This Month's News: Attracting New Members

The August 13th meeting was held at The Dudley House at 19:00 and was conducted by our club President Robert KM6RSS. Our topic was AREDN, presented by Orv Beach, W6BI. One member is installing the Ubiquiti Powerbeam PBE-M5-300 and the Mikrotik hAP AC Lite in his shack today. We had 22 attend the meeting, with two visitors. Two people joined the club at the meeting. Both donated and "freebie" items were available and several items were purchased, much to the delight of our Club Inventory Manager, Denney Pistole N6HV. Many thanks to all who brought refreshments!

The September 10th meeting will be held (we hope) at The Dudley House at 19:00 and will be conducted by our club President Robert KM6RSS. Our topic will be "Boy Scout Radio Merit Badge", presented by Tim Tenopir KN6JGB. Visitors are always welcome to attend our meetings. We will continue to observe all Ventura County Health Rules and Regulations at our meetings; masks are required as of the date of this publication and hand sanitizer is available at the door.

The Inside Story

Message from the President

The Prez Sez,

Last month's column was focused on three goals to further our club's mission statement of "promoting interest in amateur radio" and I wrote about implementing three areas for the club: Infrastructure, membership committee and reviewing and improving our bylaws. This month I am providing an update on the progress we have made.

Infrastructure:

Our Secretary, Treasurer, Webmaster and Membership coordinator are working together to identify and close process gaps. We have reviewed our **current website** and determined new elements that will help to simplify the **membership application/renewal process**. A website review and proposal committee has met and reviewed several options. A new website is being built and should be available a few days after this edition is published. It will use the same host and address as before but have a menu system and allow payment of dues and donations via PayPal.

Membership:

Bob Brodie KJ6AAE and Pedro K6MIL have met, formulated a detailed plan to identify the current procedures and have presented their findings at the August 13th meeting. Several deliverables were identified and many completed (Verified active PayPal account, new website in progress, personal welcoming message from the president. short history of the club, groups.io user's guide, etc.).

(Continued on next page)

Club Officers	And Keyer	Contributors
President	Robert Shank	KM6RSS
Vice-President	Clem Alberts	KM6OKZ
Secretary	Pedro Morillas	K6MIL
Treasurer	John Gartman	W6JPG
Board Member	Richard Abbey	WB6AEW
Board Member*	Dave Schmidt	AI6VX
Board Member	Mark Swaney	KD6ASL
Program Manager	Open	Please Volunteer
Equipment Mgr.	Denney Pistole	N6HV
Refreshments	Linda Shank	
Facilities	Richard Abbey	WB6AEW
Keyer Editor	Robert Shank	KM6RSS
Webmaster	Robert Shank	KM6RSS
Domain	Phil Cohen	WA6BUZ
Membership	Bob Brodie	KJ6AAE
License Trustee	Dave Schmidt	AI6VX
QSL Manager	Ben Holmes	K6QV
Safety Officer	Mark Vodon	KI6PTE
PIO/Trivia	Dana Wentling	KG6WXE
Columnist	Reese West	KQ6TT
Columnist	Steve Noll	WA6EJO
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

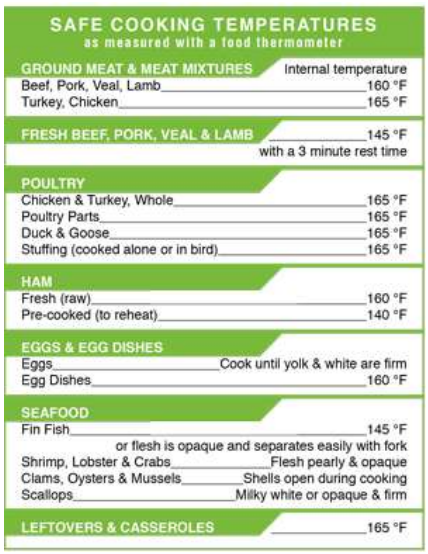
K6MEP holds general membership meetings at 7:00 PM on the 2nd Friday of each month (except December). Dues are $20 per year.

Message from the President (Continued)

Bylaws:
A committee has been formed, composed of Mark Swaney KD6ASL, Clement KM6OKZ and Pedro K6MIL, to review and improve our club's ability to function under governmental restrictions (such as COVID) as well as modernize the language used. Mark Swaney has created a detailed document looking at adding to and/or clarifying our rules to allow us to conduct remote, virtual meetings of the board and club, as well as reviewing our elections process. As of the date of this publication, no meeting of the committee has taken place. As the world continues to have more and more global connections, with the resulting spreading of sickness, we need to be prepared.

Social:
Dana Wentling and others are organizing a club picnic and breakfast; the picnic is scheduled for Saturday September 11th at the Dudley House from 11 to 3 and the breakfast is scheduled for September 18th at Denny's in Camarillo at 8:30 AM. Polls have been created to count the number of those who will be attending the club picnic and those who plan on attending the club breakfast. Please respond to the polls so that Dana and the activities committee are prepared.

I like to end my message to our readers with a safety share and this month's topic is "Outdoor Cooking Safety Tips for the Summer" (By Justin Kniley, Region 2 FEMA Corps Member https://content.govdelivery.com/landing_pages/28597/1a05f38e2b4b830c56456de720a03408)
Does munching on juicy watermelon at a summer barbeque, toasting marshmallows by a campfire, or breathing in the sweet aroma of grass at picnics spark fond memories? For many, quintessential summer and fall activities involve sharing food outside with family and friends. Taking care to follow basic food and grill safety tips can prevent a big headache (or stomachache) from ill-prepared food and fires.



Food Safety:
While the large amount of preparation that goes into gathering all the right ingredients and cooking supplies for a big meal might lead you to feel fully prepared, picture this: you've just enjoyed an afternoon tossing Frisbees in a cool breeze, paddling on a sparkling lake, and hiking through sun-dappled trees and you're ready to put the final touches on a perfect day with a classic barbeque. Alas, you pull out some lukewarm potato salad and greyish meat from your cooler and realize that you forgot to add ice and move it out of the sun's reach, ending that otherwise stellar day on a sour note. Go beyond just preparing ingredients and follow these tips to be SOOPeR prepared! (Continued on Next Page).

Message from the President (Continued)

Sanitation: Wash your fruits and vegetables, hands, counters, and cooking utensils before and after use. Pack water, soap, and moist towelettes to keep your hands clean.

Organization: Keep raw meat, poultry, and seafood separate to prevent cross-contamination—don't reuse utensils or dishes that have handled raw meat without first washing in hot, soapy water.

Operation: If cooking on a grill, make sure to follow proper safety protocols—more on that below.

Preparation: When preparing raw meat, make sure to cook it to a safe internal temperature using a food thermometer. Keep cooked food hot by moving it to the side of the grill rack or covering it in foil.

Refrigeration: Keep perishable foods in a shaded, closed cooler with ice until ready to eat. Don't leave it out for more than 1-2 hours as it could attract unwanted wildlife and increase the speed that food spoils—bacteria grow between 40°F-140°F and at a faster rate when directly exposed to sunlight and higher air temperatures. Don't forget, when in doubt, throw it out!

Grill Safety: Regardless of whether you're a novice or a grizzled iron chef, cooking outdoors increases the risk of fire. Each year, tens of millions of dollars in property damage results from almost 9,000 grill fires at U.S. homes. Following these basic tips will simultaneously help keep people and the environment safe while keeping you off the front page of your local newspaper.

Before you begin, make sure to check local rules about the use of fire pits, campfires, and barbeques at your home or campsite. Don't wear loose clothing as it has a higher chance of catching alight while cooking.

Build campfires at least 15 feet away from tent walls, cabins, shrubs, or other flammable materials to reduce the risk of starting a wildfire.

Remember the three-foot rule: Grills should be no closer than three feet to a building, children and pets should stay at least three feet away from an active grill, and people should stay three feet away from an active campfire.

Mechanical failure and malfunction, which includes flammable liquids, gases, and accelerants, is the largest cause of grill fires on residential properties. Routinely check grill components like propane tank hoses to ensure they are safely operational.

Only light the grill when the lid is fully open with grilling lighter fluid. Use a metal screen over wood-burning fires to keep sparks from floating out.

Stay near the grill the entire time you're cooking and never leave the site until the flames—whether from a campfire or a grill—are gone. Have a fire extinguisher nearby to quickly stop any fires from spreading. (Continued on next page)

Message from the President (Continued)

Remember to clean the grill thoroughly to remove grease build-up after use—if using charcoal, cool down the used coals in a metal can covered by a lid.

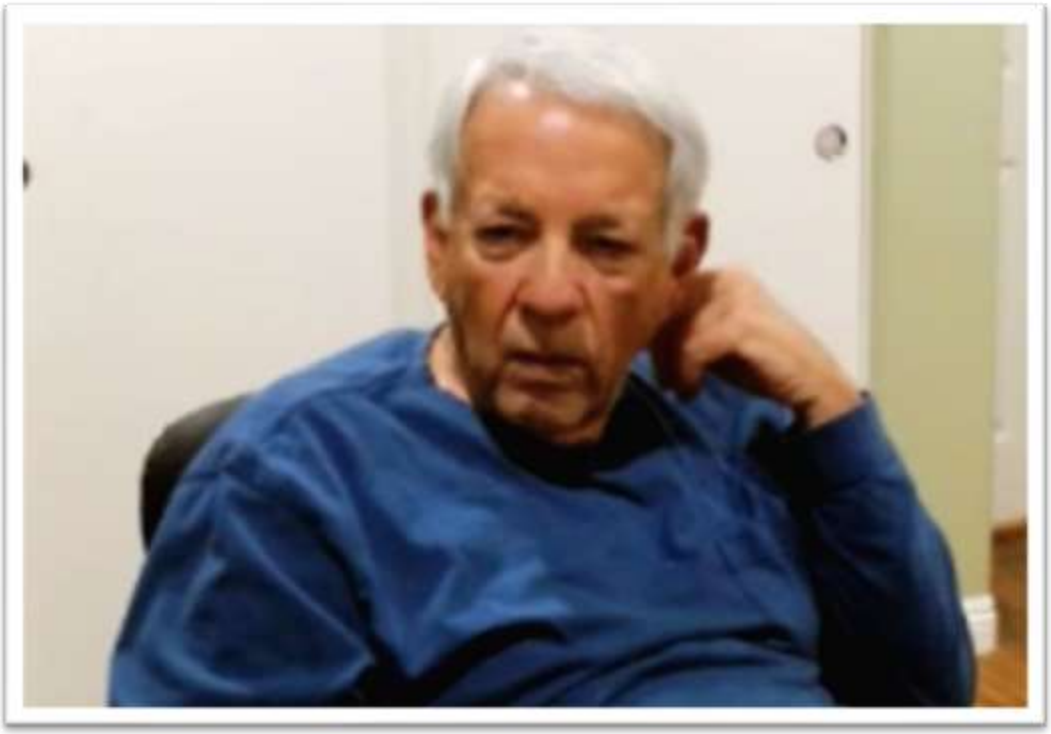
Lastly, don't let inclement weather dampen your day—check the weather forecast in advance and monitor developments to figure out when to reschedule plans or take shelter. If forced to relocate, don't continue to cook on the grill inside or in an enclosed space as charcoal and gas grills produce carbon monoxide gas.

Sharing meals outdoors is a great way to socialize with friends and family in a reduced-risk setting for spreading COVID-19. Implement these safety tips to ensure that your fun festivities proceed smoothly and lead to more happy memories.

73,
Robert KM6RSS

Message from the Secretary Pedro K6MIL

New Members**: Jamie Malos** and **Linda Shank** joined the VCARC at the August meeting. We extend you a warm welcome and offer our assistance as you journey through the ham radio world. Please do not hesitate to reach out to us for anything; we are always happy to help.
The Board continues to work towards modernizing our systems while maintaining the traditions that have kept the Club meaningful through its history. We are pleased to mention that a new website will be ready to go live soon. In addition to updating the "behind the scenes" coding software to more current, simpler, and open programming technology, the look and feel contain a combination of the former functions plus several other easily access to information of mutual interests.
We think one of the important features included in the new website will be a "PayPal" button that will link the user directly to the Club's PayPal account, allowing the individual to pay his/her Club Dues as well as making any donations/payments for club items acquired during our meetings or as published in The Keyer. The funds will be electronically transferred to our Club's bank account. Accordingly, PayPal will send you an email notification of your payment. Currently you can send money from your PayPal account by addressing/directing the funds to our Club's email address K6MEP@QSL.net . Remember you must log in to your PayPal account first.
To make things easier, we will email an invoice to you this October to electronically pay for your 2022 dues. Of course, our Treasurer will always accept your personal check or cash if you prefer.
73,
Pedro K6MIL



Message from the Equipment Manager Denney N6HV

On August 28th, as your club material CZAR, I took some equipment that was donated to the club to the TRW radio club swap meet. Things sold surprisingly well. If you are interested in going to the swap meet, it is held on the last Saturday of the month.

The Swap Meet is held at One Space Park in the city of Redondo Park. Just type in TRW Swap Meet into Google Maps.

I meet several club members at the swap meet and would like to thank Dave AI6VX for his help at the meet. I had a good time and the club did good. But next time I am going to bring a pop-up shade.

Take the ramp of the 405 south on N Aviation past Marine Ave next light onto Go past the in the street and turn parking area. You left side. They will the swap meet area of 7:00 AM.

There were the August swap use more sellers.

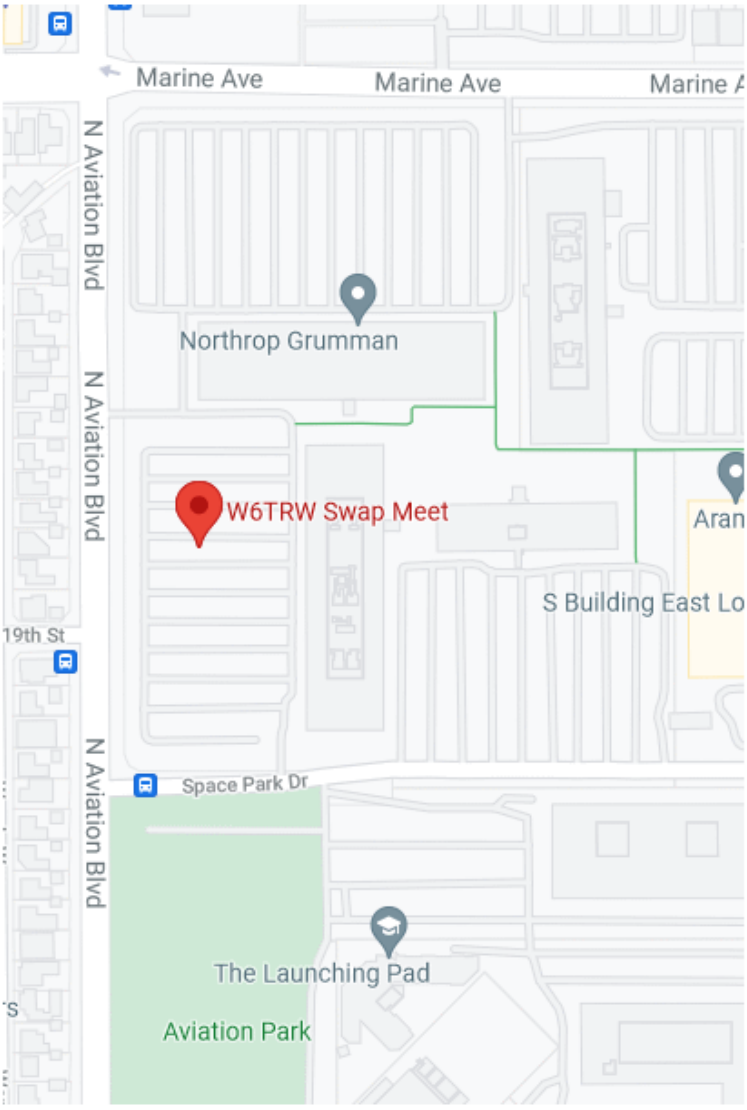
If you want register at the east corner of the you can register on charge for sellers of in free.

If you old stuff or have but can not make it contact me and I haul it down for you

There were at the swap meet. I radios, some 129 and you never show up.

As strange and negotiate the would not think of price and some price.

If you go take a hat, and think to haul your prizes



Rosecrans Ave off (heading south). Go Blvd and go south then turn left at the Space Park Drive. gentlemen standing right into the can only park on the not let buyers into until the start time

plenty of buyers at meet, but they could

to sell you have to trailers at the south swap meet area. Or line. There is a $30.00. Buyers get

cleaning out some something to sell, to Redondo Beach might be able to

a lot of ham radios saw several Drake Hammarlund HQ- know what will

as it is you can try price. Some people offering a lower hams never pay full

wear walking shoes, about taking a dolly back to the car.

I was so busy with the club stuff I did not take any pictures. If you are interested on to https://w6trw.com/w6trw-amateur-radio-club-swap-meet/

Minutes of the August 8th 2021 Board Meeting

- President Robert Shank opened the meeting at 7:15 P.M. via Zoom.
    - Attendees
        - Robert Shank, President
        - Clem Alberts, Vice President
        - Pedro Morillas, Secretary
        - John Gartman, Treasurer
        - Dave Schmidt, Board Member At Large
        - Mark Swaney, Board Member At Large
    - Not in Attendance
        - Richard Abbey, Board Member At Large
- **Member Health and Safety Issues: COVID-19 Delta Variant**
    - The board agreed to hold the August 13th membership meeting as scheduled at The Dudley House.
    - Jeremy Climer will be asked to broadcast the meeting on Zoom.
        - Pedro will contact Jeremy to confirm his attendance. (Follow-up - Jeremy won't be attending the meeting so we won't be able to Zoom the meeting). (Continued on next page)
    - Pedro Morillas will not attend in person but will ask Clem KM6OKZ, our VP, to act as Secretary.
- **Inventory Pricing**
    - It was resolved the items to be sold will be offered to members of VCARC and CVARC during the month of August, at a 20% discount from the suggested prices, before taking to them to the TRW Swap Meet in September.
    - Robert informed the board that some items from Wayne Woodhams' unsold inventory were donated to the Club and will be included in our inventory to be sold.
- **By-Laws**
    - It was resolved Mark Swaney will convene a meeting with the bylaws committee to draft a proposal.
- **Finance and Accounting**;
    - John Gartman presented a detailed historical perspective, outlining the income and expenses occurrences during the last 5 years.
        - Club income is affected by membership dues and miscellaneous sale of donated items.
        - 2021 expenses have been extra ordinarily high due to one-time contributions approved by the Board. Bank reserves are expected to remain neutral.
        - John Gartman is exploring software accounting (ZipBooks) programs that might meet the club's requirements. He will notify the board of his recommendations.
        - Members who attend the social events, such as picnics and others, will be encouraged to bring potluck and make a donation for any "group-buy" (Mark Ortega KI6YLH cooked) food in the future . (Continued on next page)

Minutes of the August 8th 2021 Board Meeting (Continued)

- The secretary was instructed to inquire and resolve why PayPal isn't including the person's name when deposits are made to the Club's bank account.

- **Board Meetings**
  - It was resolve future Board Meetings will be conducted via Zoom at a date prior to the General Membership Meetings.
    - The decision has to do with interruptions and lack of time under the previous format.
    - The Board meeting minutes will be published in the Keyer and will be discussed with any member upon request.
    - The next Board Meeting was tentatively scheduled for Sunday, September 5, 2021.
- The meeting was adjourned at 8:55 PM

K6MEP August 13th, 2021 General Meeting Minutes

MEETING LOCATION: The Dudley House 197 N Ashwood Ave, Ventura, CA93003

K6MEP August 13th, 2021 General Meeting Minutes (Continued)

OFFICER ATTENDEES

OFFICE	LAST	FIRST	CALL SIGN	PRESENT
PRESIDENT	SHANK	ROBERT	KM6RSS	X
VP	ALBERTS	CLEMENT	KM6OKZ	X
SECRETARY	MORILLAS	PEDRO	KE6MIL	
TREASURER	GARTMAN	JOHN	W6JPG	X
BOARD	ABBEY	RICHARD	WB6AEW	
BOARD	SCHMIDT	DAVE	AI6VX	X
BOARD	SWANEY	MARK	KD6ASL	X

CALL TO ORDER 19:30

Attendance: 22 members, 4 guests (see secretary's roster)

Meeting call to order by President Robert Shank KM6RSS

Welcome and Flag salute. Mark Swaney led the club members in the flag salute

Introductions

Everyone introduced themselves and guests were recognized and welcome. Guests were Karen Snyder (who is working on her technician's license), Jamie Malos (James Norton's fiancée), Orv Beach W6BI (tonight's presenter) and Bill Dufrain. Dana Wentling informed the members about a planned social breakfast meeting September 18 at Denny's in Camarillo at 8:30 AM. Robert (Continued on next page)

K6MEP August 13th, 2021 General Meeting Minutes (Continued)

asked if there were any new members present to be recognized since our last meeting; there were none.

Old Business:

Secretary's Report

Clem Alberts, Vice President read the 8/8/2021 Board meeting minutes to the membership as the Secretary was absent. The minutes were approved as read and will appear in the September Keyer, along with the General Membership Meeting Minutes.

Treasurer's Report

John Gartman provided the treasurer's report

Monday Night Net Contest Report

Robert announced that as of 8/9/21, we've had 575 check-ins with an 18.55 average and the following members have perfect attendance (31 weeks in a row): Dave, AI6VX, Rod KA6GSU, Robert KM6RSS, and Denney N6HV.

Bob Brodie, Membership Chairman, reported on progress of a new Welcome Package to be provided to new members

Status of the club's inventory (Denney)

Denney generally discussed the inventory and mentioned that he brought several items for donations tonight (on the donation table). Robert also brought a box of "freebies" located on the table across the room from the donation table.

Club picnic and breakfast get-togethers

Dana already mentioned the breakfast is on Saturday 18 at Denny's Camarillo at 8:30 AM

New Business

- Two new candidates applied for membership; Jamie Malos and Linda Shank (Robert Shank's wife). Bob Brodie, Pedro Morillas and John Gartman will process the applications and update the membership roster.
- Mark Vodon volunteered for the club's safety manager to coordinate with Bob Brodie and Burt Auerbach.

Donations:

- Bill Dufrain (dufrainw@verizon.net) 805-766-1566 offered the club equipment that once belonged to his father as Bill isn't interested in ham radio.
- Denney will contact Bill and arrange for delivery to Denney's house.

Denney Pistole reminded the members that we need volunteers for the club's Programs manager and DecemberFest coordinator, as well as Field Day 2022.

Presentation:

15 minute break to set up for tonight's speakers (projector and screen)

Introduction of tonight's speaker: Orv Beach W6BI **"AREDN"**.

(Continued on next page)

K6MEP August 13th, 2021 General Meeting Minutes (Continued)

Tonight's speaker is Orv Beach W6BI. He's been messing around with ham radio networking since 2014. He's helped deploy the network's digital radios in Ventura County, the Santa Clarita Valley and the San Fernando Valley.

He's also active in coordinating the build-out and maintenance of the wider ham radio network, which now spans from Goleta south to the Mexican border and east to Las Vegas. He'll show what areas the hamnet covers, what expansions of the network are planned, how to get on it, and what's available on the network to use. He brought a few pieces of equipment for show & tell.

Orv made a great presentation about the subject and took questions from Burt and James.

After the question period was over, Orv was given applause and an honorarium of $50 for his travel expenses. During the equipment removal, Robert discussed the following calendar items to the club:

September Calendar
14: CVARC Radio School
15: Newbie Net
16: K6MEP Monday Night Net and Zoom Meeting
17: ACS/ARES Tuesday Night Net
21: Wings over Camarillo; CVARC Radio School
22: Wings over Camarillo; Newbie Net
23: K6MEP Monday Night Net and Zoom Meeting
24: ACS/ARES Tuesday Night Net
28: CVARC Radio School
29: Newbie Net
30: K6MEP Monday Night Net and Zoom Meeting
31: ACS/ARES Tuesday Night Net **(Continued on next page)**

K6MEP August 13th, 2021 General Meeting Minutes (Continued)

Steve Noll reminded everyone about the 6 meter sprint this weekend.

Robert reminded everyone about next meeting date September 10th, our speaker is Tim Tenopir KN6JGB and the topic is youth in ham radio

Robert thanked members for attendance and acknowledge those who brought refreshments. The attendees were invited to Toppers to socialize

Robert asked for a motion to close the meeting; Mark Swaney seconded, and the club confirmed

The meeting was adjourned at 9:45 PM.

K6MEP Monday Night Net Update

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. Many thanks to PVARC and Paul WD6EBY for hosting our meeting on the repeater. We also have a Zoom meeting following the net at 20:30; see K6MEP.groups.io for details.

The rules are as follows: The person who checks-in to the K6MEP Monday Night Net Contest must hold a valid Amateur Radio License. If a non-member wins, they will be given a two-year membership in the club. The awards consist of $100.00 for first place, $50.00 for second place and $25.00 for third place. In case of ties, the awards will be split equally among the members who qualify for the monetary award.

To give those who are interested in the experience of being part of our Monday Night Net Contest as Control Operators, we've created a sign-up sheet so that all those who would like to get in front of their microphones and lead our nets have a chance. As of the publication date of this newsletter, Pedro KE6MIL, Clem KM6OKZ, Keith W6KME, David AI6VX, Mark Swaney KD6ASL, James Norton KB6JWN, Jeremy KN6JMD and Denney N6HV have given our net excellent examples of proper net etiquette, as well as their gaining a better insight in the lives of those who have checked-in. There are still openings for net control operators, as shown in the table: (Continued on next page)

K6MEP Monday Night Net Update (Continued)

Date	Net Control Operator
6-Sep	David AI6VX
13-Sep	Open; please volunteer to take the net
20-Sep	Burt KA6BJA
27-Sep	Open; please volunteer to take the net
4-Oct	Tim KN6JGB
11-Oct	Open; please volunteer to take the net
18-Oct	Open; please volunteer to take the net
25-Oct	David AI6VX
1-Nov	Open; please volunteer to take the net
8-Nov	Open; please volunteer to take the net
15-Nov	Open; please volunteer to take the net
22-Nov	Open; please volunteer to take the net
29-Nov	Jeremy KN6JMD
6-Dec	David AI6VX and the net contest will be complete after this net is over.

If you would like to volunteer, please contact me with the date you would like and I'll update the list, which is saved to our K6MEP.groups.io website.

As of August 30th, we've held 34 nets and had a total of 620 check-ins including 110 visitor check-ins and an average of 18.24 per night. 4 members have checked in every Monday night for 34 Monday nights in a row. They are Dave AI6VX, Rod KA6GSU, Robert KM6RSS and Denney N6HV. On the next page is the Monday Night Net Contest Totals to Date:

K6MEP Monday Night Net Update (Continued)

	Monday Night Net Contest Totals to Date		
Week #	Date	Total	Visitors
1	1/11/2021	22	4
2	1/18/2021	22	3
3	1/25/2021	22	6
4	2/1/2021	18	3
5	2/8/2021	17	2
6	2/15/2021	18	3
7	2/22/2021	20	4
8	3/1/2021	17	3
9	3/8/2021	26	8
10	3/15/2021	20	5
11	3/22/2021	22	7
12	3/29/2021	17	3
13	4/5/2021	20	7
14	4/12/2021	19	4
15	4/19/2021	18	3
16	4/26/2021	17	4
17	5/3/2021	20	4
18	5/10/2021	13	2
19	5/17/2021	15	1
20	5/24/2021	19	5
21	5/31/2021	16	2
22	6/7/2021	20	3
23	6/14/2021	14	2
24	6/21/2021	23	5
25	6/28/2021	14	1
26	7/5/2021	21	5
27	7/12/2021	19	2
28	7/19/2021	17	2
29	7/26/2021	16	1
30	8/2/2021	17	1
31	8/9/2021	16	1
32	8/16/2021	13	2
33	8/23/2021	16	1
34	8/30/2021	16	1
	Total	620	110

Monday Night Net and Zoom Get Together Wrap Up for 8-30-2-21 by Denney N6HV

The Monday night net was started at 8:00 PM. Denney N6HV, was the net control operator. There were 16 check-ins with two visitors.

It was good to hear Keith W6KME back on the air. Mark Swaney KD6ASL is continuing to play with his FT-891, getting used to it. He has found groups that specialize in the FT-891 to help him. KW6KME reminded us of the September 4th Silent Key picnic. Dave AI6VX helped move his daughter, but took time out to go to the TRW swap meet. Clem KM6OKZ is working on his YL-100 amplifier and had to order a cable to interface it to his new rig. Tim is working with the Boy Scouts and hopes to have some attend our September 10th meeting at the Dudley House. Paul WD6EBY had a question on saving food. Several members chimed in that they use a sealer to save food, especially bulk buys from Costco. The net closed at 8:38.

If you did not join the Zoom get together that is held after the net you miss some good information. KM6RSS is posting a web site overhaul on www.qsl.net/k6mep/shankdesign/. Then we got to talking about software updates to the FT-991. Clem found that his rig's software is out of date. Stu AG6AG explained that there are up to four updates that you have to install. It depends on what was updated last. It seems that you have to update at least the main software and the DSP software or the display doesn't work. He also explained that to update the software you have to turn off the rig and then the power supply. To start the update you turn on the power supply while holding down three buttons. You do not turn on the rig. If you do manage to brick the rig there is a button inside the rig to reset the radio to factory settings. It takes removing some screws to get to the button.

Stu informed the get together that the Hurricane Watch frequencies were 14.325 and 7.268 MHz. Unfortunately solar flares have been knocking out the HF bands the next day.

Stu also mentioned that the WIN4Yaesu program makes updating the software for the FT-991 easier. He showed us some examples of what the program could do. Stu had set his radio and the program up to log his contacts into N1NM, and several other places automatically. It will also enter the contacts into log of the world. The program has a free 30 trial period.

Stu also talked about a program that let you add virtual com ports to your computer. I didn't quite follow that. Contact Stu if you want to get WSJT-X, Omni-Rig and the logging programs to talk to each other.

Then we talked about switching power supplies. A number of low noise switchers were recommended.

Denney N6HV

Thoughts from the West Reese West KQ6TT

MONOPOLES AND DIPOLES

Monopole and dipole antennas are seen everywhere. As a transmitter, power is applied at one end of a conductor, and we expect the current to go to the open circuited end. Also, there are times when high power is applied and there are higher voltages, enough to arc, at the open end, than what is applied. These things are worth the time to be explained.

One of the fundamental laws in electronic theory is that there must be a completed circuit path for currents from any reference point all the way around a path to return to the reference point. In our present topic antennas, the completed path is either up the monopole and through the air to a ground reference structure, or from one of the dipole branches to the other through the air. The current through the air is a displacement current. It is basically a field from electrostatic charges, positive at one point to a negative at the other. The structure is a capacitor. Generally a capacitor has two conductive surfaces very close to each other. In our case, the capacitance value is very small because the surface areas are small and the spacing is very large.

Now that we have a continuous current path, let's take a look at the completed circuit. We have to work with equivalent circuits that behave fairly well, but not with the exact, real circuits because of extreme complexity of the real circuit. So we take a look at equivalent circuits.

If you take any circuit, no matter how complex, and look at the impedance at a single frequency between any two points in the circuit, it can only have two components. There are only two parts to impedance; the loss of the resistive part and the lossless part of a capacitance or an inductance. If you examine the impedance over several frequencies, the impedance becomes more complex, perhaps with both a capacitor and an inductor. This is the usual series resistor, inductor, and capacitor structure you will find used for many antennas. It is only an approximation over a narrow bandwidth. It is very useful for antenna calculation in our usual narrow band allotted ham frequencies. If you double the frequency, the resistive and reactive impedance parts can vary from almost zero to many thousands of ohms. Although useful, the RLC circuit model cannot be used to explain the real behavior of the antenna. The model is for narrow band approximations only.
So what is really going on?

Let's start with an open two wire transmission line. The line has an impedance that is a function of the size and spacing of the wires. It you hold the spacing on one end while keeping the wires straight, and separate the wire so they are in one straight line, you get the dipole antenna. Replace one wire with a ground plane and you get the monopole. As we separated the wires the increasing spacing between the wires caused the capacitance between them to decrease and vary along each point in the wire. This causes the impedance to continuously vary along the length. Just neglect the variation of the inductance. We have enough complexity to examine. Here we start with more approximations. That continuous variation of impedance over length is so difficult to handle even the computer models break it down to a series of short segments to do the math. It is assumed that the more and shorter segments you use with yield greater accuracy.

Let's assume that the equivalent circuit of the antenna has a radiation resistance of fifty ohms. And let's assume that a series RLC equivalent circuit with a Q of fifty is valid. (Continued on next page)

Thoughts from the West Reese West KQ6TT (Continued)

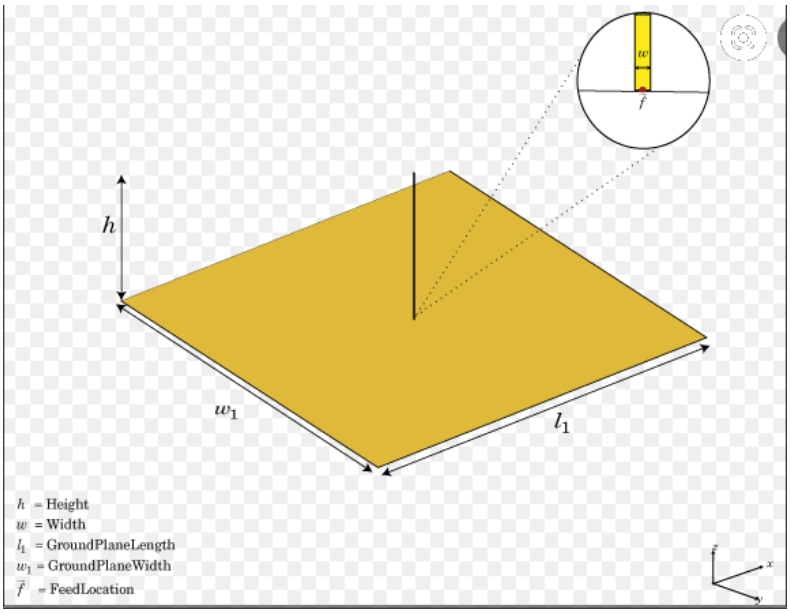
MONOPOLES AND DIPOLES (Continued)

This makes the capacitor and inductor impedances 2500 Ohms if they are in series resonance. These reactive impedances cancel and their combined impedance is zero. The equivalent circuit is just the fifty ohm radiation resistance. If we drive one ampere into the resistance we have fifty volts and fifty watts. But-- one ampere going into 2500 ohms is at 2500 volts? This voltage is present between the capacitor and the inductor. In the analysis, all results are after any transients have died down, and we have steady state. So, in addition to being valid at only a single frequency, we also have to consider what happens over a few cycles of time because all the usual circuit analysis methods, such as these calculations, are steady state only.

So far we have seen that voltages in a circuit can be higher than the applied voltage without a transformer. Next month we can look how such voltages build up over several cycles.

Reese West KQ6TT

July 24, 2021



Amateur Radio Service Lightwave Notes

Steve J. Noll, WA6EJO

First, some background...

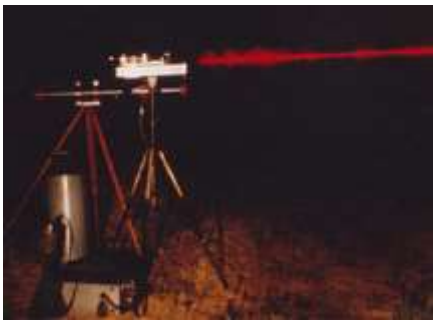
I helped pioneer Amateur Radio Laser communications in the late 1970s. Did some mountaintop VHF/UHF/Microwave contesting with the Los Padres group headed by W6OAL with 6M/2M/220/432/1296/10GHz/474THz (HeNe Laser.)

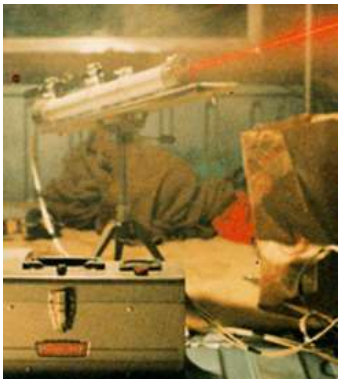
All my Laser records were set with equipment of my construction and all were two-way contacts.

June 9, 1979 15 miles / 24 km 474.1 THz between Mount Pinos and Reyes Peak, Ventura County California. 4 mW HeNe lasers and 931A photomultiplier receivers.

April 22, 1990 18.2 miles / 29.25 km 474.1 THz between South Mountain and Red Mountain, Ventura County. 2.5 mW HeNe lasers and C7138 S10 photomultipliers.

June 9, 1991 57.7 miles / 92.8 km 474.1 THz between Frazier Mountain and Bissell California. 2.5 mW HeNe lasers and C7138 S10 photomultipliers.





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Amateur Radio Service Lightwave Notes (Continued)

What's Happening Today...

Back in the game now that I'm retired after 22 years as senior test engineer at Advanced Photonix where I developed test systems for custom photodiodes and LEDs. (Apparently, I just can't get enough of this stuff!) First step is to figure out what the goal is. Balls-out distance records? Contest points? Technical curiosity? I have no desire to go mountain topping again so distance records are not of interest. I would like to build transceivers that are portable, inexpensive, and easy to use.

What approach to take - Lasers or LEDs?

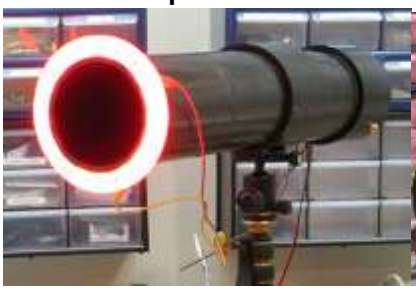
At this point I am focusing on LED light sources. This is because one of my goals is ARRL contest points and the ARRL limits laser power to 5 mW (which I do not object to) with no limit on LED power output. Plus, visible lasers have the hazard of freaking people out. Another goal is to see if two-way optical communications of several miles in full daylight is possible.

Not wanting to reinvent the wheel I am adapting the excellent circuit designs of KA7OEI: http://www.modulatedlight.org/optical_comms/optical_rx2.html

The receiver circuit is amazing at being able to receive signals in the presence of background light. Modulation is basic AM. BTW, sticking with silicon photodiodes. Detector comparisons have been done plenty well in the past so there is no point in going over that again. The only thing hotter is a photomultiplier tube but their spectral sensitivity is poor in the red and infrared, at this point not worth the trouble. I did use PMTs for my first contacts. It is important to pick a detector with an active area that will capture most of the energy from whatever lens or mirror you are using, but not so large that its capacitance doesn't restrict bandwidth.

I started with the highest power and narrowest beamwidth visible red and infrared T 1-3/4 LEDs that I could find. Those are the Vishay VLCS5830 624nm 8-degree 65cd LED and the Osram SFH4550 850nm 6-degree 70mW IR LED. Fifteen of the red VLCS5830 and 17 of the IR SFH4550 were press-fit in precisely drilled holes a thick plastic disc mounted on the transceivers. This guarantees that all the LEDs pointed in exactly the same direction maintaining the advantage of their narrow beam divergence. Signals from this were copyable in full daylight at one mile distance.

First cut at opto transceivers



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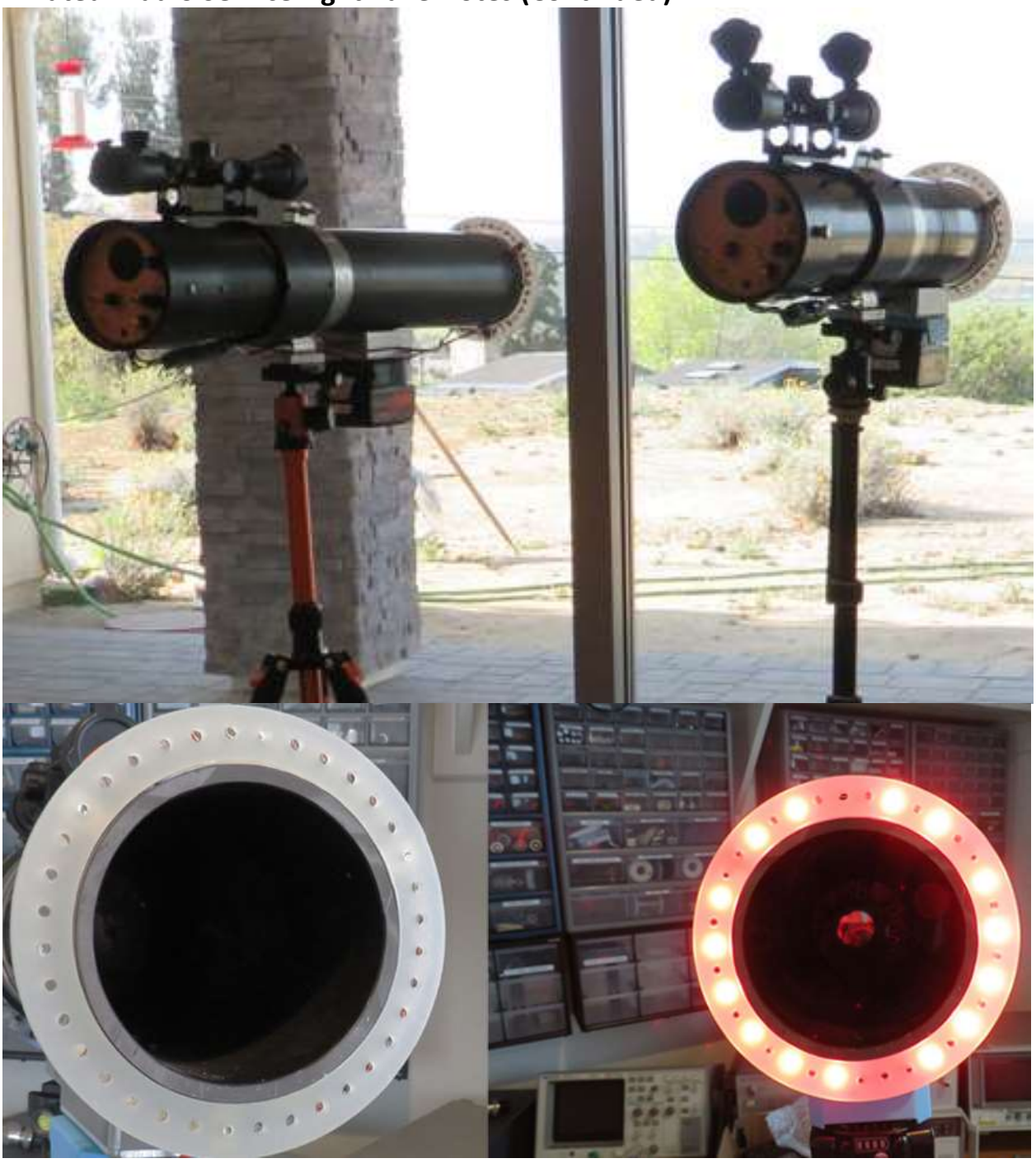
Amateur Radio Service Lightwave Notes (Continued)



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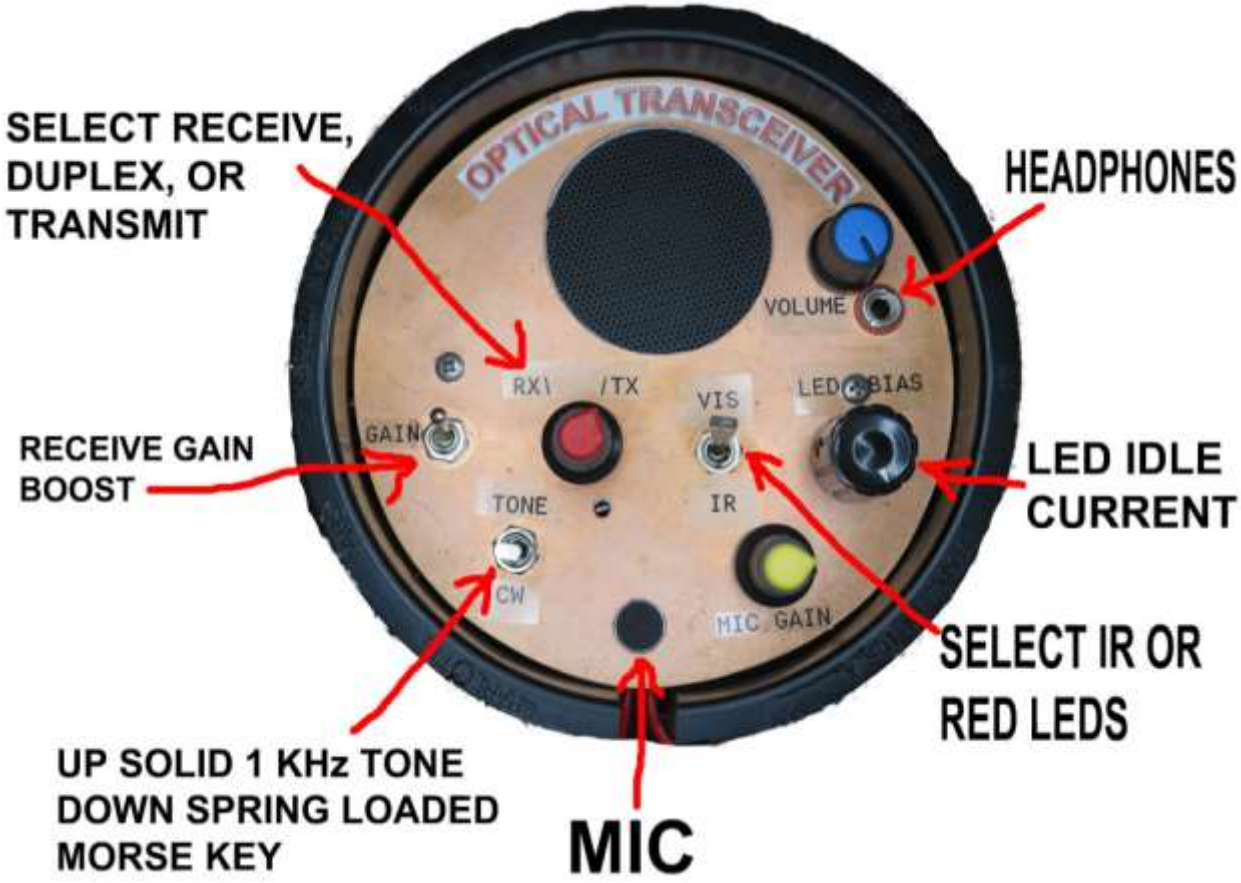
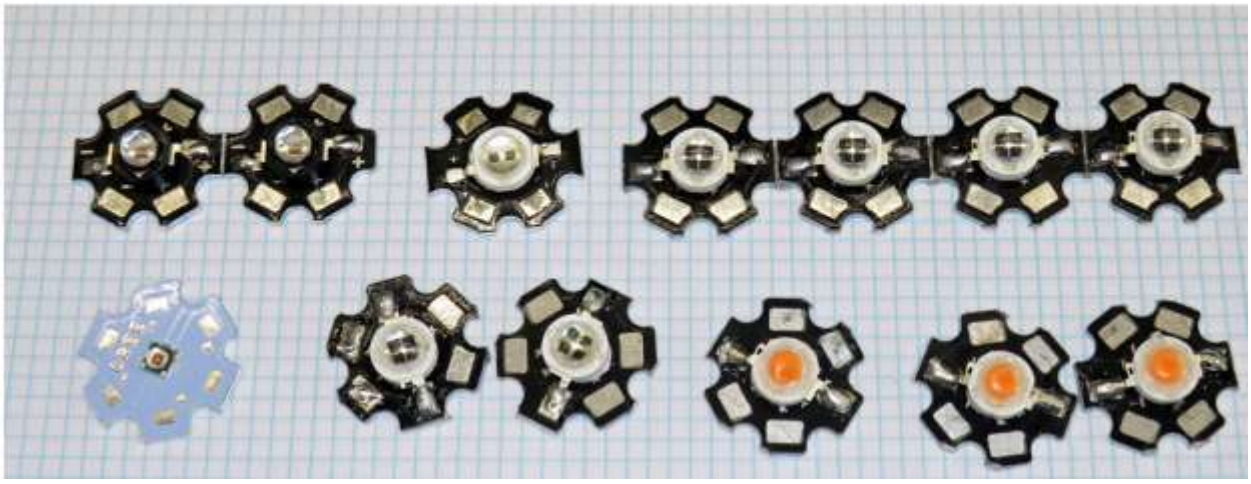
Amateur Radio Service Lightwave Notes (Continued)



High power star LEDs.



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Amateur Radio Service Lightwave Notes (Continued)

One thing to realize about these eBay LEDs is that their power claims are total BS. The "3W" and "5W" LEDs typically consume half that in electrical power. Considering that LED efficiency might be 50%, give or take, the 3W LEDs emit closer to 0.75W light and the 5W LEDs 1.25W light. Compare that to LED datasheets from legit manufacturers: Vishay VSLY5850 850nm T1-3/4 LED emits 55mW when driven with 100 mA at 1.65V (165 mW) for 33% efficiency. Osram SFH4550 850nm T1-3/4 LED emits 70mW when driven with 100 mA at 1.5V (150mW) for 47% efficiency.

eBay LED	Claimed Watts	Wavelength	A	V	V Measured	V*A	Efficiency
333734241333	10	620-630	3	2.2-2.4	3.24	9.72	103%
122604065816	5	620-630	1.2	2-2.2	2.4	2.88	174%
252050384162	5	740	0.7	1.8-2.2	2.17	1.52	197%
263394692287	5	850	1.4	1.6-2	2.05	2.87	174%
224457603330	5	850	1.4	1.6-2	1.98	2.77	180%
202040649383	5	850	3.5	1.6-1.8	2.95	10.3	51%
252174000311	5	940	1.4	1.3-1.6	1.72	2.41	207%
321202626697	5	940	1.4	1.4-1.7	1.82	2.55	197%
224457603330	5	940	1.4	1.6-2	1.63	2.28	219%

Adding to the confusion is that visible LEDs are almost never rated in Watts as infrared LEDs are. Visible LEDs are measured in candelas which is a brightness measurement referenced to the spectral sensitivity of the human eye. There is no simple direct conversion to Watts. There is nothing to keep one from measuring the output of a visible LED in Watts but that requires a power meter, often including an integrating sphere, calibrated for that. Manufacturers probably assume that if it is a visible LED (approx. 380nm to 750nm) that you are looking at it with your eye and a Watt of green (where our eyes peak) appears much brighter to us than a Watt of red light. Thus visible LEDs are measured with a system that accounts for the spectral sensitivity of the human eye.

Okay, these 'star' LEDs emit a lot of power, but at a typical 120-degree angle. What a waste! However, another eBay Chinese item changes everything. This very strange lens changes the beam angle of the star LEDs to 7 to 9 degrees. (Continued on next page)

Amateur Radio Service Lightwave Notes (Continued)

These strange lenses are a game changer!

They are advertised as: "38mm Lens 3° Beam Angle For 3030 3535 5050 LED Or Cree XLamp XPE LED." 3-degrees? Do not bet on it. As usual for eBay items from China, an exaggeration. I have measured the beam widths of combinations of star LEDs and these lenses using a 35-foot goniophotometer to be 7 to 8.5 degrees to the -3dB points. Not laser-tight, but still the result is a huge amount of optical energy in a small spot for a low cost. These lenses are under $2, the LEDs $2 to $4.

Another approach is to mount the LED in a box with a big Fresnel lens. Definitely not my goal. I am making a pair of transceivers. One for me and typically one for a VHF contest rover. The rover has a lot of other radios and antennas to carry in his vehicle. The optical contacts not being the main event for him. Huge plywood boxes with Fresnel lenses are definitely not appreciated. Compact, quick and easy to use equipment is necessary.

Note that these LEDs need to be mounted on heatsinks. I do this using 4-40 nylon hardware to avoid shorts. Heatsink grease or thermally conductive adhesive is advised. The lenses are attached with Loctite EA9340 heat resistant epoxy. (Continued on next page)

Amateur Radio Service Lightwave Notes (Continued)

Safety Concerns...

These may just be LEDs, but they are incredibly bright. Eye safety has to be considered. I found an international standard that seems to apply, IEC 62471:2006/CIE S 009:2002 "Photobiological safety of lamps and lamp systems." I found it on what seems to be a Chinese site violating the copyright:

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwiFl-O82LvyAhXuHjQIHaAWDvUQFnoECAYQAQ&url=http%3A%2F%2Ftbt.testrust.com%2Fimage%2Fzt%2F123%2F100123_2.pdf&usg=AOvVaw3wiDF0iaeKResftuUd0EtA

or

http://tbt.testrust.com/image/zt/123/100123_2.pdf

It is not my expertise to decipher government standards, but this is how I see it. Table 5.4 on page 55 "Summary of the ELs for the surface of the skin or cornea (irradiance based values)." [EL means Exposure Limit.] "Eye I" 780 to 3000 nm for exposure >1000 seconds (worst case) 100 W/m2 constant irradiance.

Here I am just considering infrared. I am planning to use 850nm IR as well as visible red. The next most common high power IR LEDs are 940nm but none that I have measured seem to emit anywhere as much energy as the 850nm LEDs. At the start I only had instrumentation for infrared irradiance measurements. It's great that we have a number to work with. Now to measure irradiance of the wavelength of interest in W/m2. For that we need an irradiance meter. There is one available for about $200. Covers 760nm to 1100nm and directly displays the measurements in the needed W/m2 units.

(Continued on next page)

Amateur Radio Service Lightwave Notes (Continued)

Infrared Irradiance Meter.

This meter showed me that I needed 26-inches distance from the front of one of the 850nm 5W LEDs with the cone lens to be under 100W/m2. And that's if you stared at the LED output for an extended length of time. Good news.
Note that for higher powers the standard calls for using the formula EL = 18000/t0.75 where t = seconds, <=1000 seconds. I'm assuming if I understand this correctly it means the exposure limit is 3200 W/m2 for ten seconds. Yikes!
What about visible light, i.e.: red? The IEC standard says for a "Blue-light small source" of 300nm to 700nm the exposure limit is only 1 W/m2 for exposures of over 100 seconds, or 100/t for exposures under 100 seconds. The eye aversion response to bright light should provide some significant protection.

There are alternate ways to make this measurement. Note that every other irradiance meter I found was for UV light only which is of no interest. There are some solar irradiance meters which might be okay for visible light but I don't know if they might be more calibrated for the spectra of the sun which may or may not make a difference. One way is to use a known active area silicon photodiode and assume its responsivity (A/W) is typical for silicon, i.e.: about 0.45 A/W for red light, and do the math. I have done this at 850nm with two different photodiodes of known responsivity at that wavelength and found that they do agree well with my commercial IR irradiance meter. (Continued on next page)

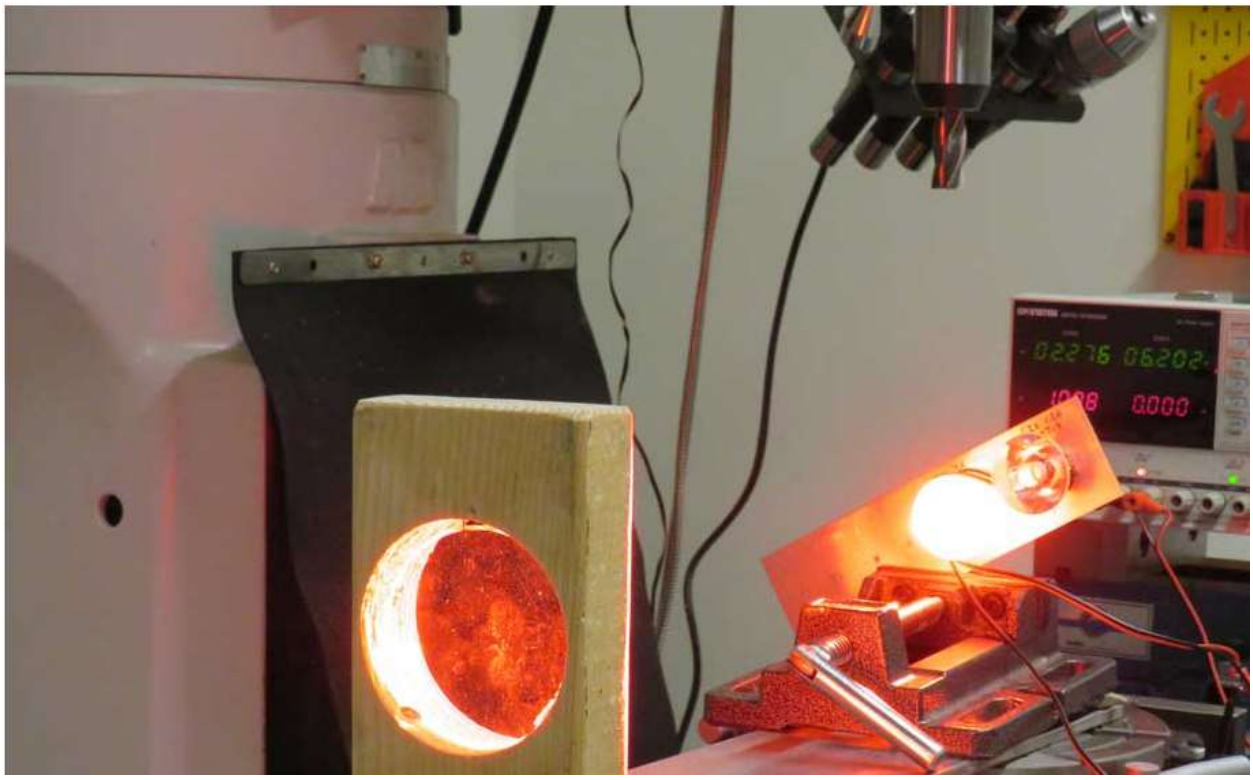
Amateur Radio Service Lightwave Notes (Continued)

For the visible red 10W star Cree LED with a cone lens my measurements indicated about a 20-foot distance was needed to meet the 1W/m2 exposure limit for 100 or more seconds exposure. Should be no problem in a controlled or uncontrolled environment. No risk to aircraft, for example.

Even Narrower Beamwidths?

Adding another lens can yield even narrower beamwidths at the expense of a bulkier receiver. I have tried an assortment of lenses from 250mm to 600mm focal lengths. For example, a 250mm FL lens reduced a visible red LED with a cone lens from 8.5 degree beamwidth to 3.75 degrees and tripled the effective brightness. A 500mm FL lens further reduced the beamwidth to 2 degrees and increased the effective brightness a bit more than three times. An additional lens adds about a foot to the length on a receiver.

Beamwidth test setup on my milling machine rotary table.



I made a tool useful for making relative intensity measurements and beam width measurements. It is simply a Texas Instruments OPT101 monolithic photodiode and single supply transimpedance amplifier IC mounted in a box with a 9V battery and a large meter movement. This 8 pin DIP IC provides a voltage output linear with light input. Spectral sensitivity is visible through infrared.

(Continued on next page)

Amateur Radio Service Lightwave Notes (Continued)

OPT101 Light Meter.

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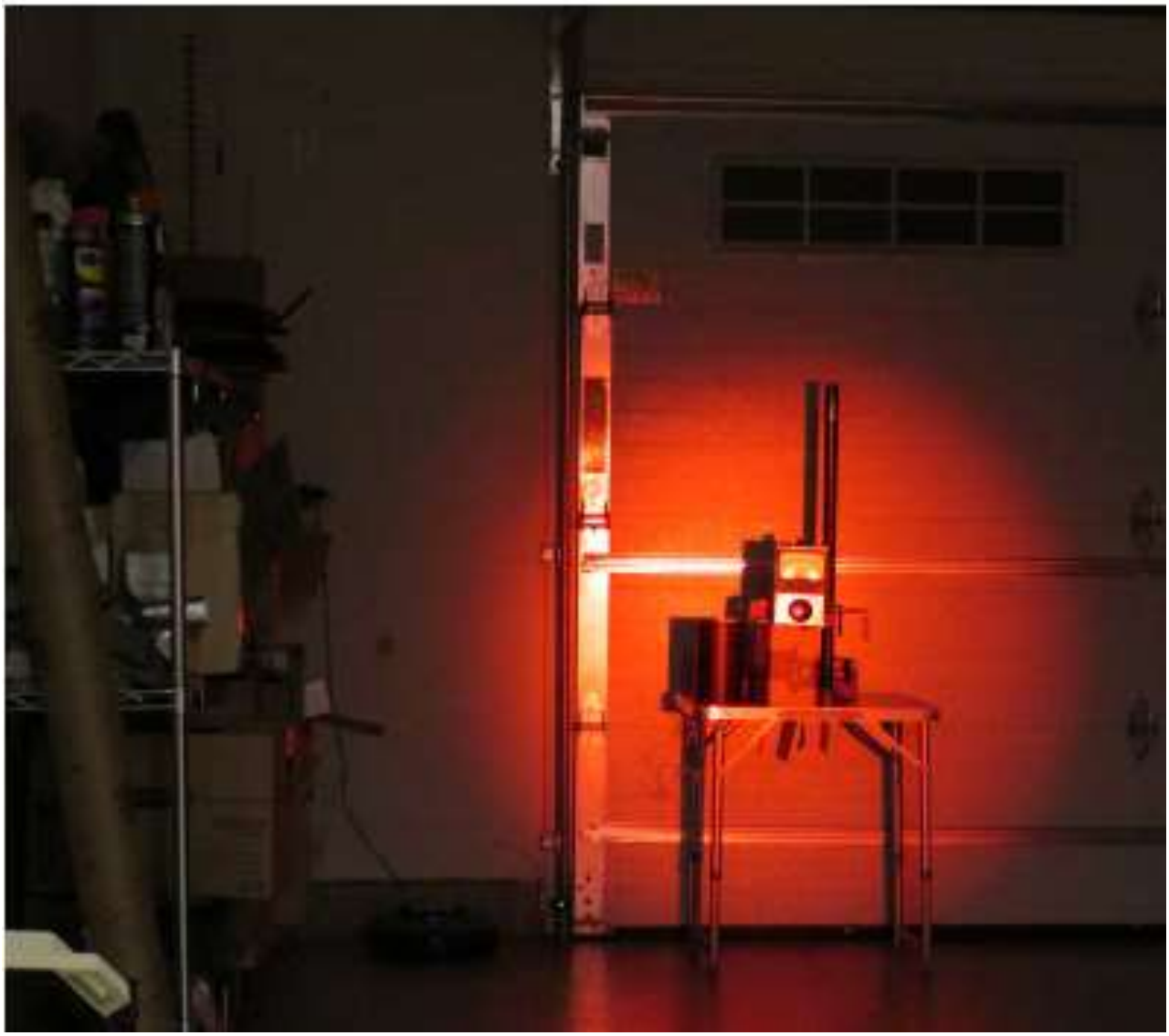
Amateur Radio Service Lightwave Notes (Continued)

OPT101 Light Meter in use.



At this time I have not made the switch on my optical transceivers from the T1-3/4 LEDs to the high power star LEDs with the cone lens. I have a few more LEDs to test first.

Thanks to Roger, K6LMN, for encouraging me in this endeavor.

73, Steve WA6EJO

Selected September Contests & Special Events

Please see QST or the ARRL website (www.arrl.org) for any details and QSL information.

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!

July 30 – Aug. 20, 2000Z – 0000Z, W9ISF, Indianapolis, IN. Indiana State Fair Amateur Radio Club. **Indiana State Fair**. 14.240 7.240 3.800. QSL. Indiana State Fair ARC, 7405 E. County Rd. 900 N., Brownsburg, IN 46112-8858. **www.qrz.com/db/w9isf**

Aug. 14, 1600Z – 2300Z, NI6IW, San Diego, CA. USS *Midway* (CV-41) Museum Ship. **US Coast Guard Birthday**. 14.320 7.250; PSK and CW on various HF bands, D-STAR on various reflectors. QSL. USS *Midway* Museum Ship COMEDTRA, 910 N. Harbor Dr., San Diego, CA 92101. *Check spotting networks to find us on HF. To see what reflector we're using, look for NI6IW and Reporting Note at* **www.dstarusers.org**. **www.qrz.com/db/ni6iw**

Aug. 21 – Aug. 22, 0001Z – 2300Z, W5BMC, Patterson, LA. Bayouland Emergency Amateur Radio Service. **International Lighthouse/Lightship Weekend**. 14.275 7.275; EchoLink 507010. QSL. BEARS, 708 Front St., Morgan City, LA 70380.

Sep. 1 – Oct. 30, 0000Z – 2359Z, OE130KUK, Kirchberg am Wagram, Austria. ADL 305 Tulln-Stockerau. **130th Anniversary of the First K.U.K. Telegraphy Course**. 160 through 10 meters; CW, SSB, and FT8. QSL. See website for information on receiving a QSL. **www.qrz.com/db/oe130kuk**

Sep. 3 – Sep. 6, 2300Z – 2300Z, W4V, Normal, IL. Chicago Suburban Radio Association (W9SW). **HOOAH Deer Hunt for Heroes**. 14.320 7.260; 20, 40, and 80 meters. QSL. Ron Delpiere-Smith/W4V, 333 E. Vermont St., Villa Park, IL 60181-2267. **www.HooahDeerHuntforHeroes.com**. **www.w9sw.com**

Sep. 4, 1200Z – 1900Z, W9EBN, Marion, IN. Grant County Amateur Radio Club. **Fly/In Cruise/In**. 14.1800 DMR Talk Group 31189 D-STAR Ref 24B 146.790 (PL 141.3). Certificate. Grant County Amateur Radio Club/W9EBN, Attn: Fly/In Cruise/In, P.O. Box 1786, Marion, IN 46952. **www.grantarc.org**

Sep. 4 – Sep. 5, 1600Z – 2200Z, W7P, Plains, MT. Clark Fork Amateur Radio Club. **Sanders County Fair**. 50.313 50.323 7.074; DMR TG 31300 Brandmeister Network. QSL. Clark Fork Valley Amateur Radio Club, P.O. Box 1803, Thompson Falls, MT 59873. **cfvarc.org**

Sep. 4 – Sep. 6, 1800Z – 1800Z, K7RDG, Sierra Vista, AZ. Cochise Amateur Radio Association. **Return to Paradise**. 14.285 14.070 7.225 3.890; voice, FT8/FT4/JS8. Certificate. Cochise ARA, P.O. Box 1855, Sierra Vista, AZ 85636. **www.k7rdg.org**

Sep. 5, 1300Z – 2100Z, W4CA, Roanoke, VA. Roanoke Valley Amateur Radio Club. **Blue Ridge Bonanza**. 14.265 7.265. QSL. Roanoke Valley ARC, P.O. Box 2002, Roanoke, VA 24009. Multiple stations/frequencies on 20 and 40 meters. *Contact as many stations along the Blue Ridge Parkway during the event.* **https://blueridgebonanza.info**

Sep. 5 – Sep. 12, 0000Z – 2359Z, K4A, Cordova, AL. Alabama Contest Group. **20th Memorial of the 9/11 Attacks**. 21.325 14.250 7.250 3.850; FT8, CW 50 kHz up from the bottom of the band. QSL. Bob Beaudoin, 970 Mountain View Rd., Cordova, AL 35550. **www.alabamacontestgroup.org**

Sep. 6, 1700Z – 2259Z, W9EFU, Madison, IN. Clifty Amateur Radio Society. **Tommy Thevenow Day**. 28.347 14.247 7.247. Certificate. Jerry Barnes, 601 Spring St., Madison, IN 47250. **wjbarnes@cinergymetro.net** *or* **https://w9efu.wordpress.com**

Sep. 9 – Sep. 13, 1600Z – 0200Z, N7F, Albany, OR. American Legion Post 10 Amateur Radio Club. **September 11th 20th Anniversary: Never Forget**. 14.250; 20 and 40 meters; SSB, PSK31, and CW. QSL. N7F Never Forget, c/o American Legion Post 10, 1215 Pacific Blvd. SE, Albany, OR 97321. *Club members may operate from home.* **info@n7ala.org**

Sep. 10 – Sep. 13, 0000Z – 0003Z, WA2NYC, Staten Island, NY. Wireless Association of New York City. **In Remembrance of the 20th Anniversary of the Attack on the World Trade Center in New York City**. 28.450 21.350 14.340 7.238. QSL. Wireless Association of New York City, 233 Wolverine St., Staten Island, NY 10306. *We remember the over 2,900 souls that were lost on that day. D-STAR Reflector XLX020B will be monitored at the top of the hour.* **wa2nyc@yahoo.com**

Sep. 11, 1200Z – 2359Z, N3M, Stoystown, PA. Somerset County Amateur Radio Club and Nittany Amateur Radio Club. **Flight 93 20th Anniversary**. General portion of the 20- and 40-meter phone bands; 14.293 7.293 3.993. QSL. N3M c/o Nittany Amateur Radio Club, P.O. Box 614, State College, PA 16801. *Operating from the Flight 93 National Memorial, commemorating the passengers and crew of Flight 93, whose heroic actions on 9/11/2001 prevented a planned terrorist attack on the US Capitol.* **www.qrz.com/db/n3m**

Sep. 11, 1600Z – 2100Z, WØBU, Burnsville, MN. Twin Cities Repeater Club. **Burnsville Fire Muster 40th Anniversary**. 3.850 7.225 14.250 21.325. Certificate. TCRC, 4202 153rd St. W., Rosemount, MN 55068. *Weather permitting, we will be operating on solar power.* **info@tcrc.org** *or* **www.tcrc.org**

Sep. 11, 1600Z – 2300Z, NI6IW, San Diego, CA. USS *Midway* (CV-41) Museum Ship. **USS *Midway* Commissioning**. 14.320 7.250; PSK and CW on various HF bands, D-STAR on various reflectors. QSL. USS *Midway* Museum Ship COMEDTRA, 910 N. Harbor Dr., San Diego, CA 92101. *Check spotting networks to find us on HF. To see what reflector we're using, look for NI6IW and Reporting Note at* **www.dstarusers.org**. **www.qrz.com/db/ni6iw**

Sep. 11 – Sep. 19, 0000Z – 2359Z, K4MIA, Loxahatchee, FL. PBSEC. **National POW MIA Recognition Day**. 28.400 18.150 14.265 7.195; SSB, CW, FT8, and satellite. QSL. Michael Bald, 6758 Hall Blvd., Loxahatchee, FL 33470. *Stations K4MIA/1, K4MIA/5, K4MIA/7, and K4MIA/8 also operating. EME, microwave, and other less used digital modes possible. Please take time to remember our POWs and MIAs, as well as their families.* **www.qrz.com/db/k4mia**

Sep. 11 – Sep. 19, 0001Z – 2359Z, W6JBT, San Bernardino, CA. Citrus Belt Amateur Radio Club. **Route 66 On The Air**. 28.466 14.266 7.266 3.866. Certificate & QSL. Citrus Belt Amateur Radio Club, P.O. Box 3788, San Bernardino, CA 92413. *Twenty-one stations participating, operating in or around the major cities along Route 66 from Santa Monica, California, to Chicago, Illinois.* **www.w6jbt.org**

Sep. 17 – Sep. 18, 1700Z – 0459Z, KF5DFD, Henrietta, TX. Clay County Amateur Radio Club. **Clay County Pioneer Day**. 14.255 7.255. QSL. Brent Boydston, 103 N. Crockett St., Henrietta, TX 76365. *Bonus dates, times, and hours may be added.* **www.facebook.com/groups/skywarn.clay.county**

Selected September Contests & Special Events (Continued.)

Sep. 17 – Sep. 19, 1300Z – 2359Z, W1W/W1B/W1Z, Billerica, MA. Billerica Amateur Radio Society and Hampden County Radio Association. **WBZ AM 1030 100th Anniversary**. 18.150 14.250 7.275 3.950. Certificate & QSL. Douglas A. Bruce, 67 John St., Reading, MA 01867-2701. **https://nediv.arrl.org/wbz100**

Sep. 18, 1000Z – 1600Z, NE1PL, Fall River, MA. USTNR. **80th Anniversary of the Launch of the USS *Massachusetts***. 14.258; 20 and 40 meters phone; digital and CW possible. QSL. Rick Emord, 135 Wareham St., Middleboro, MA 02346. **www.ne1pl.org**

Sep. 18, 1600Z – 2020Z, KT7RC, Tucson, AZ. Tortolita Radio Club. **Titan Missile Museum**. CW 14.040 7.040; SSB 14.250 7.200; FT8 18.100 7.074. Certificate. Request certificate at **contact@tortolita-rc.com**. *No paper QSLs.* **https://tortolita-rc.com**

Sep. 18 – Sep. 19, 1300Z – 2200Z, K9P, Danville, IN. Hendricks County Amateur Radio Society. **International Talk Like A Pirate Day**. 14.262 7.212 3.812. QSL. Tom Hansen, 410 W. US Highway 40, Clayton, IN 46118-9307.

Sep. 20 – Sep. 25, 0100Z – 0100Z, WØE, Lamar, MO. Kilowatt Amateur Radio Club (KØKWC). **Wyatt Earp Fest**. 14.250. QSL. Kilowatt ARC, 700 Hagny St., Lamar, MO 64759. **kilowattarc@hotmail.com**

Sep. 24 – Sep. 26, 1200Z – 1200Z, W2H, Speculator, NY. Hamilton County Radio Club. **Speculator Applefest**. 3.958 7.230 7.031 3.531. QSL. Peter Weaver, NYS Route 8, Lake Pleasant, NY 12108. **www.hamcoarc.org**

Sep. 25, 1200Z – 1800Z, K4S, Somerset, KY. Lake Cumberland Amateur Radio Association. **Somernites Cruise September**. 14.240 14.230 14.220 14.210. QSL. Wanda Munsey, 600 W. Hwy. 837, Nancy, KY 42544. **www.lcara.net**

Sep. 25, 1200Z – 2100Z, K9P, Peshtigo, WI. Marinette and Menominee Amateur Radio Club. **Peshtigo Fire 150th Anniversary**. 14.305 14.055 7.285 7.080. Certificate. Arden D. Nelson, 329 Brown Ave., Peshtigo, WI 54157. **w8pif.com/fire**

Sep. 25, 1200Z – 2200Z, K1SV, Arlington, VT. Southern Vermont Amateur Radio Club. **Covered Bridge Special Event**. 146.520 28.333 14.318 7.245. Certificate & QSL. Alden Jones, IV, 222 Northside Dr., Bennington, VT 05201. **www.sovarc.org**

Sep. 25, 1400Z – 2200Z, K1I, Reisterstown, MD. Ionic Lodge #145. **Masonic Lodges on the Air (CQ More Light)**. 3.825 7.200 14.250 21.300. Certificate & QSL. Mark Rauen, c/o Ionic Lodge #145, 85 Main St., Reisterstown, MD 21136. **www.gemeny.com/AA3NM/CQ-MoreLight.html**

Sep. 25, 1600Z – 2200Z, W4YK, Hendersonville, NC. Blue Ridge Amateur Radio Club. **Net Operator Recognition Event**. 14.238. QSL. David Day, 11 Mountain Spring Dr., Hendersonville, NC 28739. **www.radioclub.org**

Sep. 25 – Sep. 26, 1600Z – 2100Z, WC8VOA, West Chester, OH. West Chester Amateur Radio Association. **VOA Bethany Station 77th Anniversary**. 14.268 7.268. Certificate & QSL. West Chester ARA QSL Manager, P.O. Box 913, West Chester, OH 45071. *QSL direct or via the bureau; an electronic certificate will be available for download after the event is over.* **www.wc8voa.org**

Sep. 25 – Sep. 26, 1900Z – 1900Z, KL7HOM, Anchor Point, AK. South Peninsula Amateur Radio Club. **North America's Most Westerly Contiguous Highway Point**. 18.149 14.249 14.049 7.249. QSL. Thomas Kerns, 1189 Cook Way, Homer, AK 99603. **www.qrz.com/db/kl7hom**

Contest Corral

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

Contest Corral — September 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.

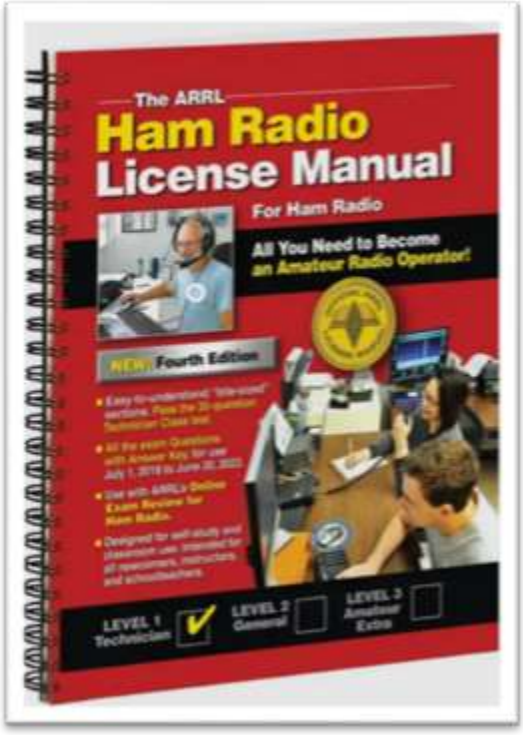
Start - Finish Date-Time		Date-Time		Bands	Contest Name	Mode	Exchange	Sponsor's Website
1	1700	1	2000	144	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
1	2000	1	2100	3.5	UKEICC 80-Meter Contest	Ph	6-char grid square	ukeicc.com/80m-rules.php
1	2300	3	2300	3.5-28	G3ZQS Memorial Straight Key Contest	CW	RST, SPC, name, mbr or power	fistsna.org/operating.html
2	1700	2	2100	28	NRAU 10-Meter Activity Contest	CW Ph Dig	RS(T), 6-char grid square	nrrlcontest.no
2	1900	2	2100	1.8-50	SKCC Sprint Europe	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
4	0000	4	0359	1.8-28	CWOps CW Open	CW	Serial, name	cwops.org
4	0000	4	2359	3.5-28	Russian RTTY WW Contest	Dig	RST, 2-letter RU oblast or CQ zone	qrz.ru/contest/detail/93
4	0000	5	2359	3.5-28	All Asian DX Contest, Phone	Ph	RS, 2-digit age	www.jarl.org/English
4	0600	4	0800	7, 14	Wake-Up! QRP Sprint	CW	RST, serial, suffix of previous QSO	qrp.ru/contest/wakeup
4	1200	4	1559	1.8-28	CWOps CW Open	CW	Serial, name	cwops.org
4	1300	4	1330	144	Two-Meter Classic Sprint	CW Ph	Serial, 4-char gird square	fwrc.info
4	1300	4	1600	7	AGCW Straight Key Party	CW	RST, serial, class, name, age	alt.agcw.de/index.php/en
4	1300	5	0400	All	Colorado QSO Party	CW Ph Dig	Name, CO county or SPC	ppraa.org/coqp
4	1300	5	1259	1.8-28	IARU Region 1 Field Day, SSB	Ph	RST, serial	darc.de/der-club/referate/conteste
4	1300	5	1300	3.5-28	RSGB SSB Field Day	Ph	RS, serial	www.rsgbcc.org/hf
4	1400	5	1400	145	IARU Region 1 145 MHz Contest	CW Ph Dig	RS(T), serial, 6-char grid	www.iaru-r1.org
4	2000	4	2359	1.8-28	CWOps CW Open	CW	Serial, name	cwops.org
4	2000	5	2000	3.5	PODXS 070 Club Jay Hudak Memorial	Dig	RST, SPC	www.podxs070.com
5	1000	5	1400	144	WAB 144 MHz QRO Phone	Ph	RS, serial, WAB square or country	wab.intermip.net
5	1800	6	0300	All	Tennessee QSO Party	CW Ph Dig	RS(T), TN county or SPC	tnqp.org/rules
6	1900	6	2030	3.5	RSGB 80-Meter Autumn Series, SSB	Ph	RS, serial	www.rsgbcc.org/hf
6	2300	7	0300	1.8-50	MI QRP Labor Day CW Sprint	CW	RST, SPC, mbr or power	www.miqrp.net/contest
7	0100	7	0300	3.5-28	ARS Spartan Sprint	CW	RST, SPC, power	arsqrp.blogspot.com
8	1700	8	2000	432	VHF-UHF FT8 Activity Contest	Dig	4-char grid square	ft8activity.eu/index.php/en
11	0000	11	2359	1.8-VHF	FOC QSO Party	CW	RST, name, mbr (if any)	g4foc.org/qsoparty
11	0000	12	2359	3.5-28	WAE DX Contest, SSB	Ph	RS, serial	darc.de/der-club/referate/conteste
11	0800	12	0600	1.8-28	SARL Field Day Contest	CW Ph Dig	RS(T), # of rigs, cateogry, province	www.sarl.org.za
11	0900	12	1400	7	YB7-DX Contest	Ph	RS, serial	yb7dxc.com/rule
11	1200	12	2359	1.8-50	SKCC Weekend Sprintathon	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
11	1400	11	2200	3.5-28	Ohio State Parks on the Air	Ph	OH park abbreviation or SPC	ospota.org
11	1500	12	0300	3.5-28	Alabama QSO Party	CW Ph	RS(T), AL county or SPC	www.alabamaqsoparty.org
11	1500	12	0959	3.5-28	Russian Cup Digital Contest	Dig	Serial, 4-char grid square	qrz.ru/contest/detail/86.html
11	1800	13	0300	50 and up	ARRL September VHF Contest	CW Ph Dig	4-char grid square	www.arrl.org/september-vhf
12	0000	12	0400	3.5-14	North American Sprint, CW	CW	Other's call, your call, serial, name, SPC	ncjweb.com
13	0000	13	0200	1.8-28	4 States QRP Second Sunday Sprint	CW Ph	RS(T), SPC, mbr or power	www.4sqrp.com
15	1900	15	2030	3.5	RSGB 80-Meter Autumn Series, CW	CW	RST, serial	www.rsgbcc.org/hf
16	0030	16	0230	3.5-14	NAQCC CW Sprint	CW	RST, SPC, mbr or power	naqcc.info
16	1800	16	1959	3.5	BCC QSO Party	CW Ph Dig	RS(T), T-shirt size	bavarian-contest-club.de/contest
17	2100	17	2359	3.5	AGB NEMIGA Contest	CW Ph Dig	RST, serial, mbr (if any)	www.ev5agb.com
18	0000	19	2359	All	Collegiate QSO Party	CW Ph Dig	School name, RS(T), op class	collegiateqsoparty.com
18	0500	19	1100	50-1296	SARL VHF/UHF Digital Contest	Dig	RST, 6-char grid locator	www.sarl.org.za
18	0600	19	2359	10 GHz to light	ARRL 10 GHz and Up Contest	CW Ph Dig	6-char grid	www.arrl.org/10-ghz-up
18	1200	19	1200	3.5-28	Scandinavian Activity Contest, CW	CW	RST, serial	www.sactest.net
18	1400	19	0200	All	Iowa QSO Party	CW Ph Dig	RS(T), IA county or SPC	www.w0yl.com/IAQP
18	1400	19	2000	All	Texas QSO Party	CW Ph Dig	RS(T), TX county or SPC	www.txqp.net
18	1500	18	2100	1.8-28	QRP Afield	CW Ph Dig	RS(T), SPC, power or mbr	newenglandqrp.org
18	1600	18	2300	3.5-144	Wisconsin Parks on the Air	CW Ph	WI park abbreviation or SPC	wipota.com
18	1600	19	0359	3.5-28	New Jersey QSO Party	CW Ph Dig	RS(T), NJ county or SPC	k2td-bcrc.org/njqp/
18	1600	19	2200	All	New Hampshire QSO Party	CW DigPh	RS(T), NH county or SPC	www.w1wqm.org/nhqso
18	1600	19	2359	1.8-144	Washington State Salmon Run	CW Ph Dig	RS(T), WA county or SPC	salmonrun.wwdxc.org
18	1800	18	1959	1.8-50	Feld Hell Sprint	Dig	RST, mbr, SPC, grid	sites.google.com/site/feldhellclub
19	0000	19	0400	3.5-14	North American Sprint, RTTY	Dig	Other's call, your call, serial, name, SPC	ncjweb.com
19	1700	19	2059	3.5-28	BARTG Sprint PSK63 Contest	Dig	Serial	bartg.org.uk/wp
19	2300	20	0100	1.8-28	Run for the Bacon QRP Contest	CW	RST, SPC, mbr or power	qrpcontest.com/pigrun
20	1900	20	2300	144	144 MHz Fall Sprint	CW Ph Dig	4-char grid square	svhfs.org
22	0000	22	0200	1.8-50	SKCC Sprint	CW	RST, SPC, name, mbr or "none"	www.skccgroup.com
23	1900	23	2030	3.5	RSGB 80-Meter Autumn Series, Data	Dig	RST, serial	www.rsgbcc.org/hf
25	0000	26	2359	3.5-28	CQ Worldwide DX Contest, RTTY	Dig	RST, CQ zone (+ state/prov for US/VE)	www.cqwwrtty.com
25	1200	26	1200	1.8-28	Maine QSO Party	CW Ph	RS(T), ME county or SPC	ws1sm.com/MEQP.html
25	1400	25	1800	144, 432	AGCW VHF/UHF Contest	CW	RST, serial, power, 6-char gird	agcw.de/contest/vhf-uhf
25	1400	25	2200	3.5-28	Masonic Lodges on the Air	Ph	Lodge name/number/jurisdiction	cqmorelight.com/rules
27	1900	27	2030	3.5-14	RSGB FT4 Contest Series	Dig	4-char grid square	www.rsgbcc.org/hf
28	1900	28	2300	222	222 MHz Fall Sprint	CW Ph Dig	4-char grid square	svhfs.org
29	2000	29	2100	3.5	UKEICC 80-Meter Contest	CW	6-char grid square	ukeicc.com/80m-rules.php

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 only; physical classes are unavailable this month within 100 miles of Ventura)

CVARC Online CA 91360
08/29/2021
Start/End Dates: 08/29/2021 - 09/26/2021
Times: 12:00 noon-4:00 pm
# of Sessions: 5
Class level: Technician
Morse code offered: No
Pre register required: No
Fee: 0
Pre Study required: No
Class Type: Online or Hybrid
Exam offered: No
Sponsoring Club/Organization: Conejo Valley ARC
Instructor: W6KME
Contact: Keith Elliott W6KME
Phone: (805) 208-5655
Email: W6KME@CVARC.org
Location:
Via Zoom Meetings
Thousand Oaks, CA 91360
Additional Information: The first session on August 29th is just a one hour Orientation. The ARRL Ham Radio License Manual 4th Edition (Technician Level) is being used, so you will need a copy. A reading assignment will be given at the Orientation. The dates in September are all from noon to 4:00 pm Pacific time.



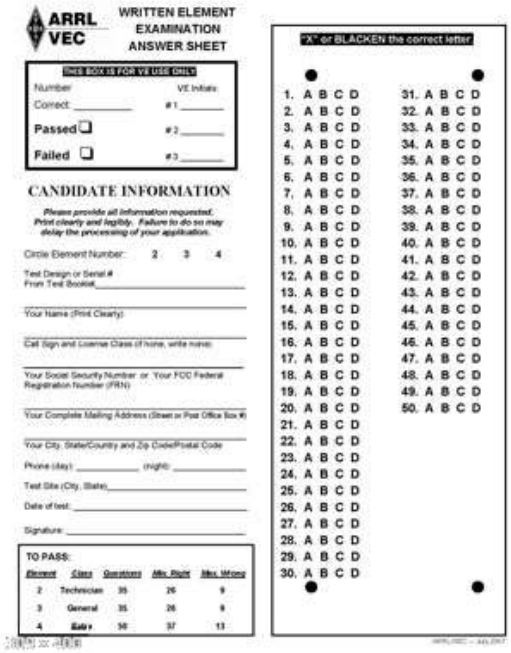
Upcoming FCC Exam Test

Goleta CA 93117-3271
09/18/2021
Sponsor: Santa Barbara ARC
Date: Sep 18 2021
Time: 9:00 AM (Walk-ins allowed)
Contact: Tom Saunders
(805) 452-0840
Email: tsaund@cox.net
VEC: ARRL/VEC
Location: Impulse Communications
6144 Calle Real
Pre-registration preferred
Register on team website
Goleta CA 93117-3271
Website: www.sbarc.org/ve-exam-registration/

Valencia CA 91355-2008
09/18/2021
Sponsor: Santa Clarita ARC
Date: Sep 18 2021
Time: 8:00 AM (No Walk-ins / Register or Call ahead)
Contact: Ronald B. Klein
GLAARG is offering remote testing; see https://glaarg.org/remote-sessions/ for details)

(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

Calabasas CA 91302
09/26/2021
Sponsor: Goodkin Hamily
Date: Sep 26 2021
Time: 9:30 AM (No Walk-ins / Register or Call ahead)
Contact: Norm Goodkin
(818) 613-2257
Email: hamclass@goodkin.net
VEC: Greater LA VEC
Location: On-Line
ONLINE ONLY - visit website to register
Calabasas CA 91302
Website: https://hamstudy.org/sessions/glaarg/wb6ohw



On Exam Day Bring the Following Items:

1. One legal photo ID (identification):
   a. State Driver's License, b. Government issued Passport, c. Military or Law Enforcement Officer Photo ID card, d. Student School Photo ID card, e. State Photo ID card.
2. If no photo ID is available, two forms of identification:
   a. Non-photo State ID card (some states still have them), b. Birth certificate (must have the appropriate seal), c. Social security card, d. Employer's wage statement or Minor's work permit, e. School ID card, f. School or Public Library card, g. 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/minors without a photo ID need to bring only one of the above items if a legal guardian presents their photo ID; otherwise two non-photo IDs are required. Minor children (under the age of 18) may be accompanied in the room by an adult during the test.
4. FCC Registration Number (FRN): VECs are required by the FCC to submit your FRN with your license application form. New license applicants must create an FCC user account and register their Social Security Number (SSN) in the FCC Commission Registration System (CORES) before attending exam sessions. Registrants will be assigned an FRN which will be used in all license transactions with the FCC. For instructions on how to register your SSN and receive an FRN from the FCC, visit the FCC's Registration page and the FCC's Registration instructions page. Per FCC rules, a valid email address is also mandatory on the application form.
5. If applicable, bring a printed copy of your Amateur Radio license. Acceptable copies or printouts of licenses are available from the following sources: the official license or reference license printed from the FCC website or license data printed from the ARRL website or QRZ website. The original(s) and photocopy(s) of any Certificates of Successful Completion of Examination (CSCE) you may hold from previous exam sessions. If your license has already been issued by the FCC, the CSCE showing license credit is not needed. The candidate is required to show proof of the current license to the team but the team is no longer required to submit the proof to the VEC. Expired license proof must be submitted to the team and to the VEC for processing to FCC. These photocopies will not be returned. Instructions on how to obtain an official FCC license copy are on our Obtain License Copy web page.
6. Two number two pencils with erasers and a pen for in-person sessions.
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 and the phones' calculator function may not be used. In addition, iPhones, iPads, Androids, smartphones, Blackberry devices and all similar electronic devices with a calculator capability, 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 fees. The FCC hasn't started to accept the $35 fee, which will be paid directly to the FCC.
9. Be aware that some information about you will be made publicly available on the FCC's website.

Trivia for September 2021

1. 1891 the United States Government recalled all $100.00 dollar notes due to counterfeit notes in circulation.
2. In 1872 the first mail order catalogs was mailed out by the Montgomery Ward stores.
3. Up until the 1800s shoes had no right and left shoe. Just one size fit all.

De
Dana, kg6wxe

Calendar September 2021

4: CVARC Radio School Newbie Net – Picnic at Santa Rosa Valley contact Keith W6KME for details
5: K6MEP Board Meeting (Zoom) and Newbie Net
6: K6MEP Monday Night Net and Zoom Meeting, ACS/ARES District Meeting
7: ACS/ARES Tuesday Night Net
10: K6MEP Monthly Club Meeting and Presentation "Boy Scout Radio Merit Badge" by Tim KN6JGB
11: K6MEP Picnic at the Dudley House; CVARC Radio School
12: Newbie Net
13: K6MEP Monday Night Net and Zoom Meeting
14: ACS/ARES Tuesday Night Net
15: Quarterly Taxes Due
18: K6MEP Club Breakfast at Denny's in Camarillo; CVARC Radio School
19: Newbie Net
20: K6MEP Monday Night Net and Zoom Meeting
21: ACS/ARES Tuesday Night Net
25:CVARC Radio School
26:Newbie Net
27: K6MEP Monday Night Net and Zoom Meeting
28: ACS/ARES Tuesday Night Net

(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-3/2023-02-11/

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. The club meeting will also be on Zoom. Our next 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 _____(Name) _____ 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
Tl = Talk-in frequency
Adm = Admission

Alabama (Attalla) — Sept. 11 D F H R T V
8 AM – noon. *Spr:* Gadsden ARC. American Legion Fairgrounds, 404 Griffin St. *Tl:* 146.670 (100 Hz). *Adm:* free. Email: **k4vmv1@charter.net**

Arizona (Payson) — Oct. 2 D F T V
9 AM – noon. *Spr:* Tonto ARA. Rumsey Park Ramada #5, 400 McLane Rd. *Tl:* 147.39 (100 Hz). *Adm:* none. **www.tontoradio.org**

Arizona (Tucson) — Sept. 25 D F H Q R T V
7 – 11 AM. *Spr:* Radio Society of Tucson. Calvary Chapel of Tucson East Campus, 8711 E. Speedway Blvd. *Tl:* 145.250 (156.7 Hz). *Adm:* free. **www.k7rst.org**

California (Lincoln) — Sept. 18 D F H R V
7 AM – noon. *Spr:* Western Placer ARC. McBean Park, 65 McBean Park Dr. *Tl:* 147.300 (67 Hz). *Adm:* free. **www.wparc.us**

California (Sonoma) — Oct. 2 F H R T V
8 AM – noon. *Spr:* Valley of the Moon ARC. First Congregational Church of Sonoma, 252 W. Spain St. *Tl:* 145.35 (88.5). *Adm:* free. **www.vomarc.org**

Florida (Crestview) — Oct. 8 – 9 D F H R V
Fri. 5 – 7 PM, Sat. 7 AM – 3 PM. *Spr:* North Okaloosa ARC. Crestview Community Center, 1466 Commerce Dr. *Tl:* 147.360 (100 Hz). *Adm:* $7. **www.w4aaz.org/noarc-hamfest**

ARRL FLORIDA STATE CONVENTION
October 8 – 9, Melbourne, Florida
D F Q R S T V
Fri. 1 – 7 PM, Sat. 9 AM – 3 PM. *Spr:* Platinum Coast ARS. Melbourne Auditorium, 625 E. Hibiscus Blvd. *Tl:* 146.610. *Adm:* $10. **www.pcars.org**

Illinois (Belvidere) — Sept. 26 D F H R T V
8 AM – 1 PM. *Spr:* Chicago FM Club. Boone County Fairgrounds, 8791 IL-76. *Tl:* 146.760 (107.2). *Adm:* $8 advanced, $10 door. **www.chicagofmclub.org**

Illinois (Pekin) — Sept. 18 – 19 D F H Q R S T V
Gates open at 6 AM. Sat. 8 AM – 4 PM, Sun. 8 AM – 1 PM. *Spr:* Peoria Area ARC. Avanti's Dome, 3401 Griffin Ave. *Tl:* 147.075 (156.7 Hz). *Adm:* $7 advance, $10 door. **www.w9uvi.org**

Indiana (Lafayette) — Sept. 11 D F H Q R T V
8 AM – 2 PM. *Spr:* Tippecanoe ARA. Tippecanoe County 4-H Fairgrounds, 1406 Teal Rd. *Tl:* 147.135 (131.8 Hz). *Adm:* $5. Email: **chell1470@gmail.com**

Indiana (Mitchell) — Oct. 2 D F H R S T V
8 AM – noon. *Spr:* Hoosier Hills Ham Club W9QYQ. Lawrence County 4-H Fairgrounds, 11265 US-50 W. *Tl:* 146.730 (107.2). *Adm:* $5. **www.w9qyq.org**

Kansas (Wichita) — Oct. 2 D F H R V
8 AM – 1 PM. *Spr:* Valley Center ARC. Riverwalk Church of Christ, 225 N. Waco Ave. *Tl:* 146.940 (103.5). *Adm:* $5. **www.vcarc.org**

ARRL GREAT LAKES DIVISION CONVENTION
October 2, Bowling Green, Kentucky
D F H S V
8 AM – 4 PM. *Spr:* Kentucky Colonels ARC. Western Kentucky University Knicely Conference Center, 2355 Nashville Rd. *Tl:* 147.330 (107.2 Hz). *Adm:* $6. **www.ky4bg.com**

Kentucky (Paintsville) — Sept. 25 F H R V
8 AM – 2 PM. *Spr:* Amateur Radio Community Services. Paintsville Recreation Center, 232 Preston St. *Tl:* 147.225 (127.3). *Adm:* $5. Email: **grossl@bigsandybb.com**

Kentucky (Richmond) — Sept. 18 D F H R T V
8 AM – 2 PM. *Spr:* Madison County Fairgrounds. Madison County Fairgrounds, 3237 Old Irvine Rd. *Tl:* 145.370 (192.8). *Adm:* $6. **www.ckars.org/hamfest**

Kentucky (Shepherdsville) — Sept. 11 D F H Q R S T V
8 AM – 2 PM. *Spr:* Greater Louisville Hamfest Association. Paroquet Springs Conference Centre, 395 Paroquet Springs Dr. *Tl:* 146.700 (79.7 Hz), 443.700 (79.7 Hz). *Adm:* $7 advance, $8 door (cash only). **www.louisvillehamfest.com**

Maine (Windsor) — Sept. 18 D F H Q R T
8 AM – noon. *Spr:* Augusta ARA. Windsor Fairgrounds, 82 Ridge Rd. *Tl:* 146.670 (100 Hz). *Adm:* $7. Email: **studebakerbill@yahoo.com**

Maryland (Hollywood) — Sept. 25 F H R T
8 AM – noon. *Spr:* St. Mary's County ARA. Hollywood Volunteer Fire Department Bingo Hall, 24801 Three Notch Rd. (MD Rte. 235). *Tl:* 146.64 (146.2 Hz). *Adm:* free. **www.k3hki.org**

Maryland (West Friendship) — Oct. 3 D F H Q S T V
6 AM – 3 PM. *Spr:* Columbia ARA. Howard County Fairgrounds, 2210 Fairgrounds Rd. *Tl:* 147.390 (156.7 Hz). *Adm:* $7. **www.carafest.org**

Michigan (Adrian) — Sept. 19 D F H R T V
8 AM. *Spr:* Adrian ARC. Lenawee County Airport, 2651 W. Cadmus Rd. *Tl:* 145.37 (85.4 Hz). *Adm:* $5. **www.w8tqe.com**

Michigan (Cadillac) — Sept. 18 D H R V
8 AM – noon. *Spr:* Wexaukee ARC. Cadillac Junior High School, 500 Chestnut St. *Tl:* 146.980 (no tone). *Adm:* $5. **www.wexaukeearc.org**

Michigan (Okemos) — Sept. 18 D H R S V
8 AM – 12:30 PM. *Spr:* Central Michigan ARC. Okemos Convention Center, 2187 University Park Dr. *Tl:* 145.390 (100 Hz). *Adm:* $5. Email: **kd8yde@inbox.com**

Michigan (Shelby Township) — Sept. 18 D F
8 AM – 12:30 PM. *Spr:* GM Amateur Radio Club. Packard Proving Grounds, 49965 Van Dyke Ave. *Tl:* 443.075 (123 Hz). *Adm:* $5 per carload, buying or selling. **www.gmarc.org**

Michigan (Wyoming) — Sept. 11 D F H Q R S T V
8 AM – 1 PM. *Spr:* Grand Rapids ARA. HSB, 5625 Burlingame Ave. SW. *Tl:* 147.26 (94.8 Hz). *Adm:* $8. **www.w8dc.org**

Minnesota (Cologne) — Sept. 18 D F H Q R S V
8 AM – noon. *Spr:* SMARTS Radio Club. Cologne Community Center, 1211 Village Pkwy. *Tl:* 147.165. *Adm:* $10. **www.smartsfest.org**

Minnesota (Lake Elmo) — Sept. 18 F H T
8 AM – noon. *Spr:* Metro Area Repeater Association. Helwig Farm (MARA Center), 8247 27th St. N. *Tl:* 146.850. *Adm:* free. Email: **wb0wot@arrl.net**

(Continued on next page)

Convention and Hamfest Calendar (Continued)

Minnesota (Plymouth) — Sept. 25 R T
8 – 11:30 AM. *Spr:* Twin City FM Club. West Medicine Lake Community Club, 1705 Forestview Ln. *Tl:* 146.76 (114.8 Hz). *Adm:* $5. **www.tcfmc.org**

Minnesota (Rush City) — Sept. 11 F H T
9 AM – noon. *Spr:* East Central Minnesota ARC. Rush City High School, 51001 Fairfield Ave. *Tl:* 145.330 (146.2 Hz). *Adm:* free. **www.qrz.com/db/K0ECM**

Nebraska (Bellevue) — Oct. 2 F R
8 AM – 1 PM. *Sprs:* Bellevue ARC and Ak-Sar-Ben ARC. Reed Community Center, 1200 Lord Blvd. *Tl:* 147.39 (131.8 Hz). *Adm:* $5. **www.bellevuearc.org**

ARRL SOUTHERN NEW JERSEY SECTION CONVENTION

September 12, Mullica Hill, New Jersey
D F H R S T V
8 AM – 1 PM. *Spr:* Gloucester County ARC. Gloucester County 4-H Fairgrounds, 235 Bridgeton Pike (Rte. 77). *Tl:* 147.180 (131.8 Hz). *Adm:* $10. Email: **sheldonparker@comcast.net**

New Jersey (Spring Lake) — Sept. 18 D F H R T V
7 AM – noon. *Spr:* Ocean Monmouth ARC, Inc. Spring Lake Heights Volunteer Fire Company Number One, 700 Sixth Ave. *Tl:* 145.110 (127.3 Hz). *Adm:* $5 kids, free ages 12 and under. **www.n2mo.org**

New Jersey (Tinton Falls) — Sept. 25 D F Q R V
8 AM – noon. *Spr:* Garden State ARA. Monmouth Ocean Educational Services Commission parking lot, 100 Tornillo Way. *Tl:* 147.045 (67 Hz). *Adm:* $10 vendors, $5 first table/buyers. **www.gsara.club**

New York (Chaffee) — Sept. 11 D F H R T V
9 AM – noon. *Spr:* Pioneer Radio Operators Society. Manion Park, 9999 Grove St. *Tl:* 145.39. *Adm:* $5. Email: **royschwedt@gmail.com**

New York (Horseheads) — Sept. 25 D F H R V
6 AM – 2 PM. *Sprs:* CCARES and ARAST. Chemung County Fairgrounds, Grand Central Ave. *Tl:* 146.700 and 147.360. *Adm:* $6 advanced, $8 door. **www.arast.info**

New York (Lockport) — Sept. 11 D F H R T
7 AM. *Spr:* Lancaster ARC. Transit Drive-In Theatre, 6655 S. Transit Rd. *Tl:* 147.255 (107.2 Hz). *Adm:* $8. **www.w2so.org**

New York (Scotchtown) — Sept. 12 D F H Q R S T V
8 AM – noon. *Spr:* Orange County ARC, Inc. Wallkill Community Center, 7-9 Wes Warren Dr. *Tl:* 448.325 (123). *Adm:* $6. **www.ocarcny.org**

ARRL DAKOTA DIVISION CONVENTION

September 25, West Fargo, North Dakota
F H R S V
8 AM – 2 PM. *Spr:* Red River Radio Amateurs. West Fargo Fairgrounds, 1805 Main Ave. W. *Tl:* 145.350 (123 Hz) and 444.875 (123 Hz). *Adm:* $10. **www.rrra.org**

Ohio (Berea) — Sept. 26 D F H Q R S T V
8 AM – 1 PM. *Spr:* Hamfest Association of Cleveland. Cuyahoga County Fairgrounds, 164 Eastland Rd. *Tl:* 146.73. *Adm:* $6. **www.hac.org**

Ohio (Findlay) — Sept. 12 D F H R S T
8 AM – 3 PM. *Spr:* Findlay Radio Club. Hancock County Fairgrounds, 1017 E. Sandusky St. *Tl:* 147.150 (88.5 Hz). *Adm:* $10. **www.findlayradioclub.org/hamfest**

Ohio (Miamisburg) — Sept. 18 F T
8 AM – noon. *Spr:* Mound ARA. Mound Park, 900 Mound Rd. *Tl:* 147.195. *Adm:* free. **www.w8dyy.org**

Ohio (Troy) — Sept. 18 F H R T
9 AM – 3 PM. *Spr:* Miami County ARC. Miami County Amateur Radio Club House, 728 Harrison St. *Tl:* 145.230 (100.0 Hz). *Adm:* $5. **www.w8fw.org**

Oklahoma (Tulsa) — Sept. 11 F H T V
8 AM – 3 PM. *Spr:* Green Country Hamfests, Inc. Asbury Church, east parking lot, 6767 S. Mingo Rd. *Tl:* 146.88 (88.5 Hz). *Adm:* free. **www.greencountryhamfest.org**

Pennsylvania (Butler) — Sept. 12 D F H R T V
8 AM – 1 PM. *Spr:* Butler County ARA. Unionville Volunteer Fire Company, 102 Mahood Rd. *Tl:* 147.360 (131.8 Hz). *Adm:* $5. **www.w3udx.org**

Pennsylvania (East Stroudsburg) — Sept. 26 D F H R T V
8 AM – 4 PM. *Spr:* Eastern Pennsylvania ARA. The American Legion Post 346, 126 E. 5th St. *Tl:* 147.045 (131.8 Hz). *Adm:* $7. **www.qsl.net/n3is**

Pennsylvania (New Holland) — Oct. 2 D F H R S T V
7 AM – noon. *Spr:* Red Rose Repeater Association. Garden Spot Fire Rescue, 339 E. Main St. *Tl:* 147.015 (118.8). *Adm:* $5. **www.w3rrr.org**

W4DXCC DX AND CONTEST CONVENTION

September 24 – 25, Pigeon Forge, Tennessee
D H Q R S V
Fri. 10 AM – 4 PM, Sat. 8 AM – 10 PM. *Spr:* The SouthEastern DX and Contesting Organization (SEDCO). Mainstay Suites and Convention Center, 410 Pine Mountain Rd. *Tl:* none. *Adm:* $40. **www.w4dxcc.com**

Texas (Belton) — Oct. 2 D F H R T V
7 AM – 1 PM. Temple ARC. Bell County Expo Center, 301 W. Loop 121. *Tl:* 146.820 (123.0). *Adm:* $5. **www.tarc.org**

Washington (Union Gap) — Sept. 18 F H Q R T
9 AM – 2 PM. *Spr:* N7YRC Group. Yakima Office of Emergency Management, 2403 S. 18th St. *Tl:* 147.06 (85.4 Hz). *Adm:* $5 donation. **www.n7cfo.com**

Wisconsin (Cedarburg) — Sept. 11 D F H R
6 AM – noon. *Spr:* Ozaukee Radio Club. Fireman's Park, 796 Washington Ave. *Tl:* 146.97 (127.3 Hz). *Adm:* $5, free ages 12 and under. **www.ozaukeeradioclub.org**

ARRL WYOMING SECTION CONVENTION

October 8 – 9, Cheyenne, Wyoming
F H S T V
8 AM – 5 PM. *Spr:* Shy-Wy ARC. Event Center at Archer, 3801 Archer Pkwy. *Tl:* 146.775 (114.8 Hz). *Adm:* $12 advance, $15 door. **www.wyhamcon.org**

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. See **www.arrl.org/hamfest-convention-application** for an online registration form.

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 **October 1** to be listed in the **December** issue.

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

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

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
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:Jim Inman, KB6JI Email: **jamesinman@roadrunner.com**
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

2021 Simulated Emergency Test

Assess your emergency preparedness on October 2 – 3, 2021.

Steve Ewald, WV1X

ARRL's annual Simulated Emergency Test (SET) is a nationwide exercise that focuses on the amateur radio community's commitment to being prepared and practicing how to respond before, during, and after a communications emergency.

This is a great time to check readiness for yourself, as well as your home station and portable radio equipment, antennas, and accessories in a simulated emergency-like deployment. The ARRL SET is an invitation to get involved, practice your skills, and test your response plan.

Partner Agencies and Organizations

ARRL Field Organization, Amateur Radio Emergency Service® (ARES®), National Traffic System (NTS), and Radio Amateur Civil Emergency Service (RACES) leaders and participants are among the many radio amateurs active in public service and emergency communications. They're developing simulated emergency scenarios in consultation with a number of agencies and organizations for whom radio amateurs are known to provide service during disasters and emergencies.

ARRL has formal relationships with several national organizations, including the American Red Cross, the National Weather Service (NWS), the Federal Emergency Management Agency (FEMA), and the Salvation Army (among several others). Visit **www.arrl.org/served-agencies-and-partners** for more information.

National Preparedness Month is recognized each September to promote family and community disaster planning, now and throughout the year. This is a nationwide effort to encourage everyone to take steps to prepare for emergencies in their homes, workplaces, schools, and communities. The US Department of Homeland Security works with a variety of organizations to highlight the importance of emergency preparedness and promote individual involvement through events and activities across the nation. We encourage you to consider this year's ARRL SET and all preparations for it as a demonstration of amateur radio's commitment to being prepared and ready. More information on National Preparedness Month can be found at **www.ready.gov**.

SET to Go!

ARRL Field Organization leaders have the option of conducting their local or Section-wide SET on another weekend besides October 2 and 3, 2021. SETs should be conducted no later than the end of the fall season or the calendar year.

To find out how to be involved in this year's SET, contact your local ARRL Emergency Coordinator or Net Manager. Contact your local club or other area clubs to find out who the Emergency Coordinator is and where the nearest ARES or NTS nets meet. In addition, refer to the ARRL Section web pages at **www.arrl.org/groups/sections**.

During the 2020 ARRL SET, a search and rescue team gathered prior to a simulated exercise to find two lost hikers in Shawnee State Park in western Pennsylvania. ARES members of the Bedford County Amateur Radio Society (BCARS) provided supplementary communications for 75 volunteers from 16 federal, state, and local agencies. [Lloyd Bankson Roach, K3QNT, photo]

Guidelines and specific SET reporting forms for the ARRL Section and Field Organization leaders are posted at **www.arrl.org/public-service-field-services-forms**. Download the forms, fill them out as appropriate, and return them to **sewald@arrl.org** at ARRL Headquarters (copying your Section Manager, Section Emergency Coordinator, and Section Traffic Manager).

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(Continued on next page)

ACS/ARES Training and News Rob Hanson W6RH (Continued)

ARES Resources

· Download the ARES Manual [PDF]

· ARES Field Resources Manual [PDF]

· ARES Standardized Training Plan Task Book [Fillable PDF]

· ARES Standardized Training Plan Task Book [Word]

· ARES Plan

· ARES Group Registration

· Emergency Communications Training

The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

How to Get Involved in ARES: Fill out the ARES Registration form and submit it to your local Emergency Coordinator.

ARES Membership Requirements

Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an Amateur Radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

How to Get Involved in ARES

Fill out the ARES Registration form and submit it to your local Emergency Coordinator.

Volunteers Wanted!
If you're an individual Emergency Communication volunteer…-

• You need to be trained. In order to provide support in the event of an emergency—or even in a non-emergency situation—you need to have the proper training and licensing. Learn more about the ARRL Emergency Communications Training course.
(Continued on next page)
• You need to be equipped with sustaining skills. What if when you get to a location, there is no food and the sleeping conditions are undesirable? Before you leave on your assignment, you need to make
(Continued on next page)

ACS/ARES Training and News Rob Hanson W6RH (Continued)

ARES Resources (Continued)

sure you have coping skills that enable you to be able to do your job operating under the conditions you are assigned to—from hardship conditions to making sure you're able to work the equipment.

• You need to prepare your family for your absence. When you leave home and head for a disaster area, your family has to be both physically and mentally able to cope. After a disaster, when a volunteer comes home, he or she can be confronted by some mental health issues, for which there are several resources. Many volunteers experience everything from fatigue or exhaustion to depression.

• You need to find ways to volunteer. You would first want to become a member of your local ARES, CERT, RACES or local emergency management organization. Then try the American Red Cross or Web sites like Ready.gov.

If you're a member of the ARRL ARES program…+

"What should I bring with me?"+

Where Will Volunteers be Needed?+

Working with government organizations+

Working with non-government organizations.

ARLB022 FCC Grants Temporary Waiver to Permit Higher Symbol Rate Data Transmissions for Hurricane Ida Traffic

The FCC has granted an ARRL emergency request for a temporary waiver intended to facilitate relief communications in the wake of Hurricane Ida. The waiver was orally granted on Saturday, August 28, and immediately permitted amateur data transmissions related to Hurricane Ida traffic to employ a higher symbol rate for data transmissions than the current limit of 300 baud.

ARRL pointed out in its request that Amateur Radio Emergency Service
(ARES) members are working with federal, state, and local emergency management officials to assist with disaster relief. Many use radio modems and personal computers capable of using digital protocols and modes that would permit faster messaging rates than normally permitted under the FCC's rules. ARRL pointed out that higher data rates can be critical to timely transmission of relief communications, such as lists of needed and distributed supplies.

In 2016, in response to an ARRL petition for rulemaking, the FCC proposed to remove the symbol rate limitations, which it tentatively concluded had become unnecessary due to advances in modulation techniques and no longer served a useful purpose. That proceeding, WT Docket 16-239, is still pending. ARRL sought the waiver for radio amateurs directly involved with hurricane relief on HF using high-speed data transmissions, and the FCC orally granted the emergency temporary waiver for traffic related to Hurricane Ida. The temporary waiver is good until a written decision is made on ARRL's request that would cover the remainder of the hurricane season. (Continued on next page)

ACS/ARES Training and News Rob Hanson W6RH (Continued)

ARLB022 FCC Grants Temporary Waiver to Permit Higher Symbol Rate Data Transmissions for Hurricane Ida Traffic (Continued)

Pursuant to ARRL's request and similar to written waivers granted by the FCC in earlier years, to qualify, a protocol or mode exceeding the 300 baud symbol rate limit must (1) be publicly documented, (2) use no more bandwidth than the currently permissible slower protocols (generally accepted to be the bandwidth of an SSB signal, or 2.8 kHz), and (3) be used solely for communications related to Hurricane Ida. ARRL is hopeful that the FCC will grant a longer-term waiver this week to enable planning and communications for any additional hurricanes this season.
NNNN
/EX

ARLX011 FEMA Announces HF Interoperability Activity on 60-Meter Channels 1 and 2

Channels 1 and 2 on 60 meters will be available starting on August 30 for interoperability between US government and US amateur radio stations involved in Hurricane Ida emergency communications. This situation will remain in place until the storm has passed and the need for these channels no longer exists, or on September 6, whichever comes first.

These frequencies will be used: Channel 1 Primary voice traffic 5332 kHz channel center, 5330.5 kHz USB voice; and Channel 2 Digital traffic 5348 kHz channel center, 5346.5 kHz USB with 1.5 kHz offset to center of digital waveform. Stations on 60 meters are asked to yield to operational traffic related to Hurricane Ida.

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.

News from the Pleasant Valley Amateur Radio Club

Pleasant Valley Amateur Radio Club Update August 9, 2021

Hello All!

We have an operational update we would like to share with you.

South Mountain VHF Repeater Status

I have shared with you the difficulties of finding a viable VHF repeater frequency for South Mountain as the mountain presents such a strong signal into the Los Angeles, Orange and San Bernardino Counties. From South Mountain, on a clear day you can see through the Cahuenga Pass into the LA area.

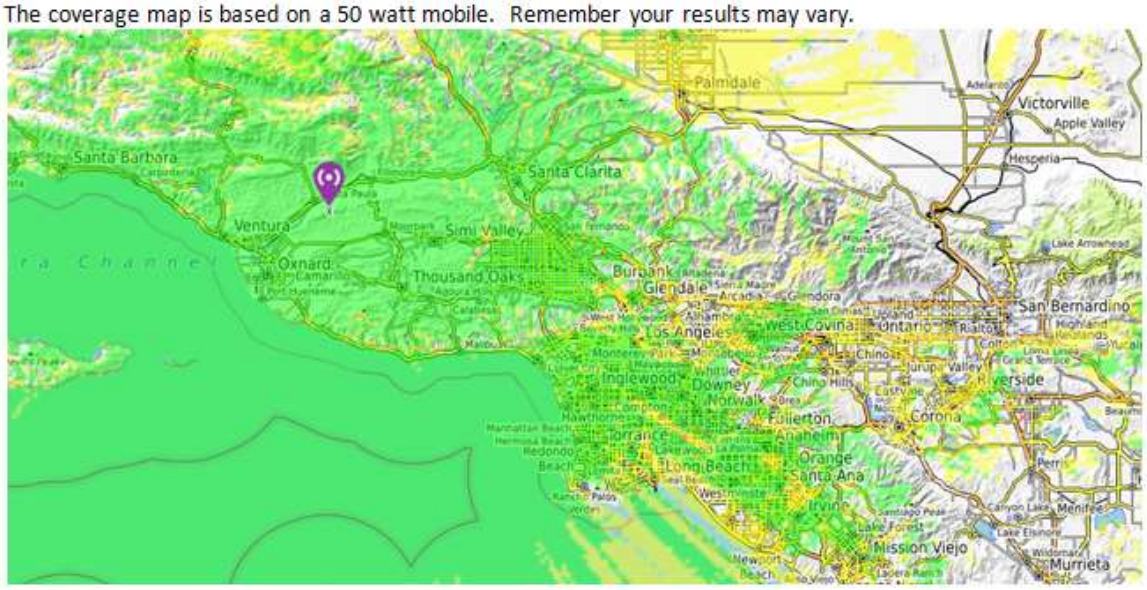
To date I have tried three different two meter test frequencies all were fiercely interfering with their local user base. Through all of this testing and with many telephone calls I have found a new home for the repeater.

Repeater Output:	147.465 MHz	77.0 Hz PL
Repeater Input:	146.505 MHz	77.0 Hz PL

As you can see this is an odd split repeater so please take care in programming your radio. These are standard 15KHz channels compatible with all Amateur 2 Meter radios.

Please note that the PL for this repeater is unique for Ventura County, the use of the County norm of 127.3 Hz was not a feasible option for this frequency. I encourage you to use PL decode on your local radio.

The coverage map is based on a 50 watt mobile. Remember your results may vary.



Give the new frequency a try and let me know of how it is performing for you. 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:
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) (Continued on next page)

ARRL Santa Barbara Section (Continued)

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.

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.
SB QST @ ARL $ARLB016

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

Meeting Location Maps

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 $5 (Jul-Sep). October is the annual dues due month!

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).

Mines on the Air (MOTA) Promoted as an Activity Similar to Summits on the Air (SOTA)

Many hams enjoy getting out of the house to operate, engaging in such activities as Summits on the Air (SOTA), Parks on the Air (POTA), or Islands on The Air (IOTA). Now it's time to try Mines on the Air (MOTA) -- but banish any thoughts of underground operating. The spark plug for this activity is John "JohnnyF" Fuller, WJ0NF, in Colorado.

"I decided to start...the MOTA project because mines are everywhere in my area, and I was already checking them out and researching their history," Fuller explained on the MOTA website. He got into ham radio after losing "internet, cell, and landline service for the fourth time in 2016."

MOTA aims to see operators get out of the shack, enjoy the hobby, and take others (spotters) along for the ride. "It is meant to promote the hobby, enjoy the world around us, and bring a bit of history into our lives," Fuller said. "I encourage Activators to document their adventure with photos and videos that they can share with everyone -- either via this site, their own sites, or YouTube videos."

He continued, "I would also encourage activators to bring back part of the enjoyment via QSL cards. If you have the means, spend a few dollars, and create one-of-a-kind, limited-edition QSL cards for the spotters that couldn't be there."

Fuller said he's planned on limited runs of 20 - 30 cards for each activation, each card bearing an image of the relevant mine.

"We are just starting out, and I am sure things will change as the project grows," Fuller said. "For now, I would like to create a form where MOTA Activators can fill out the relevant information and submit it for addition to the database. Once the project grows past a critical point, we will have to move to a more interactive site where you can search through the database and upload information on your own."

Fuller said to activate a mine and have it added to the database will just include information describing where the site is located and photographic proof that the operator was there. If a link to a website for the mine is available, he'd like that included too. Fuller's Activation Requirements page has more details. Fuller has one important caveat: activating a mine for MOTA "is not meant for people to risk their health or lives by exploring unsafe locations. No more than SOTA or IOTA. In each activity, you need to use common sense. Stay out of these old mines and be safe." (Continued on next page)

ARRL News (Continued)

Mines on the Air (MOTA) Promoted as an Activity Similar to Summits on the Air (SOTA)

He notes that not all mine sites are open to the public. "Make sure you know ahead of time what legal access you have to the location," he said.

John "JohnnyF" Fuller, WJ0NF.

(Continued on next page)

ARRL News (Continued)

The SKYWARN Storm Spotter Program

Ham participation is essential to keep local communities safe with this severe-weather volunteer program.

Rob Macedo, KD1CY

One of the most powerful ways amateur radio contributes to community service, public service, and emergency communications is through participation in the National Weather Service (NWS) SKYWARN® Storm Spotter Program. SKYWARN is a volunteer weather-spotting program, in which severe-weather reporting based on the NWS reporting criteria protects the lives and properties of local communities.

ARRL, by way of the Amateur Radio Emergency Service® (ARES®) program, has a Memorandum of Understanding with the NWS on the role amateur radio plays in weather spotting and the SKYWARN program. Program training sessions are offered by local NWS forecast offices around the country. Despite the COVID-19 pandemic, sessions have been held virtually, with some NWS forecast offices providing a certificate or spotter ID number upon completion of the training. Other NWS offices require passing an online quiz in addition to completing the virtual training.

The Importance of Amateur Radio Storm Spotters

Amateur radio operators can provide the NWS with ground-truth reporting that can't be obtained through other methods. Some radio operators involved in public safety can provide quality reporting due to their unique positions with those entities. Amateur radio SKYWARN nets can receive reports from various areas, including: operators involved in public safety, operators spotting activity from their home locations, or operators traveling in their vehicles. Additionally, radio amateurs can help monitor social media outlets for factual reports and refute inaccurate ones. They can even report using social media if they can't get to their radio equipment.

An example of amateur radio operators playing a critical role in severe weather reporting is when an EF0 (Enhanced Fujita Scale) tornado struck the communities of Sandisfield and Tolland, Massachusetts. Damage reports were received in near real-time and amateur radio SKYWARN Storm Spotters Larry Spencer, N1LWS, and Adam Sullivan, WX4FUN, were able capture the storm damage using a drone. This facilitated an NWS survey of the area, which was made easier by other amateur radio reports confirming an EF0 tornado in that location.

Adjusting to the Pandemic

The COVID-19 pandemic has changed the way radio amateurs have had to operate during severe weather events. NWS forecast offices have been running with minimal staff on site, while much of their personnel has been operating remotely. Volunteer ARES operators, who would typically operate amateur radio stations at the NWS forecast offices, weren't able to do so because of the pandemic. Many of the volunteers who would take reports at the NWS offices have had to utilize their home stations or other similar station setups to relay information via programs such as the NWSChat program (only open to ARES SKYWARN leaders and net controls) and NWS online reporting forms and emails.

During the 2020 SKYWARN Recognition Day, Rob Macedo, KD1CY, operated from his home station to gather reports from a major winter storm in southern New England. He accepted contacts representing the NWS Boston/Norton forecast office.

(Continued on next page)

ARRL News (Continued)
Skywarn (Continued)

In 1999, the NWS and ARRL developed SKYWARN Recognition Day (SRD), held annually on the first Saturday in December from 0000 – 2400 UTC. This day recognizes the hard work and efforts of SKYWARN Storm Spotters and radio amateurs around the country. Due to the COVID-19 pandemic, the 2020 event was transformed to allow for contacts between NWS offices, as well as between the offices and spotters. Additionally, it allowed for contacts among all amateur radio SKYWARN Storm Spotters with each other, as well as with any other NWS offices on the air. The online SRD certificate system was also adjusted to allow amateur radio spotters to select their own certificate type for making any number of contacts during the event.

An SRD Facebook group was created for the event. It allowed non-amateur radio SKYWARN Storm Spotters to participate and to learn more about meteorological topics and how hams report to local NWS forecast offices.

The 2021 SKYWARN Recognition Day will be held on Saturday, December 4. More information about the event will be available as it gets closer.

Hurricane Season Storm Spotting

SKYWARN plays a critical role during Atlantic hurricane season, with local and regional SKYWARN programs providing reports to their local NWS forecast offices. The 2020 hurricane season was record-breaking, with the most named systems. WX4NHC, the National Hurricane Center amateur radio station (**www.wx4nhc.org**), as well as amateur radio nets like the Hurricane Watch Net (HWN) and the Voice over Internet Protocol (VoIP) Hurricane Net, were active during hurricane season across the Atlantic and the Caribbean and interacted with many amateur radio SKYWARN spotters. These nets facilitated reporting to the National Hurricane Center (NHC) in Miami, Florida, as well as local NWS forecast offices in the affected areas.

Amid the 2020 Atlantic hurricane season, an online weather station at the Lake Charles, Louisiana, Emergency Operations Center (EOC) recorded a wind gust of 137 MPH during Hurricane Laura. The city's Automated Surface Observing System (ASOS) recorded a wind gust of 133 MPH before both instruments malfunctioned and the Doppler radar was severely damaged. The VoIP Hurricane Net relayed reports of the wind gust to WX4NHC and the local NWS forecast office, hours before a Lake Charles NWS meteorologist sent the report in from the EOC. This is a great example of the value of having amateur radio operators as storm spotters, as they were able to relay meteorological and surface data to local NWS forecast offices by sending reports in a timely fashion. The HWN also relayed critical reports during many of the 2020 hurricanes from their HF net to the NHC, which were utilized in NHC advisories.

During an EF0 tornado in Tolland, Massachusetts, Adam Sullivan, WX4FUN, captured an aerial view of some of the tree damage via drone.

Becoming a Trained Storm Spotter

The partnership between ARRL and the NWS is one of the strongest and simplest examples of amateur radio's value to partner agencies. We encourage amateur radio operators interested in public service to become trained SKYWARN Storm Spotters to interact with amateur radio SKYWARN nets and support the amateur radio hurricane nets. For more information on SKYWARN and how to become a trained storm spotter, visit **www.weather.gov/SKYWARN**.

All photos by the author.

Rob Macedo, KD1CY, earned his electrical engineering degree from UMass Dartmouth and has worked at Dell Technologies for over 25 years. He is a senior principle hardware engineer and former Director of System Integration in the Drive Storage Media Engineering (DSME) Department. He has always had an interest in technology, meteorology, emergency management, and emergency and public service event communications. Rob has been the ARES SKYWARN Coordinator for NWS Boston/Norton for 25 years, and is the Eastern Massachusetts ARES Section Emergency Coordinator. When he's not at work or doing amateur radio public service, emergency communications, and weather spotting volunteer work, Rob enjoys movies, shows, time with family and friends, and sporting events. He can be reached at **kd1cy.rob@gmail.com**.

ARRL News (Continued)

Jon Jones, NØJK, n0jk@arrl.org

The World Above 50 MHz

High Solar Cycle 25 Activity May Enhance Sporadic E

Solar Cycle 25 activity picked up dramatically in early July 2021. An A-, C-, M-, then X-class solar flare occurred on July 3. The solar flare scale is logarithmic, so an M1 flare is 10 times stronger than a C1, and an X1 is 10 times stronger than a M1. In a report titled, "First X-Flare in 4 Years," **Spaceweather.com** said, "A new sunspot emerged during the early hours of July 3, and promptly exploded, producing the first X-class solar flare since September 2017."

Strong 2-meter sporadic E appeared on June 27, and it was followed by an intense sporadic-E opening from North America to Europe and the East on July 2 and 3. This had DXers wondering if the high solar activity spurred the sporadic E.

The causes of mid- and high-latitude summer sporadic-E openings are not well understood. *Wind shear* — or the difference in wind speed or direction — in the sporadic-E layer is felt to be one of the main causes. Other researchers wonder about a connection to severe thunderstorms. But the intense and widespread sporadic E during the last weekend of June and first days of July imply a global phenomenon. It could also be caused by changes in the Earth's magnetic field from solar flare X-ray radiation ionizing the top of the ionosphere.

The sporadic-E season will be winding down in September. But high solar activity and coronal mass ejection (CME) impacts may cause more 50 MHz and higher VHF band DX during fall 2021. The Autumnal Equinox is a prime time for *aurora*, which occurs during geomagnetic storms and can reflect signals from 50 MHz up to the microwave bands (see Figure 1). During an aurora, the F2 maximum usable frequency (MUF) can sometimes go over 50 MHz. This is usually on north-south paths, such as North America to the Caribbean and South America. **Spaceweather.com** and **Solarham.com** are good sources of information.

When to Send "RR73"

Using "RR73" has become a popular way to conclude an FT8 or MSK144 contact. By using "RR73," stations can save one to two sequences. This can be significant if a DX station is trying to work as many people as possible. However, receiving an "RR73" from a rare station may not guarantee the contact is in the log.

Some stations want a "73" from you to verify reception. Additionally, signal fading and interference can complicate things. My version of *WSJT-X* sends only one "73" after receiving an "RR73." Lance, W7GJ; Jim, AAØMZ, and others suggest sending "RRR" rather than "RR73," particularly if conditions are not good. This requests a "73" response from the other station, and ensures the contact is in the log.

On the Bands

50 MHz. June was an interesting month. There were strong openings at the beginning and end of the month, but dry patches in the middle. One highlight was on June 1, when Rich, K1HTV (FM18), logged JR1LZK and JA8ISU. EI7GL and NN4X noted that KG6DX (QK23), in Guam, worked into central Europe on June 1, making contacts with DK1MAX (JN58) and S57RR (JN65) at 0615Z over 12,000-kilometer paths. On June 3, K7ULS (DN41) worked F1GTU, and Dan, NP2J, worked 44 European stations on CW. XE2X (EL06) worked 9K2ØD (LL49) at 1335Z on 50.323 MHz.

On June 7, Mike, KMØT (EN13), found SV3DXC, TK5MH, and Z37CXY. Roger, VE1SKY, logged 9K2NO. On June 11, Ron, KF3R (FM18), worked EA6SX (JM19) and K1RI (FN41) in Rhode Island. Nelson, KD2CYU (FN20), found six new countries on June 11, including 7X3WPL (who runs 40 W and a dipole), EA9ACD, and ES6RQ.

On June 13, VK4HJ (QG63) worked EA8DBM (IL18) at 0625Z at 16,200 kilometers. EI7GL suspects a com-

Figure 1 — Well-known Dominican Republic 6-meter DXer David Lama, HI8DL, with his son, HI8DML, and wife, Annabel. David worked 2-meter sporadic E to the Midwest on July 13, 2021. [Buddy Morgan, WB4OMG, photo]

(Continued on next page)

ARRL News (Continued)

First X-Class Major Solar Flare of Solar Cycle 25 Blacks Out HF on July 3

X-class solar flares have the ability to cause temporary radio blackouts. [NASA image]

For a brief time on July 3, a lot of radio amateurs wondered, "Where did the bands go?" as the first X-class solar flare in 4 years briefly blacked out HF propagation.

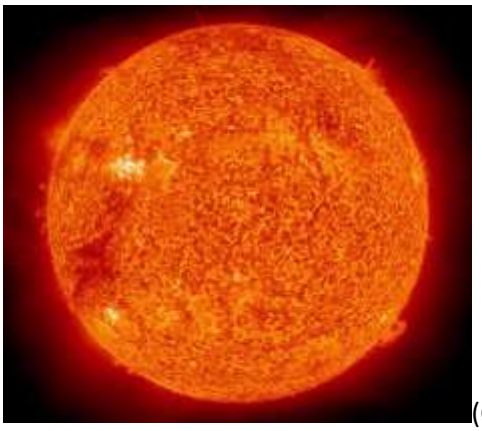
"I was on 20-meter FT8, and my waterfall display went from solid red signals to solid nothing in the blink of an eye," Scott Craig, WA4TTK, told "K7RA Solar Update" Editor Tad Cook, K7RA. "It lasted about 10 minutes." Craig was not alone.

"Many American radio amateurs reported sudden HF propagation blackouts on Saturday morning, July 3, when solar active region 2838 produced an X1.5 major solar flare that reached maximum intensity at 1429 UTC, the first X-class solar flare of Solar Cycle 25 and the first since 2017," said Frank Donovan, W3LPL. "HF propagation blackouts are caused when X-ray and extreme ultraviolet radiation from X-class solar flares strongly ionizes the absorbing D region in the Earth's sun-facing dense lower ionosphere," he explained. NOAA's Space Weather Prediction Center (SWPC) categorized the July 3 incident as a R3-level or "strong" radio blackout (on a scale of R1 – R5), which can cause a "wide-area blackout of HF radio communication [and] loss of radio contact for about an hour on [the] sunlit side of Earth."

Donovan said that X-class major solar flares are necessary consequences of steadily increasing Solar Cycle 25 activity. "95% of all X-class solar flares occur when the solar flux index is 90 or greater. The remaining 5% can occur any time during the solar cycle," he pointed out.

X-class major flares are measured on an open-ended scale. The strongest one ever recorded was an X28 flare in 2003, hundreds of times more powerful than the July 3 X1.5 solar flare. X10-class and stronger solar flares typically have effects that last for most of a day and affect the entire sunlit side of the Earth. Fortunately, X10-class solar flares occur only about once every 20 years or more.

The coronal mass ejection (CME) associated with the July 3 X1.5 solar flare was likely to have little to no effect on HF propagation going forward, because the active region was very close to the western edge of the visible solar disk when the CME erupted. Region 2838 rotated off the visible disk on July 4. — *Thanks to Frank Donovan, W3LPL*



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ARRL News (Continued)

Understanding the Changes to the FCC RF Exposure Rules

Learn whether these changes affect your station, and how you can easily evaluate it to comply with FCC regulations.

Ed Hare, W1RFI

On May 3, 2021, the new FCC rules regarding exposure to RF energy went into effect. Stations operating under the exemptions included in the old rules must comply with the rules changes by May 3, 2023. This article provides a historical background on the amateur rules for RF exposure, as well as information about the exposure limits, other requirements for amateur stations, and changes to how many amateurs can continue to be exempt from the requirement to evaluate their stations.

Recent Changes to the Rules

When the FCC first introduced regulations about human exposure to RF energy in 1996, amateur radio was included. The first RF exposure rules set limits for human exposure to radio transmitters. Although these limits applied to amateur radio, amateurs were not required to evaluate their stations.

In 2020, the FCC finalized significant changes to the rules. Under the new rules, amateur stations are still required to comply with the exposure limits, but more amateur stations are required to conduct a "routine station evaluation" to determine that their station complies with the limits for human exposure. In the old rules, there were numerous exemptions from this requirement based on frequency of operation, power level, and the type of operating being done. Mobile and handheld portable transmitters that used push-to-talk (PTT) were exempt from the need to evaluate, as were most repeater stations. These service-specific exemptions were replaced in the new rules with simple formula-based methods of determining whether a particular station needs to be evaluated.

Determining If Your Station Needs an Evaluation

If you performed an evaluation of your station under the old rules, you don't need to to do so again, unless you make a change that could increase the amount of RF energy present near your station, such as increasing transmitter power, changing your antenna type, or using a new band or operating mode. If you don't make these kinds of changes, you may continue to operate.

If your station was exempt from evaluation under the old rules, you'll need to either assess your station or use the exemption formula to determine whether or not it needs to be evaluated under the new rules. Those with stations in this category have until May 3, 2023, to complete the evaluation.

Table 1 shows the formulas you can use to determine whether you're exempt from needing to do an evaluation. This table cannot be used for exposure distances < $\lambda/2\pi$ or for distances closer than 20 centimeters.

Table 1 — Single RF Sources Subject to Routine Environmental Evaluation under MPE-Based Exemptions, $R \geq \lambda/2\pi$

Transmitter Frequency	Threshold Effective Radiated Power (ERP)
0.3 – 1.34	1,920 R^2
1.34 – 30	3,450 R^2/f^2
30 – 300	3.83 R^2
300 – 1500	0.0128 R^2f
1500 – 100000	19.2 R^2

Note: Transmitter frequency is in MHz, threshold ERP is in watts, R is in meters, and frequency (f) is in MHz.

Using Table 1 for the frequency (f in MHz) and separation distance (R in meters) at which the RF source operates, single RF sources are exempt if the ERP (in watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, the separation distance in meters (R) must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength. If the ERP of a single RF source is not easily obtained, then the available maximum (source-based) time-averaged power may be used in lieu of ERP if the device antenna(s) or radiating structure(s) do not exceed the electrical length of $\lambda/4$. If the ERP of the single RF source and transmitting antenna(s), including coherent array, exceeds the ERP threshold, then the RF source is not exempt, and the applicant must prepare an evaluation.

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ARRL News (Continued)
Understanding the Changes to the RF Exposure Rules (Continued)

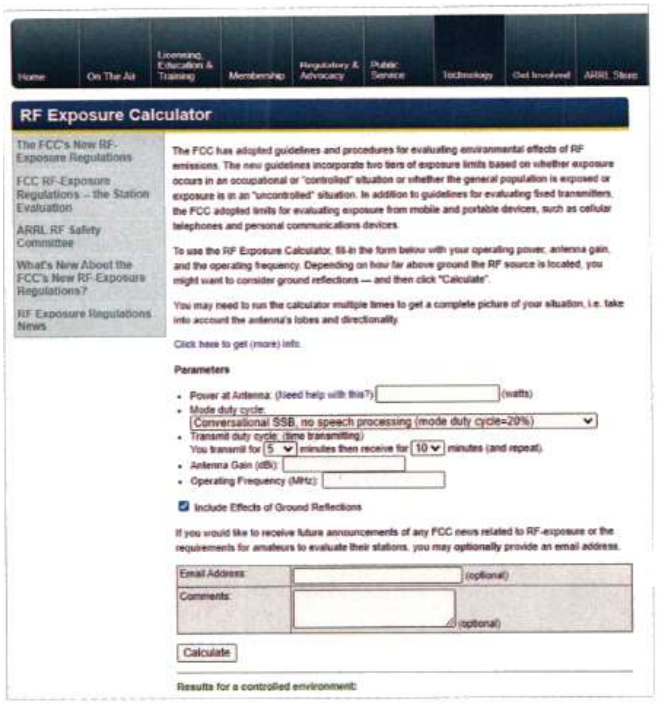

Figure 1 — This simple RF calculator can do most evaluations in 1 minute or less. To use this calculator, visit **www.arrl.org/rf-exposure-calculator**.

Regarding the RF exposure rules, the FCC has clarified that effective radiated power (ERP) is the gain of an antenna compared to the gain of a half-wave dipole at the same location. For example, if you're operating 28.5 MHz and the closest place where people might be exposed (including you and your family) is 12 meters diagonally to any part of your antenna, then the maximum ERP you can use by this formula is 611.5 W. If you're running 100 W to a dipole, then your station is exempt from evaluation on this band. If you run 500 W to a Yagi antenna with a gain of 5.35 dBd (if the gain of the antenna is specified in dBi, convert this to dBd by subtracting 2.15 dB), your ERP would be 1713.8 W, so you would not be exempt on this band for that power and antenna configuration. If this was a new installation, in order to put that station into operation you would need to do an evaluation, reduce power, locate your antenna farther away from people, or control access to areas that were this close to the antenna.

If you run 100 W on 3.5 MHz to any antenna, you need to do an evaluation in all cases if the exposure occurs at a distance of 13.6 meters or less, because this would be within the near-field distance defined by $\lambda/2\pi$.

If you have to do an evaluation, there's no need to panic. In most cases, you can do a simple calculation using an online RF calculator.

To perform an evaluation, you're going to compare the power density and field strength of your antenna to the limits in the FCC rules. Table 2 shows the limits for the amount of RF exposure that can occur from the operation of any transmitter in any radio service.

The FCC has determined that amateur radio operators and the members of their households can be evaluated to the higher (Controlled) exposure limits if the amateur has provided them with RF safety instruction and training. (The FCC was not specific as to what this training shall be.)

Exposure must meet all three limits — power density, electric field, and magnetic field strength. The limits are for exposure averaging over 30 minutes for Uncontrolled and 6 minutes for Controlled. To obtain this average exposure, evaluators should determine the average power of the transmitter being evaluated, using mode duty factors and the on/off duty cycle of the transmitter over the averaging period.

Using RF Calculators

The easiest way to do an evaluation is to use ARRL's RF exposure calculator at **www.arrl.org/rf-exposure-calculator** (see Figure 1). The calculator will take your average power, the frequency you're using, your antenna gain, and your operating mode to calculate the minimum compliance distance from any part of your antenna. At this distance, the power density, E-field, and H-field all meet the FCC's limits.

You can calculate your average power by inputting the mode with the highest duty factor you intend to use and telling the calculator about your on/off operating times. You should use the "worst case" that you might ever be using when people may be exposed by the signals from your antenna. For example, if you might transmit a carrier for 10 minutes to adjust your station at full power, you should select 100% as your mode duty factor. Even if you usually transmit for only 1 – 2 minutes then listen, but you might occasionally transmit for 20 minutes in a single transmission, you should enter that worst-case scenario into the calculator.

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ARRL News (Continued)
Understanding the Changes to the RF Exposure Rules (Continued)

Table 2 — Limits for Maximum Permissible Exposure (MPE)				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm²)**	**Averaging Time (minutes)**
(A) Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	*(100)	≤ 6
3.0 – 30	1842/f	4.89/f	*(900/f²)	< 6
30 – 300	61.4	0.163	1.0	< 6
300 – 1500			f/300	< 6
1500 – 100000			5	< 6
(B) Limits for General Population/Uncontrolled Exposure				
0.3 – 1.34	614	1.63	*(100)	< 30
1.34 – 30	824/f	2.19/f	*(180/f²)	< 30
30 – 300	27.5	0.073	0.2	< 30
300 – 1500			f/1500	< 30
1500 – 100000			1.0	< 30
f = frequency in MHz and * = plane-wave equivalent power density				

If the distance where people may be exposed is greater than the distance the calculator estimates, your evaluation is complete.

Once you do this evaluation on each band and mode you might use, you have done what the rules require. On HF, the upper bands have lower limits, so if you're using a tribander antenna on 29.7 MHz and you pass, you'll also pass on the lower bands using that same antenna. Likewise, if you pass at a 100% duty factor, you'll also pass if you use a mode with the same duty factor and power level, while using the same antenna.

Other Means of Evaluation

While the calculator is the easiest way, it's a conservative calculation, so it often overestimates the signal from your antenna. If you don't "pass," you can use other, more accurate ways to calculate the signals from your station.

For example, you can use antenna modeling to predict the field strength from your station. How this is done involves a lengthy explanation, but you can enter the dimensions of your antenna and use the near-field calculator built into most antenna-modeling programs. Although it's beyond the capabilities of most amateurs, the FCC would also permit you to make measurements of field strength. To do this accurately requires a calibrated antenna and measuring instrument. The small handheld electromagnetic field (EMF) meters that are available generally don't give good results.

Mitigation

If you don't pass, the FCC gives you a lot of flexibility in the ways you can mitigate and control exposure. You can use a different frequency and operating mode. You can also control where your antenna points. For example, if you model your antenna and find that you may exceed the limits in a neighbor's home (if you point the antenna in that direction), you could choose not to point your antenna at your neighbor's home while someone may be inside. You can also lower power under circumstances where human exposure may occur, closer than the distances you calculated. (You will have to repeat the calculation with your lower power level when you do this, to ensure that it meets the limits.)

Completing Your Evaluation

The good news is that there's no paperwork. When you complete your evaluation, you've fulfilled the rules requirement. Unless specifically requested by an agent of the FCC, you aren't required to submit any paperwork to them. However, it's a good idea for you to keep a copy of your evaluations in your station records.

More Information

In addition to this article, there's a lot of good information available at **http://arrl.org/rf-exposure**. Additionally, my book, *RF Exposure and You*, is available at **www.arrl.org/files/file/Technology/RFsafety Committee/RF+Exposure+and+You.pdf**.

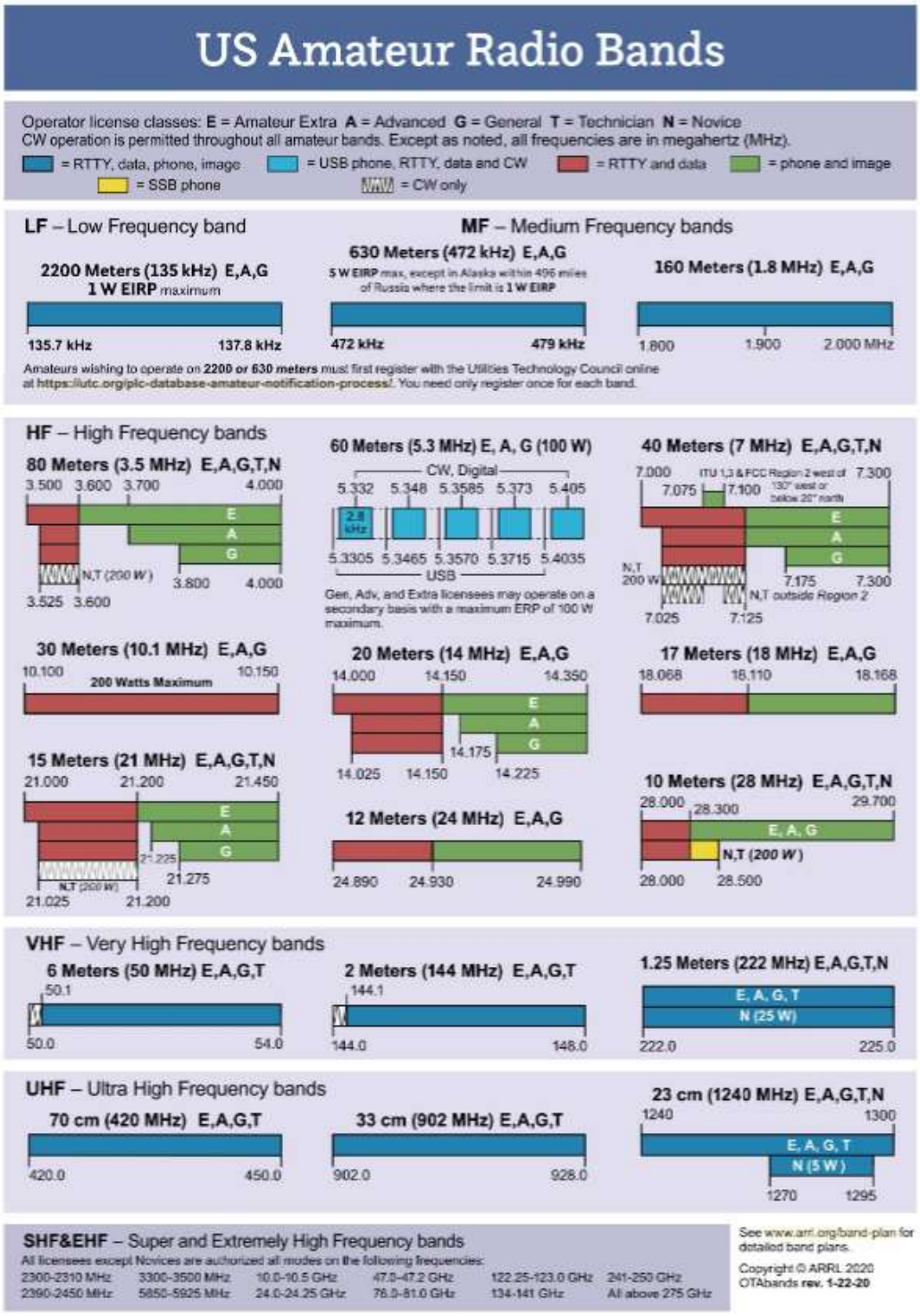
If, after utilizing these resources, you still have questions about how to apply the information to your particular station configuration, you can email the ARRL Lab at **tis@arrl.org**. Include your name, call sign, and as much information about your station as you can and one of the ARRL Lab engineers will help you.

Table data provided by **www.fcc.gov**.

Ed Hare, W1RFI, is the ARRL Laboratory Manager. He can be reached at **ehare@arrl.org**.

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.

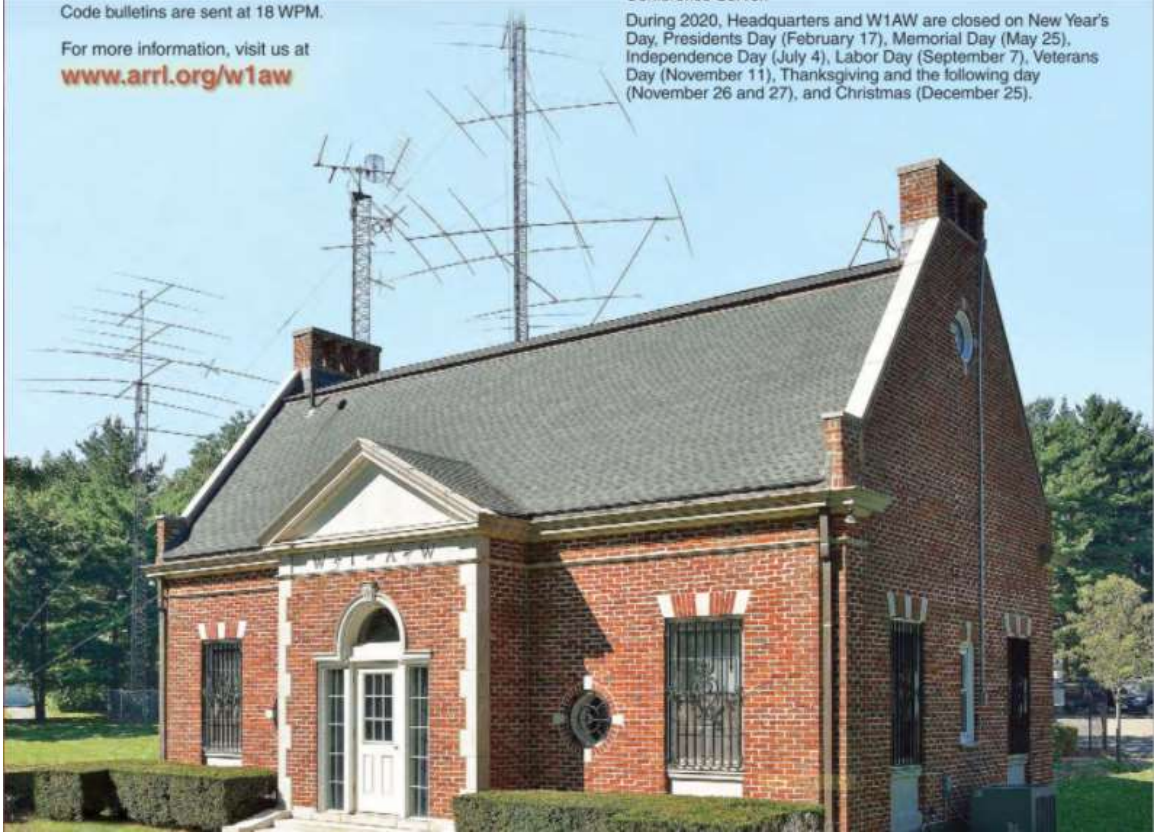
Keplerian elements for many amateur satellites will be sent on the regular digital frequencies on Tuesdays and Fridays at 6:30 PM Eastern time using Baudot and PSK31.

♦ 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.

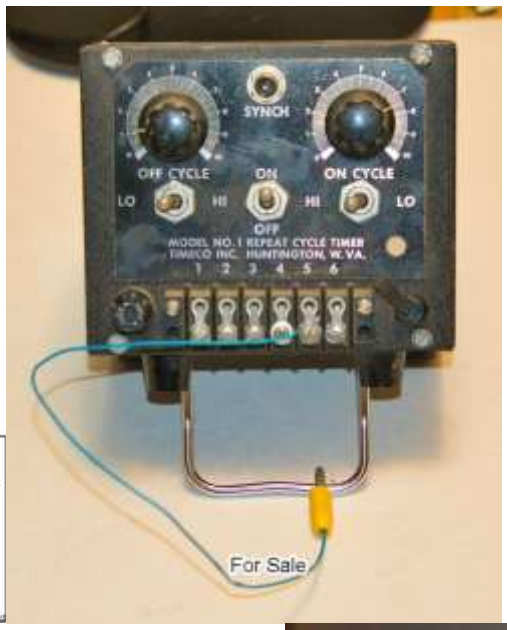
W1AW code practice and CW/digital/phone bulletin transmission audio is also available real-time via the *EchoLink Conference Server* W1AWBDCT. The conference server runs concurrently with the regularly scheduled station transmissions. The W1AW Qualifying Run texts can also be copied via the EchoLink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

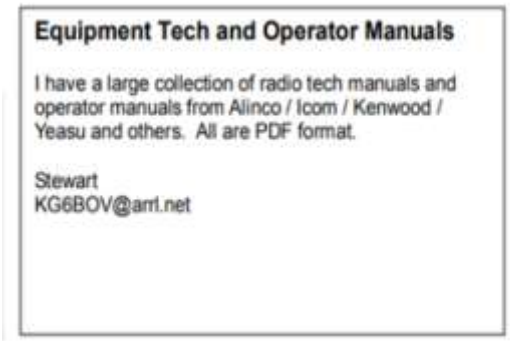
During 2020, Headquarters and W1AW are closed on New Year's Day, Presidents Day (February 17), Memorial Day (May 25), Independence Day (July 4), Labor Day (September 7), Veterans Day (November 11), Thanksgiving and the following day (November 26 and 27), and Christmas (December 25).



Wanted and For Sale Ads

Note that some items may have already been sold. Denney N6HV: For all photos and details (pricing), see: https://photos.app.goo.gl/6XkpynLeKov4jjKT6. 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)
More photos: https://photos.app.goo.gl/6XkpynLeKov4jjKT6 Pricing:
https://www.qsl.net/k6mep/shankdesign/K6MEP_for_sale.pdf

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

Want and For Sale Ads (Continued)

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

Want and For Sale Ads (Continued)

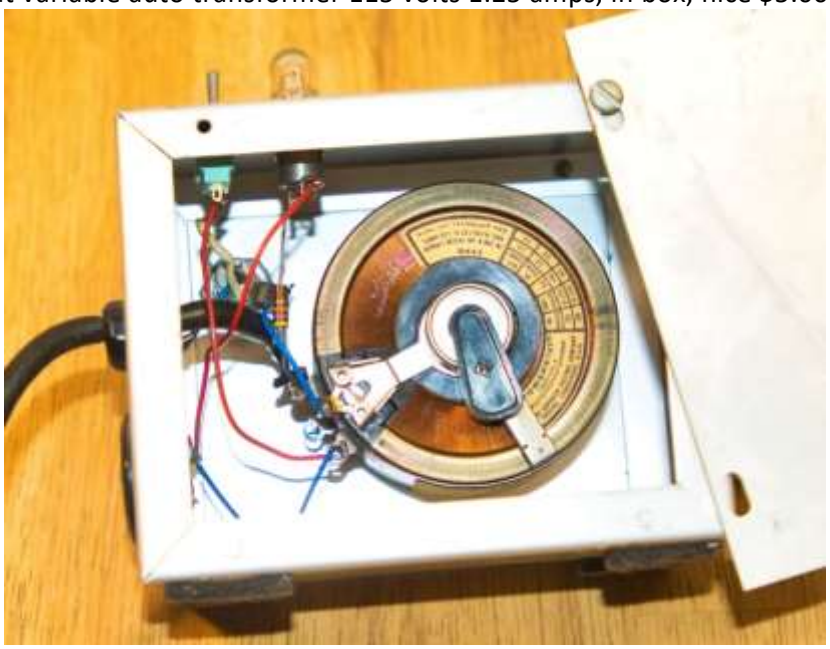
See Denney N6HV for the following items: (all the items below have been donated to the club)

Switching power supply for parts, lots of three terminal regulars, heavy aluminum base $5.00 or offer

Want and For Sale Ads (Continued)

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

Powerstat variable auto transformer 115 volts 1.25 amps, in box, nice $5.00 or offer;



Wanted and For Sale Ads (Continued)

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

Wanted and For Sale Ads (Continued)

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Wanted and For Sale Ads (Continued)

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Wanted and For Sale Ads (Continued)

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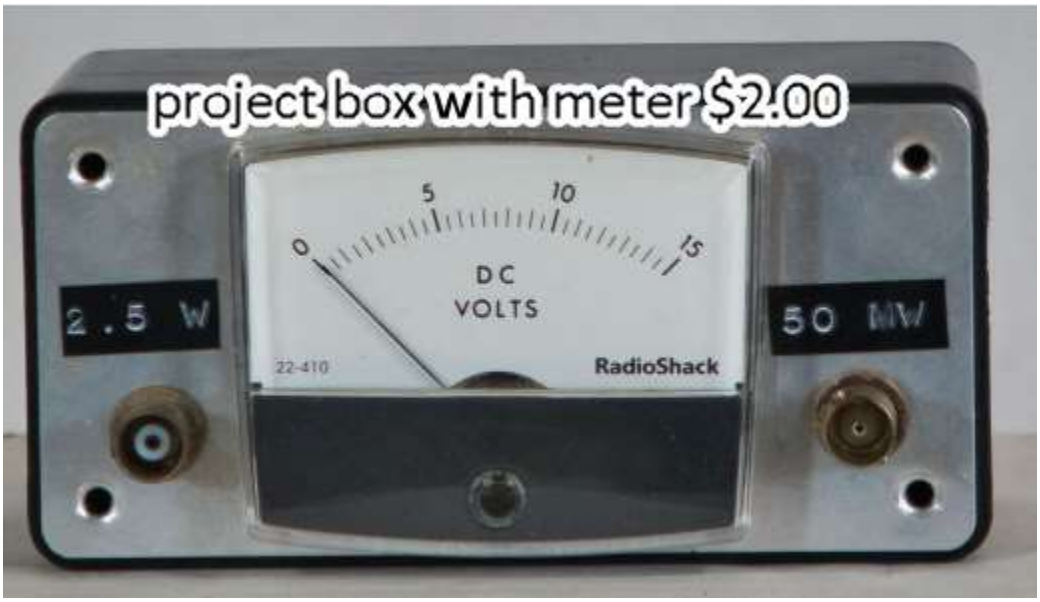


Wanted and For Sale Ads (Continued)

Contact Clem Alberts if interested at (805) 824-3650 or via email at KM6OKZ@gmail.com

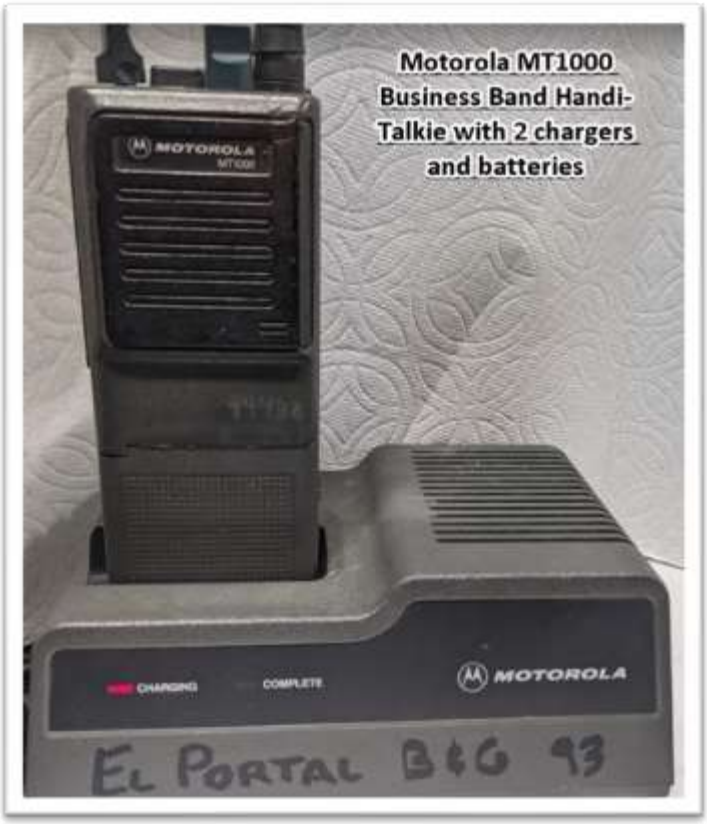
Wanted and For Sale Ads (Continued)

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, TenTec microphone and original manual - $450

Wanted and For Sale Ads (Continued)

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



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

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Wanted and For Sale Ads

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

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Wanted and For Sale Ads (Continued)

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

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Wanted and For Sale Ads (Continued)

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Wanted and For Sale Ads (Continued)

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

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Wanted and For Sale Ads (Continued)

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

See https://www.youtube.com/watch?v=eE7J4Kpbe6w&t=432s for refurbish

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Wanted and For Sale Ads (Continued)

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

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Wanted and For Sale Ads (Continued)

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Wanted and For Sale Ads (Continued)

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

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Wanted and For Sale Ads (Continued)

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

Five Hammarlund SP-600 Receivers