



# Sinewaves



**STONEWALL JACKSON AMATEUR RADIO ASSOCIATION**  
*This Club has merged with the CWVWA Club Effective 7/21/2017*  
July 31, 2017

**Net Control** \_\_\_\_\_ **Date** \_\_\_\_\_

1. N8FMD .....FINAL NET CONTROL.....July 25, 2017

## Minutes SJARA Meeting July 20, 2017

**The Meeting:** Called to order at 7:40 pm by Doug Cutlip (President)

**The Minutes:** Minutes from June 15-2017 were read by Doug and no corrections were made.

**Treasurer's Report:** Was presented by Doug Cutlip (President) with an ending balance in the account of \$869.81

### Motions:

N8FMD mad motion and was seconded by WD8NSC, to move membership to cwvwa, callsign, equipment, monies, to CWVWA. Officers of SJARA will stay in office until all business is closed and done as soon as possible. 4 Yeas, 0 Nay's and 1 Obs.

WV8TIM made motion and was seconded by K8PEC, to host one more final net on July 25<sup>th</sup>. Net Control will be N8FMD, and a final sinewaves newsletter be published. 5 yeas, and 0 nay's.

Meeting Adjourned

## ARRL Board Explores Entry-Level License Options, Ways to Face Future Challenges

Meeting July 21-22 in Farmington, Connecticut, the ARRL Board of Directors took steps to chart a firmer future for Amateur Radio by enhancing the value of the entry-level license and by providing ongoing support for new licensees. ARRL President Rick Roderick, K5UR, chaired the second regular



(L-R) ARRL Second Vice President Brian Mileschosky, N5ZGT; ARRL First VP Greg Widin, K0GW; ARRL President Rick Roderick, K5UR; ARRL CEO Tom Gallagher, NY2RF, and ARRL Assistant Secretary and Regulatory Information Manager Dan Henderson, N1ND.

meeting of 2017.

ARRL New England Division Director Tom Frenaye, K1KI, presented the report of the Ad Hoc Entry-Level License Committee. He said the committee's initial, informal survey attracted nearly 7,900 responses. A second random survey drew another 375 responses. "A clear majority favored a revision to the Technician rather than a new entry-level license," the committee's report said, noting that this would require no change to the Technician examination, which already covers more material than necessary for an entry-level examination. "This choice requires the simplest revision to FCC rules," the committee report said. The committee suggested expanded digital access on 80, 40, and 15 meters, where Technicians already have CW access, as well as the addition of Technician phone privileges on those bands. Frenaye pointed out that while the Amateur Radio population is growing, the annual rate of growth has stagnated at about 1%. "There is a general

consensus...that 'something needs to happen,'" the committee's report said, noting a generally favorable attitude toward attracting newcomers.

"The general goal here is to have an entry-level license that offers a way for a newcomer to experience multiple facets of Amateur Radio," the committee's report said, "encouraging them to get on the air, meet other licensees, and engage in a lifetime of learning while using Amateur Radio."

Later in the meeting, the Board charged the ARRL Executive Committee with developing a plan to implement the ad hoc committee's recommendation to make the current Technician class license more attractive and useful by expanding its operating privileges on HF to include phone and digital modes. The Board asked the Ad Hoc Entry-Level License Committee to further research and develop the details of a second recommendation to improve successful outreach to prospective radio amateurs and help them through the licensing process.



(L-R) ARRL Southeastern Director Greg Sarratt, W4OZK; ARRL Southwestern Division Director Dick Norton, N6AA; ARRL West Gulf Division Director Dr. David Woolweaver, K5RAV; ARRL Chief Financial Officer Barry Shelley, N1VXY, and ARRL General Counsel Chris Imlay, W3KD. Seated at rear: ARRL Field Services Manager Dave Patton, NN1N.

ARRL Ad Hoc Legislative Advocacy Committee Chair and Hudson Division Director Mike Lisenco, N2YBB, discussed the status of the US Senate version of the Amateur Radio Parity Act of 2017. Lisenco said Senate leadership is supportive of the bill, which should be scheduled for mark-up in the Senate Commerce Committee.

ARRL Chief Executive Officer Tom Gallagher, NY2RF, presented the report of six Headquarters staffers who had been tasked with identifying the challenges facing ARRL and devising feasible solutions. Specifically, the committee addressed market research findings that have continued to reveal that only a small percentage of new hams join the League, and only about one-half of new hams actually get on the air.

The committee began with the premise that ARRL must act in order to remain relevant going forward. It proposed instituting a Lifelong Learning Program to focus on developing a clear developmental path for all radio amateurs, from newcomers to

established radio amateurs. The committee recommended the creation of new programs and services to increase the knowledge base of newcomers in order to get them active, as well as programs to keep experienced amateurs up to date with changing technology and practice.

The Board established the "ARRL Centurion Award" to recognize radio amateurs who have reached the age of 100 and have been League members for at least 40 years. Members will join the ranks of the ARRL Order of the Centurion, entitling them to free ARRL membership for the remainder of their lives. Life Members would be able to select a bonus publication.

#### **In other business:**

◆ The Board was updated on plans to upgrade the ARRL website.

◆ ARRL International Affairs Vice President Jay Bellows, K0QB, told the Board that even small threats to our bands from such devices as small battery chargers pose serious threats to Amateur Radio spectrum and must be monitored.

◆ The Electromagnetic Compatibility Committee reported that it is working with the ARRL Lab on issues stemming from the increase of RF noise related to home solar power installations and on the overall increase in the noise floor generally.

◆ ARRL General Counsel Chris Imlay, W3KD, told the Board that a workable solution is in sight to the FAA tower lighting and painting rules that could affect

some Amateur Radio antenna installations. Imlay also told the Board that while Amateur Radio spectrum has avoided being targeted in any FCC reallocation dockets, the possibility still exists that amateur frequencies could be included in future dockets.

Read [more](#).

## ARRL Board Names Award Winners, Recognizes Clubs

Meeting July 19-21 in Connecticut, the ARRL Board of Directors announced the winners of the 2017 [Hiram Percy Maxim Award](#) and the [Philip J. McGan Memorial Silver Antenna Award](#). It also recognized two clubs for their exemplary service.

The Board designated 19-year-old Skyler Fennell, KD0WHB, of Denver, Colorado, to receive the 2017 Hiram Percy Maxim Memorial Award, the League's top honor for a young radio amateur. Fennell has been actively involved in a wide range of Amateur Radio activities and community service, establishing two clubs, mentoring other students, and using Amateur Radio to aid the community. Among other accomplishments, he built an AllStar link node providing internet from his house and assembled and put on the air a repeater to support his college community. He also built his own APRS transceiver to track public service event support vehicles, plus a 900-MHz cross-band link to stay in touch, even when the operator is outside the vehicle.

Fennell has given many presentations on Amateur Radio at hamfests -- including

Hamvention -- and youth gatherings. He has also volunteered in schools to demonstrate the benefits of Amateur Radio. The Maxim award is presented to an ARRL member under age 21 whose accomplishments and contributions to the Amateur Radio and local communities are of the most exemplary nature. It carries a \$1,500 stipend and an engraved plaque.

The Board named Dennis Moriarty, K8AGB, of Canton, Ohio, to receive the 2017 Philip J. McGan Memorial Silver Antenna Award for Excellence in Public Relations. Moriarty has hosted the Canton Amateur Radio Club's ARRL Field Day information booth for more than a decade. He also writes, prints, and mails between 20 and 50 letters distributed to schools and universities, the media, served agencies, and to other clubs. Moriarty, an ARRL Technical Specialist in the Ohio Section, has been licensed since 1958.

The McGan Award rewards promotion of Amateur Radio to the non-amateur community. Moriarty was recognized for consistently presenting Amateur Radio and the activities of his club in a positive manner throughout northeastern Ohio. The McGan Award's namesake, journalist Philip J. McGan, WA2MBQ (SK), served as the first chairman of the ARRL's Public Relations Committee.

The Board recognized and congratulated the Denver Radio Club for its exemplary service and dedication to the Amateur Radio community and the general public. The club

celebrates its centennial this year.

The Board recognized the Clark County Amateur Radio Club (CCARC) for its exemplary service and dedication. The club operates eight repeaters in southwest Washington that directly support public service activities, and it created the [EYEWARN](#) program to provide visual situational reports with ground-truth observations to emergency managers. CCARC was the 2017 Hamvention Club of the Year. It is celebrating its 87th year.

## Amateur Radio Participation is Key to University Solar Eclipse Experiment

[Virginia Tech](#) electrical engineering professor Greg Earle, W4GDE, is heading up a National Science Foundation (NSF) funded solar eclipse experiment dubbed CEDAR -- Coupling, Energetics, and Dynamics of Atmospheric Regions. The experiment proposes to study the effects on the ionosphere of the August 21 total eclipse of the Sun, using a combination of GPS receivers, the university's [SuperDARN](#) (Super Dual Auroral Radar Network) radar system, HF Amateur Radio, and plasma modeling. Several graduate students and researchers, as well as the Virginia Tech Amateur Radio Association (K4KDJ) and the Amateur Radio community at large have been recruited to help.

"We want to understand how the ionosphere is affected by blockage of sunlight over a relatively short interval (~2 hours), understand how man-made systems are affected by the changes in the ionosphere, and use the data to improve our numerical models," Earle told ARRL, noting that the "plan has morphed a bit" since the initial proposal of more than a year ago, although "the idea is still the same."

Virginia Tech students Magdalena Moses, KM4EGE, and Xiaoyu "Harry" Han, KM4ICI, along with Virginia Tech electrical engineering professor Bob McGwier, N4HY, are among those pitching in.

Earle and his team are will use the data they collect to characterize ionospheric plasma density variations caused by the eclipse, measure HF scintillation -- rapid fluctuation of signal phase and/or amplitude -- during the eclipse, study the motions of plasma irregularities produced in both the E and F layers, and use numerical models to test cause-and-effect scenarios to compare with empirical data.

"The proposed study will utilize diagnostic capabilities that have never before been used to study a mid-latitude eclipse," the CEDAR abstract explains. "Through this work we will answer several fundamental questions that remain unresolved, despite previous eclipse studies, and we will engage a huge cohort of non-scientists in gathering data that will constrain our models and enrich our understanding of ionospheric behavior."

That "huge cohort" includes participants in the Solar Eclipse QSO Party ([SEQP](#)), sponsored by ARRL and [HamSCI](#). "During this event, radio operators will actively communicate throughout the eclipse interval over paths that transect the eclipsed region of the ionosphere," the CEDAR proposal outlines. "These data will include information on the signal strength and maximum usable frequency in various HF bands, which are directly related to the density and altitude of the ionosphere." The experiment will also draw on data generated by [WSPR Net](#) and the Reverse Beacon Network ([RBN](#)). Read [more](#).

## The Doctor Will See You Now!

"Keys and Keyers" is the topic of the latest episode of the "[ARRL The Doctor is In](#)" podcast. Listen...and learn!

Sponsored by [DX Engineering](#), "ARRL The Doctor is In" is an informative discussion of all things technical. Listen on your computer, tablet, or smartphone - whenever and wherever you like!

Every 2 weeks, your host, QST Editor-in-Chief Steve Ford, WB8IMY, and the Doctor himself, Joel Hallas, W1ZR, will discuss a broad range of technical topics. You can also e-mail your questions to [doctor@arrl.org](mailto:doctor@arrl.org), and the Doctor may answer them in a future podcast.

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## FT8 Mode is Latest Bright Shiny Object in Amateur Radio Digital World

It's still in beta testing, but FT8 -- the latest digital bauble to capture the imagination of the Amateur Radio community -- has been luring away many of those already using the already-popular JT65 "weak-signal" mode. FT8 is included in a beta release of [WSJT-X](#), version 1.8.0-rc1. Among its biggest advantages is a shorter transmit-receive cycle, meaning quicker contacts. The [notes](#) for the "candidate" release say that FT8 offers "sensitivity down to -20 dB on the AWGN channel." Contacts are four times faster than with JT65 or JT9, and an entire FT8 contact can take place in about 1 minute.

The new mode is named after its developers, Steven Franke, K9AN, and Joe Taylor, K1JT. The numeral designates the mode's eight-frequency shift keying format. Tones are spaced at 6.25 Hz, and an FT8 signal occupies just 50 Hz. Unlike JT65 or JT9, transmit and receive cycles in FT8 each last about 15 seconds. Like JT65, FT8 requires accurate time synchronization. An auto-sequencing feature offers the option to respond automatically to the first decoded reply to your CQ.

"FT8 is an excellent mode for HF DXing and for situations like multi-hop Es on 6 meters, where deep QSB may make fast and reliable completion of QSOs desirable," Taylor's release notes assert.

ARRL Emergency Preparedness Manager Mike Corey, KI1U, has been using FT8 from the start and put W1AW on FT8 for the first time a few weeks ago on 6 meters.

"This mode is a game changer for 6 meters," Corey said. "Activity is intense, and contacts are possible using this mode when the band seems totally dead." Corey said it's easy to get on with FT8, call CQ, and "quickly fill the log," and he rated the auto-sequencing feature as "awesome."

"FT8 gives small and modest stations a real chance at participating in programs like DXCC, VUCC and WAS; and, to top it off, at a time when band conditions are far from optimal." Corey said.

The beta release came out just days before the July CQ VHF Contest and proved to be a boon to many operators who took advantage of FT8 on 6 meters. In a limited outing for the CQ VHF, Frank Donovan, W3LPL, made 22 FT8 contacts on 6 meters, some of which "may have been difficult to complete on CW," he said.

"We know that the advent of new mode FT8 means that new material is needed for the *User Guide*," Taylor told the Yahoo [Meteor Scatter and Weak Signal Group](#) this week. "We will be working on that in the near future." A new [Facebook group](#)

has been established for FT8 experimenters. Read [more](#).

## Canada C3 Expedition WSPR Beacon Reports Continue at High Rate; QSL Available

The CG3EXP [WSPR](#) beacon on board the [Canada C3](#) Expedition vessel [Polar Prince](#) continues to attract a high volume of reception reports. The vessel has been making its way northward along the Labrador Coast, visiting communities and places of interest. Some stations have requested QSL cards, and *The Canadian Amateur* columnist Robert Mazur, [VA3ROM](#), has volunteered to be the CG3EXP eQSL Manager. He designed an eQSL that is available via the online eQSL service or upon [request](#) via e-mail.

Thousands of Amateur Radio stations and shortwave listeners (SWLs) have reported receiving the CG3EXP *WSPR* signal on 20, 30, and 40 meters. The Canada C3 Expedition, which got under way on June 1 and will continue until October 28, is part of Canada's Sesquicentennial celebration. The *Polar Prince* is sailing from Toronto to Victoria via the Northwest Passage.

Group Leader Barrie Crampton, VE3BSB, has explained that the *Polar Prince* is not carrying a full-blown Amateur Radio station because onboard space was tight, and a *WSPR* beacon was far easier to implement. Also, he quipped, it "doesn't eat, sleep, get seasick, or need a bunk." Read [more](#).

## The K7RA Solar Update

Tad Cook, K7RA, Seattle, reports: At 0549 UTC on August 3, the Australian Space Forecast Centre issued a warning to "expect an increase in geomagnetic activity up to active to minor storm levels, due to influence of the recurrent coronal hole," on August 4-5 UTC. The Centre said the increased geomagnetic activity was expected due to "coronal hole high-speed wind stream" on both days.

More zero-sunspot days appeared over the past week, but fewer than during the previous week; in fact, the average daily sunspot number increased from 1.7 to 5, and average daily solar flux went from 69.7 to 71. Both are very low numbers.

We saw the average daily planetary A index go from 11.9 to 5, and the average daily mid-latitude A index (measured in Virginia) decline from 12.9 to 6.

These numbers are generally good for HF propagation, being lower, but for the best HF propagation, we like sunspot numbers and solar flux as high as possible.

Predicted solar flux is 75 on August 3; 78 on August 4-10; 75 on August 11-13; 73 on August 14; 70 on August 15-26; 78 on August 27-29, and 75 on August 30-September 9.

Predicted planetary A index is 5 on August 3-4; 25, 12, and 8 on August 5-7; 5 on August 8-16; 15 on August 17-18; 12 on August 19; 10 on August 20-22; 5 on

August 23-26; 12, 10, 8, and 5 on August 27-30; 25, 18, 12, and 8 on August 31-September 3; 5 on September 4-12, and 15 on September 13-14.

Sunspot numbers for July 27-August 2 were 0, 0, 12, 11, 0, 0, and 12, with a mean of 5. The 10.7-centimeter flux was 68.3, 69.5, 69.9, 69.5, 72.2, 73.5, and 74.4, with a mean of 71.

Estimated planetary A indices were 6, 7, 4, 4, 3, 6, and 5, with a mean of 5. Estimated mid-latitude A indices were 8, 7, 4, 3, 2, 10, and 8, with a mean of 6.

Send me your reports and observations.

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## Just Ahead in Radiosport

- August 5 -- European HF Championship (CW, phone)
- August 5 -- WAB 144 MHz Low Power Phone
- **August 5-6 -- [North American QSO Party \(CW\)](#)**
- **August 5-6 -- [ARRL 222 MHz and Up Distance Contest](#)**
- August 5-6 -- 10-10 International Summer Contest (CW, phone)
- August 6 -- SARL HF Phone Contest
- August 8 -- ARS Spartan Sprint (CW)
- August 9 -- NAQCC CW Sprint

See the [ARRL Contest Calendar](#) for more information. For in-depth reporting on Amateur

Radio contesting, subscribe to [The ARRL Contest Update](#) via your ARRL member profile e-mail preferences.

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## Upcoming ARRL Section, State, and Division Conventions

- August 4-5 -- [South Texas Section Convention](#), Austin, Texas
- August 4-6 -- [Pacific Northwest DX Convention](#), Spokane, Washington
- August 11-13 -- [New Mexico State Convention](#), Albuquerque, New Mexico
- August 12 -- [Delta Division Convention](#), Shreveport, Louisiana
- August 18-20 -- [West Virginia State Convention](#), Weston, West Virginia
- August 19-20 -- [Alabama State Convention](#), Huntsville, Alabama
- August 20 -- [Kansas State Convention](#), Salina, Kansas
- September 1-3 -- [North Carolina State Convention](#), Shelby, North Carolina
- September 8-10 -- [New England Division Convention](#), Boxboro, Massachusetts
- September 9 -- [Virginia Section Convention](#), Virginia Beach, Virginia
- September 10 -- [New Jersey State Convention](#), Mullica Hill, New Jersey

- September 15-16 -- [W9DXCC Convention](#), Schaumburg, Illinois
- September 15-17 -- [Southwestern Division Convention](#), Torrance, California
- September 15-17 -- [ARRL/TAPR Digital Communications Conference](#), St. Louis, Missouri
- September 22-23 -- [W4DXCC/SEDCO Convention](#), Pigeon Forge, Tennessee
- September 23 -- [Iowa State Convention](#), Sergeant Bluff, Iowa
- September 23 -- [Washington State Convention](#), Spokane Valley, Washington
- September 30 -- [North Dakota State Convention](#), West Fargo, North Dakota

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