BARC
BRIDGERLAND AMATEUR RADIO CLUB

THE OHM TOWN NEWS

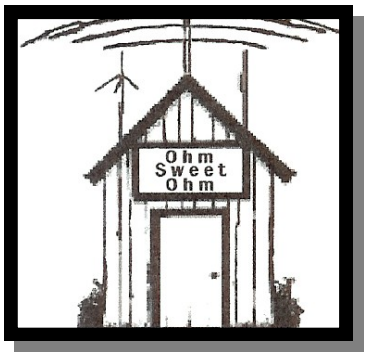
Voice of the Bridgerland Amateur Radio Club

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

May 2015

Some Contents…

ARRL Affiliated



PRESIDENT'S MESSAGE

Last year was the American Radio Relay League's (ARRL) Centennial QSO Party with year-long operating events that celebrates hams making contacts. One of the activities was the W1AW operating portable from each state, District of Columbia, and overseas territories. Each state was activated twice during the year with the opportunity to work each state to earn a special Work All States award by only working W1AW/x stations.

Bridgerland Amateur Radio Club is an ARRL affiliated Club

It was a lot of fun contacting the different portable W1AW stations and interesting to see how the propagation on the different bands was to each state on the second time around to them. There were times when a band was only open for less than 30 minutes to some locations. Contacting the adjacent states also showed that propagation on the lower bands from 160m to 40m worked well but going to 20 meters was spotty. On the 20 meter, the adjacent states were sometimes difficult to hear and usually had a weak signal, but you could hear stations in the states beyond them at a S9 level. Above 20 meters, all you could hear were the other locations trying to make a contact.

According to the ARRL, they had no idea how popular the portable W1AW chase would be. When the yearlong centennial celebration was completed, the number of QSOs made by the portable W1AW station was over three million. There were over 1500 ARRL members that made this possible by operating the portable W1AW stations and were able to experience being at the other end of a pile up without leaving home.

The FCC granted, with emphasizing that it established no precedent, permission for the W100AW to be used as additional call sign throughout the year. Many visitors at the Maxim Memorial Station used the W100AW call sign and made tens of thousands of contacts. The W100AW was also used from the sites of the six Regional Centennial Conventions, Orlando Hamcation, Dayton Hamvention, SES-PAC, Ham-Com, Huntsville Hamfest, and Pacificon.

ARRL President Kay Craigie, K3KN, said that Centennial activities, such as the Centennial QSO Party and the W1AW portable operations in all 50 US states and some territories, were aimed at giving members a chance to learn, to feel, and to do, and in the process generating positive feelings about being a part of Amateur Radio and of the ARRL. "We wanted members to have fun participating in activities, both in person — at the national and regional conventions — and on the air," she recounted. "We wanted the events and experiences to be inclusive — something all members could participate in, if they wanted to."

ARRL's objective in their Second Century Campaign will open a path to passionate involvement in Amateur Radio by new generations, providing opportunities for educational enrichment, community service and personal achievement through the exploration and use of the magic of radio communication.

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UPCOMING 2015 ACTIVITIES

09 May, 10:00 AM — **BARC Club Meeting — Satellite AMSAT**

13 May, 7:30 PM — ARRL Rocky Mountain Division Net IRLP Node: 9871

16 May, 8:00 AM — RACES HF Net 3920 KHz

19 May, 6:30-7:30—Elmer Night-Cache County Sheriffs Office 3rd Floor
(Also a Tape Measure Antenna built-it party)

20 May-Mountain Man Rendezvous (more info) (Radio not needed this year)

20 May, 7:00 PM — Cache County ARES meeting at the Sheriff's Office

04 June, 7:00 PM — VE Test Session USU Engineering BLD RM 302

06 June - Little Red Riding Hood (more info) (Russ Leikis) (more help needed)

10 June, 7:30 PM — ARRL Rocky Mountain Division Net IRLP Node: 9871

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

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

19 June—Wasatch Back Relay (Tyler)

23-28 June — Radio Rocket Recovery (Guy Hatch)

27-28 June — Field Day (in place of Club Meeting for Month of June)
(Ted, Cordell & Tammy)

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)

- Build upon its historic role as a responsive, flexible and progressive organization dedicated to the promotion and advancement of the art, science and enjoyment of Amateur Radio
- Organize, promote and manage a national program to offer a 21st century experience to young people as they build skills in scientific and technological discovery through Amateur Radio in a safe competitive and collaborative environment for their curiosity and creativity
- Enhance Amateur Radio's capacity to serve local, national and global communities by applying and sharing our radio communication skills, technical knowledge and volunteer ethic in response to disaster and in public service communications
- Increase Amateur Radio's capacity to serve local, national and global communities by sharing our radio communication skills and knowledge and by strengthening and expanding partnerships with organizations pursuing similar or complementary goals

Commemorate the contributions and accomplishments of the Amateur Radio community since 1914.

In deed the Centennial QSO Party was a fun event and I am looking forward to what the ARRL has planned for the future.

73,
Cordell
KE7IK

There is possibly a new activity for ham's in northern Utah this year.

The Tour of Utah (http://www.tourofutah.com/) has expressed some interest in using Amateur Radio this year, for at least stage one which starts in Logan.(http://www.touroftuah-logan.com)

The Logan leg and the Start of the tour begins on August 3rd, a Monday, in downtown Logan, going through Logan Canyon, circling Bear Lake and then returning to Logan through Logan Canyon.

So in anticipation we have added "Tour of Utah" to the Activities Sign Up on Barconline.org.

If you have previously signed up for activities on barconline.org you will need your personal link that was emailed to you to go back and sign up for this or additional activities. If you have lost that email search for your email for an email from "BARC Activities" or activities@barconline.org".

If you can not find your email with your personal link you will need to contact Kevin N7RXE, Laurie KF7DKM, or myself (at the present time the "Forget your private link" is not working).

If you have never signed up for any activities go to http://barconline.org/2015signup/ read the instructions and click the activity sign up link.

Once again thanks for you willingness to participate and if you need any help please feel free to ask.

Tyler Griffiths
N7UWX

The ARRL Letter for April 9, 2015
ARRL to FCC: Amateurs and Vehicular Radars Can Play Nicely Together on 77-81 GHz

In comments filed on April 6 in response to a February FCC *Notice of Proposed Rulemaking and Reconsideration Order* (*NPRM&RO*) in ET Docket 15-26, the ARRL has told the Commission that it should make no change in the Amateur Radio allocation at 76-81 GHz and impose no additional regulatory constraints on Amateur or Amateur-Satellite uses of the band. The League said the FCC should proceed with authorizing short-range radar (SRR) systems for automotive applications in the band under Part 15 rules, and that such applications are compatible with amateur operations in the band.

In its *NPRM&RO*, the FCC solicited comment on issues involving expanded use of various radar applications in the 76-81 GHz band, which Amateur Radio shares with other services. The band 77.5-78 GHz is allocated to the Amateur and Amateur Satellite services on a primary basis, and to the Radio Astronomy and Space Research services on a secondary basis. The *NPRM&RO* was in response to a 2012 *Petition for Rulemaking* (RM-11666) by Robert Bosch LLC and to two petitions for reconsideration of a 2012 *Report and Order* (*R&O*) addressing vehicular radar systems in the 76-77 GHz band. ET 15-26 incorporated earlier proceedings.

In its comments, the ARRL suggested that the FCC overreached in proposing unjustifiable changes at 77-81 GHz on its own initiative.

"There is not, anywhere in the four corners of the Bosch *Petition for Rule Making* or in any comments that have been filed thus far in response to RM-11666, any suggestion that there is any incompatibility between Amateur Radio operation and automotive radars," the ARRL said. "Quite the contrary." The League said a credible, current ITU study has "definitively established" compatibility between short-range automotive radars and Amateur Radio.

The ARRL said Bosch's filing of its *Petition* followed "extensive discussions and technical evaluations between ARRL and Bosch" that making spectrum at 77-81 GHz available for automotive radars "would have no significant impact on the Amateur Radio Service." Bosch, the League pointed out, "did not propose a domestic spectrum *allocation* for vehicular radar devices and systems," just modification of the FCC Part 15 rules to permit vehicular radars at 78-81 GHz on the same basis that these radars now operate in the US at 76-77 GHz -- on a non-allocated, non-interference basis.

The ARRL said that no changes are necessary in the Amateur Radio domestic primary allocation at 77.5-78 GHz or in the secondary amateur allocation at 77-77.5 GHz or 78-81 GHz to accommodate automotive radar systems at 77-81 GHz. "Nor are any additional Part 97 rules necessary to accommodate compatible sharing of that band between radio amateurs and automotive radar systems," the League added. "Indeed, that is the position of the United States in anticipation of consideration of WRC-15 agenda item 1.18 later this year."

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The League characterized as "both premature and poor spectrum management" the FCC's proposal to unilaterally permit unspecified fixed radar systems throughout the 76-81 GHz band "without the benefit of *any* completed, definitive studies relative to the compatibility of fixed radar systems with automotive radar, radioastronomy and/or Amateur Radio in this band."

Any consideration of fixed radars at 77-81 GHz, the League said, "should await the completion of conclusive, refereed compatibility studies that credibly establish compatibility with incumbent services." Read more.

TEN-TEC and Alpha Change Hands

Less than a year after TEN-TEC and Alpha Amplifiers merged under the RF Concepts banner, the companies have changed hands again. RKR Designs LLC of Longmont, Colorado, announced on April 2 that it had acquired the two brands' assets from RF Concepts. RKR said it plans to expand the product line while "continuing to service their customers."

RKR Designs principals are Ken Long, N0QO, Richard Gall, and Rich Danielson. Long, with more than 20 years in the electronics and Amateur Radio industries, will be president and CEO of the new company. Gall and Danielson of QSC Systems in Longmont have been a successful contract manufacturer for over 20 years. QSC has been building Alpha amplifiers for more than 5 years, and boards for TEN-TEC since RF Concepts bought the company last year.

RKR Designs LLC is privately held, and the terms of the acquisition were not disclosed. Read more.

WWV's 25 MHz Signal Still Going Strong After 1 Year Back on the Air

Time and frequency standard station WWV silenced its 25 MHz signal in 1977, but it returned to the air on an "experimental basis" a year ago, and it's still up and running. Resurrecting the long-dormant standard time outlet operated by the National Institute of Standards and Technology (NIST) was Matt Deutch, N0RGT, WWV's Lead Electrical Engineer.

"We have been at 1 kW for the past year," Deutch told ARRL. "We have had a few hiccups, but nothing serious." Deutch said he was pleased to see the 25 MHz signal included in a recent *QST* article, "just like the good ol' days" (see "Measuring Frequencies at VE3GSO," in the April 2015 issue of *QST*, p 37).

The WWV campus in Fort Collins, Colorado. [NIST photo]

"Here at the site we have even been discussing giving the 25 MHz signal its own antenna again," Deutch said. "The ham in me wants to give it something more exotic than a plain ol' boring dipole. But what antenna could it be?" Deutch said he was inspired by the article "Amateur Radio Science" by Eric Nichols, KL7AJ, in the February 2013 issue of *QST*, which asked hams to do more to advance and contribute to the radio art, "but the gears in my brain are still turning," Deutch said.

The return of WWV's 25 MHz outlet came about after Dean Lewis, W9WGV, lamented its loss last year in an e-mail to Deutch, who surprised him by putting the signal back on the air, initially temporar-

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ily. The 25 MHz signal not only provides another option to check your frequency calibration or the exact time, it also can serve to indicate the state of propagation on 12 and 10 meters. Deutch said the WWV 25 MHz signal still gets signal reports from across the Atlantic.

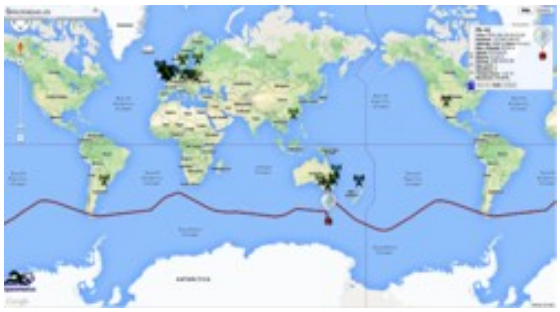
WWV has invited listeners' comments and signal reports. Read more.

In Brief...

Standard General Affiliate Acquires 1743 RadioShack Stores: The inventory and the leases of 1743 retail outlets that survived RadioShack's February bankruptcy have been acquired by General Wireless Inc, an affiliate of Standard General LP. The acquisition followed an auction, conducted under the US Bankruptcy Code. The current plan calls for "co-branding" about 1440 of the surviving stores with cellular phone provider Sprint Corp. RadioShack once offered entry-level shortwave receivers, Citizens Band gear, a wide array of discrete components -- including transistors, resistors, and capacitors -- and, for a time, 10 and 2 meter Amateur Radio gear. RadioShack said its stores would feature "emerging technologies that enhance the traditional accessories, DIY electronics and innovation for which the company is known."

The ARRL Letter for April 23, 2015
Australian Ham's "PicoSpace" Balloon Circumnavigates the Globe

A foil, party-type balloon carrying a ham radio payload has circumnavigated the globe. Launched on April 6 by Australian radio amateur Andy Nguyen, VK3YT, of Kensington, Victoria, Australia, the balloon, designated PS-41, completed its round-the-world journey on April 16. It remained aloft until April 22, when Nguyen reported that it had gone down near South America. Along the way, it has been tracked by a network of Amateur Radio operators. Nguyen has been trying since early last year to have one of his launches go full circle.



A map depicting PS-41's trip around the world in 10 days. The dark green icons indicate where the balloon's transmissions were heard.

"PS-41 crossed the starting longitude of 144.903 at 11:20 AM AEST (0120 UTC) this morning, completing the first PicoSpace around-the-world trip," Nguyen posted on April 16. "Thanks to everyone for assistance with tracking and providing encouragement for the project; the trip would not have been possible without you." In January, Nguyen's PS-30 balloon went down in suspected poor weather off the east coast of Africa near Madagascar.

The solar-powered, helium-filled PS-41 balloon carried an HF payload, sending *WSPR* spots and *JT9* telemetry on 30 and 20 meters from a 25 mW transmitter. The high-attitude PS-41 took a path over Tasmania, then south of New Zealand, the southern tip of South America, directly over the South Georgia and South Sandwich islands, well south of Africa, and back across to Australia.

Nguyen's companion PS-42 balloon made its way to the South Pacific between New Zealand and South America, but it went down at about the same time PS-41 completed its round trip.

The balloons were extensively tracked via *JT9* by a network in Australia, New Zealand, South America, South Africa, and Ireland. *WSPR* spots were received from all over the world. -- *Thanks to Jim Linton, VK3PC*

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The ARRL Letter for April 30, 2015
FCC Proposes to Permit Amateur Access to 2200 and 630 Meters

Amateur Radio is poised to gain access to two new bands! The FCC has allocated a new LF band, 135.7 to 137.8 kHz, to the Amateur Service on a secondary basis. Allocation of the 2.1 kHz segment, known as 2200 meters, was in accordance with the *Final Acts* of the 2007 World Radiocommunication Conference (WRC-07). The Commission also has proposed a new secondary 630 meter MF allocation at 472 to 479 kHz to Amateur Radio, implementing decisions made at WRC-12. No Amateur Radio operation will be permitted in either band until the FCC determines, on the basis of comments, the specific Part 97 rules it must frame to permit operation in the new bands. Amateur Radio would share both allocations with unlicensed Part 15 power line carrier (PLC) systems operated by utilities to control the power grid, as well as with other users. In addition, the FCC has raised the secondary Amateur Service allocation at 1900 to 2000 kHz to primary, while providing for continued use by currently unlicensed commercial fishing vessels of radio buoys on the "open sea."

The allocation changes, associated proposed rules, and suggested topics for comment are contained in a 257-page FCC *Report and Order, Order, and Notice of Proposed Rulemaking* addressing three dockets -- ET-12-338, ET-15-99, and IB-06-123 -- which affect various radio services in addition to the Amateur Service. The FCC released the document on April 27.

With respect to the new LF sliver band at 135.7-137.8 kHz, the FCC concluded that Amateur Radio and PLC systems can coexist there. "Since the Commission last considered this issue, amateurs have successfully operated in the band under experimental licenses without reported PLC interference," the FCC said. In 2003, the FCC turned down an ARRL proposal to create a 135.7-137.8 kHz Amateur Radio allocation, after utilities raised fears of a clash between Amateur Radio and PLC systems operating below the AM broadcast band. This time, the FCC said, "It is clear that we will have to establish appropriate requirements for amateur use of the band, if we are to ensure compatibility with PLC systems." WRC-07 set a maximum effective isotropic radiated power (EIRP) limit of 1 W, which is what the FCC is proposing.

The FCC said it "explicitly" rejects the suggestion that it choose one use of the spectrum over the other. "Our objective is to allocate spectrum on a secondary basis to amateur stations in a manner...compatible with existing PLC systems," the FCC said. "However, we also expect to permit amateur operators to make use of the allocation in a manner that is less burdensome and more productive than they are currently afforded under the experimental authorization process."

The Commission said that if it concludes, after considering the record, that Amateur Radio and PLC systems cannot coexist, it would "defer the adoption of service rules, and amateur users will have to continue to use the experimental licensing process to operate in the band."

With respect to the proposed 630 meter allocation, the FCC has proposed limiting amateur stations in the US to a maximum 5 W EIRP. The ARRL submitted a *Petition for Rule Making* in 2012, asking the FCC to allocate 472-479 kHz to the Amateur Service on a secondary basis and to amend the Part 97

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rules to provide for its use. Several countries, including Canada, already have access to the band. The ARRL has pointed out that during its extensive course of experimentation in the spectrum around 500 kHz, no interference reports have been received.

Rudy Severns, N6LF, in Oregon, is a member of the WD2XSH ARRL 600 Meter Experimental Group.

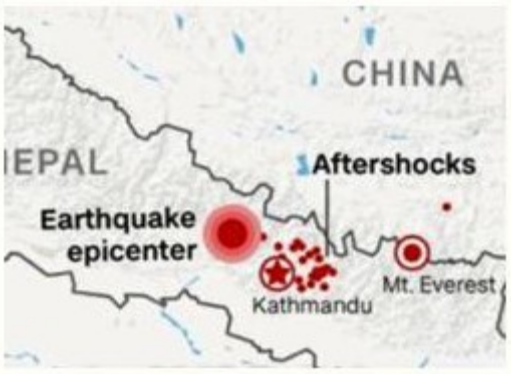
The FCC said that the "cornerstone" of the technical rules it's proposing for both bands is "physical separation between amateur stations and the transmission lines" carrying PLC signals. "Such a separation, in conjunction with limits on the amateur stations' transmitted EIRP and antenna heights, will enable PLC systems and amateur stations to coexist in these bands," the FCC asserted. "In addition, we propose to limit amateur stations to operations at fixed locations only, to ensure that this separation distance can be maintained reliably."

The FCC said it wants to hear from both PLC system users and radio amateurs regarding technical requirements it would have to put into place to permit both users to operate comfortably and without compromising the PLC systems. The Commission suggested that other requirements might include limits on antenna heights, transmitter power limits, and operating privilege limits based on license class or mode. The ARRL will file comments in the proceeding.

The FCC will accept comments for 60 days following publication of the *Report and Order, Order, and Notice of Proposed Rule Making* in the *Federal Register.* Reply comments would be due 30 days after the comment deadline.

Nepal Grants Operating Permission, Call Signs to Visiting Hams, as Earthquake Recovery Continues

In the wake of the devastating April 25 earthquake, hams in Nepal, already in limited supply, have been turning out to help in the ongoing recovery. The Nepalese government also is reported to be cutting some of the red tape that has prevented hams from outside the country from operating within Nepal. Several hams from India are among those who have arrived in Nepal to help facilitate communication. Word earlier this week via Amateur Radio Society of India President Gopal Madhavan, VU2GMN, was that visiting hams would not be permitted to operate in Nepal, unless they were part of a government team. On the other hand, getting needed Amateur Radio equipment into Nepal remains problematic.



"ARRL is working closely with amateurs in Nepal to identify equipment needed for the relief effort," said ARRL Emergency Preparedness Manager Mike Corey, KI1U. "We are preparing a shipment from the Ham Aid inventory, but like other NGOs, we are facing transportation challenges. We hope to have transportation arrangements in place soon." Unconfirmed reports said another group was having problems getting a repeater into Nepal.

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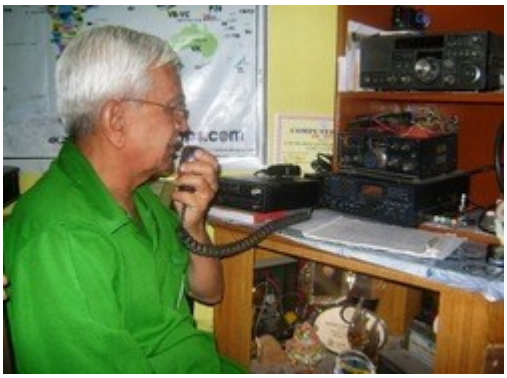
While parts of the telecommunication infrastructure remain in operation, power is out. Ham radio remains a reliable link at this stage of the recovery effort. A major focus of rescue teams has been attempting to locate the missing, as well as to recover quake victims buried beneath debris. More than 5000 people are now reported dead as a result of the earthquake and subsequent aftershocks. The disaster also has stranded many people, as roads were cut off by landslides and damage. Rain, heavy at times, has hampered rescue and recovery work.

"In spite of the conditions, ham radio operation is in progress, and the Nepal government has started issuing licenses to visiting hams, with 9N7 prefixes," said Jayu Bhide, VU2JAU. Bhide, who is the Amateur Radio Society of India's National Coordinator for Disaster Communication, said these stations have been asked to help provide communication to more of the devastated region. Ham radio groups are being asked to spread out in terms of operating frequencies as well. Bhide said a lot of the Amateur Radio traffic has consisted of health-and-welfare inquiries.

Mike Kalter, W8CI, told ARRL that he relayed an urgent request from the family of a woman traveling between Nepal and Tibet with a tour group. He passed along the information via ham radio to Mohan Suri, VU2MYH, in Nepal, who supplied the information to authorities. Within a few days, the woman being sought reported back through Jerry Long, KJ4YAP, that groups were going through the streets of Kathmandu, announcing names of individuals being sought, and she heard her name called out. The woman and her tour group were subsequently helicoptered out of Nepal.



Jayu Bhide, VU2JAU, has been active on HF nets aiding the Nepal earthquake relief and recovery effort.

At least two groups of hams from Gujarat, India, were planning to travel to Nepal and set up stations "at critical places," Bhide said, adding that he, Ananda Majumdar, VU2AGJ, and Sandip Baruah, VU2MUE, were planning to set up HF and VHF stations at Gorakhpur, on the India-Nepal border.

Amateur Radio HF nets have been one link between Nepal and the outside world, as Internet service continues to be spotty. Nepalese hams also are active locally on VHF/UHF.

Bhide said residents in the affected areas were finding it difficult to contact family members, as their cell phones have discharged, and no charging facility is available. He and some of the radio amateurs active on the relief and recovery nets contacted agencies in Nepal to provide small solar charging units.

The earthquake -- said to be the worst in Nepal in 80 years -- hit an area between the capital city of Kathmandu and the city of Pokhara.

Boston Marathon Amateur Radio Support Adjusts to a "New Normal"

More than 250 Amateur Radio communication volunteers participated on Patriots Day (April 20) in the 119th running of the Boston Marathon, sponsored by the Boston Athletic Association (BAA). This event was the second since the bombings that tragically marred the 2013 race. Amateur Radio volunteers have supported Boston Marathon communication for decades. Starting with the 2015 event, a Communications Committee the BAA formed last year established a "new normal" for marathon support by integrating Amateur Radio, public safety, and commercial radio providers into a single team. In

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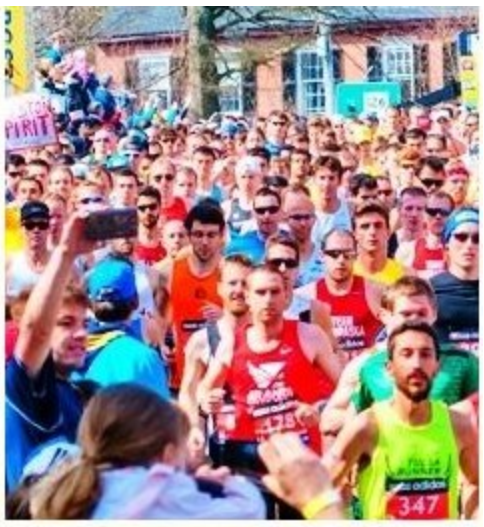
step with the BAA's mandate to "review the entire communications program," the seven-member Amateur Radio management team raised the level of training to a professional caliber and developed better documentation for volunteers. Tight coordination with the BAA as both leader and "client" of the Amateur Radio communication support "led to further advancement in overall effectiveness as evidenced by a very successful outcome despite difficult weather," the Amateur Radio team said in a media release.



"Development of detailed communications plans for each race segment was at the heart of the Committee's work," the Amateur Radio team said. "We expect this arrangement to continue, along with an increasing emphasis upon further training and standards, all intended to enhance the work of Amateur Radio public service, and to raise confidence in our capabilities to integrate with other organizations as effective team players."

Cool, damp weather made the volunteers' role more difficult, but carrying out communication tasks according to the 2015 plan went smoothly. "Many Boston Marathon race officials favorably commented on the advancement in communications provided by Amateur Radio and other entities both in the planning stage and on event day," the Amateur Radio team said.

"Through all the meetings, conference calls, and documents produced, I would say we all fulfilled what we set out to accomplish and more," said Chris Troyanos, Medical Coordinator for the Boston Marathon. "From the public safety side to all involved with the BAA, our communications program set new heights of excellence." Organizers from the Red Cross also expressed satisfaction with 2015 Boston Marathon communications.

Jeff Pinterparson, W5UVO, and Mark Richards, K1MGY, helped to staff the Start Network Control Operations Center at the Boston Marathon.

Event logistics were coordinated more tightly. Added to Amateur Radio's tasks this year was reporting of hourly medical statistics from each of the 26 medical field units, and a new medical re-supply system, both relying on Amateur Radio communication. The cooler weather meant fewer heat-related medical emergencies, but from mile 12 onward, many runners suffered chills and had to stop at medical stations to warm up before moving on.

Efforts were organized in segments that included start, course, transportation, and finish. A back-up medical dispatch communication plan, included in the public safety matrix, was among the many operational plans in place. Amateur Radio volunteers shadowed key race officials at the start and finish line, augmenting commercial radio services. They also staffed medical and hydration stations along the course; vans that travelled the course transported runners unable to complete the race to the finish line. Read more. -- *Thanks to Rob Macedo, KD1CY, Mark Richards, K1MGY, and the Boston Marathon Amateur Radio team*

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AMSAT: Amateur Radio Payload Could Share Space on Geosynchronous Satellite

There is big news on the Amateur Radio satellite front. AMSAT-NA has announced that, if all goes according to plan, an Amateur Radio payload will go into space on a geosynchronous satellite that's planned for launch in 2017. As opposed to the more typical low Earth orbit, a geosynchronous orbit would permit an Earthbound ham at a given point within the satellite's footprint to access the satellite at approximately the same time each day. According to AMSAT Vice President-Operations Drew Glasbrenner, KO4MA, the satellite's potential footprint would extend over the US from the Mid-Pacific to Africa. AMSAT said it has accepted the opportunity to be a "hosted payload" on a spacecraft that Millennium Space Systems (MSS) of El Segundo, California, is under contract to design, launch, and operate for the US government. Past AMSAT Director and former Vice President-Engineering Bob McGwier, N4HY, said the Amateur Radio payload must be delivered for testing and integration by the spring of 2016.

"It is an ambitious schedule, and all involved will have to gain and maintain a serious level of commitment," said McGwier, the Director of Research at Virginia Tech's Hume Center for National Security and Technology. The AMSAT announcement on April 25 followed an April 13 meeting at MSS to discuss the project.

According to AMSAT, the transponder is expected to support a wide range of voice, digital, and experimental advanced communications technologies. A decision is expected soon regarding the specification of the microwave uplink and downlink bands.

The AMSAT Board of Directors has signed on to the project, and AMSAT expects to be involved in developing both the ground station and the RF payload. It will also serve as the Amateur Radio payload operator, once the satellite has been launched. Read more. -- *Thanks to AMSAT News Service via Bob McGwier, N4HY, and others*

Questions for Technician Class License

1. (T1A01) Which of the following is a purpose of the Amateur Radio Service as stated in the FCC rules and regulations?
A. Providing personal radio communications for as many citizens as possible
B. Providing communications for international non-profit organizations
C. Advancing skills in the technical and communication phases of the radio art
D. All of these choices are correct

2. (T2A03) What is a common repeater frequency offset in the 70 cm band?
A. Plus or minus 5 MHz
B. Plus or minus 600 kHz
C. Minus 600 kHz
D. Plus 600 kHz

3. (T3A01) What should you do if another operator reports that your station's 2 meter signals were strong just a moment ago, but now they are weak or distorted?
A. Change the batteries in your radio to a different type
B. Turn on the CTCSS tone
C. Ask the other operator to adjust his squelch control
D. Try moving a few feet or changing the direction of your antenna if possible, as reflections may be causing multi-path distortion

4. (T4A04) Where must a filter be installed to reduce harmonic emissions from your station?
A. Between the transmitter and the antenna
B. Between the receiver and the transmitter
C. At the station power supply
D. At the microphone

5. (T5A03) What is the name for the flow of electrons in an electric circuit?
A. Voltage
B. Resistance
C. Capacitance
D. Current

6. (T6A02) What type of component is often used as an adjustable volume control?
A. Fixed resistor
B. Power resistor
C. Potentiometer
D. Transformer

7. (T7A01) Which term describes the ability of a receiver to detect the presence of a signal?
A. Linearity
B. Sensitivity
C. Selectivity
D. Total Harmonic Distortion

8. (T8A01) Which of the following is a form of amplitude modulation?
A. Spread-spectrum
B. Packet radio
C. Single sideband
D. Phase shift keying

9. (T9A08) What is the approximate length, in inches, of a quarter-wavelength vertical antenna for 146 MHz?
A. 112
B. 50
C. 19
D. 12

10. (T0A01) Which of the following is a safety hazard of a 12-volt storage battery?
A. Touching both terminals with the hands can cause electrical shock
B. Shorting the terminals can cause burns, fire, or an explosion
C. RF emissions from the battery
D. All of these choices are correct

(For answers to test questions see page 14)

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