



THE OHM TOWN NEWS

Voice of the Bridgerland Amateur Radio Club

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

February 2015

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PRESIDENT'S MESSAGE

It looks like Solar Cycle 24 has had its peak and the number of sunspots will start to decrease over the next 4 to 5 years. Although sunspots themselves produce only minor effects on solar emissions, the magnetic activity that accompanies the sunspots can produce dramatic changes in the ultraviolet and x-ray emission levels. These changes over the solar cycle have important consequences for the Earth's upper atmosphere. The number of sunspots on our Sun precludes the number of solar flares that may occur, which in return will generate all sorts of measurements that are very useful in understanding and most importantly, predicting radio signals propagation. There are several kinds of measurements but there are a few that are especially interesting to Amateur Radio operators.

Many websites have a lot of solar data such as [WM7D's Solar Resource Page](#) that has solar flux reports, current alerts and warning from NOAA, K7RA's weekly solar report, and charts reflecting past Solar cycle summary charts from NOAA.

Below is a propagation banner from QRZ.COM which shows many solar parameter values on December 22, 2014 @ 1700 UTC. The propagation report which is similar to a weather report but give information relative to the Sun's weather. The magnitude of these values will affect radio signal propagation conditions here on earth.

Solar-Terrestrial Data/Predictions at www.qrz.com			
22 Dec 2014 1700 GMT	Current Solar	Band	Day Night
SFI 192	SN 159	80n-40n	Poor Good
A 014	K 2	30n-20n	Poor Good
XRY C1.0	304A 182.0	17n-15n	Good Good
Aur 1	Lat 67.5°	12n-10n	Good Poor
Bz 19.5	SM 413.5	Geomag Field	QUIET
PF 0.5	EF 5.5	Sig Noise Lvl	S1-S2
MUF Bdr 32.52 @ 1630		CME (UTC)	None
EME Deg Very Poor		(C) P. Herriman N0NBH 2013	

What do the terms mean and how do they affect radio propagation here on earth? There is an article on [Solar Banners](#) that was in the QST February 2014 issue which provides an explanation and background on what the parameters mean and the affect they have on our ionosphere for radio propagation.

Here are additional explanations for some of the terms which give a summary on what the terms mean for amateur radio.

SFI index: (Solar Flux Index) It is a gauge of how much solar particles and magnetic fields reaching our atmosphere. In other words, this value informs us on solar winds reaching our planet and their influence on creating HF propagations conditions. For this measurement, the higher the number, the better HF propagation should be. The index value also suggest propagation on bands between 10 meter and 20 meter (i.e.: 10m,12m,15m,17m,20m). It has a scale between 30 and 300, and can be interpreted as follows:

- < 70: propagation potentially bad.
- 80-90: propagation potentially to be somewhat low
- 90-100: propagation tending to be average
- 100-150: propagation tending to be good
- >150: propagation tending to be ideal

High SFI values have almost no influence on 30m, 40m, 80m, and 160m bands. SFI value over 150 indicates ideal HF propagation conditions and people with small HF installations can begin exploiting these conditions. At these high SFI values, you might consider stopping what you are doing and take advantage of these conditions while they last because they are far and few between. It might be here today, gone tomorrow.

(Continued on page 4)

UPCOMING 2015 ACTIVITIES

11 February, 7:30 PM - ARRL Rocky Mountain Division Net IRLP Node: 9871

14 February, 10:00 AM — **BARC Club Meeting**
PC in the Shack—PC Security, Rik Stallings N7XZ

17 February, 6:30-7:30—Elmer Night-Cache County Sheriffs Office 3rd Floor

18 February, 7:00 PM – Cache County ARES meeting at the Sheriff's Office

19 Feb, 8:00 PM - RACES VHF Net 147.18 Snowbird 147.20 IRLP 146.72 Mt. Logan

28 February, 9AM-12PM—Utah VHF Society Swap Meet– Davis County Fair Park Legacy Events Center—More information and directions can be found at <http://utahvhfs.org/>

28 February —New Mexico TechFest (Albuquerque, NM)
More information can be found at <http://www.rmham.org/wordpress/new-mexico-techfest>

07 March, 8:00 AM -- VE Test Session @ USU ENGR Bldg RM 302 (Test only)

11 March, 7:30 PM - ARRL Rocky Mountain Division Net IRLP Node: 9871

14 March, 10:00 AM — **BARC Club Meeting**

18 March, 7:00 PM – Cache County ARES meeting at the Sheriff's Office

21 March, 8:00 AM — RACES HF Net 3920 KHz

For more calendar information see the barconline.org/calendar

Local Radio Nets:

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

The **BARC Ladies Net** is every **2nd and 4th Tuesday at 8:00 p.m.** on the BARC Repeater and Linked Systems (146.720). All licensed lady amateur radio operators are welcome to check in.

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.

(Presidents Message Continued from page 2)

SN: (Sunspot Numbers) This value is the visible number of spots on the Sun's surface. Traditionally, the higher the number, the better the ionization of our atmosphere which will help create great HF propagation conditions. The range of SN can be between 0 and up to 250, sometimes more. It is somewhat rare that we see over 200 sun spots, and when we do, it might be an ideal time to turn on your rig and check what is happening on the bands.

High SN numbers indicate large amounts of electromagnetic active fields on the surface of the Sun, potentially erupting as solar flares, but before they erupt into solar flares, they can create excellent HF propagation. If Sun spots turn into flares, this can diminish substantially HF propagation, even create total radio blackouts on all bands. Also, knowing that the Sun's equator rotates on itself, the Sun spots and its fields may or may not be facing us at all times. This said, radio propagation conditions could become excellent for a few days, then down until the Sun rotate those spots back toward us again, which is between 18-25 days later.

So, if you see SN numbers over 100, you can expect good propagation conditions, if and when these spots are facing us. The current solar cycle is past its peak so we should see sunspot numbers over 100 for this year and into part of 2016.

During solar minimums (Low or no sun spots), you can see bad or absent propagation conditions going on for years at a time, until the next solar cycle. When these conditions occur, amateur radio operators often revert back to using lower frequencies (i.e. 30m, 40m, 60m, 80 and 160m), and watch for events that will create temporary propagation conditions, such as sun rise and sun sets. The sun rise and sun sets areas are also called "gray lines" that separates daylight from darkness. Here is a gray line map from [5B4WN](#). Propagation along the grey line is very efficient. One major reason for this is that the D layer, which absorbs HF signals, disappears rapidly on the sunset side of the grey line, and it has not yet built upon the sunrise side.

SN numbers can be interpreted as follows:

- < 50: propagation conditions potentially very bad
- 50-75: propagation conditions attenuated
- 75-100: propagation conditions might be good
- 100-150: propagation conditions should be ideal
- >150: propagation conditions possibly exceptional

Important: Solar flux (SFI) and Sun spots (SN) numbers need to be high AND sustained to make a major impact on propagation. In other words, a single day high numbers will have very little impact, but on the opposite end of things, high numbers sustained for more than 5 to 7 days will impact propagation very positively. The longer high numbers are sustained, better the propagation will become. So keep an eye on those numbers over the period of several days.

The A-Index: It's simply an index of geomagnetic activity derived from a scaled average of the previous 24 hours K-index readings. You should use this as a reference for general conditions on the bands. Lower A index means better conditions for propagation. This scale goes between 0 and 400, but typically never above 100. This value should be interpreted as follows:

(Continued on page 5)

Between 1 and 5: Best conditions on 10, 12, 15, 17, 20 meter bands.
Between 6 and 9: Average conditions on 10, 12, 15, 17, 20 meter bands.
From 10 and above: Very Bad conditions on 10, 12, 15, 17, 20 meter bands.

The Ap-Index: A mean, 3-hourly “equivalent amplitude” of magnetic activity based on K index data from 11 Northern and 2 Southern Hemisphere magnetic observatories between the geomagnetic latitudes of 46 and 63 degrees. The Ap-index value can be interpreted as follows:

Between 1 and 5: Best conditions expected on 30, 40, 80, 160 meter bands.
Between 6 and 9: Average conditions expected on 30, 40, 80, 160 meter bands.
From 10 and above: Bad conditions expected on 30, 40, 80, 160 meter bands.

The K-Index (or Boulder K): It is a gauge of geomagnetic activity relative to an assumed quiet-day. Falling numbers mean improving conditions and better propagation particularly in northern latitudes and areas where aurora activity can occur. The scale is between 0 and 9. You never want to see value above 8 because this indicates our planet is going thru a solar storm of great intensity. This value can be interpreted as follows:

From 0 to 1: Best conditions for 10, 12, 15, 17, 20 meter bands.
From 2 to 3: Good conditions for 10, 12, 15, 17, 20 meter bands.
From 4 to 5: Average conditions for 10, 12, 15, 17, 20 meter bands.
From 5 to 9: Very bad conditions for 10, 12, 15, 17, 20 meter bands.

Kp-Index: The planetary 3-hour-range index Kp is the mean standardized K index from 13 geomagnetic observatories between 44 degrees and 60 degrees northern or southern geomagnetic latitude. The scale is 0 to 9 expressed in thirds of a unit; e.g., 5- is $4 \frac{2}{3}$, 5 is 5 and 5+ is $5 \frac{1}{3}$. This planetary index is designed to measure solar particle radiation by its magnetic effects. The 3-hourly ap (equivalent range) index is derived from the Kp index. The Kp-index value can be interpreted as follows:

Between 0 and 1: Best conditions expected on 30, 40, 80, 160 meter bands.
Between 2 and 4: Good conditions expected on 30, 40, 80, 160 meter bands.
Between 5 and 9: Bad conditions expected on 30, 40, 80, 160 meter bands.

There are computer tools that are available on the internet for HF propagation prediction. Here is one program; **VOACAP** (Voice of America Coverage Analysis Program) is a radio propagation model that uses empirical data to predict the point-to-point path loss and coverage of a given transceiver if given as inputs: two antennas (configuration and position), solar weather, and time/date. It was originally written in FORTRAN and designed for Voice of America. Jari Perkiömäki, OH6BG/OG6GO has taken the VOACAP calculation engine and made some improvements. The improved VOACAP is available on his website at voacap.com. There are also [online point-to-point predictions](#) and [online coverage area map predictions](#) so you get custom professional-grade high-frequency (3-30 MHz) propagation predictions online from different perspectives.

Having fun with amateur radio.

73

Cordell

KE7IK

2015 Proposed BARC Budget

General	\$250
Refreshments	\$350
Field Day	\$400
Swap Meet	\$50
Christmas Party	\$150
Promontory Site Rental	\$600
Rocket Recovery	\$250
Pay Pal Fees	\$50
Activity Expenses Expenses needed for organization and support of events, communications, handouts, printing, equipment, etc.	\$500
Grand Prize for BARC activity participation	\$700
BARC Display upgrade & redo	\$300
Total Budget	\$3600
Projected Income/Sources	
Dues	\$1800
Donations – Equipment/Repeater/Additional from members, United Way matches, etc.	\$4000

The Vote for the 2014 budget includes the following.

1. Approve the proposed general budget.
2. Authorize the BARC Board the discretion to allocate additional funds for equipment and activities as needed to meet the needs, repair, or for additional expenses deemed appropriate.

VOTE:

_____ YES _____ NO

The ARRL Letter for January 22, 2015 Michigan Passes, Governor Signs Antenna Accommodation Legislation

Ten years of work within the ARRL Michigan Section have culminated in an Amateur Radio antenna bill that mirrors the "reasonable accommodation" provisions of the [PRB-1](#) federal pre-emption policy. Michigan Governor Rick Snyder signed the measure, Senate Bill 0493, into law on January 15, creating Public Act 556. Senator Rick Jones sponsored the bill. ARRL Michigan Section Manager Larry Camp, WB8R, said Michigan is the 31st state to have a PRB-1 bill on its books.

"The current PRB-1 Team has been working for 3 years to get this accomplished," he said. "Our bill endured four votes on its way to becoming law -- Senate and House committees and the Senate and House floors. Each vote was unanimous."

The most pertinent language in the new Michigan law, which comes directly from §97.15 of the FCC Amateur Service rules, states:

An Amateur Radio Service station antenna structure may be erected at heights and dimensions sufficient to accommodate Amateur Radio Service communications. Regulation of an Amateur Radio Service station antenna structure by a local unit of government must not preclude Amateur Radio Service communications. Rather, it must reasonably accommodate those communications and must constitute the minimum practicable regulation to accomplish the local unit of government's legitimate purpose.



The new law also provides for an advisory committee that may be established jointly by the Michigan Section and other state organizations, such as the Michigan Municipal League and the Michigan Township Association. Camp said the PRB-1 Team believes the advisory committee will be an important tool in situations where community officials know little or nothing about Amateur Radio. Read [more](#).

The ARRL Letter for January 29, 2015 FCC "Paperless" Amateur Radio License Policy Goes into Effect on February 17

Starting on February 17, the FCC no longer will routinely issue paper license documents to Amateur Radio applicants and licensees. The Commission has maintained for some time now that the official Amateur Radio license authorization is the electronic record that exists in its Universal Licensing System ([ULS](#)), although the FCC has routinely continued to print and mail hard copy licenses. That will stop next month.

In mid-December, the FCC adopted final procedures to provide access to official electronic authorizations, as it had [proposed](#) in WT Docket 14-161 as part of its "process reform" initiatives. Under the new procedures, licensees will access their current official authorization ("Active" status only) via the ULS License Manager. The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one. Licensees will also be able to print out an official authorization -- as well as an unofficial "reference copy" -- from the ULS License Manager.

"We find this electronic process will improve efficiency by simplifying access to official authorizations in ULS, shortening the time period between grant of an application and access to the official authorization, and reducing

regulatory costs," the FCC Wireless Telecommunications Bureau (WTB) said. According to the WTB, the new procedures will save at least \$304,000 a year, including the cost of staff resources.

In [comments](#) filed November 5, the ARRL had strongly recommended that the FCC "give serious consideration to continuing a default provision for sending an initial paper license document to new licensees in the Amateur Radio Service, along with detailed, simple instructions for how to make the elections set forth in the notice relative to future modified or renewed licenses."

Under the new procedures, a new license applicant who already has an FRN and provides a valid e-mail address under "Applicant Information" in the ULS will receive an official ULS-generated electronic authorization via e-mail. New license applicants lacking an FCC Registration Number will receive in the mail an FRN and a temporary password to access the Commission Registration System (CORES), but will no longer automatically receive a license document; they must request one by changing their "Paper Authorization Preference" in the ULS License Manager.



The ARRL and other Amateur Radio commenters also worried that unless a license document is printed on distinctive paper stock, its authenticity could be questioned in such situations as obtaining vanity call sign license plates. To address this, the FCC said the watermark "Official Copy" will be printed on each page of an official authorization that a licensee prints out from the ULS. The WTB recently stopped using distinctive paper stock to produce hard copy licenses and has been printing these on "standard, white recycled paper." The Bureau noted that the distinctive paper stock it had been using was six times more expensive than the plain recycled paper it now uses.



The ULS License Manager (left) now includes settings that allow licensees to notify the WTB that they prefer to receive official authorizations on paper. Once final procedures go into effect designating electronic access as the default, licensees can change the ULS License Manager setting so that the Bureau will print and mail a license document. Licensees also may contact [FCC Support](#) via the web, telephone, or mail to request paper licenses.

The FCC rejected as "outside the scope of this proceeding" an ARRL argument that Section 97.23 of the Amateur Service rules be amended to replace "licensee mailing address" with other alternatives, including e-mail, for use in Commission correspondence. The rule, which requires that any licensee mailing address be in an area where the licensee has US Postal Service access, has precluded FCC issuance of location-specific call signs in such areas as Navassa Island (KP1) and some Pacific islands.

In Brief...

DXpedition Goings and Comings: As of January 26, the three-person "boat team" heading to Navassa Island for the [K1N](#) DXpedition had made it to Great Inagua in the Bahamas. There was no official word yet from the Navassa Island DXpedition team as to when the other operators, now in Jamaica with the equipment containers, would depart. The DXpedition to one of the most-wanted DXCC entities is expected to get under way in the next few days. "We plan to sail from Great Inagua the afternoon of January 30," the K1N team announced January 27. The DXpeditioners hope to start offloading their gear on January 31 and February 1. Meanwhile, on Kish Island, Iran, the Belgian [EP6T](#) DXpedition team finished up operations on January 27 (UTC). The EP6T operators logged more than 68,000 contacts during 9 days on the air -- nearly 70 percent of them with stations in Europe. Just under 10 percent of the EP6T contacts were with North American stations, although the operators reported persistent noise issues that prevented them from hearing many callers. -- Thanks to [The Daily DX](#)

Ralph Fedor, K0IR, to be Dayton RTTY Contest Dinner Speaker: DXpeditioner Ralph Fedor, K0IR (photo), will be the keynote speaker at the 2015 RTTY Contest Dinner, Thursday, May 14, at 7:15 PM, at the Crowne Plaza in downtown Dayton. [Tickets](#) will be on sale until May 1. No tickets will be sold at the door. The NAQP RTTY plaques will be presented at the event. -- *Thanks to Fred Dennin, WW4LL*

SSTV Transmissions Scheduled from the International Space Station: The Russian Amateur Radio on the International Space Station ([ARISS](#)) team plans to activate slow-scan television (SSTV) from the ISS on Saturday January 31, and on Sunday, February 1. The anticipated SSTV mode will be PD180 on 145.800 MHz with 3-minute off periods between transmissions. Twelve different images will be transmitted during the operational period. This is the second series of pictures to be transmitted. The SSTV transmission are scheduled to begin around 1000 UTC on January 31 and around 0900 UTC on February 1. Transmissions should terminate around 2130 UTC each day. -- *Thanks to ARISS -EU Chair Gaston Bertels, ON4WF*

The ARRL Letter for February 5, 2015

RadioShack's Long, Slow Downward Slide Nears the End

The end is near for [RadioShack](#). It seems inevitable that the once seemingly ubiquitous electronics and cell phone retailer will liquidate its assets, after which RadioShack would cease to exist. A number of legal steps would have to come first, including a bankruptcy filing. The New York Stock Exchange (NYSE) de-listed RadioShack on February 2, after the company failed to maintain a required minimum value. BloombergBusiness has [reported](#) that behind-the-scenes talks are under way to sell approximately half of RadioShack's owned-and-operated stores to Sprint and shutter the remaining outlets, although other scenarios involving other entities are possible.

The nearly century-old Fort Worth, Texas, based retailer -- once a go-to shop for electronic components and, at one point, even Amateur Radio and shortwave receivers -- has lost 90 percent of its value over the past year, despite efforts to refinance and modernize its stores. Before being de-listed on February 2, RadioShack's stock was selling for just 24 cents a share.



RadioShack®

The hedge fund Standard General LP loaned the retailer \$535 million last fall and would be the lead bidder in a bankruptcy filing and debtor-in-possession financing, BloombergBusiness said.

RadioShack once offered entry-level short-wave receivers, Citizens Band gear, a wide array of discrete components -- including transistors, resistors, and capacitors -- and, for a time, a fairly popular 2 meter hand-held transceiver and two different models of 10 meter single-band transceivers, although it failed in its effort to develop and market a VHF/UHF hand-held radio. Over the years, RadioShack has offered fewer discrete components in its brick-and-mortar stores, moving that stock and other products to its online outlet, as it shifted its marketing focus to cell phones, consumer electronics, and various battery-operated gadgets.

A year ago, after a dismal holiday showing, RadioShack announced plans to close 1100 stores, including 900 company-owned outlets. Due to the high costs involved with closing the stores, liquidating merchandise, lease penalties, and severances, however, the company has been able to shut down fewer than 200 outlets. RadioShack was reported to have about \$60 million in cash heading into the 2014 holiday season.

RadioShack has made no comment on the reports.

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Amateur Radio Payloads Share Ride into Space with Soil Moisture Monitoring Satellite

Four NASA Educational Launch of Nanosatellites ([ELaNA-X](#)) CubeSats carrying Amateur Radio payloads launched successfully January 31 from California's Vandenberg Air Force Base. The primary payload for the Delta II launcher was the Soil Moisture Active Passive ([SMAP](#)) satellite. The SMAP on-board radar will share Amateur Radio spectrum at 1.26 GHz. Amateur Radio is secondary on the 23 centimeter band, which covers 1240 to 1300 MHz.

"This is a good example of a compatible sharing partner," ARRL CEO David Sumner, K1ZZ, observed. "Any interference to amateur communication in the band will be brief as the satellite passes overhead."

SMAP and the four CubeSats all deployed successfully. The research CubeSats, launched on behalf of universities, will downlink their telemetry on the 70 centimeter band. The CubeSats and their downlink frequencies (modes) are:

Firebird II FU3	437.405 MHz (19k2 FSK)
Firebird I FU4	437.230 MHz (19k2 FSK)
GRIFEX	437.485 MHz (9k6 FSK)
ExoCube (CP-10)	437.270 MHz (9k6 FSK)



A Delta 2 launcher lifts off on January 31 from Vandenberg AFB carrying the SMAP satellite and four CubeSats with Amateur Radio payloads into space. [NASA photo by Bob Ingalls]



The ExoCube (CP10) CubeSat. [University of California-San Luis Obispo photo]

The GRIFEX satellite is a University of Michigan project, in cooperation with JPL, while ExoCube (CP-10) is a space weather satellite developed by the California Polytechnic State University-San Luis Obispo and the University of Wisconsin in partnership with NASA, and sponsored by the National Science Foundation. The [FIREBIRD](#) program is a collaborative CubeSat space weather mission of two CubeSats designed and developed by Montana State University, the University of New Hampshire, The Aerospace Corporation, and Los Alamos National Laboratories -- the FIREBIRD consortium. The FIREBIRD mission is also funded by the NSF.

SMAP carries a "synthetic aperture radar." The L band (1.26 GHz) radar is designed to measure backscatter off the Earth's surface. The amount of backscatter returned to the radar changes with the amount of moisture in the soil. RF pulses at this frequency are less affected by weather or by a moderate vegetation cover. The satellite is approximately 425 miles up in a near-polar, sun-synchronous orbit. SMAP also includes a radiometer operating at 1.41 GHz to measure naturally occurring RF energy given off by Earth's surface.

(Continued on page 11)

Ham Among Devil's Brigade Members to Receive Medal

A 90-year-old California radio amateur -- Stan McEtchin, WB6KDZ, of Paradise -- was among the surviving members of the First Special Operations Force (FSSF), known as "The Devil's Brigade," to receive the Congressional Gold Medal on February 3. The medal recognizes the unit's extraordinary heroism and service during World War II.

"We used to go behind the lines at night and sit out there, and we could hear the Germans talking," McEtchin [told](#) *The Paradise Post*. "Our guy would write it down, so we would find out where their guns were and that kind of thing."

Montana US Senators Jon Tester and Max Baucus worked for 5 years to honor the unit. "The Devil's Brigade represented the very best of our Greatest Generation that defeated tyranny around the world," Tester said. "The Medal is the highest honor Congress can bestow, and yet, while a small token of this nation's gratitude, it is an everlasting reminder of the sacrifices these men made for all of us." Remarked Baucus, "Without these brave volunteers, there would be no Special Forces today."



Stan McEtchin, WB6KDZ, is interviewed by KHSL ActionNewsNow. [KHSL ActionNewsNow video image]

Based at Fort Harrison in Helena, Montana, the Devil's Brigade was a top-secret combat unit comprising 1800 volunteers from 49 states, the District of Columbia, Canada, and Australia. Their training was the first of its kind, specializing in high alpine combat, covert amphibious landings, parachuting, mountain climbing, among other tactics. By the time the war ended, the Force had suffered 2314 casualties, equating to an astounding 134 percent of its original combat strength. It had captured more than 30,000 prisoners, won five US campaign stars and eight Canadian battle honors. The Force never failed a mission.

"The people in this group were not ordinary people," McEtchin told *The Paradise Post*. "That is the kind of people that they were, they would just succeed at everything they did."



Not ordinary people: Some members of "The Devil's Brigade" take a break near Anzio, Italy, in 1943. [US Army Archive photo]

The unit was instrumental in the liberation of Rome, surprising and defeating massive German artillery units located on treacherous mountain peaks and rocky islands, and in freeing communities in southern France and Italy despite bitter resistance and extreme conditions. The Force also engaged in large-scale raids against the infamous German Hermann Goering First Panzer Paratroop Division. The unit paved the way for the nation's modern elite Special Forces, of such highly trained units as the Green Berets and the Navy SEALs. About 75 members of The Devil's Brigade are believed to be still alive.

The Congressional Gold Medal is the nation's highest award for distinguished achievement. Past recipients have included members of the [Tuskegee Airmen](#), Gen. Douglas MacArthur, and Jimmy Doolittle's Tokyo Raiders. The Canadian government recognized members of the Force in 2012. The presentation ceremony at Expedition Hall in Washington, DC, was televised on C-

SPAN and remains available on the [C-SPAN](#) website. Also visit "[Suicide Missions: The Black Devils](#)" on YouTube. McEtchin also recalled his World War II experiences in an [interview](#) on KHSL's ActionNewsNow. -- Thanks to the Golden Empire Amateur Radio Society ([GEARS](#)) Radiator, media accounts

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.



The Bridgerland Amateur Radio Club, Inc.

Membership application for the year 2015

Dues are in effect January 1, 2015 through December 31, 2015

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/join-barc> via PayPal

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

Questions for Technician Class License

- 1.(T1D10) What is the meaning of the term “broadcasting” in the FCC rules for the amateur services?
- A. Two-way transmissions by amateur stations
 - B. Transmission of music
 - C. Transmission of messages directed only to amateur operators
 - D. Transmissions intended for reception by the general public
2. (T2B11) Which Q signal indicates that you are changing frequency?
- A. QRU
 - B. QSY
 - C. QSL
 - D. QRZ
3. (T3B06) What is the formula for converting frequency to approximate 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. (T4B11) Which of the following describes the common meaning of the term "repeater offset"?
- A. The distance between the repeater’s transmit and receive antennas
 - B. The time delay before the repeater timer resets
 - C. The difference between the repeater’s transmit and receive frequencies
 - D. Matching the antenna impedance to the feed line impedance
5. (T5C09) How much power is being used in a circuit when the applied voltage is 13.8 volts DC and the current is 10 amperes?
- A. 138 watts
 - B. 0.7 watts
 - C. 23.8 watts
 - D. 3.8 watts
6. (T6C12) What do the symbols on an electrical circuit schematic diagram represent?
- A. Electrical components
 - B. Logic states
 - C. Digital codes
 - D. Traffic nodes
7. (T7C05) What is the approximate SWR value above which the protection circuits in most solid-state transmitters begin to reduce transmitter power?
- A. 2 to 1
 - B. 1 to 2
 - C. 6 to 1
 - D. 10 to 1
8. (T8C06) How is access to an IRLP node accomplished?
- A. By obtaining a password which is sent via voice to the node
 - B. By using DTMF signals
 - C. By entering the proper Internet password
 - D. By using CTCSS tone codes
9. (T9A02) Which of the following is true regarding vertical antennas?
- A. The magnetic field is perpendicular to the Earth
 - B. The electric field is perpendicular to the Earth
 - C. The phase is inverted
 - D. The phase is reversed
10. (T0B02) What is a good precaution to observe before climbing an antenna tower?
- A. Make sure that you wear a grounded wrist strap
 - B. Remove all tower grounding connections
 - C. Put on a climbing harness and safety glasses
 - D. All of the these choices are correct

Marginal Notes: Important e-mails that contain no errors will develop errors in route.

(For answers to test questions see page 14)

BARC Club Officers

President

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