history. But it looks like solar cycle 24 is starting its upward trend. The past 10 weeks have seen only three days with no sunspots. The prediction is that solar cycle 24 will peak in mid 2013. In other words, at the peak of the cycle you can basically make contact with other amateur radio operators all over the world. On the other hand, when the sunspot activity is in the low part of the cycle (like it is now) radio signals don't normally travel very far -- but sometimes they do and that uncertainty is one of the many things that make the hobby fun.

Any form of radio communications that uses the High Frequency (HF) bands and ionospheric radio propagation is very dependent upon the state of the ionosphere. The higher the levels of radiation received from the Sun, the greater the levels of ionization in the ionosphere and in general this brings better propagation conditions for HF radio communications.

The importance of the ionosphere lies in its ability to reflect some radio waves back to earth under certain conditions. Actually the wave is bent, or "refracted", much like a stone thrown across a pond's surface. And like the stone, the wave can make multiple hops. Whether a given wave is absorbed by, or reflected from, or transmitted through the ionosphere depends on the wavelength (radio frequency), the angle at which the wave strikes the ionosphere, and the makeup of ionosphere.

There is an upper limit (called the maximum usable frequency, or "muf") to the frequencies that may be used efficiently for long distance communications. The maximum usable frequency depends on the conditions in the atmosphere at a given time. The muf is higher at the peak of the sunspot cycle. That means that communications that could ordinarily be made at 80, 40 or 20 meters, during periods of high solar radiation can predictably be made in the 15, 10 meter or higher wavelength bands.

There are several places which have information on space, the Sun and the effects it has on the earth. The *Space Weather Prediction Center* (SWPC) is part of the National Weather Service (NWS) and is the nation's official source of space weather alerts, watches and warnings. The [Solar & Heliospheric Observatory](#) (SOHO), is a project of international collaboration between [ESA](#) and [NASA](#) to study the Sun from its deep core to the outer corona and the solar wind. Another site is [Cosmicopia](#) which contain an abundance of information about cosmic rays, the Earth's magnetosphere, the Sun, space weather, and other exciting topics in space science. On the right side of the Cosmicopia web page, be sure to click on the 'Great Links' hyperlink, for it contains additional places of interest.

From now on and for the next three or four years, you should be noticing increases in the maximum usable frequency as the sunspots and better DX conditions return.

For those of you who have the Technician class license, plan on upgrading to the General class license so you will have the HF privileges to take advantage of the increasing solar activity and the worldwide DX contacts.

And don't worry about what kind of ham radio you have. Whether you have a vintage rig or one of the new high-tech rigs with all the bells and whistles, now is the time to really enjoy your hobby.

73

Cordell
KE7IK



HAM PROFILE

by Jared B. Luther,

Kevin Reeve, N7RXE, has been licensed for 19 years and currently holds a General Class License.

He graduated with a bachelors degree in Computer Science and a Masters of Instructional Technology. Currently, he works for the Information Technology department at Utah State University leading the Marketing and Communication efforts.



Kevin first became licensed in 1990 as a Novice after taking a course offered by Paul Hansen, W07N. He was first introduced to amateur radio by Sam Penrod (KSL reporter), KB7DZ, and Dean Harmer, W7DHH, while a high school student in Manti, Utah. He thought it was cool how they had radios that they could communicate with and also make telephone calls. Of course... this was in 1983.

Kevin's first radio was a Radio Shack 10 meter rig putting out 25 watts. His first amateur radio contact was on 10 meters to the mid-west. On that small rig he talked all over the world including New Zealand, Australia, Russia and Japan. His first antenna was a home-built quarter wave with radials built out of twin lead. He had to hang it in a tree behind the apartment he rented. It worked great and he had a blast working ten meters. He was excited for his first Field Day and was quite confident with his Morse Code skills until he showed up and sat with the 20+ WPM gang. He was humbled pretty quickly.

He became really involved with amateur radio after his first public service event which was the Pony Express in Clarkston, Utah. In 1991, he signed up to help with LOTOJA, the first year the amateur radio operators helped with that event. There were probably only 12 hams. He was put in the very first car following the lead riders the entire way. There were about 150 cyclists total that year. He has helped with every LOTOJA since then, as has his family in some way. His wife, Janet, KC7GCK, took the ham class with him right after they were married. Austin, KE7OAU, now 14 years old, studied for a couple of years and got his license when just 11 years old. All of his kids have helped out with at least one event, and have attended Field Day.

He has served as the BARC Club President 3 times, Vice President, Secretary, and is currently Treasurer. His first club assignment was photographer for the club news letter, then later the Editor of the Ohm Town News.

He got into the hobby for the technology and building things. He stays in the hobby because of all the wonderful people he has met and gets to hang out with on a regular basis. Kevin said "Our club has always been about the people and service and that is what makes it so great."

Kevin's advice to all the new hams is get involved. "You learn amateur radio by getting involved. Sign up for a couple of activities, jump in and help out. That is how I learned ham radio, and that is how I've met people."

Interested in checking out Bulletins and information from ARRL headquarters, and practicing code? The complete W1AW schedule can be found on the web at

<http://www.arrl.org/w1aw.html#w1awsked>.

2010 Bridgerland Amateur Radio Club Budget

Income	Amount
Dues	\$1,605.00
Total Income	\$1,605.00
Expenses	
Promontory repeater site rental	\$600.00
Field day	\$300.00
Newsletter	\$60.00
Club Fees (PO Box Rental & Non-Profit Corporation)	\$60.00
Christmas Party	\$200.00
Socials and Refreshments	\$200.00
Swaptoberfest	\$50.00
Total Expenses	\$1,470.00

A special repeater fund from repeater donations has been established for the repair, upgrade, and configuration of the repeater systems the club owns. The repeater committee has a yearly plan where they provide repair and upgrade recommendations to the board. We are asking club members to give the board discretion to spend repeater fund donations as available and necessary for the repair, upgrade, and configuration of the repeater systems the club owns based upon the repeater committee's input.

_____ I approve of the 2010 Budget

_____ I do not approve of the 2010 Budget

Signed: _____ Callsign: _____

Vote on March 13th at Club Meeting or mail your vote to P.O. Box 111, Providence UT to arrive before March 13th. You may also send it with another club member.

UPCOMING ACTIVITIES

VE TEST Session - 11 March, 7:00 PM USU Ag Science Building

BARC Club Meeting - 13 March, 10:00 AM

RACES HF Net - 20 March, 8:00 AM

Longmont ARC Swapfest, LARCFest (Longmont, CO) - 3 April

BARC Club Meeting - 10 April, 10:00 AM

RACES VHF Net - 15 April, 8:00 PM 3920 KHz

BARC Club Meeting - 8 May, 10:00 AM

Mountain Man Rendezvous - 25-26 May

Rocky Mountain Division Convention - 28-30 May

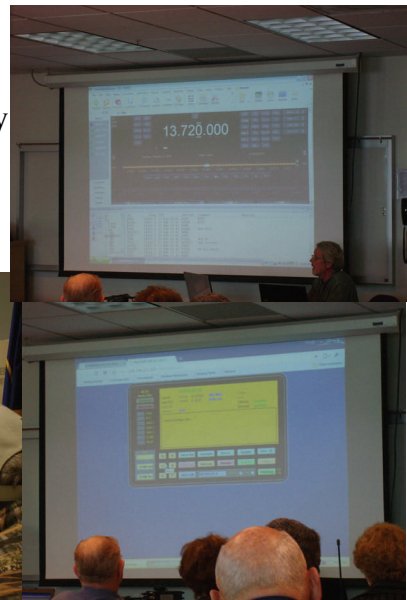
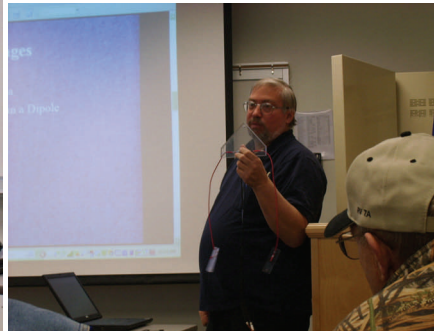
At the newly renovated 302-room Platte River Resort in Casper, Wyoming.

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.



Pictures from the January Club Meeting about building Antennas and from the February Club meeting about computer programs in the Ham Shack.



Network Information, D-Star UPDATE....

Posted by: "Evans F. Mitchell KD4EFM" kd4efm1@verizon.net kd4efm

Mon Feb 22, 2010 4:19 am (PST)

Greetings one and all.

As you all are well aware, we are at 562 gateways that communicate with the USROOT as of 22FEB2010.

This is not going to be a state of the union kind of thing here, but more or less a here is what we have at this point in time!

So far, there is a maximum reported number of registered call signs; 12453, avg is at 12306

DELETION shows; 3879 from the sync_mng files...

Again, the trust team has been trying to get some clean-up action going here, but there's still some wicked stuff out there that is throwing the gang for a loop at this time.... Hang tight, there are some really good people on the drawing board trying to solve this delete record issue, right now, it's just gona have to take some time here.

So far the USROOT has gone for several months now without a MAJOR INCIDENT....

Ken, WB4FAY, has put out information for Net Controllers and admins to be able to download the new dplus report update (Ver 0.8b) <http://k4dso.com/util/DplusReport.pdf> Please be sure to check the information out if you are involved in one of the many nets out there on D-Star reflectors....

Gateway runnings.... I can also report that KJ4ACN in Lakeland Florida has been running solid for a long time now, had to go do a 'uptime' and got the following report....

```
[root@dstargw dstar]# uptime 01:13:19 up 303 days, 22:32, 1 user, load average: 0.09, 0.12, 0.04 [root@dstargw dstar]#
```

303 days since it's last power cycle (reboot for you windows people) WOW. Coming up in 62 days, one full year of service to the folks in Central Florida.

I am sure there are other gateways out there that have been running just as long, if not longer.... Keep up the good work.

Other news, ALL IS WELL. Robin has been working on the new DV_AP (Digital Voice Access Point) Those of you who came to Florida for the Orlando Ham Fest had a chance to see several of the DVAP's in action around the grounds... and at the HRO booth. With the production of the DVAP, Dplus has been updated also for the DVAPers out there as well...

Admins: check the G2 Status page for any issues your gateway might be having....

Need the web site, please contact me off list, I will send you the link... those who know it, pass it off list to other admins as well, this way we keep the constant asking for the website...

That's all the email space I am wanting to take at this time. Enjoy D-Star, there's more to come!!!!

Remember this, be sure to support your local D-Star Gateway, the admins put more money and time into this then your thinking they do.... Internet connections are not free you know.... And always, thank the owners and admins who work to keep this mode of communications going strong. It's the right thing to do.

And by all means, if you're a new Dstar user, or Admin, and you have questions.... by all means ASK AWAY! We (Admins) love to help you the user out, and make the most of not just our investment, but yours as well.

There are several D-Star Information Portals: Florida: <http://www.florida-dstar.info>

South East US: www.dstarinfo.com Dstar Users Site: <http://www.dstarusers.org>

I forgot the UK and the EU sites, but search the groups you should be able to find the information.

Enjoy!

Evans F. Mitchell
KD4EFM / WQFK-894

Fla. D-Star Tech Support Group <http://www.florida-dstar.info>

Polk ARES A.E.C. <http://www.polkemcomm.org>


Tyler Griffiths
N7UWX

For the Club Meeting on March 13:

The Bridgerland Amateur Radio Club (BARC) meeting topic will be "Amateur Radio Astronomy". Dale Hooper will be our guest speaker. Dale works at the Space Dynamics Laboratory and is a member of the Society of Amateur Radio Astronomers (SARA).

Radio astronomy is a subfield of astronomy that studies celestial objects at radio frequencies. The visible light spectrum from stars is just a small part of the overall electromagnetic emissions of stars and other objects in the heavens. With radio astronomy, astronomical phenomena that are often invisible in other portions of the electromagnetic spectrum can be studied to obtain a much clearer picture of stars and galaxies than is possible by means of optical observation. Stars, planets, galaxies, clouds of dust and gas, and other matter in space are sending out electromagnetic energy all the time. There are also other classes of objects, such as Radio Galaxies, Pulsars and Masers. The radio frequency range of most importance to radio astronomy that can be observable from earth is approximately from 1 centimetre to 10 meters.

The world's second radio telescope was built by an amateur radio operator, [Grote Reber](#), in 1937. Amateurs use a variety of equipment, sometimes modified satellite receivers and dishes, to build their radio telescopes. Be sure to attend our March club meeting to learn more about Amateur Radio Astronomy. See you there.



If you have not had the opportunity to sign up for the BARC activities coming up this summer follow this link and get signed up today.

<http://www.barconline.org/node/402>

If you need a little more information about the events BARC participates in follow this link:

<http://www.barconline.org/node/404>

See ya on the Radio!



As printed in the ARRL Rocky Mountain Division update – January 2010

The President, Vice-President and Secretary of the Podunk Hollow Amateur Radio Club all took a trip out to the ARRL headquarters.

Being the frugal folks they are, they decided to share the hotel room and split the cost. The desk clerk said it would be \$30 for the night.

All three men coughed up \$10, and went to their room. The clerk noticed that he forgot to give them their ARRL discount of \$5. He gave the bellhop 5 one dollar bills to take to their room. The disgruntled bellhop decided to take \$2 for a tip. He gave each man a dollar back.

Now... Each man has an out of pocket expense of \$9 to report to the Treasurer of the P.H.A.R.C. The question is this: If each man claims

\$9 for the room that will add up to \$27 dollars. The bellhop has \$2.

This is \$29. Where is the other dollar?

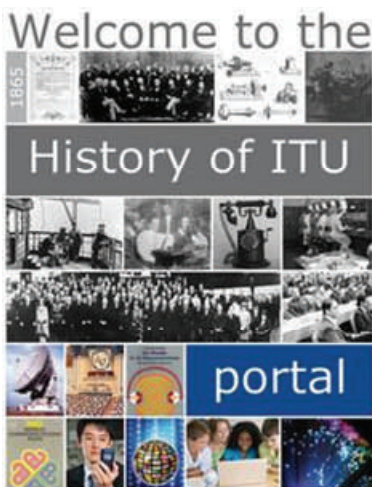
The Answer!!!

This question was misleading to say the least. I intentionally tried to foul up your thinking process. I am happy to say that over 100 of you were not fooled. The Podunk Hollow group did not lose that dollar. I tried to make it sound like it went poof by trying to convince you to forget it existed to start with. Each member did, as far as they knew, contribute \$9 for the room. The next part is where I tried to trick you. 9×3 is 27. Next I told you that the bellhop kept \$2 and added to the \$27 this was \$29. The trick here is that $9 \times 3 = 27$ INCLUDES the \$2 dollars the bellhop kept. I tried to trick you into adding his tip twice and forgetting the \$3 refunded.

Good work here folks. Director: Brian Milesosky, N5ZGT n5zgt@arrl.org

The ARRL Letter for February 11, 2010

The International Telecommunication Union (ITU) [announced](#) on February 11 that they have launched the [History of ITU portal](#). This program -- the digitizing of the ITU's archive of historical documents -- aims to improve access to information on the ITU and chart its evolution since its establishment in 1865, while ensuring the long-term preservation of historic documents. The archives will be freely accessible. ITU's Historical Documents Digitization Program is an ongoing project to catalogue and scan key ITU documents and outcomes of major conferences and make them available on the web. Optical character recognition ([OCR](#)) allows the documents to be fully searchable. Documents generated from ITU Plenipotentiary Conferences -- as well as from early radio, telegraph and telephone conferences -- are now available on the portal. The portal provides background information, key data and links to the documents and other materials for each conference. The digitization program will continue to make available documents of historic significance, including those related to Radiocommunication Conferences since 1903.



Launch of New ARRL Web Site Delayed to "Get it Right"

After meeting with ARRL staff on February 23 -- two days before the new ARRL Web site was to launch -- ARRL Chief Operating Officer Harold Kramer, WJ1B, made the decision to delay the unveiling of the Web site until late March. "Work on the new ARRL Web site has progressed at a frantic pace but there are still some potential 'bugs' that could affect members. We need to be sure we get it right," Kramer said. "Our members' security, information and ability to actually *use* of all the options on the new site outweigh any rush to meet an artificial deadline. It's just good customer service."

The new Web site -- which will contain the online store, class registrations, audio, video, DXCC information, contest data, individualized member options and other 21st century opportunities for members -- is one of the largest technology upgrade activities that ARRL and Fathom, the company programming the site, have ever undertaken. "Reviewers have been unanimously impressed and are helping make sure we create the easiest, most enjoyable online experience possible," Kramer explained.

According to ARRL Media and Public Relations Manager Allen Pitts, W1AGP, the current ARRL Web site is not only used by ARRL members, but is a prime reference source for engineers, hams and wireless technicians around the world, making it the premier place to find information about Amateur Radio, its activities and the sciences behind it. "The Web is our main face to the world, and the new Web site will be fantastic," he said. "Although we all regret the delay, I believe our members will appreciate our diligence about the ease of use, security and navigation for the new site."

Reminder: ARRL Rocky Mountain Division member survey

Fellow ARRL Members:

A reminder...only 2 weeks remains for you (if you've not already done so) to provide your input, feedback, and ideas on various League-related topics through a Division-wide survey open to all ARRL members of the Rocky Mountain Division. The survey, available online or in printable formats, is open until March 6, 2010.

In order to take it, you will be asked to provide your ARRL membership number to verify membership within the League and our Division. You can find your membership number on your ARRL membership card, the mailing label of QST magazine, and via the ARRL website.

To take your survey, please head over to www.RockyMountainDivision.org where you'll find a link to the questionnaire.

Please help us spread the word about this survey to all ARRL members within the Rocky Mountain Division; feel free to forward this email to your club's email listserve, mention it in your club newsletter, as a QST during your club's net, etc.

Thank you, 73, and see you on the airwaves!

Brian Milesosky N5ZGT, Rocky Mountain Division Director Dwayne Allen WY7FD, Rocky Mountain Division Vice-Director Division website: www.RockyMountainDivision.org

=====

ARRL ARES E-Letter February 24, 2010

ARRL Board Decides EmComm Issues

The Board of Directors of the ARRL concentrated much of its deliberations on major emergency communications issues when it met in Hartford, Connecticut last month.

The Board approved the signing of a Memorandum of Understanding (MoU) with the American Red Cross (ARC). The ARC has agreed to permit ARES® volunteers to meet its requirement for a criminal background check by obtaining such a check, at their own expense, through a law enforcement entity rather than through the ARC process. ARRL members will be given information to permit them to make a fully informed decision with regard to volunteering with ARC.

The Board also instructed the ARRL staff to seek a change in Section 97.113(a)(3) of the FCC rules to permit amateurs, on behalf of an employer, to participate in emergency preparedness and disaster drills that include Amateur operations. There is an extensive discussion of this action on page nine of the March issue of QST.

Disaster Prep Tips

As we start a new decade, let's review some of the basics of Amateur Radio disaster preparedness. The following are tips from John Covington, W4CC, of Dallas, North Carolina.

You must make sure you're personally prepared for a disaster before you can even consider helping with Amateur Radio. If you are preoccupied with personal matters, you won't be able to help ARES®. To be ready for disaster communications, do the following: Train regularly with your local ARES® group.

Think about how you might best be able to help during a disaster. Some of us are good at installing antennas and equipment, others of us are better at operating on the air. Not everyone is suited to doing every job.

Sometimes just having helping hands, spare equipment or supplies can be helpful even if you cannot operate the radios yourself. Generators need fuel, operators need coffee, and stations need to be set up. Figure out where you best fit in. Decide how you can help out if you stay home: Can you deploy at a shelter or EOC for a few hours? Operate from home?

If you must evacuate, can you deploy from where you have evacuated to, such as a shelter?

Have all resource materials you need in printed form. Don't depend on computers, PDAs and so forth as they may not work in a disaster, require electricity and are relatively fragile.

If you use a computer regularly in your on-the-air operations, make sure you practice doing things such as calling nets and handling traffic the pencil-and-paper way once in a while. Remember, you may not be able to spare the amp-hours or the table space to run a computer.

Have an Amateur Radio ready-kit to supplement your personal ready kit. Some items to include:

- *Portable radio, antenna and power supply or batteries (2 sets)
- *Headset or earphones (you may be operating in a noisy area)
- *Any cables you could possibly need
- *Pencils and Paper
- *Clipboard (firm writing surface, you may not have one otherwise)
- *Radiogram forms (helpful but not absolutely required)
- *Operating aids (pink card, Field Resources Manual, list of ARRL numbered radiograms, and anything appropriate for your local area)
- *Small tools (multi-tip screwdriver, multitools, etc.)
- *ARES® Identification Card, if appropriate
- *Important phone numbers and frequencies
- *Map of the area
- *Flashlight
- *Poncho - very small to store, only around \$2 and can be useful when you least expect

If carried in lieu of a personal ready kit, a few other items may be helpful:

- *For a short deployment, a bottle of water plus some crackers or something to eat requiring no preparation could make things much more bearable for you
- *Medicine
- *Toilet paper - small packets from MRE kits are very handy and don't take up much room
- *Moist towelettes

Here are a few other suggestions from your ARES E-Letter editor based on his perspective as a Registered Nurse:

- *Know CPR.
- *Know the location of the Automated External Defibrillator (AED), and how to use it.
- *Know the signs/symptoms of a heart attack and stroke.

Also, be prepared physically, mentally and emotionally for the sometimes overwhelming demands of a disaster or emergency environment. Hope for the best, but expect the worst. You are at risk for witnessing horrific scenes. Protect your self and especially young hams; participate in psychological and grief counseling, if necessary. Your mental health is just as important as your physical health.

**ARLX005 IARU Region 2 and Radio Club de Chile Request Amateurs
to Keep Emergency Frequencies Clear**

QST de W1AW
Special Bulletin 5 ARLX005
From ARRL Headquarters
Newington CT March 1, 2010
To all radio amateurs

SB SPCL ARL ARLX005
ARLX005 IARU Region 2 and Radio Club de Chile Request Amateurs to Keep Emergency Frequencies Clear

A massive 8.8 magnitude earthquake hit Chile at 0634 UTC on February 27, 2010, triggering a potential tsunami. IARU Region 2 and the Red Chilena Nor Austral de Servicio (RECNA) have suggested Amateur Radio operators monitor the following emergency communications frequencies for traffic pertaining to the earthquake and tsunami: 3.738, 3.750, 7.050, 7.100, 14.200, 14.350, 21.200, 21.350, 28.300 and 28.500 MHz.

IARU Region 2 Area Emergency Coordinator Jorge Sierra, LU1AS, reports that there is now traffic at frequencies of 40 meters from people seeking information from people in Chile: "We would appreciate if amateurs would leave free the frequencies used by RECNA, as well as the usual IARU Region 2 frequencies on in 20, 40, and 80 meters."

In addition to the above frequencies, you may also want to listen to the worldwide emergency communication Center of Activity frequencies: 14.300, 18.160 and 21.360 MHz. Other suggested monitoring frequencies are 3.720, 7.045 and 7.060 MHz. Hawaiian Amateur Radio operators on the lookout for a possible tsunami are monitoring 7.088 and 3.888 MHz.

NNNN
/EX

Always check arrl.org for information about any disaster worldwide as they typically get updates before any other agencies regarding ham radio.

Also remember that families within the disaster area are making attempts to get information out of the country and if U.S. ham overload the system with requests then the traffic networks get overloaded and messages from the affected area come to a standstill.

Message traffic is being handled as quickly as possible and the only advice that can be given is to be patient. Priority is given to safety of life traffic and that is what the networks are attempting to communicate at present. Updates on families will come forth as the critical emergency traffic is handled and appropriate agencies are contacted and mobilized.

The one thing we learn as hams and are required to do so by law, is listen, listen, listen. When we hear that emergency traffic has slowed down then we can make attempts to get health and welfare traffic passed.

73, Bob WA7MXZ

Questions for Extra Class License

1. (E1A04) With your transceiver displaying the carrier frequency of phone signals, you hear a DX station's CQ on 3.601 MHz LSB. Is it legal to return the call using lower sideband on the same frequency?
 - A. Yes, because the DX station initiated the contact
 - B. Yes, because the displayed frequency is within the 75 meter phone band segment
 - C. No, my sidebands will extend beyond the edge of the phone band segment
 - D. No, USA stations are not permitted to use phone emissions below 3.610 MHz
2. (E1E15) What must the VE team do if an examinee scores a passing grade on all examination elements needed for an upgrade or new license?
 - A. Photocopy all examination documents and forwards them to the FCC for processing
 - B. Three VEs must certify that the examinee is qualified for the license grant and that they have complied with the VE requirements
 - C. Issue the examinee the new or upgrade license
 - D. All these answers are correct
3. (E2C03) From which of the following bands is amateur radio contesting generally excluded?
 - A. 30 meters
 - B. 6 meters
 - C. 2 meters
 - D. 33 cm
4. (E3C07) How does the radiation pattern of a 3-element, horizontally polarized beam antenna vary with height above ground?
 - A. The main lobe takeoff angle increases with increasing height
 - B. The main lobe takeoff angle decreases with increasing height
 - C. The horizontal beam width increases with height
 - D. The horizontal beam width decreases with height
5. (E4D11) Why are third-order intermodulation products within a receiver of particular interest compared to other products?
 - A. The third-order product of two signals which are in the band is itself likely to be within the band
 - B. The third-order intercept is much higher than other orders
 - C. Third-order products are an indication of poor image rejection
 - D. Third-order intermodulation produces three products for every input signal
6. (E5C14) What coordinate system is often used to display the phase angle of a circuit containing resistance, inductive and/or capacitive reactance?
 - A. Maidenhead grid
 - B. Faraday grid
 - C. Elliptical coordinates
 - D. Polar coordinates
7. (E6B14) What type of bias is required for an LED to produce luminescence?
 - A. Reverse bias
 - B. Forward bias
 - C. Zero bias
 - D. Inductive bias
8. (E7A07) What logical operation does an AND gate perform?
 - A. It produces a logic "0" at its output only if all inputs are logic "1"
 - B. It produces a logic "1" at its output only if all inputs are logic "1"
 - C. It produces a logic "1" at its output if only one input is a logic "1"
 - D. It produces a logic "1" at its output if all inputs are logic "0"
9. (E8A02) What type of wave has a rise time significantly faster than its fall time (or vice versa)?
 - A. A cosine wave
 - B. A square wave
 - C. A sawtooth wave
 - D. A sine wave
10. (E9C02) What is the radiation pattern of two 1/4-wavelength vertical antennas spaced 1/4-wavelength apart and fed 90 degrees out of phase?
 - A. A cardioid
 - B. A figure-8 end-fire along the axis of the array
 - C. A figure-8 broadside to the axis of the array
 - D. Omnidirectional

(For answers to test questions see page 13)



BARC Club Officers

President

Cordell Smart KE7IK
president@barconline.org
(435)245-4581

Vice President

Tyler Griffiths N7UWX
vice-president@barconline.org
(435)752-7269

Secretary

Tammy Stevens N7YTO
secretary@barconline.org
(435)753-2644

Treasurer

Kevin Reeve N7RXE
treasurer@barconline.org
(435)753-1645

Board Members

Ted McArthur AC7II
ac7ii@comcast.net
(435)245-4904

Roger Ellis KE7HTE
ellis.roger@gmail.com
(435)753-7807

Bob Wood WA7MXZ
wa7mxz@arrl.net
(435)770-0637

Newsletter Editor

Dale Cox KB7UPW
newsletter@barconline.org
(435)563-3836

Web Page Editor

Jacob Anawalt KD7YKO
webmaster@barconline.org
(435)753-9033

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

