



THE OHM TOWN NEWS

Voice of the Bridgerland Amateur Radio Club

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

May 2011

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ARRL Affiliated



PRESIDENT'S MESSAGE

In the last while, many natural disasters such as the earthquakes in New Zealand, Japan, and the tornados in the southern US can disrupt or cause damage to the regular communications infrastructure.

In times of crisis and natural disasters, amateur radio is often used as a means of emergency communication when land line, cell phones and other conventional means of communications fail. Many of you have become interested in amateur radio for the purpose of emergency communication.

Amateur radio operators have been involved with both public service communications and emergency communications since 1913. In the early days, the involvement was without any coordination with the served agencies.

According to the PUBLIC SERVICE COMMUNICATIONS MANUAL, published by the ARRL, "As time progressed, the need for and value of organization became evident, resulting in the establishment of organized trunk lines and net systems; later the Amateur Radio Emergency Service (ARES) and the National Traffic System (NTS) were formed to complete the organization."

The Amateur Radio Emergency Service (ARES) is a part of the Amateur Radio Relay League (ARRL) Field Organization. ARES consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes.



Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible for membership in the ARES. The only qualification, other than possession of an Amateur Radio license, is a sincere desire to serve. Because ARES is an amateur service, only amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

While the primary activity of ARES is to provide emergency communications during disasters, ARES also provides essential communications for public events including parades, marathons and other races, walkathons, bicycle tours, and other large events where swift, reliable communications can protect and improve the safety of the general public. To achieve these goals, ARES provides amateur radio operators with training in emergency communications, directed net procedures and on-air discipline, formal message handling, and emergency preparedness.

In the Hurricane Katrina relief effort, Amateur Radio operators provided communications for First Responders, Disaster Relief agencies, and countless individuals in the effected areas. As has been proven consistently and repeatedly in the past,

(Continued on page 5)



UPCOMING ACTIVITIES

Area 7 QSO Party www.7QP.org - 7-8 May

Club Meeting - 14 May, 10:00 AM

Mountain Man Rendezvous - 24-25 May

RACES HF Net - 28 May, 8:00 AM 3920 KHz

[Wyoming State ARRL Convention \(Cheyenne, WY\)](#) - 3-5 June

Little Red Riding Hood Bicycle Race - 4 June

Tour De Cure (Box Elder Co.) - 11 June

RACES VHF Net - 16 June, 8:00 PM

Radio Rocket Recovery - 16-18 June

Wasatch Back Relay - 17 June

Field Day - 25-26 June

MS 150 - 25-26 June

RACES HF Net - 16 July, 8:00 AM 3920 KHz

[Pikes Peak Radio Amateur Association Megafest \(Monument, CO\)](#) - 16 July

[Rocky Mountain Division Convention, Taos, New Mexico](#) - 5-7 August

RACES VHF Net - 18 August, 8:00 PM

Bike the Bear Bicycle Race - 20 August

LOTOJA Bicycle Race - 10 September

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.

HAM PROFILE

Mark Bingham - KB7HFQ

Mark Bingham, KB7HFQ, was raised in Amalga, Utah. At a young age of 14, he started working on farms milking cows, and hauling hay in the summer. Play time was riding his motorbike, playing with friends, and hunting ducks & pheasants. His back yard in the barrens was his hunting ground. His father was big into hunting, and that is where his desire to hunt came from. He grew up in a family of 3 sisters and 2 brothers - he is the youngest. He graduated from Sky View High School in 1980, then served an LDS mission to California, San Bernardino mission from 1980 to 1982. He started working for Schreiber Foods in 1982 and has been working there for 28 years. He married his sweetheart, Patty Birch, in April 1984. They have three boys and one girl. Justin (24) and Lindsay (20) are attending USU, Ryan (23) is working in Logan, and Cody (17) is a junior at Sky View.

Mark still enjoys hunting & fishing. He also likes to mountain bike & road bike. Mark also rode the LOTOJA Classic bike race 3 times now and has made it to the finish line all three times. "As a bike rider, having done LOTOJA, I want the ham operators to know that when the bike riders tell you thanks, they really mean it." says Mark. "As you are riding, it is reassuring to know a ham operator is available to give you help. All the service activities we do for the public are very important."

Mark earned his Novice license in 1989 and his Technician license that same year. In 1992, he upgraded to General. Mark's first HF radio was a converted 11-meter radio, changed over to 10-meters. "When the skip was right I talked to people all over the world. I filled up 6 pages of a logbook talking to people." explains Mark. Back then, you also had to pass Morse code when you took the test and it was a challenge for Mark. He studied with tapes and once broke a tape recorder out of frustration, but got through the test. Mark says "I enjoy having a radio with me when traveling in the car and when I am hiking in the mountains. I enjoy this hobby a lot."



(Presidents Message Continued [from](#) page 2)

when communications systems fail due to a wide-area or localized natural disaster, Amateur Radio works, right away, all the time. The principal reason why Amateur Radio works when other communications systems fail during natural disasters is that Amateur Radio is not infrastructure-dependent, and is decentralized.

It is at the local level where most of the real emergency organizing gets accomplished, because this is the level at which most emergencies occur and the level at which ARES leaders make direct contact with the ARES member-volunteers and with the officials of the agencies to be served. The local Emergency Coordinator (EC) is the key contact in the ARES. The ARES EC for Cache County is Tyler Griffiths, N7UWX.

ARES members need to be adequately trained to help with the emergency support, when requested by our served agencies. To enhance the overall emergency readiness and to comply with federal guidelines, the National Incident Management System (NIMS) is being used at the local and state government levels and other agencies. NIMS provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment. NIMS works hand in hand with the *National Response Framework* (NRF). NIMS provides the template for the management of incidents, while the NRF provides the structure and mechanisms for national-level policy for incident management.

For more information on ARES in Cache County, contact Tyler Griffiths at [tyler.griffiths\[at\]gmail.com](mailto:tyler.griffiths[at]gmail.com).

73,

Cordell

KE7IK

April 2011 BARC meeting notes: By Guy Hatch N7WAT

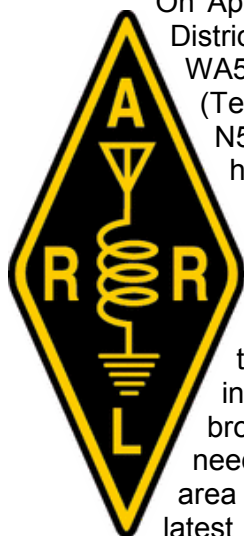
The BARC club meeting held April 9, 2011 focused on amateur radio satellite communications. This was presented by Stan Sjol, W0KP from Ogden, Utah. He started by reviewing the history of amateur radio applications in conjunction with U.S. space flights, including the "Suit-Sat," created in space from a discarded space suit. He then outlined the various communications systems currently in earth orbit that are sponsored by amateur radio organizations and available for amateur radio use. He related his experiences with the effects of Doppler on received frequency during a satellite pass and how best to keep in contact. He also outlined the various types of antennas and tracking systems that have been found most useful, and other unique aspects of amateur radio satellite communication. Various options for predicting the timing and location of amateur satellite passes were then provided, including the following websites:

<http://www.amsat.org/amsat-new/index.php> and
<http://iaru.org/satellite/IARUSATSPECREV14A.pdf>

Announcements at the meeting included an invitation to join the Section 7 QSO party to be held May 7, 2011 at the BARC station in the Engineering building on USU campus.

The ARRL Letter for April 14, 2011

Public Service: Hams Provide Communications Support During West Texas Wildfires



On April 9 at 4:15 PM (CDT), ARRL West Texas District 5 Emergency Coordinator Bob Ward, WA5ROE, received a call from Jeff Davis County (Texas) Fire Marshal Stewart Billingsley, N5HXZ. Billingsley informed Ward that a fire had begun in the West Texas town of Marfa and was rapidly approaching Fort Davis, 22 miles to the northeast.

"Stewart asked me to call the National Weather Service to get it on the alert system, as well as the AM and FM radio stations in Alpine," Ward told the ARRL. "He wanted it broadcast over the radio stations that he needed the Mano Prieto and Fort Davis Estates sub-divisions evacuated. People in the area know that when an emergency happens, they need to tune into these stations for the latest information. This was the Rock House Fire. At the same time, another fire, the Roper Fire, had started on the eastern edge of Alpine." Read more [here](#).



When wildfires swept across the West Texas towns of Fort Davis and Marfa, hams were on hand to provide communications support. [B. John McDaniel, KE5PL, Photo]

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ARRL Rocky Mountain Division update -- April 2011
Division website: www.RockyMountainDivision.org

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===== Register for the 2011 ARRL Rocky Mountain Division Convention =====

We are pleased to announce that registration for the 2011 ARRL Rocky Mountain Division Convention is now OPEN!

The 2011 ARRL Rocky Mountain Division Convention will take place August 5-7 (Friday afternoon through Sunday late morning) in gorgeous Taos, New Mexico at the Sagebrush Inn hotel and Convention center. The theme of this year's Convention is "(Re)Discovering the Thrill of Ham Radio", and every activity and event being planned by the Convention will reflect this theme.

Head over to the Convention website -- www.2011Convention.org -- and read about everything that's being organized for your enjoyment, whether you've been a ham for many years or are brand-new to the exciting hobby and service. Note the impressive guest speakers who will travel from across the nation to enjoy the Convention alongside you; the numerous ham radio manufacturers and vendors who will be present; the extensive forums; the many fun individual and club ham radio challenges and competitions; the buy/selling/trading that will occur; the memorable activities being planned especially for spouses and family members; the chance to create pileups on the bands by operating special event station W1AW/5; unique activities such as a possible high-altitude balloon launch with ham payload; the opportunity to socialize with perhaps nearly a thousand hams from all over our great Division enjoying the event; the delicious meals with guest speakers; the many prizes to be given away

throughout the event; and the chance to relax for a nice weekend alongside new and old ham friends at the comfortable Convention hotel.

All the details you'll need about the 2011 ARRL Rocky Mountain Division Convention including registration and vendor information await you at www.2011Convention.org (easy to remember, and easy to announce on the air and at club meetings).

A quick note: We've noticed a minor bug with our online registration. If you run into difficulties putting multiple, identical things into your shopping cart (such as a husband and wife signing up for identical registration categories at the same time), please simply purchase one and then make a separate, second purchase for the other.

Please mark your calendars and make plans with your spouse/family, ham friends, and club members to carpool/caravan to beautiful Taos, New Mexico this August 5-7 for an incredible Convention. We'll see you there!

===== Rocky Mountain Division HF Net =====

Members from around the Division enjoyed a brief HF net this week, however propagation has been its usual self: unpredictable and oftentimes a limiting factor. Consequently we are investigating an experiment for an upcoming net: IRLP or Echolink. It may help us reach a larger audience, avoid unpredictable noise and propagation, and well...be something new to try!

We'll announce more details between now and our next scheduled net (Wednesday, May 11).

The ARES E-Letter for April 20, 2011

Southern Cal Hospital Support Hams Fill In Communications Gap

March 25, 2011 - Hospital Disaster Support Communications System ([HDSCS](#)) amateurs provided backup communications when phones failed at a southern California hospital. When nurses and other caregivers picked up their phones at Children's Hospital of Orange County ([CHOC](#)) in California in the early morning on March 21, there was no dial tone. A power surge caused the central processor in the hospital's phone switch to fail. Following established procedures, the Lead Operator at the CHOC switchboard immediately used an off-switch tie-line to reach April Moell, WA6OPS, head of this ARES® group that specializes in helping hospitals when their communications fail. More [here](#).

Just 15 days later, HDSCS was activated again to another Orange County hospital. A group pager alert at 10:28 AM on April 5 brought hams to Saddleback Hospital in Laguna Hills after a digital equipment failure caused the inbound and outbound trunk lines to become inoperative. Again, the phone number of April Moell, WA6OPS was given to Orange County Communications agency so that ambulance companies and other hospitals could contact Saddleback Hospital via HDSCS. The outage lasted until 6 PM that day.

Of the 115 times that HDSCS has been activated for communications problems in Orange County hospitals, this was the 85th time that it was due to switchgear or cable failure. According to WA6OPS, who is an ARES DEC, "Many hams around the state and the country ask me why Orange County has so many phone system failures in hospitals. They seem to think that this doesn't happen in their own areas, but they're mistaken. We know from our own experience that phone equipment isn't 100% reliable. I know from talking to lots of hospital disaster planners around the country that they have plenty of failures, too. But far too often, hams think that Amateur Radio can only help in 'all else fails' disas-

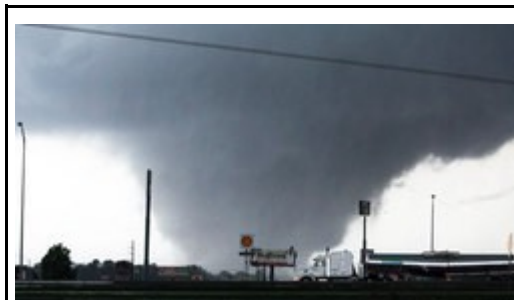
ters such as hurricanes, tornados and floods. Most ham emergency groups don't prepare and plan to help in these single-hospital incidents. They don't set up 24-hour alerting plans for the hospitals to use to contact them quickly when phones go down, so they never get the call."

Moell continues, "When a nurse on a hospital unit has an urgent need to contact a patient's physician at his office or home but the phones are down because switchgear has failed, that's just as severe an emergency as it would be in a widespread natural disaster. Orange County hospitals know and appreciate us because we come when they call and we connect their staff members to the outside, no matter the cause of the communications outage. We urge other ARES groups around the country to adopt our hospital support model, which includes robust alerting plans for each hospital, regular meetings with the hospital disaster planners, and ready-to-respond members who are trained in the special terminology and communications needs of medical facilities." More information about [HDSCS](#) and its successful model for hospital communications support is at the group's Web site. -- Joe Moell, K0OV, Fullerton, California

The ARRL Letter for April 28, 2011

Public Service: Tornadoes and Thunderstorms Keep Radio Amateurs Busy in Midwest, Southeast

As violent storms swept through Alabama, Mississippi, Arkansas and North Carolina, served agencies called upon Amateur Radio operators to help provide communications support and real-time weather observations. The storms and flooding were the latest in the severe weather that has pummeled much of the mid-South this month. Just a week ago, storms tore a wide path from Oklahoma all the way to North Carolina. Read more [here](#).



A tornado moves through Tuscaloosa, Alabama on Wednesday, April 27. A wave of severe storms, laced with tornadoes, killed at least 250 people around the region. [AP Photo/The Tuscaloosa News, Dusty Compton]



Counting Down to Dayton-Where Global Friendship Takes Center Stage

The ARRL is making all the final plans and preparations to bring its "show and tell" exposition -- known as **ARRL EXPO** -- to the **Dayton Hamvention**® next month. Hamvention, sponsored by Dayton Amateur Radio Association since 1952, will be held May 20-22 at the Hara Arena Conference and Exhibition Center in Trotwood, Ohio. Read more [here](#).

On the Air: Space Weather Prediction Center to Discontinue Broadcasts on WWV and WWVH

Beginning Tuesday, September 6, the Space Weather Prediction Center ([SWPC](#)) will cease broadcasting its [geophysical alert message](#) on [WWV](#) and [WWVH](#). These messages inform listeners of the solar flux, the mid-latitude A and K indices and space weather storms, both current and predicted. Currently, the message is heard on minute 18 from WWV and minute 45 from WWVH. The [information](#) will still be available on the SWPC website. If you care to comment on this, or if you have any questions, the SPWC -- part of the National Weather Service ([NWS](#)) -- would like to [hear from you](#).



ARRL Bulletin May 5, 2011

ARRL Bulletin 13 ARLB013
From ARRL Headquarters
Newington CT May 5, 2011
To all radio amateurs

SB QST ARL ARLB013
ARRLB013 FCC Seeks to Raise the Fee for Vanity Call Signs

The FCC released a Notice of Proposed Rulemaking and Order (NPRM) on May 3, seeking to raise the fee for Amateur Radio vanity call signs. Currently, a vanity call sign costs \$13.30 and is good for 10 years.

The new fee, if the FCC plan goes through, will go up to \$14.20 for 10 years, an increase of 90 cents. The FCC is authorized by the Communications Act of 1934 (as amended) to collect vanity call sign fees to recover the costs associated with that program.

The vanity call sign regulatory fee is payable not only when applying for a new vanity call sign, but also upon renewing a vanity call sign for a new term. Instructions on how to comment on this NPRM are available on the FCC Web site at, <http://www.fcc.gov/cgb/consumerfacts/howtocomment.html>.

The vanity call sign fee has fluctuated over the 14 years of the current program -- from a low of \$11.70 in 2007 to a high of \$70 (as first proposed in the FCC's 1994 Report and Order). In 2007, the Commission lowered the fee from \$20.80 to \$11.70. The FCC said it anticipates some 14,600 Amateur Radio vanity call sign "payment units" or applications during the next fiscal year.

The vanity call sign regulatory fee is payable not only when applying for a new vanity call sign, but also upon renewing a vanity call sign for a new term. The first vanity call sign licenses issued under the current Amateur Radio vanity call sign program that began in 1996 came up for renewal five years ago.

Those holding vanity call signs issued prior to 1996 are exempt from having to pay the vanity call sign regulatory fee at renewal, however. That's because Congress did not authorize the FCC to collect regulatory fees until 1993. Such "heritage" vanity call sign holders do not appear as vanity licensees in the FCC Amateur Radio database.

Amateur Radio licensees may file for renewal only within 90 days of their license expiration date. All radio amateurs must have an FCC Registration Number (FRN) before filing any application with the Commission. Applicants can obtain an FRN by going to the ULS at, <http://wireless.fcc.gov/uls/index.htm?job=home>, and clicking on the "New Users Register" link. You must supply your Social Security Number to obtain an FRN.

The ARRL Letter for April 7, 2011

ARRL to Change Insurance Company for Equipment Protection, Club Liability Services



On May 1, 2011, the ARRL will begin a new partnership to provide its ARRL-sponsored Equipment Insurance and Club Liability Insurance plans. The League has signed an agreement with Hays Affinity Group to serve as the program administrator to provide equipment insurance to its members who choose to elect coverage. In addition, Hays will also provide club liability insurance to ARRL Affiliated Clubs for those clubs that wish to take advantage of that program. Hays will be replacing Marsh Affinity Group Services as the program's administrator and will be introducing new policies for both plans, underwritten by the Hanover Insurance Company. Read more [here](#).

FCC News: FCC Launches Complete Overhaul of Website

The Federal Communications Commission announced on April 6 that it has launched a complete overhaul of its website. According to an April 6 press release from the FCC, the new website is "architected with a more intuitive user experience and the addition of Web 2.0 technologies, and improves and simplifies the FCC.gov experience for consumers, government, public safety agencies and the business community." This is the first major update to the Commission's website in 10 years. Read more [here](#).

Editors Note: I received a note from WQ7G Quentin Gardner, Jr. with a link to some more satellite orbiting information to go with the presentation that was given in the April club meeting:

<http://www.universetoday.com/17754/explore-earths-satellites-with-google-earth/>

Questions for Extra Class License

1. (E1A08) What is the only emission type permitted to be transmitted on the 60 meter band by an amateur station?
A. CW
B. RTTY Frequency shift keying
C. Single sideband, upper sideband only
D. Single sideband, lower sideband only
2. (E2D02) What is the definition of "baud"?
A. The number of data symbols transmitted per second
B. The number of characters transmitted per second
C. The number of characters transmitted per minute
D. The number of words transmitted per minute
3. (E3C04) Which emission mode is best for auroral propagation?
A. CW
B. SSB
C. FM
D. RTTY
4. (E4C02) Which of the following is the result of the capture effect in an FM receiver?
A. All signals on a frequency are demodulated
B. None of the signals could be heard
C. The strongest signal received is the only demodulated signal
D. The weakest signal received is the only demodulated signal
5. (E5C04) In polar coordinates, what is the impedance of a network consisting of a 400-ohm-reactance capacitor in series with a 300-ohm resistor?
A. 240 ohms at an angle of 36.9 degrees
B. 240 ohms at an angle of -36.9 degrees
C. 500 ohms at an angle of 53.1 degrees
D. 500 ohms at an angle of -53.1 degrees
6. (E6C04) What level of input voltage is a logic "low" in a TTL device operating with a positive 5-volt power-supply?
A. -2.0 to -5.5 volts
B. 2.0 to 5.5 volts
C. 0.0 to 0.8 volts
D. -0.8 to 0.4 volts
7. (E7C10) Which of the following filters would be the best choice for use in a 2-meter repeater duplexer?
A. A crystal filter
B. A cavity filter
C. A DSP filter
D. An L-C filter
8. (E8C08) What is the necessary bandwidth of a 4800-Hz frequency shift, 9600-baud ASCII FM transmission?
A. 15.36 kHz
B. 9.6 kHz
C. 4.8 kHz
D. 5.76 kHz
9. (E9C12) How is the far-field elevation pattern of a vertically polarized antenna affected by being mounted over seawater versus rocky ground?
A. The low-angle radiation decreases
B. The high-angle radiation increases
C. Both the high- and low-angle radiation decrease
D. The low-angle radiation increases
10. (E0A03) Which of the following would be a practical way to estimate whether the RF fields produced by an amateur radio station are within permissible MPE limits?
A. Use a calibrated antenna analyzer
B. Use a hand calculator plus Smith-chart equations to calculate the fields
C. Walk around under the antennas with a neon-lamp probe to find the strongest fields
D. Use a computer-based antenna modeling program to calculate field strength at accessible locations

(For answers to test questions see page 12)

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

