

THE PLATTSMOUTH AMATEUR RADIO CLUB

Communicator

April 2017

Girl Scouts "Thinking Day on the Air" Generates Enthusiasm

(ARRL 03/17/2017) Skip Youngberg, K1NKR; Bill Machia, WM3N, and Dudley Allen, KD0NMD, were among those sponsoring World Association of Girl Scouts and Girl Guides' "Thinking Day on the Air" (TDOTA) events in February that enjoyed enthusiastic participation. "Thinking Day," officially February 22, commemorates the birthday of Lord Robert Baden-Powell, the founder of the Scout and Guide movements, as well as that of his wife, Olave, who was the first World Chief Guide.

"Talk about excitement, exhilaration, and satisfaction!" said Youngberg, an ARRL Life Member who got involved in TDOTA through his daughter Jill Galus, KB1SWV. She enlisted his club, the Nashoba Valley Amateur Radio Club (NVARC), to conduct an event in New Hampshire 3 years ago. This year, the NVARC set up in Shirley, Massachusetts, and in Raymond, New Hampshire.

TDOTA traces its heritage to Radio Scouter Les Mitchell, G3BHK (SK), who originated Jamboree on The Air (JOTA) in 1957 and initiated TDOTA about 25 years ago, Youngberg said.

On February 18 in Shirley, Youngberg and his NVARC compatriots introduced 41 Scouts and 15 leaders to world time, phonetics, Morse code, and — perhaps most important — getting on the air. The next day, the NVARC crew packed up and did the same for a similar group in Raymond, where 26 Scouts and 10 leaders "honed their communications experience," Youngberg said.

Youngberg said the Shirley gathering snagged 25 contacts, including eight DX stations. The New Hampshire demonstrations managed 42 contacts, 23 of them "CW DX demonstration" contacts made during the ARRL International DX Contest.

Youngberg credited the Girl Scout organizers in Massachusetts and New Hampshire with "bravely treading into the unknown," and said they're already talking about TDOTA 2018.

In Maryland, Bill Machia, WM3N, got to thinking about getting Girl Scouts involved in ham radio. He wondered if the Amateur Radio community was missing out on an opportunity.

"I agreed to give a presentation to the Girl Scouts of Central Maryland on Girl Scout Thinking Day," Machia told ARRL, who focused on generating excitement and interest in ham radio. "As I researched my presentation, I found ARRL had a patch for Girl Scouts, Radio & Wireless Technology.

This meant they could go home with an accomplishment patch."

Machia said he never expected the level of interest that developed. When the head count reached 75, Scout leaders decided to make that the limit. "We are probably going to need a second presentation," he said.

Machia reached out to Maryland-DC Section Manager Marty Pittinger, KB3MXM, to help, and when the day came, Machia said he found himself before "the most respectful group of young people I had ever met. They even laughed at my bad jokes."

"The presentation covered the necessary points needed for their patch," Machia recounted. He and his team presented some electrical and magnetic theory experiments. A local repeater demonstration followed, and they even set up an HF station with its antenna supported on a pole in the auditorium. "The 3 hours flew by," he said, adding that he is now trying to recruit mentors from area clubs to expand interest in Amateur Radio.

Boy Scout Troop 231 Assistant Scoutmaster Dudley Allen, KD0NMD, also believes girls need to be given the opportunity to get more involved in ham radio. TDOTA provided one, and members of the Mid-America Council's Radio Scouting Club (KNOBSA) hosted a TDOTA event for Girl Scouts in Bellevue, Nebraska, on February 18.

"This was the first event of this kind hosted for the Girl Scout troops in the area," Allen said. "Seven girls took time out of their Girl Scout cookie sales schedule to stop by the 'shack' and see what it was all about." He had help from other Scout

(Continued on Page 3)

Meeting Calendar
8am, March 25, 2017
8am, April 29, 2017
8am, May 27, 2017
at Mom's Café

**2017
PAID MEMBERSHIP**

- AGØL.....Steve Loyd [E]
- AIØN..... Chuck Engberg* [E]
- K3CRF.....Dave Smith [E]
- K5LBS.....Jerry Gault [E]
- KBØFSIPat McCollum [T]
- KBØLFFred Ericksen [E]
- KBØOGO Roger Behrns* [E]
- KBØSJB.....Tom Katalenich [G]
- KBØZZT..... George Bellairs [T]
- KCØDTK..... Joan Bellairs [T]
- KCØHYD..... John Titsworth [G]
- KCØHYE.....Shirley Titsworth [T]
- KDØNMD.....Dudley Allen [G]
- KDØBXB..... Kim Allen [T]
- KEØXQ..... Bill McCollum [E]
- KGØKRBeth Engberg* [E]
- KIØPYKevin Faris [E]
- N5SEZ Ray McNally[E]
- WØDBW..... Derek Winterstien [G]
- WØZY.....Dave McLaughlin[E]
- WØZYD..... Debbie McLaughlin[G]

**Charter Members #New Ham*

Note: Thanks to all who have paid their dues and many who have given additional donations. All donations are greatly appreciated. Please let me know of any corrections.

Meetings are 8am the last Saturday of most months at Mom's Café in Plattsmouth.

Tuesday night get-togethers at Plattsmouth Burger King at 7 PM



- P.A.R.C. Officers**
- President**
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KCØHYDJohn Titsworth
- Secretary**
N5SEZ.....Ray McNally
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Repeaters:

443.45⁺ is located in downtown Omaha
 443.225⁺ is located in Murray.
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Web Site
www.kb0smx.com
 Maintained by Derek

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The February 25, 2017 meeting was held at Mom's Café. The meeting was called to order at 0807 by President Roger Behrns.

Those in attendance were Roger (KBØOGO), Kevin (KIØPY), Derek (WØDBW), Keith (KAØIJY), Ray (N5SEZ), John(WR5I), and Fred (KBØLF).

The Minutes of the January meeting were approved on a motion by Kevin and second by Derek.

The treasurer reported \$195 in Dues and donations which leaves \$260 in the repeater fund and \$932.85 in the general fund for a balance of \$1192.85.

The ballots for the officers election were counted and all current officers continued for another year.

Fred Reported on the NE150 event which started today.

It was noted that Dudley is the new STEM organizer for the Mid-America Council of BSA.

There was some discussion on Field Day organization.

It was approved to spend up to \$100 in parts for three band pass filters on a motion by Derek and second by Fred. Ray will construct them using donated boxes.

Fred Reported on the Nebraska QSO party plans and asked for a \$20 donation for half of a plaque. The donation was approved on a motion by Kevin and second by Keith.

The meeting adjourned on a motion by Derek at 0825.



Please note the Paid Membership list. 2017 paid memberships are in black. I apologize in advance if I missed listing your payment. Please let me know.

PLATTSMOUTH ARC MEMBERSHIP REGISTRATION FORM					
Name		Call Sign		Class	
Address		City		State	Zip
E-Mail			Phone #		
Spouse Name			Call Sign		Class
Membership Type <input type="checkbox"/> Primary(\$15) <input type="checkbox"/> Spouse (\$5) <input type="checkbox"/> Student (\$5) <input type="checkbox"/> New Ham	● Additional donations are gratefully accepted. ● New Hams are free during the year they receive their first license. ● Please give this form and dues to the club treasurer or any club officer.		Donation for: <input type="checkbox"/> Repeater fund <input type="checkbox"/> Insurance <input type="checkbox"/> Other _____ <input type="checkbox"/> General		Amount: <input type="checkbox"/> I prefer my donation to be anonymous.
Any additional e-mail or cell phone #s?					

Girl Scouts (Continued from Page 1)

leaders.

"Jim Taylor, AJ0R, put girls in contact with Girl Guides in London, England, using EchoLink," Allen said, and he, Ray McNally, N5SEZ, and Terry Gampfer, N0BXQ, helped the young ladies contact Georgia and Texas on HF. Derek Winterstien, W0DBW, got on 2 meters so the girls could chat with some of the locals. Overall, Allen said, it was a lot of fun, and Radio Scouting is growing throughout the midwest.

Youngberg says that few non-hams understand what Amateur Radio has to offer. "Fortunately, Thinking Day on the Air is what you might call a self-defining special event," he said. "Point the troop to available TDOTA materials, offer support, and engage in a conversation that binds the event to something you and the Girl Scouts can reasonably and successfully accomplish."

<http://www.arrl.org/news/girl-scouts-and-guides-thinking-day-on-the-air-generates-enthusiasm-for-ham-radio>



Crystal Manufacturer Closes after Six Decades

(ARnewsline 3/17/17) International Crystal Manufacturing, once one of the suppliers of crystals for Collins Radio, will be closing its doors by the end of May. The Oklahoma City company manufactures precision crystals, quartz crystals, oscillators, filters and other products and has been in business since 1950.

A letter on the company's website from Royden Freeland Jr. W5EMH, the son of the company's founder, said the company will honor all pending orders and would try to fill a limited number of new orders depending on the availability of raw materials.

International Crystal is considered one of the few remaining makers of crystal products based in the U.S. ICM expanded from crystals into other electronics in the 1980s, following the 1978 death of the founder and his wife in an airplane crash. It eventually went back to its core manufacture of crystals in the 1990s after selling much of its distribution and equipment business.

In addition to being a Collins supplier, ICM also provided materials to RadioShack which has filed for Chapter 11 bankruptcy for a second time and announced that many of its 5,900 employees and 1500 remaining stores would be impacted.

<https://www.arnesline.org/>

2017 Nebraska QSO Party April 22-23, 2017

For Rules and Info: <http://www.qcwa.org/chapter025.htm>

The annual Nebraska QSO Party is scheduled for Saturday April 22 from 8am to 8pm and on Sunday April 23 from 8am to 5 pm. Check out the rules, but the objective is simple: make as many contacts as you can. The exchange is the call sign, signal report and county you are operating from. Collect their call, signal report and state, province or country or Nebraska County.

Two Signals, One Chip

(Cornell 03/13/2017) Cornell engineers have devised a method for transmitting and receiving radio signals on a single chip, which could ultimately help change the way wireless communication is done.

Separating the send and receive bands is difficult enough, but the problem is compounded by the ever-increasing number of bands in the latest devices, which handle everything wireless technology has to offer. From GPS to Bluetooth to Wi-Fi, each band requires a filter to stop the strong transmit signals from drowning out reception.

Alyosha Molnar, associate professor of electrical and computer engineering (ECE), and Alyssa Apsel, professor of ECE, have come up with an ingenious way to separate the signals. Their work is described in "A wideband fully integrated software-defined transceiver for FDD and TDD operation," published online in the Institute of Electrical and Electronics Engineers' Journal of Solid-State Circuits.

Their idea lies in the transmitter -- actually a series of six subtransmitters -- all hooked into an artificial transmission line. Each of the subtransmitters send signals at regular intervals, and their individually weighted outputs are programmed so that they combine to produce a radio frequency signal in the forward direction, at the antenna port, while canceling out at the receive port.

The programmability of the individual outputs allows this simultaneous summation and cancellation to be tuned across a wide range of frequencies, and to adjust to signal strength at the antenna.

"In one direction, it's a filter and you basically get this cancellation," Apsel said. "And in the other direction, it's an amplifier."

"You put the antenna at one end and the amplified signal goes out the antenna, and you put the receiver at the other end and that's where the nulling happens," Molnar said. "Your receiver sees the antenna through this wire, the transmission line, but it doesn't see the transmit signal because it's canceling itself out at that end."

This work builds on research reported six years ago by a group from Stanford University, which devised a way for the transmitter to filter its own transmission, allowing the weaker incoming signal to be heard. It's the theory behind noise-canceling headphones.

Unlike the Stanford work, the Cornell group's subtransmitter concept will work over a range of frequencies - a positive in this age of scrambling for available frequencies that used to be the realm of over-the-air television.

"This wire is a fairly broadband structure," Molnar said. "And the thing you do to make it work over a wide range of frequencies is just control those different subgains of the transmitters to make this cancellation always happen."

Instead of needing a filter for every band, signal separation can be controlled digitally. Upgrading to the latest version would be like updating an app - as simple as downloading the latest software.

<http://www.rdmag.com/news/2017/03/two-radio-signals-one-chip-open-new-wireless-communication-possibilities>

<http://ieeexplore.ieee.org/document/7835655/>