This Month's News:

The April 9th club meeting was held on the air by club President Denney N6HV using the Sulphur Mountain Repeater, on 145.200 MHz with a minus offset and a PL of 127.3 Hz. A Zoom meeting followed the on-the-air net. Clem KM6OKZ presented "UV-C LED Reactor" and showed us photos of how he purchased and refurbished an industrial microscope to be able to work on the SMD components of his reactor. His photos have been linked to the K6MEP.org website for your enjoyment.

The May 14th club meeting will be held on the air by club President Denney N6HV using the Sulphur Mountain Repeater, on 145.200 MHz with a minus offset and a PL of 127.3 Hz. A Zoom meeting will follow the on-the-air net. The topic and presenter is TBA. Please check our website, K6MEP.org, for any announcements.

Reese West KQ6TT continues to pen his "Thoughts from the West" column in our Keyer; this month's article is entitled "BEAM ANTENNAS". He enjoys receiving feedback about his columns; if you send your comments to the editor (KM6RSS@gmail.com) I'll see that he receives them.

Our president, Denney N6HV, has formed a Field Day 2021 committee to explore the various opportunities for us to have a "COVID-19 rules and regulations approved" Field Day. The committee has contacted Oxnard College, where we held our very successful 2019 Field Day, and has submitted an application, certificate of insurance, etc., to secure the Duck Pond location. They have reserved the location for our Field Day! We will take all necessary steps to comply with any restrictions that may be in place when **Field Day is actually held (June 26-27).** Thanks to Clem for spearheading this application and all of the committee members who are working to make everything possible for our club.

The Inside Story

Message from the President

The Prez Sez,

A Walk in the Past

I had pulled the table saw out of the big shed to cut up a spacer for a go box. Now I needed to shove the saw back in. The shed was packed and I was tripping over stuff trying to get the saw in and out.

I started pawing through things looking for anything I could get rid of. I pulled a box technical book off a shelf. I hadn't looked at these books in a decade. It's a perfect candidate for the trash can.

But I couldn't keep from going through the box. So I hauled the box inside the house and went through it. Some of those books were Integrated Circuit books I got while in college. Back then a couple of us electronic majors would get together and drive down to Hamilton Avnet electronics in Culver City. In most of the country Hamilton and Avnet were two separate companies, but in Culver City they had combined into one operation. In a contractor trailer outside the main building we would load up on transistor and IC data books. Some of these books were as thick as dictionaries and the guy running the data book section, let us have them for free. There were books from RCA, National Semiconductor, Hewlett Packard, Unitrode. The classiest data books were from Signetics. Their data books had hard covers along with circuits in them that did useful stuff and you could build them.

Sadly these books are way out of date and many of the companies don't make semiconductors any more or have gone out of business.

An IC in the mid 1970s would have a thousand or two thousand transistors in it, and they called it Large Scale Integration. Today you got to have 10 million transistors just in a simple timing chip. We use to do that with three transistors until the NE555 timing chip came along. Anyone remember the unijunction transistor and using it for a one transistor timing circuit or pulse generator?

At the bottom of the box was my first ARRL radio handbook: the 1965 edition. The book is so worn that the cover has fallen off, even after I taped it back on. Back when I started to get my license the hams in town told me to get the handbook. It was a struggle to save up the four dollars for the handbook and the dollar fifty cents for postage.

I spent many hours reading and rereading that book. I didn't understand a lot of what I read, but I worked at it. I spent a few minutes read my old familiar friend. I still don't understand all of it.

Club Officers	And Keyer	Contributors
President	Denney Pistole	N6HV
Vice-President	Clem Alberts	KM6OKZ
Secretary	Open	
Treasurer	John Gartman	W6JPG
Board Member	Stewart Stone	KG6BOV
Board Member	Robert Shank	KM6RSS
Board Member	Richard Abbey	WB6AEW
Photographer	Denney Pistole	N6HV
Facilities	Richard Abbey	WB6AEW
Keyer Editor	Robert Shank	KM6RSS
Webmaster	Robert Shank	KM6RSS
Domain	Phil Cohen	WA6BUZ
Membership	Open	
License Trustee	Stewart Stone	KG6BOV
QSL Manager	Ben Holmes	K6QV
Safety Officer	Open	
Trivia	Dana Wentling	KG6WXE
Columnist	Reese West	KQ6TT
Local Area Net	Wayne Woodhams	N6WIX
ACS/ARES	Rob Hanson	W6RH
SB Section	John Kitchens	NS6X
PVARC/MESH	Paul/Orv	WD6EBY/W6BI

The ***KEYER*** is published monthly by K6MEP, the Ventura County Amateur Radio Club, Inc. as a means of providing club members the minutes from K6MEP's monthly general membership meetings, the monthly board of directors' meetings, a calendar of events and articles of interest about amateur radio. Layout and logos are the property of The Ventura County Amateur Radio Club, K6MEP.

Submit material by email to KM6RSS@gmail.com. Our club mailing address is:

K6MEP

PO Box 2103

Oxnard, CA 93034-2103

K6MEP holds general membership meetings at 7:00 PM on the 2nd Friday of each month (except December). Dues are $20 per year.

Message from the President

(Continued)

Today we have the Internet and YouTube. We have affordable test equipment beyond anything that existed in the 1960s. And if you want to figure out something you turn to the Internet or YouTube instead of looking in a book. Watch out, there's a lot of misinformation on the net and YouTube, still it's so much better than what we had in the 60s.

I encourage you, the members of this club to share your experiences. It's something that I did not have living in a small farming town.

Field Day. As part of getting ready for field day, Jeremy KN6JMD came by my place and showed me the interlinked computerize logging set up. He was able to set up two of his laptops and one of mine and connect them with a router. He mounted the router on a photographer's light stand. We were able to pass back and forth logging data. It was fast. Before he came over he tried disconnecting and reconnecting a laptop from the Wi-Fi net and it sync the data.

During the testing I took my laptop down the street and was getting a solid signal a block and a half from the Wi-Fi router. That was in a crowded area with houses blocking the view to the router. In the open field of the "Duck Pond" we should have no problem with the set up. The logging program allows you to send messages to others connected to the router through the logging software. If you make a radio contact you can alert other K6MEP stations (those connected to the router) through the N3FJP software on what frequency to call or listen for the station.

The software will also tell you if another station in our field day group is planning to get on the same frequencies and mode that you are on. It will be hard for some of us to get use to using the logging software, but it will be worth it.

Stay tuned, we will set up a meeting where we will get together and connect your laptop to the router and get you use to using the N3FJP software.

A history note. In 1911 there were steam driven cars, electric cars and gasoline cars. Steam cars were fast. A steam car set the land speed record at over 200 MPH. They were dangerous. At one speed record event a steam car wrecked and the boiler explosion killed the driver. Steam cars also took time to heat up before you could drive them. If you ever had to hitch up a horse to a wagon that is not a big deal, but compared to electric and gasoline cars it was a disadvantage.

In 1912 Cadillac started selling gasoline cars with electric starters. Hand cranking a gasoline engine car was dangerous. It could kill you. The starter did electric cars in. Electric cars were also heavy and had limited range. Now over a hundred years later electric cars are making a comeback. If you think progress is rolling along too fast, stop and think that it took over a hundred years for battery research to get this far. 73, Denney N6HV

K6MEP Monday Night Net Denney N6HV

Our 2021 Contest started on January 11 and will end on December 6th. Make sure to set your calendar alarms to remind you to check-in and join the Zoom get-together that follows.

Our Net is held each Monday night at 20:00 hrs. local time (we won't hold the net on Christmas Eve/Day or New Year's Eve/Day if they fall on a Monday). We welcome all Ham operators so please check-in and join the roundtable discussion. The net is on Two Meters on the WD6EBY Repeater of Oxnard on 145.200 MHz with a negative offset and a PL of 127.3. We also have a Zoom meeting following the net at 20:30; see K6MEP.groups.io, YouTube and MeWe for details. Many thanks to PVARC and Paul WD6EBY for hosting our meeting on the repeater.

As of April 26th, we've held 16 nets and had a total of 315 check-ins including 51 visitor check-ins and an average of 19.69 per night. Five members including, of course, our net control operator, Denney N6HV, have checked in **every Monday night**.

Monday Night Net Contest Totals to Date

Date	Total	Visitors
1/11/2021	22	4
1/18/2021	22	3
1/25/2021	22	6
2/1/2021	18	3
2/8/2021	17	2
2/15/2021	18	3
2/22/2021	20	4
3/1/2021	17	3
3/8/2021	26	8
3/15/2021	20	5
3/22/2021	22	7
3/29/2021	17	3
4/5/2021	20	7
4/12/2021	19	4
4/19/2021	18	3
4/26/2021	17	4
Total	315	51

April 26 Monday Night Net Zoom Get-Together

Minutes of the April 9th VCARC Club Meeting Denney N6HV

The On-The-Air portion of the meeting started at 7:00 PM. There were 14 check-ins with two visitors participating.

The main subject of old and new business was the preparations for Field Day. This year Field Day will be held on June 26 through 27 with part of June 25 as a set up period. The club has formed a Field Day committee to plan and coordinate the effort.

Clem KM6OKZ is working with the Oxnard College to get the use of the "Duck Pond" for Field Day. That effort is looking good.

Burt KA6BJA is looking into an alternate site at a grassy area in the Ventura harbor for use as a Field Day site.

My thanks to both of them for their efforts.

These efforts depend on the removal of most of the state and local restrictions on June 15. If the restrictions are not removed or if major restrictions as still in place an alternate plan is being developed.

During the meeting I touched base with Mark KI6YLH to get his help with the cooking during Field Day. He has done a great job getting the supplies and cooking at past events.

The club welcomed new member Patrick Raffery. He doesn't have a license yet, but if he was listening I offered to help him in getting his license and I am sure other club members would also help.

I talked briefly with Steve WA6EJO about one of the more neglected bands, 220 MHz. During Field Day the club will be on 223.5 FM and 222.1 SSB. There is a SSB net on Mondays at 7:30 if you're interested in trying this band.

Mark KD6ASL had been visiting in Ohio and overheard someone on a repeater talking about SKYWARN (see https://www.weather.gov/chs/skywarn). He asked if anyone knew about it. Stewart KG6BOV said that there was some SKYWARN participation in California. It's used in very bad weather, like very heavy rains, or flooding. That surprised me since the only contact with SKYWARN I had was from relatives that live Oklahoma in the middle of Tornado Alley. From all the videos you may have seen of tornadoes on YouTube you may wonder why they would want spotters with amateur radio. I was in St. Louis during a tornado watch. It was in a hilly area near the airport where there is a lots of trees. It was also night and the sky was covered with clouds, you couldn't see your hand in front of your face. A SKYWARN station reporting to the National Weather Service which would report to local radio and

Minutes of the April 9th VCARC Club Meeting (Continued)

TV stations could give warning to people, because you couldn't see a tornado coming.

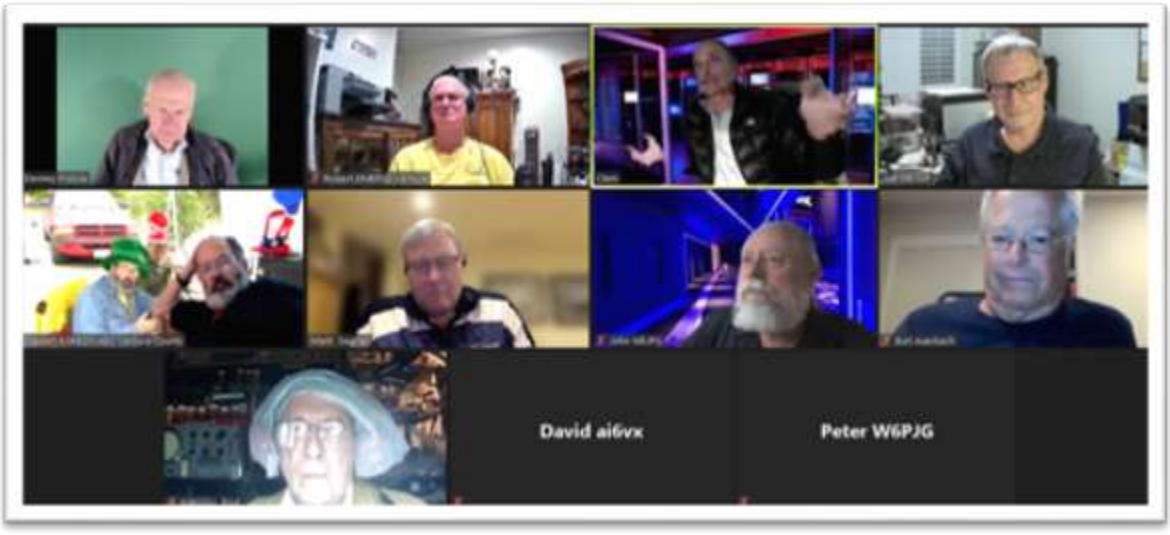
If you are interested in SKYWARN or other emergency services please contact your local ARES member.

The On-The-Air portion of the meeting closed at 08:39.

Part of the club meeting is a zoom meeting that is held after the On-The-Air meeting. During the Zoom portion of the meting Clem KM6OKZ gave a talk on the microscope he refurbished. He uses the microscope to work on surface mount circuits. After he got the scope he had to fix the light source that illuminates the object that you see in the microscope. He also had to repair the spinning mirror by resurfacing it. The mirror gives the viewer a better depth of field. He also had to machine an adapter for a video camera. He talked a little about repairing surface mount circuit boards and water soluble flux and other items needed to work on surface mount boards. He also mentioned a rod he got that lowers the melting point of the solder that is on the board and that helps the removal of components.

Mark KD6ASL mentioned that a board heater was helpful when working on circuit boards with large ground planes

Denney N6HV



Members Enjoy the Friday April 9th Zoom Club Meeting, Just Getting Underway

Minutes of the 2021-4-17 VCARC Field Day Committee Meeting Denney N6HV

The meeting got underway at 20:10 with 14 attendees.
Clem KM6OKZ went over the status of getting permission to use the area at Oxnard College. The person the club dealt with last year had moved on, so Clem found the replacement and submitted the request to use the "Duck Pond" area. He also sorted out the insurance and submitted the necessary paper work to the contact at the college. He hopes to hear back from the college during the week of April 18th.

The effort to get permission to use the site at Ventura harbor is on hold, since getting the site at the college looks so good. We plan to keep this option open.

Robert KM6RSS was able to contact Richard WB6AEW. Richard feels that there would be no problems with using the Dudley House for field day. We are keeping this option open in case either the College or Harbor sites do not work out.

I have not pursued the planning and coordination for at home field day, since it looks like we are going to have a face-to-face Field Day. There will be some restrictions still in effect and we will not know their impact until after June 15th. The restrictions could change after that, I will try to keep you posted.

There was an off-the-agenda discussion about renting an RV as a place for one or more club members to stay in during the night of 25th and 26th to insure the safety and integrity of the site. Clem has volunteered to look into the availability and cost. If you have an RV and wouldn't mind bring it to the parking lot for the night of June 25th and 26th and possibly having an operator or two crash on the floor, please let the committee know.

The second agenda item was to ask for band captains. A band captain shall be responsible for rounding up operators, equipment (radios, antennas, table and chairs). The band captains would also work with the committee on site selection. Volunteer soon to get the best band and site.

The third item was funding for food for the event. The board has voted to provide $250.00 for Field Day food.

The fourth item was to discuss getting a portable toilet. Information about past rental should be available from the club treasurer. Clem KM6OKC is looking into getting one for Field Day.

Minutes of the 2021-4-17 VCARC Field Day Committee Meeting (Continued)

The fifth item is to generate a list of volunteers that will help those bring equipment to the field day site load the equipment up and help sit it up. Let the committee know if you can help

The sixth item is to ask for volunteers to help take down the equipment and load it up at the close of the event. Let the committee know if you can help.

The seventh item was an update on the status of the computer logging effort. Jeremy KN6JMD gave an update. He feels that it is coming together. He has purchased a router that worked in a trial run. He is exploring different software settings to find the best method for using the software. I was pushing for using 3.5 GHz, I feel that 2.4 GHz can get very crowded. Further testing is to be done before the next field day committee meeting.

Action items:

1. Generate groups.io email asking if any club members have an RV or trailer that can be used during field day.
2. Generate a groups.io email asking for Band Captains. Have them sign up to the list.
3. Look into getting a hand washing station. Burt volunteered to look into getting one.
4. Need to look into getting hand sanitizer, hand wipes and other supplies that the regulations may require.
5. Establish contact with radio station to promote field day.

June 26-27 2021 Field Day Committee Status Report Clem KM6OKZ

Everybody probably already knows, but I'll take the opportunity to happily repeat what must by now by common knowledge to anyone not living under a rock or presently cloistered in a convent. The Oxnard College Duck Pond venue has been officially cinched for 2021 Field Day extravaganza. This includes a Portable Toilet and, as an extra, added attraction, a handwashing station. Word is we'll also get the coveted bathroom key again and, for the pièce de resistance, we have also been blessed with a gratis loan (Thanks Mark KI6PTE) of a mobile home-type affair for the use of whatever intrepid soul gets wrangled into spending a night guarding the gizmos and equipment with their life. There is still much to be done in the way of preparation. We need more Band Captains. Don't be shy; contact Denney and volunteer. And there's the logistics of setting up that seemingly convoluted (but I'm sure wonderfully fantastic) wireless

June 26-27 2021 Field Day Committee Status Report (Continued)

logging software between laptops (Thanks Jeremy KN6JMD). I believe the food and beverage department is handled (Thanks Mark KI6YLH).... so all in all, things are moving along quite nicely... and we have ample lead time to get all the details addressed. If you have any, comments, concerns, recommendations, or suggestions… by all means, please feel free to contact either Denney or myself.

Clement Alberts
(805) 824-3650
KM67OKZ@gmail.com

April 17, 2021 Field Day Committee Meeting

Beam Antennas Reese West KQ6TT

I just read an article where it was stated that a beam type antenna gives a higher energy in one direction. Sometimes that is true, and sometimes not.
When you use a single radiating antenna like a dipole or a monopole, you also get some of your energy bouncing off the ground and crossing the path of the directly radiating path of the energy. The power in the two waves can add to or subtract from each other. They then continue on their way. They propagate independently of each other. So you can have cancellation of the powers at a point but they both still exist. Let's use this concept on an antenna.

Let us use four vertical monopoles in a pattern to generate a beam by controlling the phase of the transmitted signals. We control the phase to make the signals add in one direction and cancel in the other directions. We are happy. We have a fairly narrow beam. And we can steer it. When we gave power to the beam, we divided our power to give one fourth to each antenna. When we phased everything to get the beam, all the fields add together, and we get our power back. **However, it is the same amount of power that we would have gotten if we had only used a single radiator in the beginning**. So, on the transmitting side of the analysis, the only thing that we did was reduce the number of people who might have heard us if we had not built the beam structure in the first place.

Let’s look at the receiving side of the problem while assuming that the four antennas do not interfere with each other. So we assume that each antenna receives the same signals. When we sum the four signals, we get four times the power of a single antenna. We are ahead there. We also have reduced the size of the angles where we receive noise. A single antenna would receive noise from all directions. We have reduced the received angle to the size of the beam. Our signal to noise ratio has been improved. So we are ahead with the received side but not the transmitting side.

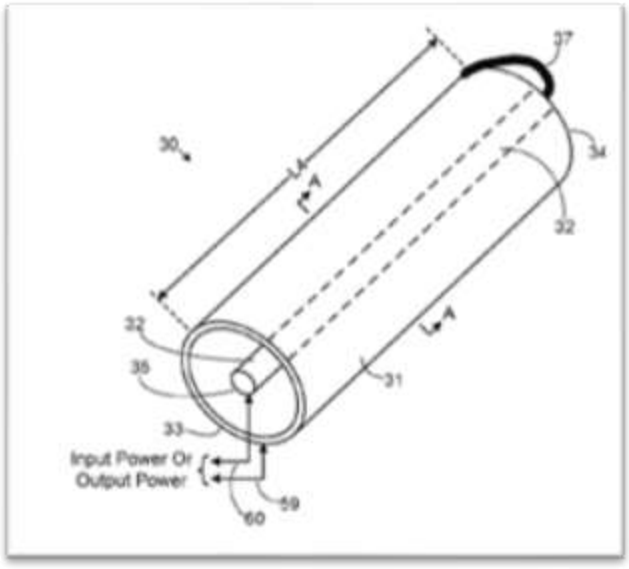
Now, let’s look at the Yagi antenna. On the transmit side, the reflector element turns the power from the wrong direction the desired direction. We do get more power to someone else's receiver. The more narrow the beam, the more power in the good direction.

Beam Antennas (continued)

Now, for the received side. An antenna shape sets up a capture area for received signals. A very short tuned dipole, less than a tenth of a wavelength, has almost the same capture area as a half-wave dipole. In other words an antenna takes the energy from an area around the antenna. It does not vary much with the actual size of the antenna. In general, a Yagi has roughly the same capture area as a dipole. If you make the Yagi longer, the capture area does increase some. But it looks like the main gain is reducing the angle of received background noise. So the signal to noise ratio is improved with narrow beam width with the Yagi.

It looks like the Yagi antenna is a winner in both transmitting and receiving. The Yagi antenna design is a whole separate discussion. One of the tuning problems is the correct phasing of the signals in Yagi arrays. Instead of trying to get the perfect coax lengths between the antennas, one might try moving one antenna forward or backward to vary fine adjustments. Also some fine tuning might be done by bending the rods a little. It might vary the coupling between elements instead of actually changing the spacing. On the other hand it might just damage the performance. Remember: Free advice is worth what you paid for it.
April 2, 2021

Reese KQ6TT



Selected May Contests & Special Events

The following contests and special events caught your editor's eye. This is by no means a complete listing. Please see QST or the ARRL website (www.arrl.org) for any details and QSL information. There were no May ARRL-sponsored events.

Maty Weinberg, KB1EIB, events@arrl.org; www.arrl.org/special-event-stations

Special Event Stations

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

Through Dec. 31, 0000Z – 2359Z, all calls, all areas. VE2GT and VE2NCG. **Quebec Parks on the Air (QCPOTA).** Certificate. *This is an operating event. See website for details.* **qcpota.ca**

Apr. 18 – Apr 19, 1300Z – 0400Z, W7W, Rochester, NY. W2JLD/ Special event coordinator. **World Amateur Radio Day**. EchoLink *ROC-HAM* CONFERENCE 531091 AllStar 2585, 47620, 53130. QSL. John Derycke, W2JLD, 85 Amherst St. #2, Rochester, NY 14607. **w2jld2@gmail.com**

Apr. 24, 1300Z – 1900Z, W1M, Russell, MA. Western Massachusetts Council BSA. **Woronoko Heights Outdoor Adventure**. 14.290 14.060 10.115 7.190. QSL. Tom Barker, 329 Faraway Rd., Whitefield, NH 03598. *Operating from the Horace Moses Scout Reservation.*

Apr. 24, 1400Z – 1930Z, W1BSA, Fall River, MA. USTNE NE1PL. **W1BSA Birthday of Scouting Event**. 14.259. QSL. Rick Emord, 135 Wareham St., Middleboro, MA 02346. *See website for up-to-date information.* **www.ne1pl.org**

May 7 – May 8, 1600Z – 2000Z, various call signs, Fort Huachuca, AZ. US Department of Defense. **Armed Forces Day Crossband Test**. USB 5330.5 14438.5 14383.5 13164; FM 2484. QSL. Station contacted. *Military stations will transmit on DOD frequencies and announce the amateur frequency they are monitoring. A complete list of participating stations, modes, frequencies, and times will be available after April 19, 2021. See website for details.* **dodmars.org**

May 7 – May 10, 1500Z – 2300Z, W7G, Corinne, UT. Ogden Amateur Radio Club, W7SU. **Golden Spike Special Event — W7G**. 14.255 7.235 7.074 7.040. QSL. Ogden Amateur Radio Club (OARC) — W7SU, P.O. Box 3353, Ogden, UT 84409. **www.w7g.org** *or* **ogdenarc.org**

May 8, 1600Z – 2300Z, NI6IW, San Diego, CA. USS *Midway* (CV-41) Museum Ship. **Battle of Coral Sea**. 7.250 14.320 14.070 (PSK31) D-STAR via PAPA System repeaters. QSL. USS *Midway* CV-41 COMEDTRA NI6IW, 910 N. Harbor Dr., San Diego, CA 92101.

May 9 – May 15, 0000Z – 2359Z, K3FBI/Ø through 9, Quantico, VA. FBI Amateur Radio Association. **National Police Week — Honoring Our Fallen Heroes**. 14.275 14.074 7.275 7.074; all bands, all modes. Certificate & QSL. Jay Chamberlain, NS4J, 27 Fox Run Ln., Fredericksburg, VA 22405. **www.qrz.com/db/k3fbi**

May 11 – May 12, 1500Z – 0200Z, WØCGM, Dundas, MN. South East Metro Amateur Radio Club. **Minnesota Birthday Bash**. 7.250. Certificate. SEMARC, 1655 68th St. W., Inver Grove Heights, MN 55077. **www.semarc.org**

May 15, 1200Z – 2200Z, W8TFC, Richwood, WV. The Family Center Amateur Radio Club. **82nd Annual Ramp Festival**. 444.450 14.250 7.250 3.850. Certificate. Wally Howerton, WA8LLY, 144 Chief Red Eyes Tr., P.O. Box 85, Richwood, WV 26261. *Certificates will automatically be completed and emailed if operator is listed in* **qrz.com**. **walter.howerton@frontier.com** *or* **thefamilycenterof richwoodwv.com/Ham/default.html**

May 15, 1300Z – 1900Z, W1M, Russell, MA. Western Massachusetts Council BSA. **Woronoko Heights Outdoor Adventure**. 14.290 14.060 10.115 7.190. QSL. Tom Barker, 329 Faraway Rd., Whitefield, NH 03598. *Operating from Moses Scout Reservation.*

May 15 – May 23, 1500Z – 2300Z, W7SU/1ØØ, Ogden, UT. Ogden Amateur Radio Club. **Centennial Celebration.** 14.255 7.235 7.074 7.040. QSL. Ogden Amateur Radio Club — W7SU/1ØØ, P.O. Box 3353, Ogden, UT 84409. **www.qrz.com/db/w7su/100** *or* **ogdenarc.org/100**

May 22 – May 23, 1600Z – 1800Z, K7SWI, Nampa, ID. South West Idaho Amateur Radio Club. **Chicken Dinner Road**. 146.52 14.250 7.250 3.850. Certificate & QSL.* South West Idaho ARC, K7SWI, 323 W. Dewey Ave., Nampa, ID 83686-6638. **www.facebook.com/groups/SouthWestIdahoARC**

May 27 – Jun 1, 0000Z – 2359Z, W2F, Brooklyn, NY. James Gallo. **Fleet Week NYC**. 14.340. QSL. James Gallo, 149 Marine Ave., Brooklyn, NY 11209.

May 28 – May 31, 1800Z – 1800Z, W3M, State College, PA. Nittany Amateur Radio Club. **Birthplace of Memorial Day**. 7.195. QSL. W3M, Nittany Amateur Radio Club, P.O. Box 614, State College, PA 16801. **www.qrz.com/db/w3m**

May 28 – May 31, 1800Z – 2359Z, KØS, Springfield, MO. NØEW. **KØS Strange Antenna Challenge**. 28.500 14.310 7.200 3.900. QSL. Erik Weaver, 4857 E. Farm Rd. 136, Springfield, MO 65809. *Anyone may operate, just add /KØS to your call sign; /KØS station is responsible for their own QSL. The Strange Antenna Challenge is to utilize antennas* not *made of normal antenna materials.* **erikeweaver@gmail.com**

May 29, 1300Z – 2200Z, W2A, Christiansburg, VA. New River Valley Amateur Radio Club. **World War II Hero Audie Murphy**. 14.262 7.262 3.860. QSL. Danny Wylam, 710 McDaniel Dr., Christiansburg, VA 24073. *Operating from Brush Mountain on the Appalachian Trail, near the crash site.* **dannywylam@gmail.com**

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 (three 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. *Note: Some clubs may ask for a nominal fee to cover the cost of the certificate or QSL. Request will be made on air during the event or on the club's website.

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**.

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 **August** *QST* would have to be received by **June 1**. In addition to being listed in *QST*, your event will be listed on the ARRL Web Special Events page. ARRL reserves the right to exclude events of a commercial or political nature.

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Contest Corral

Bruce Draper, AA5B, aa5b.corral@gmail.com

Contest Corral — May 2021

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

Start - Finish Date-Time		Start - Finish Date-Time		Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	0000	2	1600	50, 144	Araucaria World Wide VHF Contest	CW Ph	RS(T), 6-char grid square	avhfc.com/rules/en.pdf
1	0001	2	2359	28	10-10 International Spring Contest, CW	CW	Name, mbr or "0," SPC	www.ten-ten.org
1	0300	1	0859	3.5-28	RCC Cup	CW Ph	RS(T), mbr or ITU zone	rcccup.ru
1	0800	1	1400	Above 902	Microwave Spring Sprint	CW Ph Dig	6-char grid square	sites.google.com/site/springvhfupsprints
1	1200	2	1159	3.5-28	ARI International DX Contest	CW Ph Dig	RS(T), Italian province or serial	ari.it/en/contest-hf
1	1200	2	1200	3.5-144	F9AA Cup, Digi	Dig	RST, serial	www.site.urc.asso.fr
1	1300	1	1900	3.5-28	AGCW QRP/QRP Party	CW	RST, serial, Class (A/B)	alt.agcw.de/index.php/en
1	1300	2	0700	1.8-28	7th Call Area QSO Party	CW Ph	RS(T), 5-letter state/county code or SPC	7qp.org
1	1500	2	0300	1.8-28	Indiana QSO Party	CW Ph	RS(T), county or SPC	hdxcc.org/inqp/rules.html
1	1600	1	1800	3.5-28	FISTS Saturday Sprint	CW	RST, SPC, name, mbr or "0"	fistsna.org/operating.html#sprints
1	1700	2	2359	1.8-VHF	Delaware QSO Party	CW Ph	RS(T), county or SPC	www.fsarc.org/qsoparty
1	2000	2	2359	3.5-28	New England QSO Party	CW Ph Dig	RS(T), W1 county/state or SPC	www.neqp.org/rules.html
3	0000	3	0100	1.8-14	K1USN Slow Speed Test	CW	Name, SPC at 20 WPM max	www.k1usn.com/sst.html
3	1630	3	1729	3.5, 7	OK1WC Memorial (MWC)	CW	RST, serial	memorial-ok1wc.cz
4	0100	4	0159	1.8-50	Worldwide Sideband Activity Contest	Ph	RS, age group (OM, YL, or Youth)	wwsac.com/rules.html
4	0100	4	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsqrp.blogspot.com
4	1700	4	1900	3.5-14	RTTYops Weeksprint	Dig	Other's call, your call, serial, name	rttyops.wordpress.com
4	2300	5	0300	All	MIE 33 Contest	CW Ph	RS(T), age	www.ztv.ne.jp/isoda/33
5	1300	5	1400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	cwops.org
5	1700	5	2000	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
5	1900	5	2000	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	cwops.org
5	1900	5	2030	3.5-14	RSGB FT4 Contest Series	Dig	4-char grid square	www.rsgbcc.org/hf
6	0300	6	0400	1.8-28	CWops Mini-CWT Test	CW	Name, mbr or SPC	cwops.org
6	1700	6	1900	3.5-14	RTTYops Weeksprint	Dig	Other's call, your call, serial, name	rttyops.wordpress.com
6	1700	6	2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	nrrlcontest.no
6	1900	6	2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, Name, mbr or "none"	www.skccgroup.com
7	0145	7	0215	1.8-21	NCCC RTTY Sprint	Dig	Serial, name, QTH	www.ncccsprint.com
7	0230	7	0300	1.8-21	NCCC Sprint	CW	Serial, name, QTH	www.ncccsprint.com
7	2000	7	2100	1.8-14	K1USN Slow Speed Test	CW	Name, SPC, 20 WPM max	www.k1usn.com/sst.html
8	0001	9	2359	3.5-144	Day of the YLs Contest	CW Ph	RS(T), YL/OM	ka1uln.blogspot.com
8	0500	9	1100	50-1296	SARL VHF/UHF Digital Contest	Dig	RST, 6-char grid locator	www.sarl.org.za
8	1200	9	1159	1.8-28	CQ-M International DX Contest	CW Ph	RS(T), serial	cqm.srr.ru/en-rules
8	1200	9	1200	3.5-28	VOLTA WW RTTY Contest	Dig	RST, serial, CQ zone	www.contestvolta.com
8	1200	9	2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
8	1400	9	0200	3.5-144	Arkansas QSO Party	CW Ph	RS(T), AR county or SPC	www.arkqp.com
8	2300	9	0300	50	50 MHz Spring Sprint	CW Ph Dig	4-char grid square	sites.google.com/site/springvhfupsprints
9	1000	9	1400	7	WAB 7 MHz Phone/CW	CW Ph	RS, serial, WAB square or country	wab.intermip.net/Contests.php
10	0000	10	0200	1.8-28	4 States QRP Grp Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
10	1900	10	2030	3.5	RSGB 80-Meter Club Championship, SSB	Ph	RS, serial	www.rsgbcc.org/hf
12	1700	12	2000	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
13	1600	13	2200	3.5, 7	QRP Minimal Art Session	CW	RST, class, number of components	qrpcc.de/contestrules
15	0800	16	1100	3.5	NZART Sangster Shield Contest	CW	RST, serial, branch (if any)	nzart.org.nz/activities/contests
15	1200	16	1200	1.8-28	His Majesty King of Spain Contest, CW	CW	RST, EA province or serial	concursos.ure.es/en
15	1600	15	2159	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
16	2100	16	2300	3.5-28	FISTS Sunday Sprint	CW	RST, SPC, name, mbr or "0"	fistsna.org
16	2300	17	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	qrpcontest.com/pigrun
19	1900	19	2030	3.5	RSGB 80-Meter Club Championship, Data	Dig	RST, serial	www.rsgbcc.org/hf
20	0030	20	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
21	1200	21	2359	3.5-28	Hamvention QSO Party	CW Ph	RS(T), first year attended Hamvention	wwrof.org
22	1200	23	1200	3.5-28	EU PSK DX Contest	Dig	RST, EU area code or serial	eupsk.club
22	2100	23	0200	3.5	Baltic Contest	CW Ph	RS(T), serial	lrsf.lt/en/balticcontestrules
24	0000	24	0100	1.8-28	QRP ARCI Hootowl Sprint	CW	RST, SPC, mbr or power	qrparci.org/contest
26	0000	26	0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
27	1900	27	2030	3.5	RSGB 80-Meter Club Championship, CW	CW	RST, serial	www.rsgbcc.org/hf
29	0000	29	2359	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
29	0000	30	2359	1.8-28	CQ WW WPX Contest, CW	CW	RST, serial	www.cqwpx.com

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 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.*

Upcoming FCC Exam Session Preparation Sites

(Virtual; it seems that due to COVID-19 rules, physical classes are unavailable in May within 200 miles of Ventura)

April 12th Monday Night Net Zoom Get-together

April 19th Monday Night Net Zoom Get-together

Upcoming FCC Exam Test (Due to the Coronavirus outbreak, please **verify** with your **VE** team that the exam session is being held.**)**

GLAARG is offering remote testing; see https://glaarg.org/remote-sessions/ for details)

Goleta CA 93117-3271
05/08/2021
Sponsor: Santa Barbara ARC
Date: May 08 2021
Time: 9:00 AM (Walk-ins allowed)
Contact: Tom Saunders
(805) 969-2326
Email: veteam@sbarc.org
VEC: ARRL/VEC
Location: Impulse Communications
6144 Calle Real
Goleta CA 93117-3271

Valencia CA 91355-2008
05/15/2021
Sponsor: Santa Clarita ARC
Date: May 15 2021
Time: 8:00 AM (No Walk-ins / Register or Call ahead)
Contact: Ronald B. Klein
(661) 259-0948
Email: testing@w6jw.org
VEC: Greater LA VEC
Location: United Methodist Church of Valencia
25718 McBean Pkwy
Rm B
Valencia CA 91355-2008

On Exam Day Bring the Following Items:

1. A legal photo ID (driver's license, passport).
2. When no photo ID is available, two forms of identification must be presented: a. non-photo ID/driver's license (some states still have them) b. birth certificate (must have the appropriate seal) c. social security card d. library card e. utility bill, bank statement or other business correspondence that specifically names the person; or a postmarked envelope addressed to the person at his or her current mailing address as it appears on the Form 605.
3. Students may bring any of the above items and/or a school ID, minor's work permit, report card, or a legal guardian may present a photo ID.
4. Bring your Social Security Number (SSN) or your FCC issued Federal Registration Number (FRN). VEC's are required by FCC to submit either your SSN or your FRN number with your license application form. If you prefer not to give your SSN, then you may use your FCC issued FRN, if you have one. For instructions on how to register your SSN with the FCC and receive a FRN, visit the FCC's FAQ page and the FCC's registration instructions page.
5. If applicable, bring the original and a photocopy of your current Amateur Radio license and any Certificates of Successful Completion of Examination (CSCE) you may hold from previous exam sessions. The photocopy(s) will not be returned.
6. Two number two pencils with erasers and a pen.
7. 7. A calculator with the memory erased and formulas cleared is allowed. You may not bring any written notes or calculations into the exam session. Slide rules and logarithmic tables are acceptable, as long as they're free of notes and formulas. Cell phone must be silenced or turned off during the exam session. The phones' calculator function may not be used.
8. Bring a check, a money order or cash to cover the exam session fee(s). Check the ARRL VEC's current exam fee. The fee is normally $15.00 for ARRL-sponsored tests. Beginning sometime in the future, the FCC will announce the starting date of the $35 fee. That is paid directly to the FCC and not to the VEC.

Trivia for May 2021

Did you know???

1. Hawaiian style pizza, (pineapple and Canadian bacon) was invented in Canada?
2. In one year, enough Slurpees are consumed from 7/11 stores to fill 12 Olympic size pools?
3. It is reported that the people of the Czech Republic drink the most beer in the world?

73s, Dana KG6WXE

Calendar May 2021

1: CVARC Radio School; K6MEP Field Day Committee Planning Meeting 20:00 on Zoom
3: ACS/ARES District Meeting (Zoom) @19:00; Monday Night Net Contest @20:00
4: ACS/ARES Tuesday Night Net
5: Cinco de Mayo
7-8:Armed Forces Day
8: CVARC Radio School, Winlink Red Cross National Drill
9: Mother's Day
10: K6MEP Monday Night Net and Zoom Meeting
11: ACS/ARES Tuesday Night Net
13: Winlink Thursday ARC
14: K6MEP Monthly Club Net and Zoom Meeting starting at 19:00
15: CVARC Radio School
17:K6MEP Monday Night Net and Zoom Meeting; TAX DAY
18: ACS/ARES Tuesday Night Net
22: CVARC Radio School
24: K6MEP Monday Night Net and Zoom Meeting
25: ACS/ARES Tuesday Night Net
29: CVARC Radio School
31: K6MEP Monday Night Net and Zoom Meeting

(Repeated from the CVARC website). The wildly successful "Auxiliary Bored Meetings" will continue on a new schedule beginning Monday, June 29, 2020. The informal nets have been running four times daily on the Bozo repeater. Over 7,500 calls from 275 unique hams have been logged on the nets. Under the new schedule, the net will be called to order at 9 A.M. Monday through Saturday. The Saturday morning net will run 9 A.M. to noon with a swap and the repeater will linked with Paul Strauss' (WD6EBY) repeater network for full Ventura County coverage. Starting July 11, 2020, there will be a second Saturday net at 9 P.M.

The Bozo Repeater operates with the following settings:

Frequency: 147.885 MHz
Offset: –
PL: 127.3

Stu AG6AG

http://www.cvarc.org/event/auxiliary-bored-meetings-on-bozo-2/all/

Testing N3FJP by Jeremy KN6JMD

K6MEP Monday Night Net Script

QST- QST- QST. This is _____(Name)_____(Call Sign), with the Ventura County Amateur Radio Club Net. If there is any station with EMERGENCY or PRIORITY Traffic that needs the immediate use of this frequency, please come now.

Hearing none, the following is a QST. This is _____(Name) _____ (Call Sign), tonight's net control station for the Ventura County Amateur Radio Club Net. If, at any time, during tonight's net, anyone needs this frequency for emergency or priority traffic, please call net control, and we will respond appropriately.

This is a directed net, open to all amateur radio operators and is sponsored by K6MEP, the call sign for VCARC. This net begins each Monday evening at 20:00 local time on the WD6EBY linked repeater system.

The primary frequency of this net is 145.200 MHz with a minus offset and a PL of 127.3 Hz. If the repeater should fail for any reason, we can use South Mtn. repeater on 146.385 MHz with a positive offset and a PL of 127.3 Hz as backup.
All amateurs are welcome to check in after the following announcements.
A roundtable will follow the check-ins. A rag chew session may follow the formal net. We will have a Zoom meeting following the net.

K6MEP, the Ventura County Amateur Radio Club, meets at 19:30 hours on the second Friday of each month at The Dudley House, 197 N Ashwood Ave, Ventura, CA. However, due to government health restrictions, we will hold the meeting "virtually" on 145.200 MHz with a minus offset and a PL of 127.3 Hz. The club meeting will be followed by a Zoom get-together. Our next virtual meeting will be on Friday _____ (insert date). We urge any non-members interested in the VCARC to contact us at K6MEP@qsl.net. Non-members interested in amateur radio are welcome to attend our meetings.
When you check-in, please give your call sign, name and if you are a VCARC member. If you are not a member of the club, please include your QTH or location.

(Check-ins completed): Hearing no other check-ins, we will now begin with our Roundtable
****

Any last comments? ******** Any late, missed, or visitor check-ins?
Please check-in now.

Hearing no new check-ins does anyone have anything else they would like to add to tonight's net?
Hearing none;
(Closing): This concludes the VCARC weekly net at _____hours. Thank you for your interest and participation. Also thanks to Paul Strauss, WD6EBY, for the use of the repeater for our K6MEP net. 73, this is _____ call sign), tonight's VCARC net control, signing off and returning the repeater to its normal use.

Convention and Hamfest Calendar

Steve Ewald, WV1X, sewald@arrl.org; www.arrl.org/hamfests-and-conventions-calendar

Convention and Hamfest Calendar

A = AUCTION
D = DEALERS / VENDORS
F = FLEA MARKET
H = HANDICAP ACCESS
Q = FIELD CHECKING OF QSL CARDS
R = REFRESHMENTS
S = SEMINARS / PRESENTATIONS
T = TAILGATING
V = VE SESSIONS

Abbreviations

Spr = Sponsor
TI = Talk-in frequency
Adm = Admission

Arizona (Sierra Vista) — May 1 T V
7 AM – noon. *Spr:* Cochise ARA. Cochise ARA Building, 2756 S. Moson Rd. *TI:* 146.76 – (162.2 Hz). *Adm:* free. **www.k7rdg.org**

Connecticut (Goshen) — May 22 D F H R T V
8 AM – noon. *Spr:* Southern Berkshire ARC. Goshen Fairgrounds, 116 Old Middle St. (CT Rte. 63). *TI:* 147.285 + (77.0 Hz). *Adm:* $5. **www.sberk.org**

Iowa (Mason City) — June 5 D F H Q R S V
9 AM – 2 PM. *Spr:* Northland Amateur Communications Group. Music Man Square, 308 S. Pennsylvania Ave. *TI:* 442.275 + (100 Hz). *Adm:* $5, door $7. **www.ke0pou.com/nrr**

Michigan (Hudsonville) — June 5 F H T V
8 AM – noon. *Spr:* Independent Repeater Association. Hudsonville Fairgrounds, 5235 Park Ave. *TI:* 147.16 + (94.8 Hz). *Adm:* $8. **www.w8ira.org**

New Jersey (Succasunna) — May 15 D F H Q T
8 AM. *Spr:* Splitrock ARA. Horseshoe Lake Park, 72 Eyland Ave. *TI:* 146.985 + (131.8 Hz). *Adm:* $7. **www.splitrockara.org**

New Mexico (Clovis) — May 29 F H R S T V
8:30 AM – 4 PM. *Spr:* Eastern New Mexico ARC. Trinity Lutheran Church, 1705 W. 21st St. *TI:* 443.450 (131.8 Hz). *Adm:* none. **www.ka5b.org**

Ohio (Wauseon) — June 5 D F H R V
8 AM – 1 PM. *Spr:* Fulton County ARC. Roth Family Woodlot, 105 Hill Ave. *TI:* 147.195 +. *Adm: $5.* **www.k8bxq.org/hamfest**

To All Event Sponsors

Before making a final decision on a date for your event, you are encouraged to check the Hamfest and Convention Database (**www.arrl.org/hamfests-and-conventions-calendar**) for events that may already be scheduled in your area on that date. You are also encouraged to register your event with HQ as far in advance as your planning permits. See **www.arrl.org/hamfest-convention-application** for an online registration form. Dates may be recorded up to 2 years in advance.

Events that are sanctioned by ARRL receive special benefits, including an announcement in these listings and online. Sanctioned conventions are also listed in *The ARRL Letter.* In addition, events receive donated ARRL prize certificates and handouts. Once the form has been submitted, your ARRL Director will decide whether to approve the date and provide ARRL sanction.

The deadline for receipt of items for this column is the **1st of the second month preceding publication date**. For example, your information must arrive at HQ by **June 1** to be listed in the **August** issue. Information in this column is accurate as of our deadline; contact the sponsor or check the sponsor's website for possible late changes, driving directions, and other event details. Please note that postal regulations prohibit mention in *QST* of games of chance, such as raffles or bingo.

Promoting your event is guaranteed to increase attendance. As an approved event sponsor, you are entitled to special discounted rates on *QST* display advertising and ARRL web banner advertising. Call ARRL's toll-free number at 1-800-243-7768, or email **ads@arrl.org**.

The inaugural QRP ARCI "Virtual FDIM" (Four Days In May) will be held on May 22, the traditional Hamvention weekend. The virtual event includes day and evening lectures, plus a PDF of the proceedings. Registration is $10 and closes on May 15.

Emergency and Volunteer Training

Some excellent emergency and volunteer training is available through the American Red Cross of Ventura County, FEMA and the American Radio Relay League.

Red Cross Courses

The following is a list of locally available Red Cross courses and a current schedule of classes over the next two months. Enroll by calling the Red Cross Chapter House at 805-987-1514 Ext 320 leaving your name, course code and telephone number. If you are interested in a class not currently scheduled call to be placed on a waiting list for the next scheduled date.

Note: The classes **Fulfilling Our Mission** and **Introduction to Disaster Services** are required for all Red Cross classes if you are not currently registered as a Red Cross Volunteer.

For training class registration, call: 805-987-1514 Ext 320.

Course schedule and descriptions:

http://www.arcventura.org/DSCourseDescriptions.html

http://www.arcventura.org/contact_us.html

COLLABORATING TO ENSURE EFFECTIVE SERVICE DELIVERY(ARC3089-4)
COMMUNITY SERVICES OVERVIEW (ARC 3068-1)
DISASTER ASSESSMENT (ARC 3067-1)
DISASTER HEALTH SERVICES: OVERVIEW (3076-1F)
DISASTER HEALTH SERVICES SIMULATION (ARC 3076-2F)
DISASTER MENTAL HEALTH SERVICES (ARC 3077-1F)
DISASTER MENTAL HEALTH: AN OVERVIEW (ARC 3077-2)
DISASTER WELFARE INQ.:CONNECTING YOUR COMMUNITY(ARC 3085-1)
DISASTER WELFARE INQUIRY SIMULATION (ARC 3085-2)
EMERGENCY OPS CENTER/INCIDENT COMMAND LIAISON (ARC 3089-5)
ERVs: READY, SET, ROLL (ARC 3068-4)
FAMILY SERVICES: PROVIDING EMERGENCY ASSISTANCE (ARC 3072-1)
FINANCIAL STATISTICAL INFORMATION MANAGEMENT (ARC 3078-2)
HUMAN RESOURCES IN DISASTER (ARC 3087-3F)
LOGISTICS: AN OVERVIEW (ARC 3087-1)
LOGISTICS SIMULATION (ARC 3071-2)
MANAGING TOTAL DIVERSITY
MASS CASUALTY DISASTER (ARC 3079 1F)
PUBLIC AFFAIRS IN DISASTER 1 (ARC 3080 1F)
SAFE FOOD HANDLING WORKSHOP
SHELTER OPERATIONS (ARC 3068-11)
SHELTER SIMULATIONS (ARC 3068-12)
WORKING WITH TOTAL DIVERSITY

Scheduled Red Cross Classes

For training class registration, call: 805-987-1514
Please try to register for classes a week before the class is being offered

FEMA Courses

The following free **FEMA Independent Study Courses** are recommended. There are several other FEMA courses available; see the other courses at http://training.fema.gov/is

IS-5.a An Introduction to Hazardous Materials - (10/31/2013)
IS-10.a Animals in Disasters: Awareness and Preparedness - (10/2/2015)
IS-11.a Animals in Disasters: Community Planning - (10/2/2015)
IS-15.b Special Events Contingency Planning for Public Safety Agencies - (10/31/2013)
IS-20.19 Diversity Awareness Course 2019 - (1/30/2019)
IS-21.17 Civil Rights and FEMA Disaster Assistance - (1/25/2017))
IS-26 Guide to Points of Distribution - (8/11/2010)
IS-27 Orientation to FEMA Logistics - (10/31/2013)
IS-29 Public Information Officer Awareness - (10/31/2013)
IS-33.19 FEMA Initial Ethics Orientation 2019 - (1/30/2019)
IS-35.19 FEMA Safety Orientation 2019 - (1/30/2019)IS-36 Multi-hazard Planning for Childcare - (10/31/2013)
IS-42 Social Media in Emergency Management - (10/31/2013)
IS-75 Military Resources in Emergency Management - (2/25/2011)
IS-100.b Introduction to Incident Command System, ICS-100 - (10/31/2013)
IS-111.a Livestock in Disasters - (10/31/2013)
IS-144 Telecommunicators Emergency Response Taskforce (TERT) Basic Course - (10/31/2013)
IS-162 Hazard Mitigation Floodplain Management in Disaster Operations - (11/16/2016)
IS-200.b ICS for Single Resources and Initial Action Incidents - (10/31/2013)
IS-230.d Fundamentals of Emergency Management - (12/16/2013)
IS-235.c Emergency Planning - (12/15/2015)
IS-240.b Leadership and Influence - (6/16/2014)
IS-241.b Decision Making and Problem Solving - (3/31/2014)
IS-242.b Effective Communication - (3/31/2014)
IS-244.b Developing and Managing Volunteers - (3/29/2013)
IS-250.a Emergency Support Function 15 (ESF15) External Affairs: A New Approach to Emergency Communication and Information Distribution - (5/7/2012)
IS-271.a Anticipating Hazardous Weather & Community Risk, 2nd Edition - (10/31/2013)
IS-288.a The Role of Voluntary Organizations in Emergency Management - (2/12/2015)
IS-315 CERT Supplemental Training: The Incident Command System - (8/13/2013)
IS-317 Introduction to Community Emergency Response Teams - (6/26/2014)
IS-320 Wildfire Mitigation Basics for Mitigation Staff - (10/31/2013)
IS-322 Flood Mitigation Basics for Mitigation Staff - (10/31/2013)
IS-323 Earthquake Mitigation Basics for Mitigation Staff - (10/31/2013)
IS-325 Earthquake Basics: Science, Risk, and Mitigation - (10/31/2013)
IS-326 Community Tsunami Preparedness - (10/31/2013)
IS-366.a Planning for the Needs of Children in Disasters - (12/9/2015)
IS-368 Including People With Disabilities & Others With Access & Functional Needs in Disaster Operations - (2/20/2014)
IS-393.a Introduction to Hazard Mitigation - (10/31/2013)
IS-405 Overview of Mass Care/Emergency Assistance - (12/10/2013)
IS-454 Fundamentals of Risk Management - (10/31/2013)
IS-546.a Continuity of Operations Awareness Course - (10/31/2013)
IS-547.a Introduction to Continuity of Operations - (10/31/2013)
IS-559 Local Damage Assessment - (10/31/2013)
IS-700.b An Introduction to the National Incident Management System - (6/25/2018)
IS-775 EOC Management and Operations - (8/6/2008)
IS-800.b National Response Framework, An Introduction - (1/20/2017)
IS-815 ABCs of Temporary Emergency Power - (12/27/2016)
IS-906 Workplace Security Awareness - (10/31/2013)
IS-907 Active Shooter: What You Can Do - (12/28/2015)
IS-909 Community Preparedness: Implementing Simple Activities for Everyone - (10/31/2013)
IS-910.a Emergency Management Preparedness Fundamentals - (10/19/2012)
IS-915 Protecting Critical Infrastructure Against Insider Threats - (7/10/2013)
IS-916 Critical Infrastructure Security: Theft and Diversion – What You Can Do - (10/31/2013)
IS-922 Applications of GIS for Emergency Management - (10/31/2013)
IS-951 DHS Radio Interoperability - (9/22/2016)
IS-2200: Basic Emergency Operations Center Functions - (5/17/2019)
IS-2500 National Prevention Framework, an Introduction - (3/27/2018)
IS-2600 National Protection Framework, An Introduction - (3/27/2018)
IS-2700 National Mitigation Framework, an Introduction - (3/27/2018)
IS-2900.a National Disaster Recovery Framework (NDRF) Overview - (7/11/2018)

The **ARRL** offers several on-line courses. The courses listed here are recommended for those involved in disaster and emergency service. See these and other courses at the ARRL web site.

Introduction to Emergency Communication EC-001
HF Digital Communications EC-005
PR-101: ARRL Public Relations (EC-015)
Public Service and Emergency Communications Management for Radio Amateurs- EC-016

There are some costs with the ARRL courses but discounts and occasional scholarships are available to ARRL members. See ***www.ARRL.org*** for details and enrollment.

ACS/ARES Frequency Updates

The Tuesday night Ventura County ARES/ACS Net is held on the WD6EBY Sulphur Mt. Repeater. Local nets are 7:00 to 7:30 PM; County Net starts at 7:30 on WD6EBY Sulphur Mt. Repeater 145.200 (-) PL 127.3 / 445.560 Mhz(-) PL 141.3

Good Frequencies to have pre-programmed into your radios...

Area 1 Simi Valley – K6ERN 146.805 Mhz (-) PL 100.0
Area 2 Conejo Valley, T. Oaks, Newbury Park – N6JMI 147.885 Mhz (-) PL127.3 BOZO
Area 3 Camarillo, Somis,– K6ERN 147.915 Mhz (-) PL 127.3
Area 4 Oxnard, Port Hueneme, NBVC – WB6YQN 146.970 Mhz (-) PL 127.3
Area 5 Ojai Valley – N6FL 145.400 Mhz (-) PL 114.8
Area 6 Ventura City – WA6ZSN 146.385 Mhz (+) PL 127.3
Area 7 Santa Paula, Fillmore, Piru – WA6ZSN 146.385 Mhz (+) PL 127.3
Area 8 Moorpark, Santa Rosa Valley – K6ERN 145.460 Mhz (-) PL 127.3
County-Wide – WD6EBY 145.200 (-) PL 127.3
ACS Portable – VCACS/p 144.930/147.585 Mhz PL 127.3

WD6EBY SP 145.420 Mhz (-) PL 127.3
WD6EBY 447.480 (-) PL 156.7 Hz South Mtn.
K4NGL 145.360 Mnz (-) PL 156.7 Kimberly Peak

Other Good Area Frequencies ...

AA6DP 147.090 Mhz (+) No PL Catalina
K0AKS 147.150 Mhz(-) PL127.3 TOaks
K6CPT DCS 145.300 Mhz (-) PL100.0 LA DCS
K6CPT DCS 147.270 Mhz (-) PL100.0 LA DCS
K6DCS DCS22 147.225 Mhz (+) PL 94.8 LA DCS
K6ERN 146.880 Mhz (-) PL 127.3 SMRA Red Mt.
K6ERN 147.765 Mhz (-) PL 127.3 Olivas Park / SMRA
K6TZ 146.790 Mhz (-)PL131.8 SBARC
KB6C 147.735 Mhz (-) PL 100.0 Oat Mt / MMRA
N6EVC 146.850 Mhz (-) PL 94.8 Rasnow
N6FDR 145.260 Mhz (-) PL 100.0 Malibu
W6AAX 147.180 Mhz (+) PL 186.2 Verdugo Peak
W6GRG 146.940 Mhz (-) PL 127.3 Simi DSW Repeater
W6YJO 145.180 Mhz (-) PL 131.8 Sta Ynez
WA6FGK 146.640 Mhz (-) PL 127.3 Simi Valley
WA6PPS 147.300 Mhz (-) PL 110.9 L.A.City ACS
WB6OBB 147.000 Mhz (+) PL 131.8 Sta Barbara
WD6EBY 145.240 MHz (-) PL 127.3 Chatsworth Pk

Due to assignment and coordination of several D-Star Repeaters, TASMA, the southern California Two meter amateur frequency coordination body, has had to re-align several frequencies. Among these changes are the channelization (15 KHz spacing) of the 145.5 - 145.6 simplex allocation and reassignment of several frequencies from simplex to other uses.

None of the local Ventura County repeaters are directly affected; however several previous simplex frequencies are now in use either as repeater inputs or outputs. **New County ARES Packet frequency is 145.050 Mhz**;

Ventura County ARES-ACS simplex frequencies have been re-assigned as follows:

Area 1 Simi Valley – 145.510 Mhz (S)
Area 2 Conejo Valley, T.O., Newbury Pk – 146.445 Mhz (S)
Area 3 Camarillo, Somis – 146.550Mhz (S)
Area 4 Oxnard, Port Hueneme, NBVC – 146.595Mhz (S)
Area 5 Ojai Valley – 145.555Mhz (S)
Area 6 Ventura City – 147.510Mhz (S)
Area 7 Santa Paula, Fillmore, Piru – 145.540 Mhz (S)
Area 8 Moorpark – 146.535Mhz (S)
County ARES Simplex – 145.615 Mhz (S)
National Simplex – 146.520Mhz(S)

Ventura County ARES / ACS Emergency Coordinators

ACS RO/ARES DEC: Rob Hanson, W6RH, Email: w6rh@arrl.net
Assist ACS RO/Deputy DEC: Rick Tate, KQ6NO Email: kq6no@arrl.net

Area 1 Simi Valley EC: Steve King, KE6WEZ Email: ke6wez@gmail.com
Area 2 TO, Conejo Valley EC: Zack Cohen, N6PK , Email: n6pk@arrl.net
Area 3 Camarillo, Somis EC: Avi Carmi, K6AVI Email: avi@carmi.us
Area 4 Oxnard, Hueneme, Mugu EC:Hovan Salibian, KI6BQL Email: ki6bql@arrl.net
Area 5 Ojai EC: Wayne Francis, W6OEU Email: w6oeu@arrl.net
Area 6 City of Ventura EC (acting): James (Jim) Aguirre KM6GUE Email: KM6GUE@gmail.com
Area 7 Santa Paula, Fillmore, Piru EC: James (Jim) Aguirre KM6GUE Email: KM6GUE@gmail.com
Area 8 Moorpark, Santa Rosa Valley EC: Marc Hanley KM6B, Email: km6b@arrl.net

ACS/ARES Training and News Rob Hanson W6RH

Rob Hanson W6RH Ventura County ACS Radio Officer, Ventura County ARES District Emergency Coordinator

Radio Amateur Helps Rescuers to Locate Lost Hiker (reported internationally)

The keen and practiced eye of ARRL member Ben Kuo, AI6YR, helped to guide rescuers to a hiker stranded on a mountainside on April 12. Hiker Rene Compean, 45, had spent the night in a remote region of the Angeles National Forest after getting in a tough spot. After a concerned friend reported Compean missing on Monday, the Los Angeles County Sheriff's Department dispatched search-and-rescue (SAR) teams. Although amateur radio played no direct role in the rescue, Kuo cited his enthusiasm for technology and ham radio satellites and for Summits on the Air (SOTA) for helping him to develop the skills he needed to guide searchers to the most appropriate area.

"This is actually very applicable to being a SOTA activator — map, navigation skills," Kuo told ARRL. "Also, understanding RF propagation was key to this. The SAR teams were searching the other side of the mountain, where there is no cell signal." Kuo knew that from having hiked there before. As Kuo described it, Compean was found between four SOTA peaks.

SAR teams were deployed in the Mount Waterman area of the San Gabriel Mountains to find the hiker. According to the LA Sheriff's Department, a low-flying helicopter team spotted him Tuesday afternoon between Triplet Rocks and the east bump of Twin Peaks in the San Gabriel Mountains, and he was airlifted to safety with no serious injuries. Kuo pointed the rescuers to the likely search area by matching satellite images with what Compean had transmitted over Twitter.

Kuo told the Los Angeles Times that he has an odd hobby of looking at photos and determining where they had been taken. He was able to employ his skill to determine the hiker's likely location using the tiny photo the hiker posted on Twitter that shows his legs and the valley below. As the newspaper reported on April 15, "When [Kuo] saw the photo posted by the Sheriff's Department, he set to work pulling publicly available satellite images and matching them to the vegetation and terrain below the hiker's legs."

Kuo's eye was good. He sent authorities the GPS coordinates of the most likely area, and the rescue team found Compean less than a mile from that location.

As the LA Times reported, the area where Compean was located on steep slopes and very difficult to access, requiring advanced climbing skills. The Sheriff's Department credited Kuo with saving them hours of fruitless searching. Kuo said this was the first time he'd been involved in a rescue like this one.

ACS/ARES Training and News (Continued)

Amateur Radio Credited with Rescue of Back-Country Hiker in Tennessee

A back-country hiker was rescued from Great Smoky Mountains National Park with assistance from amateur radio after she became exhausted on the trail and possibly dehydrated. A member of the hiking group on the park's Little River Trail, Tim Luttrell, KA9EBJ, put out a call on the evening of April 11 via the W4KEV linked VHF repeater in Gatlinburg, Tennessee, requesting assistance in extricating the injured member. No cell phone service was available at the location, and Luttrell's signal was spotty at times, owing to the mountainous terrain.

Responding was David Manuel, W5DJR, who obtained more information and called 911, which routed the call to Great Smoky Mountains National Park Emergency Medical Service (GSMNP EMS). The national park EMS relayed through Manuel a request for the group to continue down the trail as far as possible to shorten the rescue time. Parties were asked to stand by.

A medic with the Park Service search-and-rescue team subsequently reached Manuel by telephone, who served to relay questions to Luttrell. Manuel contacted members of the hiker's family after Luttrell provided contact numbers. Manuel was asked to relay information for the family to arrange to meet in Cherokee, North Carolina, and be prepared to transport the distressed hiker's vehicle to her home. By this time, a couple of hours had passed. Manuel maintained occasional contact with Luttrell, who indicated that all was well but his battery was low and that he would power down the radio in between contact attempts to conserve power.

Manuel continued to monitor the repeater system and got a call from Luttrell indicating "all clear" shortly after 2 AM. Manuel later received a text indicating that the family members had connected with the distressed hiker and extended their thanks to all who had helped out.

Luttrell said afterward that Manuel "was calm, professional, and persistent but patient in obtaining information he needed through the challenges I was having with my radio." He allowed that without his spare battery pack and high-gain antenna, the incident may not have gone so well. A newer radio had been damaged in an earlier rescue effort, he told ARRL Tennessee Section Manager Dave Thomas, KM4NYI.

The injured hiker was hospitalized and required surgery and rehabilitation. Thomas told ARRL that he'd learned another hiker in the same group was close to hypothermia by the time they were rescued.

ACS/ARES Training and News (Continued)

Thomas will recognize each of the radio amateurs involved in the rescue with a Certificate of Merit during the ARRL Tennessee State Convention in Knoxville on June 19.

National Hurricane Center's Annual WX4NHC Station Test is May 29

WX4NHC at the National Hurricane Center (NHC) in Miami will conduct its annual on-the-air test on Saturday, May 29, 1300 - 2100 UTC. The traditional exercise takes place each year ahead of the Atlantic Hurricane Season, which runs June 1 - November 30. This hurricane season, WX4NHC operators plan to be working remotely again; the NHC will maintain all CDC pandemic protocols until the end of 2021. Only the chief meteorologist and staff may enter the building.

"Last year's season was an incredibly busy one, but the remote WX4NHC operations were successful, collecting many important reports via the Hurricane Watch Net, VoIP Hurricane Net, Winlink, the online hurricane report form, as well as many other means and modes," said WX4NHC Assistant Coordinator Julio Ripoll, WD4R.

Hurricane Preparedness Week is May 9 - 15. Radio amateurs in hurricane-prone areas of the US should have an emergency plan in place before June 1. Now is the time, too, to harden and prepare your station for power outages. This means having multiple sources of back-up power, including batteries and, perhaps, a gas-powered generator. Test them now. Ensure your ability to take down and install antennas quickly and efficiently when storms threaten your area.

Hurricane Season 2021 nets to know include the Hurricane Watch Net (HWN) on 14.325 and 7.268 MHz, the Caribbean Emergency Weather Net (CEWN) on 3.815 and 7.188 MHz, the Marine Maritime Services Net (MMSN) on 14.300 MHz, the Intercontinental Net on 14.300 MHz, and the Salvation Army Team Emergency Radio Network (SATERN) on 14.260 MHz. -- *Thanks to* The ARRL ARES Letter

For those that enjoy DXing, or want to learn about DXing, registration (free) is now open for the 72nd International DX Convention.

This is what was previously known as the Visalia DX Convention. This year's event will be conducted via Zoom (surprise!). Sessions run from 1400 - 2300 UTC (7:00 am to 4:00 pm PDT) on both May 15 and 16. Registration for this free event is open now. Go to http://dxconvention.com/index.html to register and see the program line up. There will also be some impressive door prizes awarded at two drawings each day. 73,

Rob W6RH

ARES Training and News (Continued)

ARRL offers online training for hams who want to participate in the Amateur Radio Emergency Service.

The time for training is before a disaster...not during one.

The former Amateur Radio Emergency Communications (AREC) series of three training courses has been reconfigured into two courses: An introductory course and a course for leaders and managers.

Introduction to Emergency Communication (#EC-001)

Revised in 2018, this is an update of the former Level 1 course. It is designed to provide basic knowledge and tools for hams who want to serve as a Public Service volunteer. It provides an opportunity for non-hams who rely on communications in emergency situations to learn about Amateur Radio and its unique role in emergencies.

For start dates, registration deadlines and more visit www.arrl.org/online-course-catalog

Public Service and Emergency Communications Management for Radio Amateurs (#EC-016)

Launched in 2010, this course is designed for Amateur Radio operators who will be in leadership and managerial roles, organizing other volunteers to support public service activities and communications emergencies. Participants will learn how radio amateurs prepare to support local community events and, when working in coordination with governmental and emergency response organizations, how to deploy their services. This is a self-study course. For more information and to register visit www.arrl.org/online-course-catalog.

PR-101: ARRL Public Relations (EC-015)

This is a basic training course for PIOs and anyone interacting with the media and promoting Amateur Radio.

This course is designed to give hams a quick overview in public relations activities. It uses the skills of experts in various aspects of public relations to provide volunteer Public Information Officers with the basic skills and expectations that a PIO needs to know to be effective in their home region.

PR-101 covers everything from the basic news release to Web sites and video work.

This course is available--free! – on-line, or can be purchased in CD format from the ARRL store.

Local Area Radio Weekly Nets Wayne Woodhams N6WIX

Monday

Cuckoo Net 146.790 MHz (-) 131.8 Hz PL and 145.180 MHz (-) 131.8 Hz PL MTWThF from 08:00 Hrs

Auxiliary Bored Meeting: MTWThF at 09:00 and on Saturday at 21:00 Hrs : Bozo Repeater Frequency: 147.885 MHz Offset: -PL: 127.3

California Rescue ARES Net 7.25 MHz MTWThF 08:30 Hrs

Santa Barbara South County ARES net 19:30 Hrs on 146.79 MHz (-) PL 131.8.

Southwest ACS Nets Every Monday at 18:30 Hrs, on a local station on the Cactus Intertye Network. Check-in by roll call. 4th Monday "grid test" 20:30 Hrs.

LA DCS-22 Net – 19:30 Hrs - K6DCS - 147.225 MHz (+) then on 7.2353 MHz LSB

K6MEP Net -20:00 Hrs 145.200 MHz (-) 127.3 PL

CESN (California Emergency Services Net) at 20:00 Hrs Primary frequency - 3992 kHz, Backup frequency - 3960 kHz. All free to listen, check-in by membership only.

LA Section ARES Net - HF Every Monday following the VHF/UHF net (21:30 Hrs) 1st. 3rd and 4th Monday - 75 meters 3.995 MHz (± 45 kHz) / 2nd Monday -10 meters 28.495 MHz

Tuesday

Cuckoo Net 146.790 MHz (-) 131.8 Hz PL and 145.180 MHz (-) 131.8 Hz PL MTWThF from 08:00 Hrs

California Rescue ARES Net 7.250 MHz MTWThF 08:30 Hrs

Ventura County ARES-ACS 6 Meter Net - between 18:45 Hrs to 19:00 Hrs K6SMR 52.980 MHz (-) PL 82.5 SMRA Red Mt

Ventura County ARES-ACS Simplex Net - 18:30 Hrs on 147.510 MHz Simplex ORT schedule only!

Ventura County ARES-ACS HF Net - between 18:30 Hrs to 19:00 Hrs 40M on 7.235 MHz LSB +/-

Ventura County ARES/ACS Nets between 19:00 and 20:00 Hrs. The County-wide net starts at 19:30 Hrs and normally finishes by 20:00 Hrs on WD6EBY 145.200 MHz (-) /127.3 PL

SBARC Swap Net 146.790 MHz (-) / 131.8 Hz PL and 145.180 MHz (-) / 131.8 Hz PL 19:30-20:00 Hrs

West SB ARES HF Net (1" Tuesday, Monthly) 3822 kHz LSB 20:30 Hrs

6-Meter Roundtable - 50.125 MHz USB First Tuesday of each month 20:00 Hrs

ATV Net 20:30 Hrs 148.790 MHz (-) / 131.8 Hz PL RITZ repeater

SBARC Digital Communications Net 146.790 MHz (-) / 131.8 Hz PL and 145.180 MHz (-) / 131.8 Hz PI 8:00 - 10:00 PM

Wednesday

Cuckoo Net 146.790 MHz (-) 131.8 Hz PL and 145.180 MHz (-) 131.8 Hz PL MTWThF from 08:00 Hrs

California Rescue ARES Net 7.25 MHz MTWThF 08:30 Hrs

CESN (California Emergency Services Net 10:00 Hours, Primary frequency 7192 kHz, Backup frequency - 7230 kHz All free to listen, check-in by membership only.

SMRA Tech Net 146.880 MHz (-) / 127.3 PL (SMRA Red Mt) 20:00 Hrs

SBARC Swap Net 146.790 MHz (-) / 131.8 Hz PL K872 20:00 Hrs

Teamtalk Voice Net.20:00 Hrs k6pvr-svr.local.mesh server http://www.pvarc.club/mesh/mesh-applications/

Thursday

Cuckoo Net 146.790 MHz (-) 131.8 Hz PL and 145.180 MHz (-) 131.8 Hz PL MTWThF from 08:00 Hrs

California Rescue ARES Net 7.25 MHz MTWThF 08:30 Hrs

So Cal 6 meter net. 51.940 MHz - pl 82.5. 19:00-20:00 Hrs

Southern Calif 6M SSB Technical Roundtable Net 20:00 Hrs on 50.2 MHz USB SSB

SBARC / K6TZ Technical Mentoring Net 20:00-21:00 Hrs 146.790 MHz (-) / 131.8 Hz PL and 224.08 MHz (-) 131.8 PL (linked)

Friday

Cuckoo Net 146.790 MHz (-) 131.8 Hz PL and 145.180 MHz (-) 131.8 Hz PL MTWThF from 08:00 Hrs

California Rescue ARES Net 7.250 MHz MTWThF 08:30 Hrs

Saturday

Military Radio Collector Net 18:00 Hrs 3985 kHz AM vavw.mrcuwestord/mrca-radio-nets/

Sunday

ARRL Southwestern Division Net 08:00 Hrs 3965 MHz. ARRL Officers check in first. All visitors welcome at end of that net

Newbie Net 19:00-19:30 Hrs Bozo Repeater 147.885 MHz (-) PL127.3

Rabbit Net 19:00 Hrs Linked Rabbit repeater.

Ventura County Ham Network News Orv Beach W6BI

Network software

A new version of AREDN software for network nodes hit the streets on April 10th. It's a production release that includes any patches added since July, including added support for new hardware and any updates or patches applied since then.

Since the 10th, about half of the network nodes managed by PVARC have been upgraded, plus others around the county.

Winlink in the County

More county stations are coming up on Winlink, the messaging system that's uniquely adapted for emergency communications. To be able to use Winlink, the bare minimum requirement is to load Winlink Express on (ideally) a Windows 10 system. With it you can send and receive Winlink email. Without a radio connection all email goes and comes via the Internet.

In order to be able to pass traffic via ham radio, you need either (or both):

- A 2 meter radio and some sort of a modem. The SignaLink USB is liked for that, and the VARA FM modem is just a piece of software.
  - SignaLink USB - $150
  - VARA FM modem software - $65 – moves data 4-5 times faster than packet radio
  - or a TNC for 1200 baud packet radio
  - 2 meter radio - $0, or Alinco DR135 $170 (very popular for VARA FM)

- A mesh network connection, allowing you to join the ham network.
  - Mikrotik hAP AC Lite - $50
  - Ubiquiti or Mikrotik outdoor wireless AP $100-$150
  - Outdoor Ethernet cable - $30-$50, depending on length
  - (Assumes you have line of sight connection to one of the county hilltop nodes)

Once you have an RF connection, you can move traffic over RF via Winlink.

These local hams are registered as Winlink stations with these communications modes (there may be others beyond what's listed here):

Ventura County Ham Network News (continued)

Packet
AG6AG-10
W6KME-10

Pactor & Robust Pactor
<none>

ARDOP HF
W6BI - 80/40/20
KE6NYT - 40

VARA HF
W6BI – 80/40/20
AG6AG - 80

VARA FM
W6RH-10
W6BI-10

Mesh Network (Winlink Post Office)
W6BI-Shack-PC – Simi Valley
K6PVR-SVR – Ojai (Sulphur Mountain)
AJ7C – Culver City

In case of a wide-spread Internet outage, these stations have the ability to move text traffic out of the affected area via ham radio, to a Winlink station that does offer Internet forwarding.
73,
Orv W6BI
orv.beach@gmail.com

News from the Pleasant Valley Amateur Radio Club: Paul Strauss WD6EBY

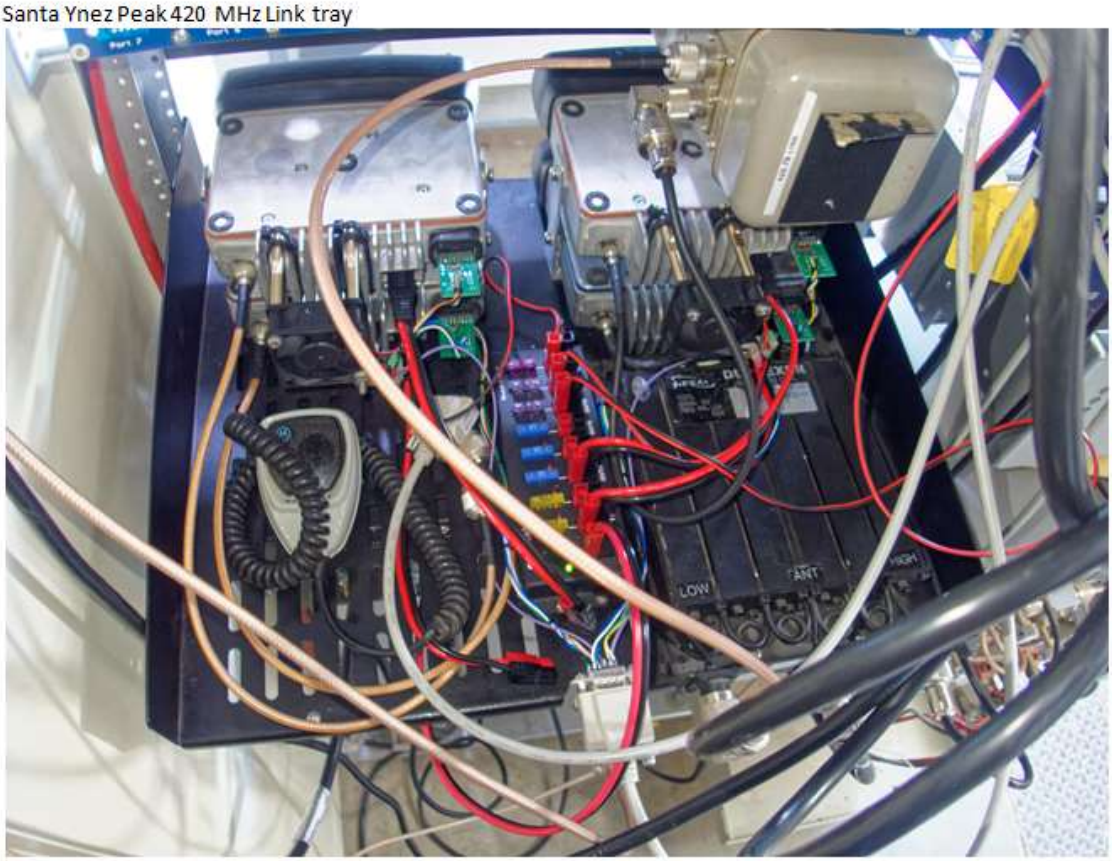
Hello All,

I have a system update I would like to share with you.

Santa Ynez Peak

Two weeks ago the rebuilt 145.16 Santa Ynez Peak repeater was picked up and delivered to the Santa Barbara Team. Early this week they completed rebuilding of the DC power distribution on the 420 MHz link tray. Today the Santa Barbara Team ventured to Santa Ynez Peak and installed the rebuilt 145.16 repeater. The system rebuild incorporates a new Sierra Radio Systems repeater controller and a duplex 420 MHz RF link connecting to the PVARC repeater system. Prior to this rebuild the systems were linked through a JPS NXU Internet Linking protocol which made the system vulnerable to internet interruptions. This duplex 420 MHz RF link is a notable improvement in audio and expected to be much more reliable than the Internet Linking. This default configuration of this repeater is to be linked link with the PVARC repeater system.

Santa Ynez Peak 420 MHz Link tray



If you notice there are 2 sets of Link radios on the tray. These Link radios were installed in preparation to Link to a future system North of Santa Ynez Peak. In fact the North bound Link antenna and feed line are already installed. Bill W1UUQ and I are working towards installing a repeater system near San Louis Obispo. When SLO is operational we have the seamless ability to communicate throughout the entire ARRL Santa Barbara Section. A future 121.5 Aircraft ELT receiver will be installed to support Santa Barbara Search and Rescue operations.

News from the Pleasant Valley Amateur Radio Club (Continued)

System view, Motorola Quantar Repeater, SRS Controller, 420 MHz Link TX Band Pass Cavity
420 MHz Link Radios, Astron Power Supply, VHF Repeater 6 cavity duplexer

Santa Ynez Peak Repeater, Output 145.16 MHz (PL 146.2 Hz) - Input 144.56 MHz (PL 127.3 Hz)

Congratulations to the Santa Barbara Team for their dedication and their hard work.

Bill Talanian W1UUQ
Wayne Beckman AF6GX
Michael T Williams W0JFB
Les Merryman KN6CKG

Please contact me if you have any questions or concerns.
Thank you all for your time

Paul Strauss
WD6EBY / K6PVR
pgstrauss@verizon.net

ARRL Santa Barbara Section John Kitchens NS6X

(Will be repeated until John contacts me that the positions are filled)

Hello all,

I have been trying to fill Section volunteer positions for a while. I am giving another push. I am pleased to let you know that our Section Emergency Coordinator is Richard Tate, KQ6NO from Santa Paula. (Congratulations and thanks to Rick for taking on this position in addition to his ACS/ARES assignment as Assistant ACS Radio Officer/ARES Assistant DEC.

Richard will be contacting you to see how each county operates emergency communications, and to see how the ARES SEC role will be able to assist and coordinate between the 3 counties in the Section. I have been the SEC for about 3 years. I should not be both the Section Manager and SEC. We need to have more focus on each position.

I am looking forward to spending more time on being SM. One of the tasks that I have passed off to Rick, among others, is the EmComm and volunteer hours reporting to ARRL headquarters.

Additionally, Andy Ludlum, K6AGL, member of the Conejo Valley Amateur Radio Club, has been appointed as the first Assistant Section Manager in the Santa Barbara Section. The SM position will be a club liaison for me, the Section Manager, to have a person in the know hopefully at each club. I really have little to no secret ARRL information, but when I am aware of issues, successes, opportunities, we can work together to accomplish our goals.

There are many volunteer positions to fill in the Section. The one that I am focusing on right now is the Section Traffic Manager. The STM will manage the Section's involvement in the National Traffic System. We need to work on and develop the NTS in the Section. There is quite a bit of work to do, but there are several dedicated volunteers in the Section, working within the NTS, who will make the system work.

Let me know if you would like to volunteer for the STM position, or any volunteer position. I'll be talking about specific positions in the coming months.

Santa Barbara Section Volunteers

Right now, we have 2 Section email systems. That is partly why we need volunteers to help rectify (electrical term) this issue. To make sure that everyone is getting the information, I will be sending emails through both systems. This email is for hams registered at the ARRL website as being in the Santa Barbara Section.

So, what do you get for being a volunteer? A special name/callsign badge and a certificate. And the satisfaction of helping ham radio in many aspects. I am still looking for volunteers to fill the remaining Section Leadership positions. The jobs are:

ARRL Santa Barbara Section (Continued)

Assistant Section Manager (essentially a club liaison - one from each club, preferably)
Local Government Liaison (a person to be the contact for the local government, could be a city or county - to understand the local issues. Not to be a political operative or community organizer, but to be a positive contact for the local government, answer the government leader's questions, be aware of whom the players are)
Traffic manager - (the traffic system in the Section runs well, but needs a bit of coordination throughout the Section, and most importantly, finding new bodies to join the traffic system. Maybe the various Morse groups could provide people to be trained as traffic messengers).
Public Information Coordinators - (We have an excellent PIO, but each club should have someone who handles public information contacts, such as social media, print media, video (television, cable, YouTube etc.) media and more.)
Section Youth Coordinator (Doesn't need to be a teenager, but it could be. Someone who will focus ham radio toward the youth - schools, makers etc. Someone to help clubs do so, if they are so inclined.)
Club Coordinator (help get clubs active, motivated and working in the general support for ham radio. Some other type of groups will bring in a speaker to talk at all clubs for a reduced cost. We would like to have a Santa Barbara Section conference again. Need someone to help make it happen - just a small conference/Hamfest - look at the Yuma Arizona Hamfest.
Technical Specialist (working with the Technical Coordinator, maybe have experts "Elmers" for various aspects and specialties. How to get on FT8 (why won't my computer key my KX3; I can decode signals, just not key the radio), contesting, setting up a station, RFI solutions, use of chokes and why, homebrewing, how to solder - or crimping - how to install a coax connector, what is DMR/etc. and how to make my radio work - what is a hotspot, and more. We could use a dozen or more people.
Webmaster (I am not a web guy. Who is, or what groups of people are, who could help us? We need a Section website)
Special Event coordinator (We have a small Section budget that can cover some costs such as website hosting). The following clubs are ARRL affiliated:
Conejo Valley ARC (Andy Ludlum, K6AGL Assistant Section Manager)
Ventura County ARC (K6MEP)
Ventura County ARS
Simi Settlers ARC
Santa Barbara ARC
UC Santa Barbara ARC
Paso Robles ARC
Cal Poly San Luis Obispo ARC
Satellite ARC
And hopefully Pleasant Valley ARC soon.

ARRL Santa Barbara Section (Continued)

There are more groups and clubs, which should not be ignored, but these are the "affiliated" clubs. The Section includes the counties of San Luis Obispo, Santa Barbara and Ventura. More schools, middle, high, community college and college/university should have a radio club.

Let me know if you would like to help, or get more information. Get one of those pretty, special color ARRL badges. No membership is required.

Subject: Re: [K6MEP] Learning Code

The Conejo Valley ARC has a Morse group that has a 10 meter weekly code training net. Info can be found at:
http://www.cvarc.org/morse-group/
There are Morse groups throughout the country. It really isn't difficult to learn or increase speed.

From: John Kitchens [mailto:ns6x.john@gmail.com]
Sent: Monday, March 29, 2021 10:24 AM
To: ARRL Santa Barbara Section
Subject: [ARRLSB] Implementation of $35 fee

The following is from the Northwestern Division Director, W7VO. I am forwarding it to our Section.

John, NS6X

FROM: Michael Ritz, W7VO, ARRL Northwestern Division Director (Message to NW Division)
FORWARDED by Dan Marler, K7REX

Contrary to what you may have heard or read, the collection of application fees for the amateur radio service and certain other services will NOT begin on April 19, 2021.

Although April 19, 2021 is the date the rules in the FCC Report and Order adopted last December generally take effect – i.e., one month after the R&O was published in the March 19, 2021 Federal Register – certain parts of those rules, including collection of the application fees for the amateur radio service, will NOT begin on that date.

The effective date for new amateur radio fees has not yet been established. The FCC explicitly states in the published Notice that the fees will not take effect until:

* the requisite notice has been provided to Congress; AND

ARRL Santa Barbara Section (Continued)

* the FCC's information technology systems and internal procedures have been updated; AND
* the Commission publishes [FUTURE] notice(s) in the Federal Register announcing the effective date of such rules.

The League's counsel for FCC matters estimates that the effective start date for collecting the fees will be sometime this summer, but regardless of the exact timing we will have advance notice. Stay tuned for further developments on this.

Keep in mind that one can only renew their amateur license within 90 days in advance of the expiration date. If you, or a club station license you are trustee for, are within that 90 day window now, I'd renew as soon as possible to avoid the new fee.

If you are thinking of switching to a vanity call sign, I'd also seriously suggest you apply for that special call sign sooner rather than later. (Of course, if you are an Extra class seeking a new shorter 1X2 or 2X1 call sign, competition for those calls in the future MIGHT be a bit less due to the new fees! We'll see...

FCC Issues Enforcement Advisory

On April 20, the FCC's Enforcement Bureau issued a new Enforcement Advisory, repeating the admonishments contained in a January Advisory that no licensee or user of the Amateur or Personal Radio Services may use any radio equipment in connection with unlawful activities of any nature. The Commission specifically cautioned that individuals found to have used radios in connection with any illegal activity are "subject to severe penalties, including significant fines, seizure of the offending equipment, and in some cases, criminal prosecution."

In addition, licensees should be aware that illegal operation in any service or band, including completely outside the amateur allocations, could potentially disqualify a person from holding any FCC license in any service, not just the Amateur Radio Service.

Any amateur observing suspicious activity that might be of an illegal or criminal nature should report it to their local law enforcement office or the FBI.

ARRL Santa Barbara Section (Continued)

ARRL, American Red Cross Renew *Memorandum of Understanding*

ARRL and the American Red Cross (ARC) have renewed their long-standing *Memorandum of Understanding* (*MOU*) for another 5 years. The *MOU* spells out how ARRL and the American Red Cross will work cooperatively during a disaster response.

"We are pleased to extend our partnership with the American Red Cross," ARRL President Rick Roderick, K5UR, said. "This agreement details how ARRL Amateur Radio Emergency Service® (ARES) volunteers will interface with Red Cross personnel within the scope of their respective roles and duties whenever the Red Cross asks ARES volunteers to assist in a disaster or emergency response."

The *MOU* calls on both parties to maintain open lines of communication and to share information, situation, and operation reports, as allowed to maintain confidentiality. They will also share "changes in policy or personnel relating to this *MOU* and any additional information pertinent to disaster preparedness, response, and recovery." ARRL and the American Red Cross also will encourage their respective units to discuss local disaster response and relief plans. They may further cooperate in joint training exercises and instruction. The Red Cross will encourage regions or chapters to participate in ARRL Field Day, the Simulated Emergency Test (SET), and other emergency exercises.

"This agreement keeps in place the strong and mutually beneficial bond between ARRL and the ARC," said ARRL Director of Emergency Management Paul Gilbert, KE5ZW. "The Red Cross is a primary served agency for ARES teams, and it's important that we be able to work together toward common goals when responding to an emergency."

The agreement points out that any ARRL volunteers who are interested in also becoming Red Cross volunteers should understand that a background check is a requirement. Although ARES has no background check requirement, radio amateurs who register as Red Cross volunteers must abide by the Red Cross's background check requirement.

ARRL and the Red Cross may also cooperate in the sharing of equipment.

ARRL Santa Barbara Section (Continued)

A *Statement of Cooperation* between the two organizations at the local level may be developed separately from the *MOU* to spell out the role of each in providing services to communities during or after a disaster event.

The new *MOU* was signed by Trevor Riggen, Senior Vice President, Disaster Cycle Services, American Red Cross, and by ARRL President Rick Roderick, K5UR.

RF Exposure Assessment

The FCC recently announced its revised rules on radio frequency (RF) exposure. The primary impact on Amateur Radio operators is the elimination of some exemptions for performing RF exposure calculations. Those running higher power are already required to evaluate and record their compliance with the maximum permissible exposure (MPE) limits. Now most Amateurs will have to perform and document such compliance for their stations. For those operating on the VHF and UHF bands, the following table taken from ARRL's publication "RF Exposure and You" may be a helpful start. (The entire publication can be downloaded here: http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RF+Exposure+and+You.pdf).

Table 5.6

		50 W		100 W		500 W		1,000 W	
		Con	Unc	Con	Unc	Con	Unc	Con	Unc
50, 144, 222	0	3.3	7.4	4.7	10.5	10.5	23.4	14.8	33.1
	3	4.7	10.5	6.6	14.8	14.8	33.1	20.9	46.8
	6	6.6	14.8	9.3	20.9	20.9	46.7	29.5	66.1
	9	9.3	20.9	13.2	29.5	29.5	66.0	41.7	93.3
	12	13.2	29.5	18.6	41.7	41.7	93.2	59.0	131.8
	15	18.6	41.6	26.3	58.9	58.9	131.7	83.3	186.2
	20	33.1	74.0	46.8	104.7	104.7	234.1	148.1	331.1
420	0	2.8	6.3	4.0	8.8	8.8	19.8	12.5	28.0
	3	4.0	8.8	5.6	12.5	12.5	28.0	17.7	39.5
	6	5.6	12.5	7.9	17.7	17.7	39.5	25.0	55.8
	9	7.9	17.6	11.2	24.9	24.9	55.8	35.3	78.9
	12	11.1	24.9	15.8	35.2	35.2	78.8	49.8	111.4
	15	15.7	35.2	22.3	49.8	49.8	111.3	70.4	157.4
1240	0	1.6	3.6	2.3	5.2	5.2	11.5	7.3	16.3
	3	2.3	5.1	3.3	7.3	7.3	16.3	10.3	23.0
	6	3.2	7.3	4.6	10.3	10.3	23.0	14.5	32.5
	9	4.6	10.3	6.5	14.5	14.5	32.5	20.5	45.9
	12	6.5	14.5	9.2	20.5	20.5	45.8	29.0	64.8
	15	9.2	20.5	13.0	29.0	29.0	64.8	41.0	91.6

This table gives the minimum separation, in feet, between a person and a radiating antenna on our VHF and UHF bands based on transmitter power and antenna gain. The "Con" columns are for "controlled exposure", which applies to

ARRL Santa Barbara Section (Continued)

those who know about the transmissions and understand the risks, such as the operator. The "Unc" columns are for uncontrolled exposure and apply to members of the public and anyone who is not aware of the transmissions. These tables assume that the antenna and the people exposed are at the same height. As the antenna is raised higher in the air, the risk decreases rapidly and the minimum separation likewise decreases. These tables are something of an oversimplification, but they will help you determine whether your station is in the safe range or not. Notice that the minimum separations for a given band and antenna gain do not change linearly with power; rather they change as the square root of the power. So, to find the minimum distance for a ten-Watt transmitter, for example, divide the distance in the 100-Watt column by 3.2 (the approximate square root of ten).

Now you see yet another reason why we do not recommend running your mobile radio into a mag mount antenna on a file cabinet or cookie sheet right next to you and your radio. We expect more guidance from ARRL and other sources to be coming out in the coming months.

Marty N6VI

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72/73

John Kitchens, NS6X
PO Box 178
Somis, CA 93066
805.216.2569
NS6X@ARRL.org
NS6X@ARRL.net

Meeting Location Maps *(meetings may be on-the-air, please check K6MEP.org)*

K6MEP Membership Application/Renewal. Please pay your 2021 Dues. Please mail the completed form (see below) or the one on K6MEP.org. Dues are now $10 (Apr-Jun).

To join the Ventura County Amateur Radio Club, Inc. (also known as VCARC or K6MEP), complete and send form, along with $20 annual dues, to VCARC P.O. Box 2103 Oxnard CA 93034-2103

Checks can be written to either Ventura County Amateur Radio Club, Inc. or VCARC

Pro-rate dues as follows based on our calendar year ending October 31 (Oct-Dec = $20, Jan-Mar = $15, Apr-Jun=$10, Jul-Sep=$5). Existing members should renew every October =$20.

Name (Last, First)_____Call sign_____License Type_____

Address Street_____City, State Zip_____

Email_____Telephone_____Date of Application_____

Y/N for the following: New Member _____ Renewing _____ Member of ARRL?_____

I'd Like To See/Do....

TOPIC	YOUR INTEREST LEVEL			COMMENTS
	Meh	Ok	Yayy!	
All about coax cables				
Amateur Radio Satellites				
Antenna construction project				
Antenna ordinances				
ARES, ACS, CERT, RACES, MARS, SkyWarn				
Assembling a Go-Box				
Assembling a test lab				
Best bands to get on & what to expect				
Construction projects, like_____				
Ferrites, and demonstrations of.				
Field Day – Strategies, Tactics and Techniques				
FRS & GMRS - what are those?				
Ham Radio projects for Arduinos & Raspberry Pi				
VHF Digital Modes: D-Star, Packet, APRS				
HF Digital Modes: RTTY,JT65,WSPR,PSK31,PACTOR,FT8				
How to use an oscilloscope				
Local Repeaters You Can Hit				
MESH				
Moonbounce				
More social events, picnics, etc.				
NVIS for regional HF communications				
QSLs, QSL cards, ARRL LOTW, eQSL				
SDR - Software Defined Radios				
Compact HF antennas				
Soldering				
Sulphur Mountain Repeater Association				
SWR, Meaning and Measurement.				
Troubleshooting				
Vacuum Tubes				
VHF and Above Contesting				
What's DTMF, CTCSS, and PL?				
Power amplifiers and receiver preamplifiers				
Assembling Emergency Supplies				
The Love of Morse Code. Keys, Paddles & Bugs.				
The HF Reverse Beacon Network				
ARRL American Radio Relay League topics				

I can give a presentation on:	

ARRL News (all photos and icons from ARRL.org or other specified sources)

Annual Armed Forces Day Cross-Band Test set for May 7 – 8

The US Department of Defense will host this year's Armed Forces Day (AFD) Cross-Band Test, Friday and Saturday, May 7 – 8, in recognition of Armed Forces Day on May 15. The event is open to all radio amateurs.

For more than 50 years, military and amateur stations have taken part in this exercise, designed to include amateur radio and government radio operators alike.

The AFD Cross-Band Test is a unique opportunity to test two-way communications between military and amateur radio stations, as authorized under FCC Part 97 rules. These tests provide opportunities and challenges for radio operators to demonstrate individual technical skills in a tightly controlled exercise in which military stations will transmit on selected military frequencies and will announce the specific amateur radio frequencies being monitored.

The schedule of military/government stations taking part in the Armed Forces Day Cross-Band Test and information on the AFD message is available on the MARS website.

Complete the request form to obtain a QSL card.

ARRL News (Continued)

Bill Introduced to Designate April 18, 2022, as National Amateur Radio Operators Day

Arizona Congresswoman Debbie Lesko has reintroduced a resolution with bipartisan support to designate April 18, 2022, as National Amateur Radio Operators Day. Introduced on April 19, the measure recognizes the important contributions amateur radio operators have made. She introduced a similar bill in the last Congress.

"Throughout history, amateur radio operators have provided invaluable services to our communities," Lesko said in a news release. "I am proud to reintroduce this resolution to honor the important contributions amateur radio operators have made in Arizona and across our nation. Amateur radio has brought people together and has provided critical emergency communications during natural disasters. Amateur radio is a vital part of our nation's communications infrastructure."

Lesko said she was initially approached to introduce the resolution during the last Congress by then-12-year-old Raymond Anderson, N7KCB, of Peoria, Arizona.

As Lesko's resolution notes, the International Amateur Radio Union (IARU) designates each April 18 as World Amateur Radio Day, to recognize the founding of the IARU in 1925. She said her resolution would recognize the amateur radio community with a national day in the US. The resolution cites the Amateur Radio Emergency Service (ARES®) for providing "invaluable emergency communications services following recent natural disasters, including, but not limited to, helping coordinate disaster relief efforts following Hurricanes Katrina, Wilma, and Maria and other extreme weather disasters."

ARRL President Rick Roderick, K5UR, praised the initiative. "The voluntary contributions of America's approximately 774,000 amateur radio operators in support of the critical communications infrastructure of the United States are rarely recognized," Roderick said. "Congresswoman Lesko's resolution is an important first step in correcting that oversight. On behalf of ARRL's members and all amateur radio operators, I commend Congresswoman Lesko for her support of amateur radio and her leadership in bringing deserved recognition of the 106+ years of amateur radio's substantial influence on the development of modern communications."

Lesko was joined by members of both parties as original cosponsors of the resolution. The list includes Representatives Robert Aderholt of Alabama; Julia Brownley of California; Kat Cammack of Florida; Paul Gosar of Arizona; Glenn Grothman, of Wisconsin; Vicky Hartzler of Missouri; Ashley Hinson of Iowa; Chris Jacobs of New York; Kaiali'i Kahele of Hawaii; Mike Kelly of Pennsylvania; Doug LaMalfa of California, and Daniel Webster of Florida.

ARRL News (Continued)

QST Congratulates...

Bill Talanian, W1UUQ, who was honored to have the Santa Barbara Radio Club's (SBARC) primary communications facility, K6TZ, dedicated to him. The dedication recognized Talanian's efforts as club trustee for over 40 years, during which he forged partnerships with government agencies and helped obtain funding to build the facility. SBARC operates six linked communications sites throughout Santa Barbara County, California, each providing analog and digital amateur capabilities while gathering data for educators, researchers, and public safety groups from sensors, receivers, and webcams.

ARRL News (Continued)

Rick Lindquist, WW1ME, ww1me@arrl.org

Happenings

ARRL to Extend Field Day Rule Waivers from 2020, Add Class D and E Power Limit

The COVID-19 pandemic-modified ARRL Field Day rules from 2020 will continue this June with a power limit imposed on Class D (Home Stations) and Class E (Home Stations — Emergency Power) participants. February's news from the ARRL Board's Programs and Services Committee came as many clubs and groups were starting preparations for Field Day in earnest. Field Day 2021 takes place June 26 – 27.

"This early decision should alleviate any hesitancy that radio clubs and individual Field Day participants may have with their planning for the event," said ARRL Contest Program Manager Paul Bourque, N1SFE.

For Field Day 2021, Class D stations may work all other Field Day stations, including other Class D stations, for points. This year, however, Class D and Class E stations will be limited to 150 W PEP output.

For Field Day 2021, an aggregate club score will be published, as was done last year. The aggregate score will be a sum of all individual entries who attributed their score to that of a specific club.

ARRL Field Day is one of the biggest events on the amateur radio calendar. Last summer, a record 10,213 entries were received.

"With the greater flexibility afforded by the rules waivers, individuals and groups will still be able to participate in Field Day, while still staying within any public health recommendations or requirements," Bourque said.

The preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules, found elsewhere in this issue, include instructions on how to submit entries, which must be submitted or postmarked by Tuesday, July 27, 2021.

WRTC 2022 Postponed Until 2023

World Radiosport Team Championship 2022 (WRTC 2022) has been postponed for 1 year. At the WRTC 2022 Association Assembly on April 23, the event's Organizing Committee decided to postpone WRTC 2022 until 2023 after consulting with the WRTC Sanctioning Committee. "There have been no changes in the qualification process or to the overall structure of the event and its sponsoring committee," said the announcement from WRTC 2022 Organizing Committee President Carlo de Mari, IK1HJS. "A detailed report on the qualification standings will be prepared and released at a later date. In consideration of the worldwide public health challenges from the COVID-19 pandemic, we believe our decision is reasonable." Further announcements will be forthcoming as soon as new arrangements for the event have been made.

ARRL News (Continued)

What to Expect During the Rising Years of Solar Cycle 25

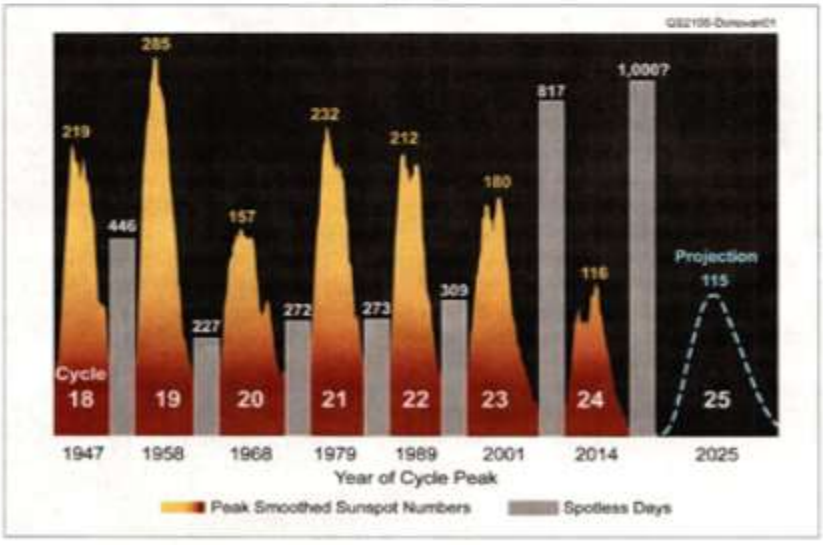
Some predictions for how the next 4 years of the solar cycle will affect HF propagation.

Frank Donovan, W3LPL

Solar Cycle 25 is affecting HF propagation in unexpected ways since we reached the solar minimum of Cycle 24 in December 2019. The next 4 years, which include Cycle 25's rise to solar maximum, will provide many opportunities to enjoy greatly improved HF DX propagation, especially with effective antennas for 30 through 10 meters, which benefit most from increasing sunspot activity.

My own experience on HF began 1 year after Cycle 19's solar maximum in 1958. However, I wasn't able to participate in the best HF propagation in history because I couldn't make contacts beyond a few hundred miles on 80 meters with my 35-foot wire antenna. Listening to the locals snagging DX all over the world on 10 meters convinced me that I, too, could enjoy DXing if I had better antennas. Several local hams helped me erect some simple horizontal dipoles and soon I was making contacts around the globe, earning DXCC in just 1 year.

After experiencing several solar cycles, I began to understand that each one has its own personality, and they always defy prediction. Higher smoothed



Solar cycles since 1945. This chart illustrates downward trends in sunspot activity, upward trends in spotless days, double peaks at solar maximum, and the National Oceanic and Atmospheric Administration's (NOAA) Solar Cycle 25 forecast as a blue dashed line. [Graphic courtesy of the Sunspot Index and Long-term Solar Observations, Royal Observatory of Belgium]

ARRL News (Continued)

Table 1

Solar Cycle	SSN at 12 Months	SSN at 24 Months	SSN at 36 Months	Months to Solar Max.	Solar Cycle Duration in Years
18	40	112	204	39	10.2
19	33	168	256	47	10.5
20	28	96	134	49	11.4
21	29	99	193	45	10.5
22	45	161	210	38	9.9
23	34	93	143	63	12.3
24	13	42	92	64	11.0

Source: Sunspot Index and Long-term Solar Observations, Royal Observatory of Belgium

Table 2

Solar Max. Year	Solar Min. Year	Spotless Days Between Solar Cycles	Last Month with 10+ Spotless Days Post-Min.
1947	1954	446	8 months
1958	1964	227	9 months
1968	1976	272	8 months
1979	1986	273	5 months
1989	1996	309	11 months
2001	2008	817	18 months
2014	2019	1,000?	14 months so far

Source: Sunspot Index and Long-term Solar Observations, Royal Observatory of Belgium

sunspot numbers (SSNs) indicate improved HF propagation, and a large number of spotless days (with no sunspots at all) often indicate a precursor of a weak solar cycle to follow.

Forecasts and Trends

At least 70 forecasts for Cycle 25 have been published in scientific journals, predicting everything from a very weak to a very strong cycle. The respected National Oceanic and Atmospheric Administration (NOAA) forecast, as well as most other forecasts, anticipates Cycle 25 to be similar to Cycle 24. Referring to Tables 1 and 2, Cycle 24 had low SSNs during its rise to solar maximum compared to other cycles, as evidenced by its SSNs at 12, 24, and 36 months after solar minimum. Cycle 24 took 64 months to reach solar maximum — longer than any cycle since 1945. The sun recently produced more spotless days than usual during the thirteenth and fourteenth months after solar minimum. The Sunspot Index and Long-term Solar Observations (SILSO) World Data Center at the Royal Observatory of Belgium anticipates up to 1,024 spotless days before the transition to Cycle 25 completes, likely before the end of 2021.

A Brief Introduction to Cycle 25

Cycle 25 produced 180 spotless days and some occasional weak sunspots through October 2020. The weak sunspots had little effect on HF DX propagation, as evidenced by the 10.7-centimeter solar flux index (SFI), never exceeding 75 SFI until late October. SFI is the most widely used short-term indicator of increased sunspot activity that improves HF propagation.

Fortuitously, 17 sunspots suddenly appeared in a new solar region just as the November CQ World Wide CW DX Contest began, an exceptionally rare event for the opening year of any solar cycle. The SFI reached 110 during the first day of the contest — the highest in more than 3 years — and stayed above

ARRL News (Continued)

100 through early December 2020. Enhanced sunspot activity greatly improved propagation throughout the contest, providing worldwide 15-meter propagation from sunrise until sunset, and opening 10 meters to most of the world for many hours during both contest days. Excellent 30- through 10-meter DX propagation occurred for many hours every day until the active region rotated to the back of the sun on December 6. The region again rotated onto the sun's visible disk in late December, enhancing 30- through 12-meter DX propagation for several hours a day through early January 2021. The region made a rare third appearance in late January, but with very low sunspot activity.

A Slow Start in 2021

The SFI hasn't exceeded 78 and has been mostly below 74 since January 6, much lower than the corresponding months of Cycle 24. Only a few weak sunspots having little effect on HF propagation have appeared from early January through at least March 7, 2021. No sunspots showed for 20 days in a row from January 28 to February 17, which was unusual during the corresponding months of any solar cycle.

Cycle 25 sunspots strong enough to improve HF propagation have so far appeared only in the sun's southern hemisphere, a condition known as hemispheric asymmetry, which has caused double peaks during every solar maximum since 1958. Based on similar weak solar cycles, Cycle 25 is likely to rise more rapidly later this year when the more active solar southern hemisphere influences increased sunspot activity in the northern hemisphere.

Improved Propagation This Fall

The bands 160 – 40 meters are likely to remain unchanged, while 30 meters should improve during nighttime hours, as should 20 meters during the hours after sunset. Seventeen meters is likely to greatly improve, while 15 meters is likely to have more frequent excellent DX propagation, interspersed with weaker propagation. DX on 12 and 10 meters will probably remain spotty and unreliable, but look for 6-meter sporadic-E propagation every day during June and July in northern hemisphere temperate zones, owing to infrequent geomagnetic disturbances in the early years of Cycle 25 and low geomagnetic activity typical of June and July.

Improving Propagation in 2022 and Beyond

Improved propagation in 2022 will depend on upward trending sunspot activity during 2021. Propagation improvement during 2023 similarly depends on increasing sunspot activity during 2022. If the SFI persists below 90 through December 2021, then propagation should improve gradually until a solar maximum weaker than Cycle 24's arrives in 2025. If the SFI persists above 100 through December, then propagation is likely to rapidly improve until a solar maximum similar to Cycle 24's arrives in 2025. If the SFI persists above 125 through December, then propagation is likely to improve more rapidly until a solar maximum stronger than Cycle 24's arrives in 2025.

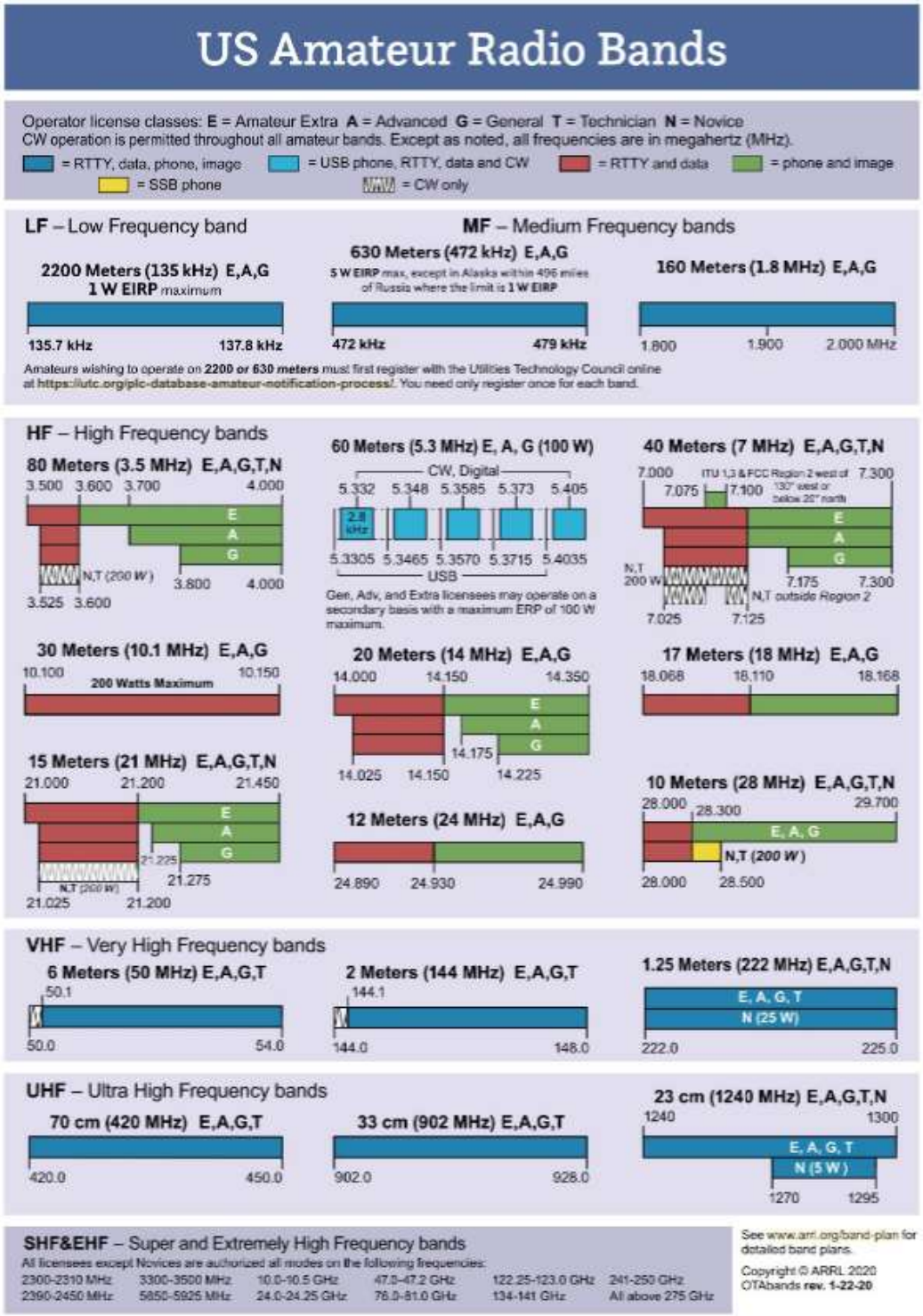
Be Prepared for Cycle 25

Prepare to capitalize on propagation opportunities when they're available. It's crucial to have effective antennas for 30 through 10 meters, the bands that benefit the most from increased sunspot activity. Even simple antennas such as horizontal dipoles can be very effective DX antennas. Learn to use propagation tools such as the Reverse Beacon Network (RBN) that help you identify every DX opportunity, no matter how brief. Proficiency with popular digital modes such as FT8 will greatly add to your DXing success. Most importantly, enjoy the greatly improved DXing opportunities during Cycle 25. They've been a long time coming!

Frank Donovan, W3LPL, began his ham radio journey at 12 years old, during the W1OP/1 Providence Radio Association 1959 ARRL Field Day. His multioperator, multitransmitter DX contest teams have completed more than one million contacts in the CQWW and ARRL DX contests. He retired 10 years ago as a Chief Engineer at General Dynamics, after a 45-year career in electronics and systems engineering. Frank can be reached at **donovanf@erols.com**.

For updates to this article, see the *QST* Feedback page at www.arrl.org/feedback.

US Amateur Radio Bands



W1AW Schedule

W1AW Schedule

PAC	MTN	CENT	EAST	UTC	MON	TUE	WED	THU	FRI
6 AM	7 AM	8 AM	9 AM	1400		FAST CODE	SLOW CODE	FAST CODE	SLOW CODE
7 AM-1 PM	8 AM-2 PM	9 AM-3 PM	10 AM-4 PM	1500-1700 1800-2045	VISITING OPERATOR TIME (12 PM-1 PM CLOSED FOR LUNCH)				
1 PM	2 PM	3 PM	4 PM	2100	FAST CODE	SLOW CODE	FAST CODE	SLOW CODE	FAST CODE
2 PM	3 PM	4 PM	5 PM	2200	CODE BULLETIN				
3 PM	4 PM	5 PM	6 PM	2300	DIGITAL BULLETIN				
4 PM	5 PM	6 PM	7 PM	0000	SLOW CODE	FAST CODE	SLOW CODE	FAST CODE	SLOW CODE
5 PM	6 PM	7 PM	8 PM	0100	CODE BULLETIN				
6 PM	7 PM	8 PM	9 PM	0200	DIGITAL BULLETIN				
6:45 PM	7:45 PM	8:45 PM	9:45 PM	0245	VOICE BULLETIN				
7 PM	8 PM	9 PM	10 PM	0300	FAST CODE	SLOW CODE	FAST CODE	SLOW CODE	FAST CODE
8 PM	9 PM	10 PM	11 PM	0400	CODE BULLETIN				

W1AW's schedule is at the same local time throughout the year. From the second Sunday in March to the first Sunday in November, UTC = Eastern US time + 4 hours. For the rest of the year, UTC = Eastern US time + 5 hours.

♦ Morse code transmissions: Frequencies are 1.8025, 3.5815, 7.0475, 14.0475, 18.0975, 21.0675, 28.0675, 50.350, and 147.555 MHz.

Slow Code = practice sent at 5, 7½, 10, 13, and 15 WPM.

Fast Code = practice sent at 35, 30, 25, 20, 15, 13, and 10 WPM.

Code bulletins are sent at 18 WPM.

For more information, visit us at
www.arrl.org/w1aw

♦ W1AW Qualifying Runs are sent on the same frequencies as the Morse code transmissions. West Coast qualifying runs are transmitted by various West Coast stations on CW frequencies that are normally used by W1AW, in addition to 3590 kHz, at various times. Underline 1 minute of the highest speed you copied, certify that your copy was made without aid, and send it to ARRL for grading. Please include your name, call sign (if any), and complete mailing address. Fees: $10 for a certificate, $7.50 for endorsements.

♦ Digital transmissions: Frequencies are 3.5975, 7.095, 14.095, 18.1025, 21.095, 28.095, 50.350, and 147.555 MHz.

Bulletins are sent using 45.45-baud Baudot, PSK31 in BPSK mode, and MFSK16 on a daily revolving schedule.

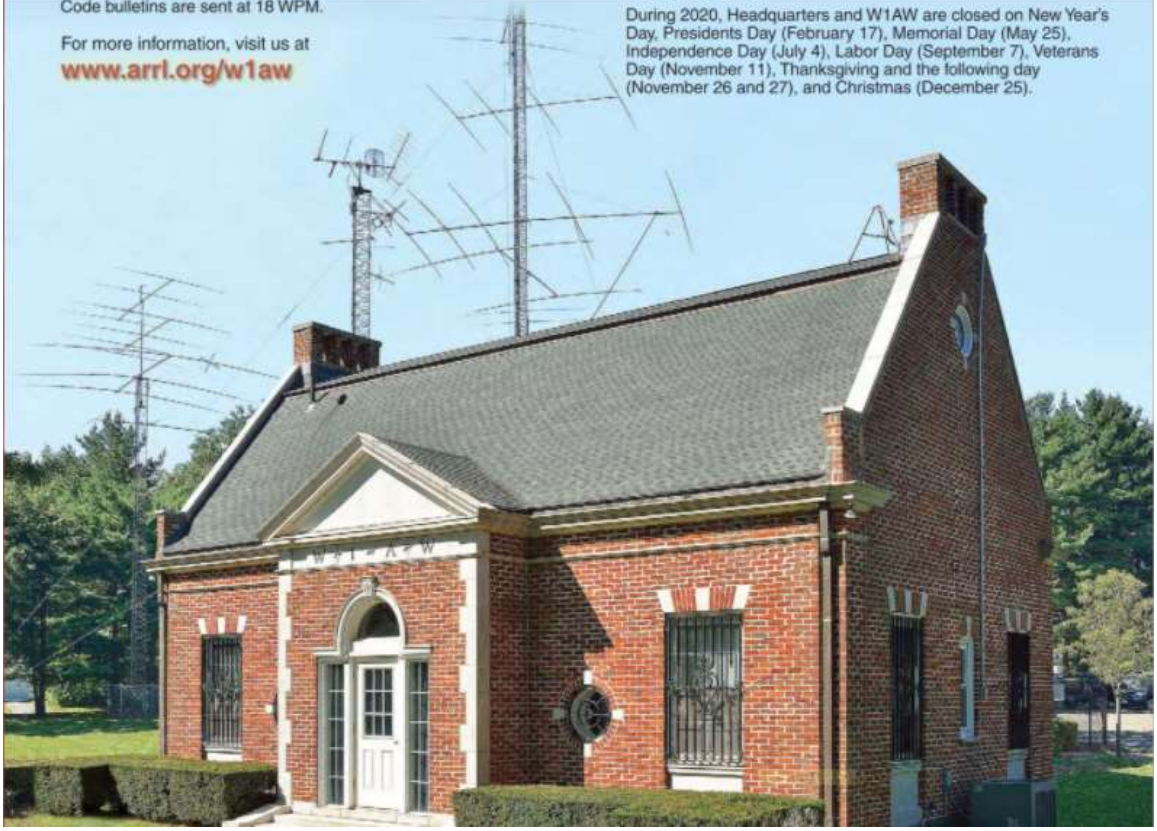
Keplerian elements for many amateur satellites will be sent on the regular digital frequencies on Tuesdays and Fridays at 6:30 PM Eastern time using Baudot and PSK31.

♦ Voice transmissions: Frequencies are 1.855, 3.99, 7.29, 14.29, 18.16, 21.39, 28.59, 50.350, and 147.555 MHz. Voice transmissions on 7.290 MHz are in AM double sideband, full carrier.

♦ Notes: On Fridays, UTC, a DX bulletin replaces the regular bulletins. W1AW is open to visitors 10 AM to noon and 1 PM to 3:45 PM Monday through Friday. FCC-licensed amateurs may operate the station during that time. Be sure to bring your current FCC amateur license or a photocopy. In a communication emergency, monitor W1AW for special bulletins as follows: voice on the hour, teleprinter at 15 minutes past the hour, and CW on the half hour.

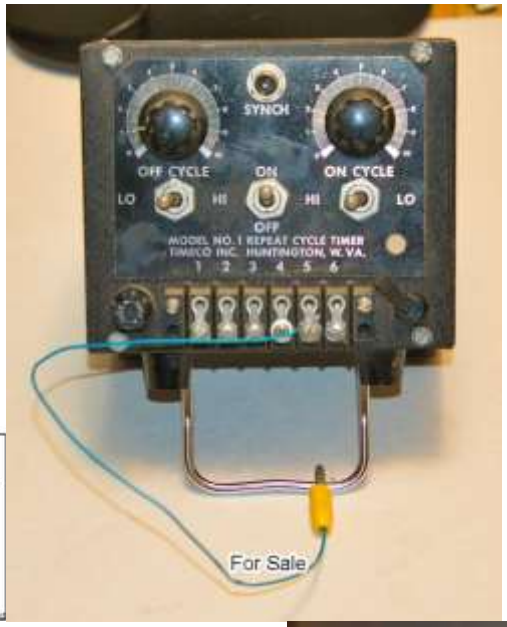
W1AW code practice and CW/digital/phone bulletin transmission audio is also available real-time via the *EchoLink Conference Server* W1AWBDCT. The conference server runs concurrently with the regularly scheduled station transmissions. The W1AW Qualifying Run texts can also be copied via the EchoLink Conference Server.

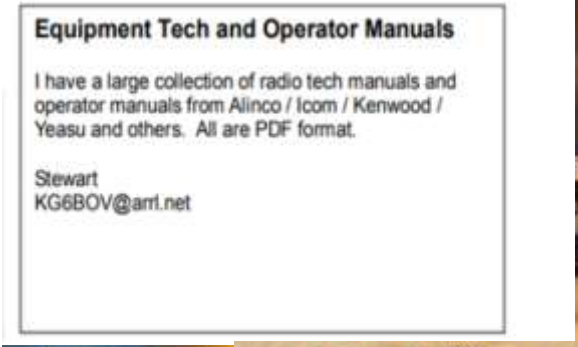
During 2020, Headquarters and W1AW are closed on New Year's Day, Presidents Day (February 17), Memorial Day (May 25), Independence Day (July 4), Labor Day (September 7), Veterans Day (November 11), Thanksgiving and the following day (November 26 and 27), and Christmas (December 25).



Wanted and For Sale Ads

Denney N6HV: One roll, 250 feet 14/2 clear speaker wire $30.00, [new, still in wrapper, old stock]. Various rolls of wire, big rolls; 8 gauge, shielded single pair and other gauges, good prices. Three-quarter-inch wide, flat, heavy, copper-braid, $1.00/ft.; great for grounding.
Items Given to the Club for Donations: Multimeter, Micronta brand $5.00. HP 1706A oscilloscope, as is, $50. Various lengths of Ethernet cables, $0.25 each. Radio Shack Power Supply, 13.8 volt at 3 amps, $3.00. Swing arm desk lamp includes light bulb and other various items; $5.00 to $25.00. Kenwood TL-922A Linear Amplifier AS IS: All items as shown below: Contact Denney for price.





Wanted and For Sale Ads (Continued)

See Denney N6HV for the following items: (note: all Items have been donated to the club)

Wanted and For Sale Ads (Continued)

See Denney N6HV for the following items: (note: all Items have been donated to the club)

Want and For Sale Ads (Continued)

See Denney N6HV for the following items: (note: all Items except the IC-251A have been donated to the club)

Asking for $75 (It's an all mode 2 meter rig.)

Asking for a $150 donation

Asking for a $100 donation

Want and For Sale Ads (Continued)

See Denney N6HV for the following items: (all the items below have been donated to the club)

Asking for a $10 donation

Asking for a $35 donation

Wanted and For Sale Ads (Continued)

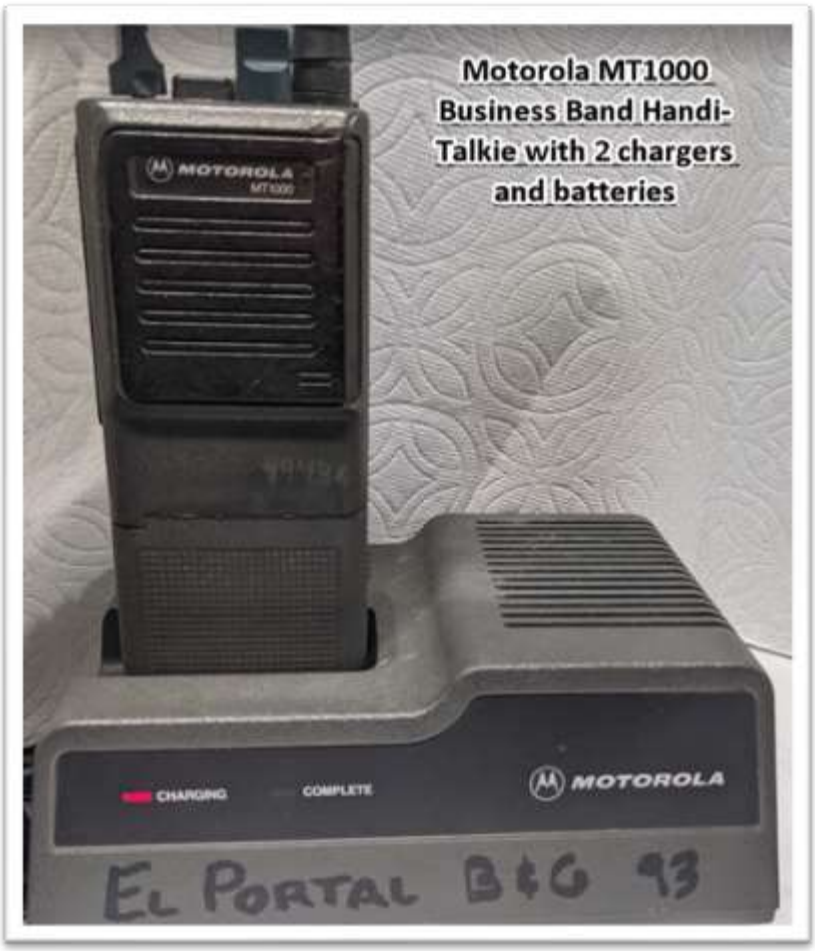
Orv – W6BI – orv.beach@gmail.com

TenTec Omni VI Plus HF Transceiver 160 through 10 with 1.8 kHz, 500 and 250 Hz filters – works fine, receiver recently aligned. With power cable - $450

Wanted and For Sale Ads (Continued)

Wanted and For Sale Ads (Continued)

For Sale Wayne Woodhams (w.wixman@yahoo.com)



Wanted and For Sale Ads (Continued) Wayne Woodhams (w.wixman@yahoo.com)

Wanted and For Sale Ads (Continued)

Five Hammarlund SP-600 Receivers Robert KM6RSS@gmail.com

Jeremy KN6JMD testing the N3FJP logging software for Field Day