Volume 22, Issue 3

March 2026

THE AERO AERIAL

THE NEWSLETTER OF THE AERO AMATEUR RADIO CLUB

Meetings

MARCH 4 AND 18

Ham News

Aero Club Repeater Update

The six batteries and a terminal lead on one battery were replace on Friday, February 20. The repeaters were down from 9:20 to 10:20 am while the new batteries and one battery jumper cabler were replaced. Thanks to Brian Majka, KD3BOJ, and Marty Braun, KC3AID, helping doing the repairs.

Did you pay your annual club dues yet?

If you haven't paid your annual club dues yet for 2026, please contact Joe Miko, WB3FMT.

The amount is $24 for one person, $2 for each additional person living in the same household.

Events

Winterfest 2026

Date: 3/15/2026

Location: Vienna, VA

Sponsor: Vienna Wireless Society

FredFest 2026

Date: 3/21/2026

Location: Frederick, MD

Sponsor: Frederick ARC

York Hamfest

Date: 4/25/2026

Location: Glen Rock, PA

Sponsor: Penn-Mar ARC & Hilltop Transmitting Assoc

Odenton Spring Hamfest

Date: 4/26/2026

Location: Odenton, MD

Sponsor: Maryland Mobile's Amateur Radio Club

Maryland F.M. Association Hamfest

Date: 5/24/2026

Location: West Friendship, MD

Sponsor: Maryland F.M. Association Inc.

More Ham News

Can You Work DX on VHF & UHF?

From On All Bands

Yes, you can. While VHF and UHF are usually line-of-sight bands, the atmosphere has never been particularly concerned with following this philosophy. Read more

Bridging Generations Through Emergency Communications

From Emergency Ham Network

A transformative approach to Amateur Radio's future by creating a symbiotic relationship between licensed operators, students, and modern IoT technology. Read more

FT2: The Fastest Digital Mode Ever Created

From FT2

3.8-second cycles – Complete QSO in 11 seconds. 4x faster than FT8. Download the beta

Online Museum Tours and Talks

Amateur Radio Events

You don't need to travel the world to visit and enjoy many of the most impressive museums related to Ham Radio and radio communications. Take a tour

Helpful Links

A real-time amateur radio dashboard for the modern operator. Open HamClock

Find the longest line of sight at a particular location. Click to see all the views in the world

News and information about the Sun-Earth environment that can impact ham radio. https://spaceweather.com

More Events

Baltimore Amateur Radio Club Father's Day Hamfest/Expo

Date: 6/21/2026

Location: Upper, MD

Sponsor: Baltimore Amateur Radio Club BARC

CARA Fest 2026

Date: 10/3/2026

Location: West Friendship, MD

Sponsor: Columbia Amateur Radio Association

In case you missed it,


Volume 22, Issue 2 February 2026

THE AERO AERIAL

THE NEWSLETTER OF THE AERO AMATEUR RADIO CLUB

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Meetings
FEBRUARY 4 AND 18

Photos in this issue by Harry Rundall, AC3EK

Ham News

Aero Club Holiday Party

On January 7, the Aero Club held its annual holiday party at Pizza John's in Essex, MD. See pages 5 and 6 for photos from the event, courtesy of Harry Rundall, AC3EK.

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W3PGA Middle River, MD 1

check out the February issue.

SKYWARN, ARES, RACES

SKYWARN® is a national network of volunteer severe weather spotters. The spotters are trained by local National Weather Service Forecast Offices on how to spot severe thunderstorms, tornadoes, hail and flooding. In some parts of the country, spotters also report snowfall and ice accumulation.

To learn more about SKYWARN® and how to become a spotter, click here.

Harford County ARES/RACES Group meets at the Harford County Emergency Operations Center in Forest Hill, MD, the first Thursday of each month, 7:00-9:00 p.m. Let them know in advance if you would like to attend, via email to Steven Fook (K2EJ), Harford County Emergency Coordinator.

To learn more about Amateur Radio Emergency Service (ARES) and Radio Amateur Civil Emergency Service (RACES), click here.

Training

SKYWARN® Classes

Basics, March 4, 6-8 pm, Lovingston, VA

Basics, March 18, 6-8 pm, Charles Town, WV

Basics, May 6, 6-8 pm, Alexandria, VA

Special Event Stations

Working special event stations is an enjoyable way to help commemorate history. Many provide a special QSL card or certificate!

Mar. 3 – Mar. 14, 0001Z – 2359Z, N1KL, Wheelwright, MA. Geratol Net. **50 Plus Years of Service**. 3.668. QSL. Kevin Lynch, P.O. Box 124, Wheelwright, MA 01094. **www.geratol.net**

Mar. 7, 1400Z – 2100Z, W4OT, Vero Beach, FL. Vero Beach Amateur Radio Club. **Pelican Island National Wildlife Refuge**. 14.035 14.250 21.290 28.350. QSL. Vero Beach Amateur Radio Club c/o: IRC EOC, 4225 43rd Ave., Vero Beach, FL 32967. **www.w4ot.com**

Mar. 14 – Mar. 15, 1800Z – 0100Z, N2RE, Mount Laurel, NJ. David Sarnoff Radio Club. **Pi Day**. 7.031 7.227 14.031 14.314. QSL. Donald G. Corrington, 7 Pinewald Ln., Burlington, NJ 08016-3421. **https://n2re.org**

Mar. 21, 1300Z – 1900Z, N4SRC, Kissimmee, FL. Solivita Radio Club. **Solivita Car Show**. 14.074 18.124 24.980. QSL. Solivita Radio Club, 117 Auburn Dr., Kissimmee, FL 34759. *SSB on 18.124, 24.980; FT8 on all frequencies (10 through 40 meters*). **www.solivitaradioclub.weebly.com**

Mar. 21, 1330Z – 2100Z, K3S, Port of Baltimore, MD. Nuclear Ship *Savannah* Amateur Radio Club. **First LORAN Experiments**. 7, 14, 18, 21, 28. QSL. Ulis Fleming, 980 Patuxent Rd., Odenton, MD 21113. **www.qrz.com/db/k3s**

Mar. 21 – Mar. 22, 1400Z – 2359Z, K4NVA, Sterling, VA. Sterling Park Amateur Radio Club. **Virginia QSO Party**. 1845 3860 7260 14270. QSL. Sterling Park QSL Bureau — Attn: VAQP, P.O. Box 29, Sterling, VA 20167. *The theme is "Virginia is for Lovers®" with special 1×1 call sign bonus stations that spell "Lovers:" K4L, K4O, K4V, K4E, K4R, and K4S. Also, in support of the ARRL Year of the Club, designated Virginia affiliated club call signs will also be bonus stations. See the VAQP website for complete rules and regulations.* **www.qsl.net/sterling**

Mar. 21 – Mar. 23, 0000Z – 0400Z, NJ2KC, Bridgeton, NJ. New Jersey Knights of Columbus Amateur Radio Club. **Free Throw Championship for Youths**. 7.2250 14.2500 21.4125 28.4500. QSL. Thomas M. Perrotti, 785 Vineland Ave., Bridgeton, NJ 08302-4822. **www.nj2kc.org**

Certificates and QSL cards: To obtain a certificate from any of the special event stations offering them, send your QSO information along with a 9 × 12-inch self-addressed, stamped envelope (3 units of postage) to the address listed in the announcement. To receive a special event QSL card (when offered), be sure to include a self-addressed, stamped business envelope along with your QSL card and QSO information.

Special Events Announcements: For items to be listed in this column, use the ARRL Special Events Listing Form at **www.arrl.org/special-events-application**, or email information to **events@arrl.org**.

Submissions must be received by ARRL HQ no later than the 1st of the second month preceding the publication date; a special event listing for **June** *QST* would have to be received by **April 1**. In addition to being listed in *QST*, your event will be listed on the ARRL Web Special Event page. Note: All received events are acknowledged. If you do not receive an acknowledgment within a few days, please contact us. ARRL reserves the right to exclude events of a commercial or political nature.

You can view all received Special Events at **www.arrl.org/special-event-stations**.

Radio License Exams

The Aero Amateur Radio Club sponsors Amateur Radio License Exams with the ARRL VEC. Examination sessions are offered throughout the year (dates TBD). Visit our new licensing page to prepare:

https://w3pga.net/getting-your-license/

W3PGA Exam Location

TBD

Contact

Patricia Stone, AC3F
email: ac3f@juno.com
landline: 410-687-7209

VE Corner
Pat Stone, AC3F

Next testing for Aero Club TBD.

ExamTools ExamTools Portal

Volunteer examiners (VEs), please register at the the ExamTools website. Click "Assist with or Manage Exams" and follow the prompts. In addition to a valid email, you will need to upload a PDF copy, stamped "official", of your license to their site for verification. Website: https://exam.tools/

Other Maryland Test Sites

Confirm in Advance

3/3/26, 5:45 pm: Severna Park, register or call ahead

3/7/26, 2:30 pm: Catonsville, walk-ins allowed

3/21/26, 9:00 am: Laurel, walk-ins allowed

4/4/26, 8:45 am: Forest Hill, walk-ins allowed

4/7/26, 5:45 pm: Severna Park, register or call ahead

4/11/26, 2:30 pm: Catonsville, walk-ins allowed

4/18/26, 9:00 am: Laurel, walk-ins allowed

5/2/26, 2:30 pm: Catonsville, walk-ins allowed

5/2/26, 2:30 pm: Catonsville, walk-ins allowed

5/5/26, 5:45 pm: Severna Park, register or call ahead

5/16/26, 9:00 am: Laurel, walk-ins allowed

6/2/26, 5:45 pm: Severna Park, register or call ahead

6/6/26, 2:30 pm: Catonsville, walk-ins allowed

6/20/26, 8:45 am: Forest Hill, walk-ins allowed

Contest Corral March 2026

Check for updates and a downloadable PDF version online at **www.arrl.org/contest-calendar**. Check **https://contests.arrl.org** for recent results. Refer to the contest websites for full rules, scoring information, operating periods or time limits, and log submission information.

Start - Finish				Bands	Contest Name	Mode	Exchange	Sponsor's Website
Date	Time	Date	Time					
1	1200	1	2200	3.5	NSARA Contest	CW Ph Dig	RS(T), Nova Scotia county or serial	**nsara.ca**
1	1500	2	0100	3.5-28,50,144	North Carolina QSO Party	CW Ph Dig	NC county or SPC	**ncqsoparty.org**
3	0100	3	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, pwr	**ars-qrp.com**
3	1900	3	2100	3.5	AGCW YL-CW Party	CW	RST, serial, "YL" (if YL), name	**www.agcw.de**
4	2000	4	2100	3.5	UKEICC 80m Contest	Ph	6-char grid	**www.ukeicc.com**
5	0000	6	0300	7	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or pwr	**qrpcontest.com/pigwalk40**
5	1800	5	2200	28	NRAU 10m Activity Contest	CW Ph Dig	RS(T), 6-char grid	**nrau.net**
5	2000	5	2200	1.8-28,50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or none	**www.skccgroup.com**
7	0000	8	2359	1.8-28	ARRL International DX Contest, SSB	Ph	RS, SP or pwr	**www.arrl.org/arrl-dx**
7	0000	15	2359	3.5,7,21,28,144	Novice Rig Roundup	CW	Name, QTH, optional rig or mbr	**www.novicerigroundup.org**
7	0600	7	0800	7,14	Wake-Up! QRP Sprint	CW	RST, serial, suffix of previous QSO or "QRP" for 1st QSO	**qrp.ru/contest**
7	0700	7	1059	7,14,21,28	Russion YL/OM Contest	CW Ph	RS(T), "88" or "73"	**www.contest.ru**
8	0700	8	1700	3.5-28	FIRAC HF Contest	CW	RS(T), serial, "F" (if mbr)	**www.firac.de**
8	1300	11	0700	1.8-28,50,144	Classic Exchange, CW	CW	Name, RST, SPC, rcvr/xmtr manuf/ model	**www.classicexchange.org**
9	0000	9	0200	1.8-28	4 States QRP Group Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or pwr	**www.4sqrp.com**
10	1800	10	1859	3.5	DARC CW-Training Contest	CW	RST, mbr or serial	**www.darc.de**
14	0000	14	2359	3.5-28	YB DX RTTY Contest	Dig	RST, serial	**rtty.ybdxcontest.com**
14	0800	15	1000	50,144,432	SARL VHF/UHF FM Contest	Ph	RS(T), 6-char grid	**mysarl.org.za**
14	0800	15	1000	1.8-28	SARL Field Day Contest	CW Ph Dig	RS(T), # of transmitters, category, SA province or "DX"	**mysarl.org.za**
14	1000	15	1000	3.5-28	Commonwealth (BERU) Contest	CW	RST, serial	**www.rsgbcc.org**
14	1200	15	1100	3.5-28	DIG QSO Party, SSB	Ph	RS, mbr or none	**dig-contest.de**
14	1200	15	1200	3.5-28	EA PSK63 Contest	Dig	RSQ, EA province code or serial	**concursos.ure.es**
14	1200	15	1200	28	South America 10m Contest	CW Ph	RS(T), CQ zone	**sa10m.com.ar/wp/rules**
14	1200	15	2359	1.8-28,50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or none	**www.skccgroup.com**
14	1400	14	2000	3.5-28	AGCW QRP Contest	CW	RST, serial, pwr, mbr or "NM"	**www.agcw.de**
14	1500	15	1500	1.8	Stew Perry Topband Challenge	CW	4-char grid square	**www.kkn.net/stew**
14	1500	15	2200	3.5-28,50	Oklahoma QSO Party	CW Ph Dig	RS(T), OK county or SPC	**k5cm.com/okqp.htm**
14	1600	16	0200	1.8-28	Idaho QSO Party	CW Ph Dig	ID county or SPC	**www.idahoqsoparty.org**
14	1800	15	0559	3.5,7	TESLA Memorial HF CW Contest	CW	RST, serial, 4-char grid	**www.radiosport.yu1srs.org.rs**
15	0000	15	0359	3.5-14	North American Sprint, RTTY	Dig	Other's call, your call, serial, name, SPC	**ncjweb.com/Sprint-Rules.pdf**
15	1000	15	2159	3.5-28	YOTA Contest	CW Ph	RS(T), age	**yotacontest.mrasz.org**
15	1800	16	0100	No WARC	Wisconsin QSO Party	CW Ph Dig	WI county or SPC	**www.warac.org**
15	2300	16	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or pwr	**qrpcontest.com/pigrun**
16	1800	16	2059	3.5,7	Bucharest Digital Contest	Dig	RST, serial	**yo3test201x.blogspot.com**
16	2000	16	2200	3.5-28	RSGB FT4 Contest	Dig	Signal report	**www.rsgbcc.org**
18	2000	18	2100	3.5	IRTS 80m Counties Contest	CW Ph	RS(T), serial, EI/GI county (if EI/GI)	**www.irts.ie**
19	0000	20	0300	14	Walk for the Bacon QRP Contest	CW	Max 13 WPM; RST, SPC, name, mbr or pwr	**qrpcontest.com/pigwalk20**
19	0030	19	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or pwr	**naqcc.info/sprint_rules.html**
21	0000	21	2359	1.8-28,50	PODXS 070 Club St. Patrick's Day Contest	Dig	SPC	**www.podxs070.com**
21	0200	23	0159	3.5-28	BARTG HF RTTY Contest	Dig	RST, serial, 4-dig UTC	**www.bartg.org.uk**
21	0500	21	0859	3.5-28	Popov Memorial Contest	CW Ph	RS(T), experience	**www.contest.ru**
21	1200	22	1200	1.8-28	Russian DX Contest	CW Ph	RS(T), oblast or serial	**www.rdxc.org**
21	1400	21	1800	144,432	AGCW VHF/UHF Contest	CW	RST, serial, pwr, 6-char grid	**www.agcw.de**
21	1400	22	2359	No WARC	Virginia QSO Party	CW Ph Dig	Serial, VA county or SPC	**www.qsl.net/sterling**
21	2000	21	2159	1.8-28	Feld Hell Sprint	Dig	See rules	**sites.google.com/site/ feldhellclub**
25	0000	25	0200	1.8-28,50	SKCC Sprint	CW	RST, SPC, name, mbr or none	**www.skccgroup.com**
25	2000	25	2100	3.5	UKEICC 80m Contest	CW	6-char grid square	**www.ukeicc.com**
27	1900	28	0300	3.5-28	Sasquatch Stomp	CW	RST, SPC, mbr or ZIP code, name	**www.pnwqrp.org**
28	0000	29	2359	1.8-28	CQ WW WPX Contest, SSB	Ph	RS, serial	**www.cqwpx.com**
28	1200	29	1200	1.8-28	Africa All Mode International DX Contest	CW Ph Dig	RS(T), serial	**mysarl.org.za**

There are a number of weekly contests not included in the table above. For more info, visit: **www.qrpfoxhunt.org**, **www.ncccsprint.com**, and **www.cwops.org**. All dates and times refer to UTC and may be different from calendar dates in North America. Contests are not conducted on the 60-, 30-, 17-, or 12-meter bands. Mbr = Membership number. Serial = Sequential number of the contact. SPC = State, Province, DXCC Entity. XE = Mexican state. Listings in blue indicate contests sponsored by ARRL or *NCJ*. The latest time to make a valid contest QSO is the minute listed in the "Finish Time" column. *Data for Contest Corral is maintained on the WA7BNM Contest Calendar at* **www.contestcalendar.com** *and is extracted for publication in* QST *2 months prior to the month of the contest. ARRL gratefully acknowledges the support of Bruce Horn, WA7BNM, in providing this service.*

Sam Shaner, KE1SAM, sshaner@arrl.org

Club Spotlight

W5RRR

Johnson Space Center Amateur Radio Club

Founded: 1967
ARRL Affiliation Date: May 30, 1989
Voting Licensed Amateur Members: 73
Meetings: Monthly
Members: 75
Website: www.w5rrr.org
Section: South Texas
Focus: Space comms., STEM outreach

A Club and a Mission

For more than 5 decades, the Johnson Space Center Amateur Radio Club (JSCARC) has been using amateur radio to bring both hams and non-hams closer to the stars — and to each other. The operators employed at NASA's JSC meet under the call sign W5RRR to serve the space agency, the amateur community, and the public.

Pathways to Success

It was this same club that collaborated with NASA astronaut Owen Garriott, W5LFL (SK), to take a ham radio into space during the STS-9 mission. This first-time event led to their assistance with the Shuttle Amateur Radio Experiment. JSCARC knew they needed to continue their science, technology, engineering, and mathematics (STEM) outreach at schools (when they're not helping the astronauts get licensed), so they're now affiliated with Amateur Radio on the International Space Station (ARISS). To them, it's a worthy effort that gets the ball rolling for future STEM majors and future hams. "Members have set up ARISS contacts with elementary schools by installing antennas on school roofs, training students on how to speak into a microphone, and operating transceivers while students asked questions to in-flight astronauts," said JSCARC member George Fletcher, AD5CQ.

JSCARC reaches the high school, undergrad, and grad crowd, too, via NASA's Pathways Internship Program. They sponsor a group of JSC interns each semester to get them licensed and on the air. Club members continually develop hands-on activities to keep these young scientists eager for more, including soldering exercises, radio and antenna builds, foxhunts, and Morse code practice.

These projects are documented on their club website, like their most recent initiative: launching and tracking pico balloons. The excitement is mutual. "As a recently retired NASA guy, I get some personal reward out of teaching JSC interns about launching balloons carrying ham radio," said JSCARC Trustee John Maca, AB5SS. The activity directly applies to the electronics, avionics, and hardware/software know-how they'll need at the center for human spaceflight. On the flip side, it gives them a glimpse into digital modes, satellite tracking, weak-signal communications, and propagation. One of their balloons, KI5CWE-1, stayed aloft for an impressive 122+ days. "It's kind of like investing in [their] future success here," he added.

Looking Up and Ahead

Investing in the future is indeed a JSCARC priority. Like any amateur radio club, they feel the strain that comes with growing membership despite wins in youth outreach, so they lean on each other to nurture their strengths while also seeking outside opportunities. Although they recently earned a STEM-based grant and JSC sponsorship to improve their station, much equipment was bought and installed by fellow members. Station maintenance is also handled by their own. "Our club members' resourcefulness is an asset [that] can overcome almost any obstacle," said JSCARC Secretary David Lee, W5OC.

The club is tackling several projects for 2026. Amid plans to erect a new 60-foot self-standing tower for expanded HF/VHF/UHF/microwave capabilities, they're continuing to work with Houston's Lone Star Flight Museum for further outreach. Outlines for a radio merit badge program, an informational ham radio booth at the annual Girls in Aviation Day gathering, and an "Aviation Museums On the Air" event are being devised. For more information and even more JSCARC efforts not covered here, visit **www.w5rrr.org**.

Dave Casler, KEØOG, askdave@arrl.org

Ask Dave

Get more information from the "*QST:* Ask Dave" YouTube playlist at **https://bit.ly/3z2MBMI**.

Tech Antennas, Studying, and CWR

Antenna for Tech on 10 and 6

Q Jim "Bimmster" Benoit, KJ5NAX, just received his Technician license. He asks: I would like to get on 10-meter SSB while studying for my General license. I am limited on space in an HOA situation. Can I erect an attic fan dipole cut for the 20-, 15-, and 10-meter bands? Can I use the existing 75 Ω TV coaxial cable run to that location? Would a balun be required?

A First: Congratulations on your new license, and welcome to amateur radio! Be sure to search out a local club and become active. You'll find that you often tend to talk to the same people over the local repeater, which can lead to great friendships!

Yes, you can use RG-6 75 Ω TV coax if you wish. Even for an attic antenna, you should run the cable down to a ground rod and lightning arrestor outside your station and from there back to your radio room. Amazon has a wealth of cable adapters, so you can pick those that will convert the common RG-6 F-connector to SO-239 or BNC, as you need. I've done experiments with RG-6, which is readily available from most hardware stores for much less money than traditional ham radio cables such as RG-58 or RG-8X. These experiments revealed that 75 Ω RG-6 can be substituted for 50 Ω cable to save money (see my video #1300 at **https://youtube.com/watch?v=DKpzr-toHVo**).

Regarding the antenna itself, I would start with a simple dipole for 10 meters. You can add the 20- and 15-meter elements later when you upgrade. You may want to add a 6-meter dipole to the fan arrangement. Both single sideband (SSB) and data modes such as FT8 are available to you on 10 and 6 meters. If you go the extra mile, you can learn CW (Morse code) and use it on 80, 40, 15, and 10 meters, as well as on 6 and above. Eventually, when you get your General license, you will want to add a 40-meter antenna to the mix — as the sunspot cycle continues to decline, you'll find that 40 meters is pretty good at night.

Whether you add a 1:1 balun at the feed point is up to you — you may find one essential to keep radio frequency interference (RFI) under control (see Figure 1). A good ground system will also help with RFI.

Also note that ARRL sells a handy Dual-Band Momobeam 6/10-Meter Antenna (**https://home.arrl.org/action/Store/Product-Details/productId/2018039112**). It has a turning radius of 6.6 feet, which may be a bit big for many attics.

Figure 1 — You may find a 1:1 balun essential to keep RFI under control in your shack. (A) shows an LDG RBA-1:1 balun, readily available for about $30; (B) shows the interior of the balun. [Dave Casler, KEØOG, photo]

Effective Ways to Study for Upgrade Testing

Q Rob Barry, KD8YWF, asks: I have my General-class license. What is the best way to study for the Amateur Extra?

A Different people have different learning styles. I've seen folks who can just study the test questions and answers and pass the exam. I don't recommend this because this approach may get you the license upgrade, but you don't learn much in the process. The next option is to study a question-oriented study guide based on the test questions, which will offer the answers along with an explanation of "why" each answer is correct. Again, you'll learn a little, but only if the subject relates directly to a test question.

My preferred teaching approach is to use the ARRL license manuals along with the many videos I've made that introduce each section. The ARRL license manuals for Technician, General, and Amateur Extra license grades are available at the ARRL Store. The General and Amateur Extra video series are on the ARRL Learning Center, available at **https://learn.arrl.org**. You need to be an ARRL member to create an account. There are 39 videos in the Amateur Extra playlist. Every time I visit a hamfest, many hams thank me for these videos, so they seem to work. For a sense of what these videos look like, the Technician-level videos are available on the ARRL HQ YouTube channel at **https://youtube.com/playlist?list=PLuaplzKwhZN_30dcgsDbGU3J7C8BAYJcG**.

These videos are updated every 4 years to match the updated question sets and license manuals. To use them, get the most recent license manual, watch the corresponding video before each section, then go ahead and read the section. Lastly, check the exam questions that correspond to that section, and make sure you understand all the answers and why they are correct before moving to the next. Online practice tests are available from ARRL (**https://arrl.org/exam-practice**), and several other online resources offer practice tests, including Ham Radio Prep (**https://hamradioprep.com/free-ham-radio-practice-tests**) and Ham Study (**https://hamstudy.org**). Once you're answering about 85% – 90% of questions correctly, you're probably ready to take the test.

I recommend that hams get a couple of years of HF experience with their General before moving up to Amateur Extra to get the most satisfaction out of the upgrade. I also highly recommend that you do not purchase any ham radio equipment until you pass the test for the license class you need to use that equipment.

CW vs CWR Receiver Modes

Q Marvin Lowman, KG5MCN, asks: What does CWR do on an HF transceiver?

A Switching CW to CW-Reverse (CWR) changes the sideband the receiver uses to receive and demodulate Morse code. An ordinary AM receiver cannot receive CW because it appears to the radio as an unmodulated carrier. So, the CW receiver has a separate beat frequency oscillator (BFO) that injects a signal either above or below the received CW signal. Using SSB techniques, you hear a tone in the receiver that has the same frequency as the difference between the received signal and the BFO frequency. Older receivers often have a front-panel control to adjust the BFO, but all modern receivers do this under the hood.

If the BFO injected signal is above the received CW frequency, we are using lower sideband (LSB). As you tune the radio's receiver (and hence the BFO) up in frequency, you are creating a larger difference in frequency, and the tone's pitch increases. If there is an interfering signal somewhat higher in frequency to the desired signal, the interfering signal will be heard as a lower-frequency tone. Similarly, if the BFO is injected below the received signal, you are using upper sideband (USB).

Under certain interference circumstances (which I personally have never faced), it is convenient to use the opposite sideband. Nearly all modern receivers allow you to do this by selecting CWR.

Which sideband is normally used is different from radio to radio. For example, my Yaesu FTDX3000 radio normally uses USB, whereas my Icom IC-7300 normally uses LSB. You should use the sideband you're most comfortable with. Changing from one sideband to the other is done by choosing CWR, often found in a menu setting.

Send your questions to **askdave@arrl.org**. I answer some questions here, and some via videos on my YouTube channel (**www.youtube.com/davecasler**), or during my weekly livestream on Thursdays at 6:45 to 8:15 PM Mountain Time on my channel.

Bernie McClenny, W3UR, w3ur@arrl.org

How's DX?

SDDXC; Sable Island and Other March Activations; A Note on Direct QSLing

The following section on the San Diego DX Club (SDDXC) is provided by SDDXC President Rob Reichman, WA3IHV.

Born in the aftermath of World War II, SDDXC traces its origins to 1946, when returning hams who were eager to reconnect with the world founded what would become one of the nation's most respected DX organizations. The club's formal charter followed in 1949, and by the 1950s, SDDXC managed the W6 QSL Bureau and established a membership ladder list that continues to this day. The club became an ARRL-affiliated organization on September 28, 1959.

Today, SDDXC stands at the intersection of tradition and innovation. We are a multi-generational community where old-timers — many at the very top of the DX Century Club (DXCC) Honor Roll — share a lifetime of experience with newer DXers eager to make their mark. Together, we blend the heritage of CW and SSB DXing with the excitement and efficiency of modern digital modes, representing the leading edge of amateur radio technology.

Our monthly meetings feature presentations from world-class DXers and technical experts, while our members consistently excel in major contests and DXpeditions. Beyond the chase for rare entities, SDDXC remains a place to share stories, mentor newcomers, and celebrate excellence through our annual awards: Hall of Fame, DXer of the Year, Top Gun, Big Gun, and Rookie of the Year. We also keep the spirit alive through our Summer Bash and Holiday Party, uniting hams across Southern California who share the thrill of DX.

Whether you're chasing your first DXCC country or adding to your Honor Roll standing, SDDXC bridges generations, preserves the art of DXing, and propels the DX community confidently into the digital age. For more details, check out our website at **www.sddxc.org**.

CYØS — Sable Island

Sable Island, known as the "graveyard of the Atlantic," is a 42-kilometer-long crescent-shaped sandbar in the North Atlantic, southeast of Halifax, Nova Scotia. It became the Sable Island National Park Reserve in

A simplified map of Sable Island, which is located about 300 kilometers southeast of Halifax, Nova Scotia.

December 2013. The island is home to more than 500 wild horses and tens of thousands of grey seals. Parks Canada maintains a small staff there, and meteorological data collection is now automated.

Sable is one of two separate Canadian DXCC entities, the other being St. Paul Island. In January 1976, ARRL added Sable (VX9) and St. Paul (VYØ) to the DXCC list, effective November 15, 1945. Sable was added per the old Point 1 "separate administration" rule, while St. Paul was added as a result of the old Point 3 "separation by foreign land" rule.

The first operation from Sable was probably VE1RB in 1947. In the 1960s, there was VE1ABV (1960) and VE1ASE/1 (1966). During the 1970s, there were at least five operations, including VX9A (1975), VE4CF/VE1 (1979), VE1AI/1 (1979), VE1AIH/1 (1979), and VE1AST/1 (1979). In the 1980s, there was again VE1AI/1 (1980), followed by CYØSAB (1985). The 1990s saw activity from CYØNSM (1992), CYØTP (1995), CYØXX (1996), CYØAA (1996), again CYØSAB (1997), and CYØDX (1997). By the turn of the new century, activations started slowing down with just CYØMM (2002), CYØAA (2005), and CYØX (2008). Since 2010, there have been only five operations: NØTG/CYØ (2011), CYØP (2013), CYØC (2014), CYØS (2023), and AC1JS/CYØ (2024).

Despite all of the aforementioned activity from CYØ, Sable Island ranks number 59 worldwide on Club Log's DXCC Most Wanted List. By continent/region, it ranks 34 in Asia, 36 in Oceania, 51 in Africa, 64 in South America, 70 in Europe, and 113 in North America. When breaking it down by modes, it's number 48 on digital, 49 on CW, and 86 on SSB.

March 2026 CYØS DXpedition

In May 2025, CYØS DXpedition leader Murray, WA4DAN, announced that Parks Canada had invited his team to return to Sable Island on March 19 – 31, 2026. Joining Murray will be DXpedition veterans Jay, K4ZLE; Mike, K9NW; Ralph, KØIR; Pat, N2IEN; Scott, NE9U; Glenn, WØGJ, and Lee, WW2DX. They will be active on CW, SSB, and digital modes on 1.8 – 50 MHz. Complete details can be found on their website at **www.cy0s.com**.

S2 — Bangladesh

There are more than 500 amateur radio operators in the semi-rare Bangladesh, but only a few handfuls of operators are active on HF because of a lack of equipment. S2 ranks number 91 on Club Log's DXCC Most Wanted List. Members of the Next Generation DX Club e.V. have announced that their next DXpedition will take place from a Bangladeshi island in the Khulna/Barisal region group (Islands on the Air; IOTA reference AS-140) for 2 weeks at the end of March. This was the same team that put on 8R7X from Guyana in 2024 and V73WW from the Marshall Islands in 2025. As of press time, the list of operators is not available, and they have not announced their call sign. They plan to be on 160 – 6 meters and the QO-100 satellite on CW, SSB, and digital modes. The group plans to have five complete stations, with a sixth station as a backup. For more details, check out their website at **www.next-generation-dx.com** and your favorite DX outlet.

XX9 — Macao

The DX Friends group is planning a DXpedition to Macao on March 19 – 31, 2026. The team of operators will consist of EA1CJ, EA1SA, EA5BCQ, EA5KA, EA5KM, EA7KE, EA7R, EA7X, F2JD, F8ATS, F8GGV, JH4RHF, IK5RUN, and IN3ZNR. Additional details about the event will be shared closer to the date at **www.dxfriends.com/xx9**.

Direct QSLing

Fred, G4BWP, is the QSL manager for the M6T contest station, and he has been receiving direct QSL cards from mostly newer US operators who are not including return postage or a self-addressed envelope. He responds directly and includes a note explaining the need for return postage, as mailing from the UK is costly. Fred sees this as an educational issue and suggests that a note in *QST* could help inform new hams, though he acknowledges not all may be members.

Wrap-Up

That is all for this month, with special thanks to DK6SP, G4BWP, WA3IHV, and *The Daily DX* for helping to make this month's column possible. If you have any DX or IOTA news, photos, or club newsletters, please send them to **bernie@dailydx.com**. Until next month, see you in the pileups! — *Bernie, W3UR*

300 Countries on Attic Antennas

Twenty-three years and 300 prefixes into DXing, this ham has words of wisdom for DXers with station limitations.

Kim Stenson, W4KVS

My DX odyssey started more than 20 years ago, when I first earned my license in 2000. I acquired two 20-meter dipoles, a 6-meter beam, and a 6-meter loop, and I would run only 100 W when transmitting. Hampered by HOA regulations, I put the antennas into my attic, about 25 feet off the ground. I wrote about it in "Adventures with Indoor Antennas" in the March 2004 issue of *QST*. I had worked 257 countries at the time, so quickly increasing that number to 300 seemed reasonable. Little did I know that it would take me a long time to reach that target.

The author's attic antennas. His three-element, 6-meter beam is in the middle. If you look closely, you can see his two 20-meter dipoles and 6-meter loop.

Of course, some DX entities are much harder to contact than others. The closer I got to reaching my goal, the clearer it became that having a DX-specific technique was the best way to get those elusive stragglers in my log. I also wanted to keep using my attic setup and low power level. Though some of my contacts were lucky, in most cases, I needed alternate ways to hear their signals and get my own signals heard.

The Final Stretch

It took me until 2013 to break 290, but I was steadily creeping closer to 300, even with the last solar cycle's dismal performance. I finally reached 297 in 2022 by adding Monaco, which I have rarely heard on the air for the entirety of my DX journey. I was outside on a summer afternoon and decided to check the DX spots. I saw Paul Granger, 3A/F6EXV, on 17-meter FT8. I had heard Paul before, but it was always light copy. I figured that I wouldn't be able to hear him, but I went into my shack anyway. His signal was there within an instant of turning on my Icom IC-756 Pro III. In a few minutes, he was in my log.

The well-run Czech DXpedition to St. Brandon was next on my list, and I was able to work 3B7M on several bands on SSB, CW, and FT8. Late into the night at my South Carolina location, I completed one of the contacts on 20-meter FT8. I decided to stay on 20 meters and see if anything else would show up, when FT8WW suddenly appeared. For several weeks starting in late December 2022, every DXer in the world had been trying to contact Thierry Mazel, FT8WW, on Crozet Island. I didn't expect to add Crozet to my log, given my setup. However, I made only a couple of calls before confirming the island as number 299 on my list.

I was excited to hear about the YJØTT DXpedition to Vanuatu in fall 2023. I had never heard YJ on the air, but I hoped to work it at least once. Based on experience, I determined that my best shot would be late afternoon or early evening, and I was right — I confirmed Vanuatu on 15-meter FT8, making it entity number 300.

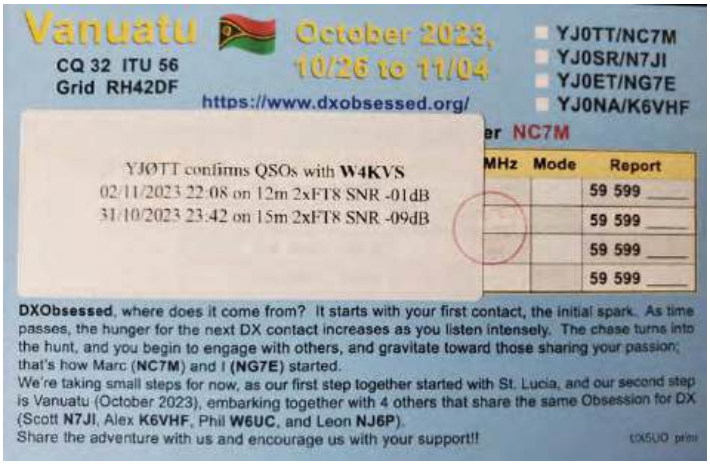
DXing Advice

I learned a lot about DX operating over the course of this 300-country quest. Working with limited power and equipment added another layer of difficulty, but that

taught me other ways to get my operating on par with the bigger stations. Here are my take-aways that other hams may find useful:

Bands

Get on as many bands as possible. I was limited to 10 meters when I started, but there were many countries I hadn't worked, so this restriction wasn't a concern — until the D68C DXpedition to the Comoros. The D68C team was active for 3 weeks in 2001, and I couldn't get through on that band. I heard them clearly on 15 meters with manageable pileups, but I didn't have the right antenna. I had to wait until the D66D DXpedition in 2016 for another chance to work the Comoros. By then, I had antennas for more than one band.



The back of the QSL card confirming the author's contact with the YJØTT team on Vanuatu. This contact, made in October 2023, was the last one he needed to meet his 300-entity goal.

Modes

Get on as many modes as possible. I started my DX journey on SSB because it was easier to use at the height of the sunspot cycle. I later learned that CW opened more possibilities, as there are a few countries that I've been able to work only on that mode. Similarly, I have worked Palestine only twice in more than 20 years — both on RTTY.

While all modes are important, FT8 is a game changer for smaller stations, especially those with compromise antennas. There are almost always FT8 (and its little brother, FT4) signals on most bands, but it's not so with SSB and CW. When tuning on 17 meters, my favorite band, I can usually find FT8 signals when it's open. If I go up to the phone section or down to the CW section, there is often nothing. I can operate on 30 meters with my 20-meter attic dipoles, but not well. But on FT8, I worked the 4W6RU DXpedition to Timor-Leste on 30 meters. That contact might have been nearly impossible to make on SSB or CW.

Propagation

Understand propagation. I learned that from my location in South Carolina, 20 meters opens in the mornings and evenings to the Pacific and Indian Oceans. I wanted to contact the 2014 FT5ZM DXpedition to Amsterdam Island, and I knew when my best chances would be. I heard them a couple of times on 20 meters at night, but the pileups were more than I could handle. Early one morning, I tuned to 14.185 MHz, which was their 20-meter SSB frequency. I heard nothing and started looking around. I soon found FT5ZM calling on 14.180 MHz without any answers. I jumped in and easily made the contact.

Pileup Practice

Learn how to break a pileup. Practice is critical for any sport, and DXing is no different. Fortunately, there are plenty of pileups available to hone your skills. Special events, like Route 66 On the Air, can generate pileups on all modes and are sometimes harder to work than DX stations.

The delayed call method works well on both SSB and CW. This involves carefully timing your call for the best odds of being heard. If you have a big station with good antennas and an amplifier, you can call as soon as the DX operator says "QRZ." However, smaller stations must be a bit more resourceful and wait for the initial pileup to taper before calling. There are countless notes in my log indicating delayed calls that have yielded contacts. Listen to the pileup and count how many seconds it takes for the DX station to answer. For instance, a 5-second delay might work sometimes, while other times, you might have to wait 10 seconds. This technique has been around for decades, and it was even mentioned in a 1947 publication, *The Technique of Working DX*. When working split on CW, a scope can be useful for identifying the DX operator's pattern. I've had success calling on the frequency of the last caller after their contact has been completed.

Research

Do your homework. There are many resources allowing operators to keep track of what is happening in the DX world. A variety of regularly updated DX newsletters keep subscribers up to date on activations, operating practices, band frequencies, and QSL procedures. Some of my favorites are *The Daily DX*, the *ARRL DX Bulletin*, and *425 DX News*.

Club Nets

Second Wednesday Net

70 Centimeters (449.575 MHz Repeater) @ 8 p.m. Local Time

Fourth Wednesday Net

2 Meters (147.24 MHz Repeater) @ 8 p.m. Local Time

Fifth Wednesday Net

10 Meters (28.445 MHz) @ 8 p.m. Local Time

CW Sunday Net

2 Meters (146.550 MHz simplex) @ 8 p.m. Local Time

Net Reports

440 Net Report, From Joe Miko, WB3FMT

On February 11th from 20:00 to 20:25 local , the clubs ran a 440 net. There were four participants on the net:

W3PGA NCS	Joe	Essex
KB3QWC	Larry	Middle River
KB3VAE	Richard	Essex
KB3JVP	Ken	Middle River

2-Meter Net Report, From Joe Miko, WB3FMT

On February 25th from 20:00 to 20:22 local , the clubs ran a 2-meter net. There were five participants on the net:

W3PGA NCS	Joe	Essex
K3DON	Don	Joppatowne
KB3QWC	Larry	Middle River
KD3DOJ	Brian	Dundalk
KB3VAE	Richard	Essex

Local Area Nets

Day	Time	Freq. (MHz)	Net Name
Daily	9 – 10 am	146.670	Oriole Net
Daily	6 pm	3.820	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	146.670 PL 107.2	Baltimore Traffic Net
Daily	7 pm & 10 pm	3.557 CW	MD/DC/DE Traffic Net
2nd Tue	7:30 pm	146.670	Baltimore County RACES Net
2nd & 4th Tue	7 pm	146.775, (-) PL 146.2	Harford County, MD, ARES
3rd Fri	8 pm	WASH_DC Node 6154	MDC Section EchoLink
When activated by NOAA		147.030	SkyWarn (primary)

From the Skies Over Mt. Essex

SKY Events for March 2026

Date	EST (h:m)	Event
Mar 02	07:00	Regulus 0.4°S of Moon
02	23:35	Moon at Descending Node
03	06:34	Total Lunar Eclipse; mag=1.151
03	06:38	FULL Worm MOON
06	12:24	Spica 1.8°N of Moon
07	06	Mercury at Inferior Conjunction
10	06:32	Antares 0.7°N of Moon
10	08:43	Moon at Apogee: 404385 km
11	04:39	LAST QUARTER MOON
15	14	Mercury 3.4°N of Mars
17	09:07	Mercury 2.0°N of Moon
17	10:22	Moon at Ascending Node
17	16:51	Mars 1.5°S of Moon
18	20:23	NEW MOON
20	07:39	Venus 4.6°S of Moon
20	09:46	Vernal Equinox
22	05	Neptune in Conjunction with Sun
22	06:40	Moon at Perigee: 366858 km
23	03:32	Pleiades 1.1°S of Moon
25	03	Saturn in Conjunction with Sun
25	14:18	FIRST QUARTER MOON
26	02	Mars at Perihelion: 1.38126 AU
26	07:13	Jupiter 3.9°S of Moon
26	22:18	Pollux 3.0°N of Moon
29	14:00	Regulus 0.4°S of Moon
30	06:34	Moon at Descending Node

Planet Lookout at Mid-Month

Sunrise 07:16 EST and Sunset 19:13 EST

Mercury Rise 06:31 Set 17:57, Mag +2.2 Size 10.4 arc seconds

Venus Evening Rise 08:01, Sets 20:32, Mag -3.9 size 10.4 arc seconds.

Mars Evening Rise 06:47 Sets 17:55, Mag +1.2 size 4.0 arc seconds.

Jupiter Evening, Rise 13:13, Sets 04:04, Mag-2.3 size 40.9 arc seconds.

Saturn Evening, Rise 07:48, Sets 19:45, Mag+1.1 size 15.9 arc seconds.

Uranus Evening Rise 10:05 Sets 00:29, Mag +5.7 size 3.4 arc seconds.

Neptune Evening Rises 07:40 Sets 19:40, Mag +7.9 size 2.4 arc seconds.

March 3rd 2026 Total Lunar Eclipse

Last year in March, North American observers were treated to a total lunar eclipse that the entire continent could enjoy, from start to finish. This year, we're not so lucky, as the eclipse primarily takes place in the early hours of the 3rd, with totality beginning at moonset for those on the east coast.

That said, given that the full Moon sets at sunrise, the sky will be relatively bright and the Moon a pale, coppery color, making this an interesting sight for anyone with a clear view of the western horizon.

The further west and further south you are, the better off you'll be, but realistically, there isn't much improvement for those in the Central Time zone, as the Moon will be low in the west when totality starts.

Those on the west coast can witness the partial and total phases in their entirety, but post-totality, partial phase views may be hampered by the Moon's low altitude and the predawn brightening sky.

If you're able to step outside during totality, you can expect to see the Moon in Leo, roughly halfway along the length of the constellation, with Regulus appearing to its lower right.

Event	UT	EST
Penumbral Phase Begins	08:44	03:44
Partial Phase Begins	09:50	04:50
Totality Begins	11:04	06:04
Mid-Eclipse	11:33	06:33
Sunrise	11:35	06:35
Moon Set	11:37	06:37
Totality Ends	12:02	07:02
Partial Phase Ends	13:17	08:17
Penumbral Phase Ends	14:23	09:23

The Moon color of Eclipse depend on how clean the Earth atmosphere is? Bright Red to a dull copper color.

About the Aero Amateur Radio Club

Officers		Committees	
President	Joe Miko, WB3FMT	*Repeater*	Phil Hock, W3VRD Ken Erisman, NE3A Dave Brunner, AC3EO
Vice President	Rob Ballou, AE3B	*VE Testing*	Pat Stone, AC3F
Recording Secretary	Larry Hill, KB3QWC	*Public Service*	Bob Landis, WA3SWA
Corresponding Secretary	Pat Stone, AC3F	*Webmaster, Facebook*	Rob Ballou, AE3B
Treasurer	Tom Hawkins, WA3QLY	*Trustee*	Dave Frederick, KB3KRV (W3PGA) Jim Marshall, KC3FBL (AE3RO)
Resource Coordinator	Ron Distler, W3JEH	*Club Nets*	Joe Miko, WB3FMT
		Contests	Harry Rundall, AC3EK

Newsletter Editor Cathy Feinman, W3CLF

Aerial archives dating to 2004 are available at https://w3pga.net/the-aerial-newsletter-library/

Website: http://w3pga.net

Facebook: https://www.facebook.com/W3PGAClub

Email: w3pgaclub@gmail.com

Meetings

We meet via Zoom at 7:00 PM ET (channel will open around 6:00 PM).
Check your email for the link or inquire at w3pgaclub@gmail.com.
All are welcome to attend. Arrive early to socialize.

W3PGA	**2 M**	INPUT: 147.84 MHz, OUTPUT: 147.24 MHz, PL 123.0
W3PGA	**70 Cm**	INPUT: 444.575 MHz, OUTPUT: 449.575 MHz, PL123.0
W3JEH	**1.25 M**	INPUT: 222.24 MHz, OUTPUT: 223.84 MHz