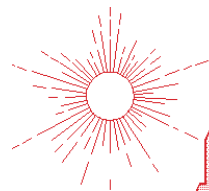


**ADAW**

4529 W. Park Place  
Glendale, AZ 85306-1512



**ADAW**

**Arizona Desert Aire Waves**

**Vol 45, No 12      December 2020**

**CLUB MEETING SCHEDULE**

**SARC**

Dec 2nd - 7:00 PM  
On Line

**AARC**

Dec 10th - 7:00 PM  
TBD

**YARC**

Dec 3rd - 7:00 PM  
Via Zoom

**TBARC**

Jan 21st - 6:30 PM  
Via Zoom - See Website

**CADXA**

Dec 3rd - 7:00 PM  
via ZOOM

**ARA**

Jan 28th - 7:30 PM  
Electronically

**MARCA**

Dec 15th - 6:30 PM  
TBD Check Web Site

**MARA**

Dec 5th - 9:00 AM  
On-Line

**ARCCC**

Dec 8th - 9:00 AM  
Via Microsoft Teams

**WVARC**

Dec 7th - 7:00 PM  
Via Zoom

**SuperstitionARC**

Dec 15th - 7:00 PM  
Via Zoom-Repeater-Echolink

**CHRC**

Dec 12th - 9:00 AM  
On-Line

**ANSR**

Dec 17th - 7:30 PM  
via GoToMeeting

**KARC**

Dec 8th - 6:30 PM  
New Hope Christian Fellowship

**OVARC**

Dec 18th - 7:00 PM  
Via Zoom

**AMO**

Dec 10th - 7:00 PM  
Charles K Luster Bldg

**ATN (VOAR)**

Dec 20th - 7:00 PM  
[www.whereby.com/atn1](http://www.whereby.com/atn1)

**QCWA-AZ Chapter**

TBD  
Phoenix/Prescott/Tucson

**SunLifeARC**

Every Monday - 10:00 AM  
Via Zoom

**CARL**

Jan 16th, 2021 - 12:00 PM  
Arizona Science Center

**MMRG**

TBD  
See Web Site

# ADAW Member Clubs

## ARIZONA AMATEUR RADIO CLUB

The Arizona Amateur Radio Club meets on the **SECOND THURSDAY** of each month at 7:00 p.m. at the American Red Cross Building at 4747 N 22nd St. in Phoenix. Visit web site at [www.W7IO.org](http://www.W7IO.org) for map. Visitors are welcome.

President	Gary Hamman	K7GH	602.996.8148
Vice President	Steve Tolnai	W7WSV	480.390.4446
Secretary	Open		
Treasurer	Bob Hodges	K7JJT	602.375.9982
Activities Mgr	Lori Cripps	WA7EDI	602.955.7517
Membership	Bob Hodges	K7JJT	602.375.9982

AARC c/o Bob Hodges, K7JJT, 15214 N 7th Place, Phoenix, AZ 85022. DUES: \$15.00/YR, Prorated (\$18.00 Family, \$9.00 Student), MEMBERSHIP YEAR BEGINS FEB. 1.

## SCOTTSDALE AMATEUR RADIO CLUB, INC.

The Scottsdale Amateur Radio Club meets the **FIRST WEDNESDAY** of each month at 7:00 p.m. in Room 8 at the new Scottsdale Senior Center located at 1700 N Granite Reef Road (west side of Granite Reef Rd., 50 yards north of McDowell Rd. Parking on site) in Scottsdale. The club also holds a net every Tuesday night at 7:00 p.m. on the 147.78/.18 repeater.

President	James Wasson	N7ELL	480.456.1154
Vice President	Ray Vasquez	K4RMV	
Secretary	Mike Childers	K7URK	
Treasurer	Douglas Mitchell	W7ADD	
Past President	Paul Finell	W7EFQ	602.741.6563
Board Members	Irv Hembuck	K0OTZ	
At-Large	David Yee	N7AJR	
	Bill Kouchis	N9EIV	
	Jim Dye	AG7AU	
	Paul Finell	W7EFQ	
	Chris Schweiger	NE7EE	
	Bruce Harmsen	KA9EYX	

SARC, P. O. Box 10878, Scottsdale, AZ 85271-0878. Phone: 602.735.3988. DUES: \$20.00/YR, (\$10.00/Add'l Family Member). Web Site: [www.scottsdalearc.org](http://www.scottsdalearc.org)

## ARIZONA NEAR SPACE RESEARCH

The Arizona Near Space Research group meets the **THIRD THURSDAY** of the month at 7:30 p.m. via GoToMeeting. Technical meetings are held the first Monday of the month at 7:30 p.m. on GoToMeeting. Please contact an officer about joining our meetings.

President	Stephen Thomas	KE7TLS	iamgadget1@yahoo.com
Vice President	Clayton Jacobs	KJ6QJS	
Secretary	Steve Miller	W6SDM	
Treasurer	Bill McLean	K7WWM	bmclean1@gmail.com

ANSR, PO Box 31003, Mesa, AZ 85275-1003. DUES: \$10.00/YR. Web Site: [www.ansr.org](http://www.ansr.org)

## THUNDERBIRD AMATEUR RADIO CLUB

The Thunderbird Amateur Radio Club meets the **THIRD THURSDAY** of each month at 7:00 p.m. at North Phoenix Campus of Northern Arizona University located at 15451 N. 28th Avenue (near I-17 and West Greenway Road). The meeting is held in room 147. See the website (<http://w7tbc.org>) for a map and more details.

President	Charles Loftus	KG7KRN	president@w7tbc.org
Vice President	Mike Baker	K7DD	vicepresident@w7tbc.org
Secretary	Andrew Cornwall	KF7CCC	secretary@w7tbc.org
Treasurer	Walt Reinert	NJ8G	treasurer@w7tbc.org
Directors	Clair Wyant	KG7MAJ	kg7maj@w7tbc.org
	Rick Tejera	K7TEJ	k7tej@w7tbc.org
	Kenneth Charleton	K4FZH	k4fzh@w7tbc.org
	Nic Holladay	K7CLI	k7cli@w7tbc.org
Past President	Brian McCarthy	AK7F	ak7f@w7tbc.org

For further information about the ThunderBird Amateur Radio Club, visit our website at <http://w7tbc.org>, send an e-mail to: [info@w7tbc.org](mailto:info@w7tbc.org) or call 602.938.8219. The Thunderbird Amateur Radio Club is a 501(c)(3) non-profit organization. Mailing address: PO Box 11394, Phoenix, AZ 85318-1394.

## AZ RED CROSS COMMUNICATIONS CLUB

The Arizona Red Cross Communications Club meets the **SECOND TUESDAY** of each month at 7:00 PM at the Red Cross Building located at 4747 N 22nd Street in Phoenix. The group meets at emergency drills and at the call of the officers.

President	Charlie Zurenko	N2TFS	
Vice President	Mark Steele	KI7RB	
Secretary	Saroj Gilbert	KM6BQD	
Treasurer	Doug Bessemer	K0VPL	
Past President	Peter Petrotta	KD7QIW	

Arizona Red Cross Communications Club - K7ARC, 4747 N 22nd Street, Phoenix, AZ 85016.

## MARICOPA AMATEUR RADIO ASSOCIATION

The Maricopa Amateur Radio Association (MARA) meets the **FIRST SATURDAY** of each month at 9:00 a.m. at Maricopa PD Community Room, 17985 N Greythorn Dr. in Maricopa.

President	Curt Steger	NA7CS	president@copahams.org
Vice President	Wayne Kropp	KI7SPW	vicepresident@copahams.org
Secretary	Bob Proctor	N6YPE	secretary@copahams.org
Treasurer	George Hogan	K7TGH	treasurer@copahams.org
PIO:	Steve Miller	W6SDM	pio@copahams.org
Webmaster:	David French	N7FAN	david@copahams.org

The Maricopa Amateur Radio Association is a 501(c)(3) non-profit organization. DUES: \$25.00/year individual, \$30.00/year family. Apply on-line at [www.copahams.org](http://www.copahams.org). Mailing address: P O Box 951, Maricopa, AZ 85139



# ADAW Member Clubs

## BARRY M GOLDWATER, ARIZONA CHAPTER QUARTER CENTURY WIRELESS ASSOCIATION

The Barry M Goldwater Arizona Chapter of the QCWA includes amateurs from all over Arizona. Monthly meetings are held in various parts of Arizona. The schedule is as follows:

**Phoenix - Third Wednesday** of each month. Contact John Marshall at wa7bsr@gmail.com

**Prescott - Second Tuesday** of each month at 10:30 a.m. at Golden Corral, 1901 EAZ-69 in Prescott. 982.776.1664. Contact Don Broadston.

**Tucson** - Seeking volunteer to set up monthly meetings in Tucson.

The AZ Chapter meets on the air every Sunday morning at 0700 MST (0730 during December and January) on 3890 +/- QRM. During December and January, the net time is moved to 0730 MST.

President	John Marshall	WA7BSR	623.334.2583
Vice President			
Secretary			
Treasurer	Dave Hanson	W7BJw7bj@outlook.com	
Webmaster	John Marshall	WA7BSR	623.334.2583

Web Site: <http://azqcwa.org> Email: [azqcwa@gmail.com](mailto:azqcwa@gmail.com).

DUES: \$7.00/year and current national QCWA membership.

## MINGUS MOUNTAIN REPEATER GROUP

Meetings are held twice a year, an annual board meeting in Phoenix and a picnic meeting in Chino Valley. Dates, times, and locations are announced in the newsletter.

President	Bob Sitterley	K7POF	928.636.2146
Vice President	Ray Tyrrell	N6MY n6my73@gmail.com	
Treasurer	Bob Sitterley	K7POF	928.636.2146
Secretary	Lori Cripps	WA7EDI	602.955.7517
Board Members:	Gary Hamman	K7GH	
	Butch Merrill	K7JOG	
	Jerry Roberts	KB7CN	
	Ken Rasback	KK7KEN	
	Tom Raczykowski	N7MMC	

Web Site: <http://www.k7mrg.org>. DUES: \$20.00 per year, due prior to July 1. MEMBERSHIP YEAR - July 1 - June 30.

## KACHINA AMATEUR RADIO CLUB

The Kachina Amateur Radio Club meets the **SECOND TUESDAY** of each month at 6:30 PM at New Hope Christian Fellowship, 989 Cheney Ranch Loop (US260 & Cheney Ranch) in Show Low.

President	Randy Beecroft	W7RJB	
Vice President	Jim Mortensen	W7AZY	
Secretary	Marie Mortensen	N7SKS	
Treasurer	Dennis Wilkes	W7DRW	928.739.4700

Mailing Address: Kachina Amateur Radio Club, P O Box 2996, Show Low, AZ 85902. Email: [kachinainfo@drwilx.com](mailto:kachinainfo@drwilx.com) Testing Info: White Mountain V.E. Team: [VEtesting@cablone.net](mailto:VEtesting@cablone.net). Dues are \$15/yr for individual; \$25/yr for family. Membership is January 1 - December 31. Website: [www.kachinaarc.org](http://www.kachinaarc.org)

## ARIZONA REPEATER ASSOCIATION, INC

The Arizona Repeater Association general meeting is held the **FOURTH THURSDAY** of each month at 7:30 p.m. There are no meetings in July and December. The November meeting is held the Monday before Thanksgiving. Meetings are held at Denny's Restaurant, 825 S 48th Street in Tempe, near SR143 and University Drive. Visitors are welcome. Come early for food and social time before the meeting starts. For further information about the ARA, including repeaters, site status, and the tech/board meeting, please visit our web site at [www.w7ara.org](http://www.w7ara.org).

President	Brian McCarthy, AK7F	ak7f@w7ara.net
Vice-President	Erv Heimbeck, K0OTZ	k0otz@w7ara.net
Treasurer	Cole Cunningham, AA7RD	aa7rd@w7ara.net
Secretary	Jim Hoff, N7XXX	n7xxx@w7ara.net

### Board Members:

Lance Halle, KW7LH	kw7lh@w7ara.net
Dennis Bietry, KE7EJF	ke7ejf@w7ara.net
Doug Pelley, WB7TUJ	wb7tuj@w7ara.net
Joe Godfrey, AE7JG	ae7jg@w7ara.net
Dennis Campbell, AE7WU	ae7wu@w7ara.net
Mike Montalvo, KF7MBK	kf7mbk@w7ara.net
Marty Dusenberry, KE7DGP	ke7dgp@w7ara.net
James Wasson, N7ELL	n7ell@w7ara.net

For Membership Information, contact (Joe Godfrey, AE7JG membership@w7ara.net) Arizona Repeater Association, Inc, P. O. Box 35758, Phoenix, Arizona 85069-5758. To join or renew, please visit <http://w7ara.org/mbr/Membership.aspx>. DUES: \$18.00/yr. (Jan. 1 through Dec. 31) with a one-time initiation fee of \$10.00. Life and family memberships are available.

## SUPERSTITION AMATEUR RADIO CLUB

The Superstition Amateur Radio Club meets the **THIRD TUESDAY** of every month (except December) at 7:00 p.m. at the Charles K Luster Building, 640 N. Mesa Drive (near N. Mesa Drive & E University Dr.) in central Mesa. Visitors are Encouraged. The Officers and Board of Directors meet the second Tuesday of every month (except December) at 6:30 p.m. at Black Bear Diner, 1809 E. Baseline Road (near Gilbert Rd & E. Baseline Rd.) in Gilbert.

President	Andy Keels	KD4ABB	480.622.4000
Vice President	Ed Taggard	K7EDT	480.813.7440
Secretary	Brent Butler	W7FK	480.332.1141
Treasurer	Bryan Hubbard	KF7DPC	480.205.8122
Board Members:	Jeff Harris	K2DFE	602.617.6930
	Jeff Heinze	N7CCW	480.720.7908
	Bob Thomas	N8ANV	239.253.8279
	Larry Fort	AB7C	480.861.7066
	Don Rollock	W2EUL	w2eul@yahoo.com
	Fred Atkinson	WB4AEJ	602.464.4406
	Steve Estes	KB7KWK	480.251.0551

Superstition ARC, 5155 E Eagle Dr #21522, Mesa, AZ 85277. Web Site: [SuperstitionARC.org](http://SuperstitionARC.org) and [SuperstitionSuperFest.org](http://SuperstitionSuperFest.org). The Superstition Amateur Radio Club, Inc. is a 501(c)(3) non-profit corporation. For more information, contact: [communications@superstitionarc.org](mailto:communications@superstitionarc.org).



# ADAW Member Clubs

## MARCA, Inc. / W7MOT

MARCA is an Arizona 501(c)(3) Non-Profit organization. The club call sign in W7MOT. Membership is open to all amateur radio enthusiasts. Meetings are held the **THIRD TUESDAY** of each month at 6:30 p.m. at Denny's Restaurant located at 825 S 48th Street in Tempe (SE corner of University & 48th Street). Monthly presentations cover a broad spectrum of interesting subjects. Visitors are welcome to attend. Come early for dinner and socializing. Repeater Problem Reports are encouraged. A Repeater Problem or Comment Reporting is available at <http://www.w7mot.org/index.php/repeaters/report-a-repeater-problem>. Site Managers and officers will take reports for any W7MOT repeater. Contacts are found on website. Club activities include providing voice, aprs, packet, DStar, and Fusion repeaters Central Arizona; ARRL Field Day, special interest groups in SDR, APRS, antennas, digital modes, and SBC applications.

President	Dave Hall	N7ZPY	
Vice President	Norm Johnson	AA7OO	480.278.2886
Treasurer	Don Aldridge	WA7RLL	
Board Member	David Yee	N7AJR	
Secretary	Open		
Trustee:	Norm Johnson	AA7OO	480.278.2886
Webmaster:	Norm Johnson	AA7OO	480.278.2886

MARCA, Inc., c/o Norm Johnson, 5756 S Wildrose, PO Box 85140, Mesa, Arizona 85212. Membership dues \$25 annually. See our website (<http://w7mot.org>) for more information about meeting schedules, membership, repeaters, library, and club activities.

## CENTRAL ARIZONA DX ASSOCIATION

The Central Arizona DX Association meets the **FIRST THURSDAY** each month at 7:00 p.m. (except for January Awards Banquet) at the Granite Reef Senior Center, 1700 N Granite Reef Road in Scottsdale. The May meeting is a BBQ dinner starting at 6:00 p.m., paid reservations required. Visitors always welcome. See [www.cadxa.org/meetings.html](http://www.cadxa.org/meetings.html) for a map.

President	Larry Loen	WO7R	lwloen@gmail.com
Vice President	Mike Fulcher	KC7V	kc7vmike@q.com
Secretary	Bob Davies	K7BHM	k7bhm@cox.net
Treasurer	Mike Wright	N7MW	n7mw@aol.com
Past President	Lee Finkel	KY7M	ars.ky7m@gmail.com
Board Members	Fred Hoffert, III	NA2U	cwman1@aol.com
At-Large	John Jolly	N7NWL	wa7nw1@gmail.com

CADXA, P.O. Box 24616, Tempe, AZ 85285-4646. Email: [cadxa@cox.net](mailto:cadxa@cox.net). Dues are \$25 per year (\$12.50 per additional family member). For more information, DXing resources, and a membership application, visit our website: [www.cadxa.org](http://www.cadxa.org).



## YAVAPAI AMATEUR RADIO CLUB

The Yavapai Amateur Radio Club meets the **FIRST THURSDAY** of every month at 7:00 PM in the Freeman Building at the Prescott Rodeo Grounds located at 840 Rodeo Drive in Prescott (visit web site at [www.w7yrc.org](http://www.w7yrc.org) for directions and map). YARC is an ARRL Special Service Club dedicated to public service and emergency preparedness. The club serves the quad cities area of Prescott, Prescott Valley, Chino Valley/Paulden, and Dewey/Humboldt.

President	Bill Noe	WG7W	president@w7yrc.org
Vice-President	John Snedden	KT7P	vice_president@w7yrc.org
Secretary	Tim Norton	K7PVY	secretary@w7yrc.org
Treasurer	Sam Prather	K7SCP	treasurer@w7yrc.org
Board Members	Kathy Laing	KJ6KMK	kj6kmk.yarc@gmail.com
	Sandy Meadowcroft	KF4JHC	sandymeado2@yahoo.com
	Dave Erlach	W7VXS	rocketdog@dslextre.com
	Mike Reid	N7IEP	mdr126@gmail.com
	John Laing	K7PRS	

Yavapai Amateur Radio Club, P O Box 11994, Prescott, AZ 86304-1994. DUES: \$20.00/yr. Visit the website at [www.w7yrc.org](http://www.w7yrc.org)

## ORO VALLEY AMATEUR RADIO CLUB

The Oro Valley Amateur Radio Club meets the **THIRD FRIDAY** of each month at 7:00 p.m. at Ascension Lutheran Church located at 1220 W Magee Road in Tucson. (December is annual Christmas Party). Visitors are VERY welcome. Board Meetings are held at 9:00 a.m. at the Ascension Lutheran Church located at 1220 W Magee Road in Tucson. Check the web site at [www.tucsonhamradio.org](http://www.tucsonhamradio.org) for dates.

President	Steve Wood, W1SR	W1SR@arrl.net
Vice-President	Mike Peterson K7VTT	azmacguru@gmail.com
Secretary	Logan Zintsmaster KZ6O	kz6o@arrl.net
Treasurer	Hanna Eckert, KG7TPD	haneck@aol.com
Board Members	Fred Bresani W2HZ	
	Hal Long N7BAZ	
	Gary Pierce AE7GP	
	Marnee Dearman KG7SIO	
	Tom Ambler W7TRA	

DUES: \$25.00/year (Household members living at same address \$15.00 each additional). To join or for additional information, visit website at <http://www.tucsonhamradio.org/>.

## CHANDLER HAM RADIO CLUB

The Chandler HAM Radio Club (call sign N7CHN) meets the **SECONDSATURDAY** of each month at 9:00 AM at Tri-City Baptist Church, 2211 W Germann Road, Room #180 in Chandler (very back of parking lot). Visitors are welcome. Check the web site at [chandlerhams.org](http://chandlerhams.org) for dates and presentation topics of club meeting. Weekly net is held every Thursday at 8:00 PM on 443.050+ PL100.

President	Gary Laatsch	KI7PBR	pres@chandlerhams.org
Vice President	Norm Fasoletos	K7NWF	vp@chandlerhams.org
Secretary	Mary Stephen	AE6Q	sec@chandlerhams.org
Treasurer	Byon Garrabrant	N6BG	treas@chandlerhams.org

Web Page: <http://chandlerhams.org>. DUES: \$25/year primary member; \$10/year family member.

# ADAW Member Clubs

## CENTER FOR AMATEUR RADIO LEARNING

The Center for Amateur Radio Learning is a hands-on amateur radio station, W7ASC, located within the Arizona Science Center at 600 E. Washington, Phoenix. Hours of operation are the same as the Arizona Science Center (subject to availability of volunteers.) The station is located on the third floor of the Science Center, in the "My Digital World" gallery. Board meetings are held the last month of each quarter at the AZ Science Center. An annual meeting for all volunteers is held the **THIRD SATURDAY** of January. Watch ADAW for details.

President	Jack Landon	KD7ROB	480.759.5195
Vice President	Jim Felkey	N7BBS	480.966.7084
Sec./Scheduling	Sam Marshall	N7INV	602.291.0992
Treasurer	Karen McConaghy	NO7D	602.799.7338
Station Engineer	Ron Taylor	WA7GIL	602.390.5335
Webmaster	Allyson Lee	KI7LGD	w7asc.webmaster@gmail.com

**Board Members:**

Jean Jolkovski W4CIH	ADAW, Publicity
Tom Salt AD7PM	At Large
John O'Neal K7JP	Teacher Packets
Bob Burlison KG7QJ	Trustee/President Emeritus
Robert Faerber W9AQ	Log Book
Scott Gillins W2KP	At Large

Direct Phone: 602.716.2082      Web Site: <http://www.w7asc.org>  
 For information: Email to [carl@w7asc.org](mailto:carl@w7asc.org) or call Jack, KD7ROB at 480.759.5195.

## AMATEUR TELEVISION NETWORK

The Amateur Television Network (ATN) promotes video operation on linked repeaters and mesh networks. Business meetings are in January and July. Monthly social meetings are postponed due to the pandemic. Join us online at [www.whereby.com/atn1](http://www.whereby.com/atn1) on Sundays at 7:00PM AZ time and Tuesdays at 7:30 PM CA time for our ATV Nets. It's a lot of fun!

If you can, check in with RF on ATV, FM or DMR...

ATV Repeater Inputs: 434 MHz AM/DVB-T and 2441.5 MHz FM

ATV Repeater Outputs: Phoenix - 1253.25 and 5910 MHz,

Mesa - 421.25 and 1289.25 MHz, Tucson - 1277.25 MHz

FM Repeater Outputs: Phoenix - 448.400 MHz PL 100.0,

Mesa - 445.175 MHz PL 100.0, Tucson - 445.225 MHz PL 103.5

DMR Talk Groups: 9410 "ATV Talk" and 31024 "ATN"

We also stream 24x7 on [www.youtube.com/amateurtelevisionnetwork](http://www.youtube.com/amateurtelevisionnetwork) and on YouTube at W7ATN-Arizona Live and W7ATN-Mesa Live.

President	Ed Olague	K5OLA	602.885.7725
Vice President	Rod Fritz	WB9KMO	480.322.5149
Sec/Treasurer	Lee Weitzel	K0CCU	602.439.4840
Repeater Trustee	Kevin Jacobson	AD7OI	602.694.0851
Webmaster	Roland Hoffman	KC6JPG	562.577.1381

ATN-AZ, 4134 W. Danbury Dr. Glendale, AZ 85308. Full membership dues are \$75 annually. Affiliate membership is free. Website: [www.atn-tv.org](http://www.atn-tv.org). Email: [wb9kmo@gmail.com](mailto:wb9kmo@gmail.com)

## WEST VALLEY AMATEUR RADIO CLUB

The West Valley Amateur Radio Club, an Arizona 501(c)(3) non-profit corporation, has been providing emergency communications since 1961. Meetings are the **FIRST MONDAY** of each month at 7:00 PM at Shepherd of the Desert Lutheran Church, 11025 N 111th Avenue in Sun City. The board meets on the third Tuesday of the month at 1:00 PM at Lou's Tivoli Gardens, 12535 W Bell Rd in Surprise. A weekly breakfast is held on Thursdays at Lou's Tivoli Gardens, 12535 W Bell Rd at 7:00 AM. Club nets are held on 147.300 (tone 162.2) at 9:00 AM daily and Monday - Thursday at 8:00 PM. Please check our website (below) for other events and information.

President	Danny Hoerr	KM4HFT
Vice-President	Fred Peters	K7WFP
Secretary	April Kramer	KI7GFJ
Treasurer	Doug Totel	K9RZ
Board Member:	Gary Franklin	K8BKB
	David "Cee" Putman,	W7DCP
	Krissy Larson	KI7GJJ
Past President	Pat Regan	KD7TFD
Committees:		
Membership	Krissy Larson	KI7GJJ
Technical Advisory	Frosty Oden	NQ1S
Equip. Donations & Sales		
	Ken Jenkins	WB6MMV
	or Jim Seay	WB7RBN

WVARC, P O Box 1573, Sun City, AZ 85372-1573. DUES: \$15.00/YR for family residing at the same address. MEMBERSHIP YEAR - January - December. Web Site: <http://westvalleyarc.com>. Email: [suncitywvarc@gmail.com](mailto:suncitywvarc@gmail.com)

## SUNLIFE AMATEUR RADIO CLUB

The Sunlife Amateur Radio Club meets **EVERY MONDAY** from October through April each year at 13:00 (1:00 p.m.) on Zoom. For access, please contact Sue Rogers, W7SKH at [happyham7777@gmail.com](mailto:happyham7777@gmail.com).

**Nets:**

20 Meter Net: Monday, Wednesday, & Friday, 14329 Mhz SSB 12:30 p.m./11:30 a.m. during daylight savings time.

10 Meter Net: Tuesday & Thursday, 28.329 Mhz, SSB. 7:00 p.m./8:00 a.m. during daylight savings time.

Venture Out: 2 Meter Net: Monday, Wednesday, & Friday, 1:00 p.m., 146.58 MHz FM simplex, 12:30 p.m.

President	Sue Rogers	W7SKH	<a href="mailto:happyham7777@gmail.com">happyham7777@gmail.com</a>
Vice President	Ralph Towers	KA0CET	<a href="mailto:retowers@hotmail.com">retowers@hotmail.com</a>
Secretary	Chuck Rogers	W7CBR	<a href="mailto:rogers_charles@hotmail.com">rogers_charles@hotmail.com</a>
Treasurer	Dwight Carlson	KF7WI	<a href="mailto:dec@kalama.com">dec@kalama.com</a>

Membership dues are \$10.00/year. If you would like to be a member, visit the website at <https://www.sunlifearc.org/>



## ADAW Member Clubs

### AMO - ARIZONA MESH ORGANIZATION

The Arizona Mesh Organization (AMO), a newly formed 501(c)(3) amateur radio club, meets the **SECOND THURSDAY** of each month at the Charles K Luster building, 640 N Mesa Drive in Mesa. The organization's goals are to support ARDEN MESH networks throughout the state of Arizona, explore new technologies, support emergency and public service communications, and (of course) to have fun along the way. AMO's purpose is to promote the education of what amateur radio mesh is, to support and exchange information with mesh users throughout the state, and to further the technology of mesh radio itself. Weekly AMO radio nets are held from 7:00 to 9:00 PM on the 1st, 3rd, and 4th Thursday evenings of the month on the Superstition ARC linked repeaters - 147.120 and 449.600 and the KB7KWK-L Echolink node. Visit the web site at <https://arizonamesh.org> for more information on the AMO Club and up-to-date news.

President: Steve Estes, KB7KWK [president@arizonamesh.org](mailto:president@arizonamesh.org)  
 Vice-President Gary Hinton, AC7R [vicepresident@arizonamesh.org](mailto:vicepresident@arizonamesh.org)  
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     Robert Fridell, N3BZ [n3bz@arizonamesh.org](mailto:n3bz@arizonamesh.org)  
     Rodney Fritz, WB9KMO [wb9kmo@arizonamesh.org](mailto:wb9kmo@arizonamesh.org)

*Arizona Mesh Organization Inc, 7939 E Golf Avenue, Mesa, Arizona 85209. DUES: Full Membership \$25.00 per year. Visit the AMO web site for more information on membership. Web Site <https://arizonamesh.org>*

**Please be sure your club has your current email and/or mailing address.**



ADAW

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The *Arizona Desert Aire Waves* is published monthly and is the official news media of the sponsoring clubs. All news items, articles and inquires should be submitted to each club's editor. Any information and opinions printed herein are those of the contributors and are not necessarily those of the sponsoring clubs. Full permission is granted to quote from this publication providing credit is given to the individual contributor and the ADAW. ALL RIGHTS RESERVED. **Deadline is 10th of the month**



4747 N 22nd St. - Suite 100 - Phoenix, AZ 85016  
 VHF – 146.84 MHz – PL 162.2 / UHF – 446.900 MHz – PL 131.8  
 Echolink Node #731289 – K7ARC-R

Members of the Arizona Red Cross Communications Club have been staying safe and keeping busy these last few weeks.

Our newly formed VE team, under the direction of Brandi, W6FPT conducted their first testing session on Saturday Nov. 4th and we are happy to report that all five candidates that tested passed their exams. Any members or potential members looking to take a licensing exam should register for a VE Session on the K7ARC website. Thanks to Brandi and her team of Volunteer Examiners for providing this important service to our members.

Amateur radio operators affiliated with the American Red Cross and ARES held a joint nationwide WinLink Exercise on Nov. 14th. Data are still being analyzed but, here is what we know so far:

- \* Over a thousand messages were passed through Winlink
- \* Forty-seven states were involved as well as Puerto Rico, Venezuela, and Canada.
- \* It looks like there were about 35 operators that sent messages from Arizona or New Mexico.

Thanks to all who participated. We hope to learn more after Thanksgiving when the results are analyzed by the planning committee.

Speaking of Winlink, the Arizona Red cross Communications Club has installed a new packet gateway atop the Red Cross office in the Biltmore area. The frequency is 441.30 and should be VARA-FM capable shortly.

If you have an interest in Emergency Communications and would like to know more about the Arizona Red Cross Communications Club, we invite you to visit our website at [www.k7arc.org](http://www.k7arc.org) and see what we have to offer.

We hope everyone enjoys a safe and healthy Thanksgiving. Remember to mask up, wash your hands and keep your distance so we can all enjoy the remainder of the holiday season!

Charles Zurenko, N2TFS  
 Regional Communications Lead  
 Disaster Services Technology  
 Arizona - New Mexico Region  
 4747 N. 22nd Street  
 Phoenix, AZ 85016  
 (602) 336-6669 (p) - (607) 435-3461 (c)  
[Charles.Zurenko@redcross.org](mailto:Charles.Zurenko@redcross.org)



**CHAPTER 16**  
**BARRY M. GOLDWATER ARIZONA CHAPTER**

Amateurs in Arizona with twenty five years of experience are invited to join the QCWA. There are monthly meetings in various parts of Arizona

**Phoenix, AZ**

Third Wednesday of each month at 9:30 AM  
 Contact: John L Marshall  
[WA7BSR@gmail.com](mailto:WA7BSR@gmail.com)

**Prescott, AZ**

Second Tuesday of the month at 10.30 AM  
 Golden Corral  
 1901 E AZ-69  
 Prescott, AZ 86302  
 928-776-1664  
 Contact: Don Broadston

**Tucson, AZ**

We need a volunteer to set up monthly meetings in Tucson.

Officers are:

(All officer positions are open for volunteers.)

President: John Marshall WA7BSR 623-334-2583

Vice President: Open

Secretary: Open

Treasurer: Dave Hanson [W7BJw7bj@outlook.com](mailto:W7BJw7bj@outlook.com)

Webmaster: John Marshall WA7BSR [WA7BSR@gmail.com](mailto:WA7BSR@gmail.com)

Web Site: <http://azqcwa.org> Email: [azqcwa@gmail.com](mailto:azqcwa@gmail.com).

DUES: \$7.00/year and current national QCWA membership.



Freepik.com



### **AMATEUR RADIO SERVICE DEMONSTRATION STATION**

W7ASC is a Demonstration Station for the Amateur Radio (public) Service. The Volunteers who operate the station are members of the Center for Amateur Radio Learning (C.A.R.L.), a 501(c)(3) corporation. W7ASC is open to all who visit Arizona Science Center (ASC) during those hours when the ASC is open. The station is located on the third floor of the Science Center in the “My Digital World” gallery. Direct phone number is 602-716-2082.

Starting this month, our faithful scribe, Jean - W4CIH, will be getting a well-deserved rest on alternate months. As I take up the pen for this edition, I am well aware of the high bar set by Jean over the years, and I’m honored to join with him going forward.

As I write this, the Harkin’s Ham Shack remains closed due to COVID-19 concerns. However, Arizona Science Center has moved one step further along the phased return of the C.A.R.L. volunteers. Self-guided visits, in reduced number, are now allowed with some restrictions such as designated traffic patterns to limit cross-traffic exposure. Regretfully, the ASC CEO, Chevy Humphrey, will be leaving to become the CEO for the Museum of Science and Industry in Chicago. We have enjoyed her support of the ham shack for more than twenty years. She will be missed.

On a happy note, W7ASC station engineer, Ron, WA7GIL had arranged earlier for a local power company and a communications tower company serving Arizona Science Center to pull new coax to replace our decades old cabling. Covid-19 put that on hold, but Ron reports a major traveling exhibit is moving out in early January and the contractor says they can complete the job when that happens. At no cost to C.A.R.L. or ASC. Good things do come to those who wait.

~ ~ ~ ~ ~

It is still quite warm in Arizona, but cooler days are coming. The fall and winter holidays are just around the corner. The young — as well as the young-at-heart — will soon be dreaming of packages in colorful wrappings with bright bows. Well, maybe in brown boxes bearing an iconic smile logo. OMs and YLs from pole to pole are not immune. 2020 with all its COVID-19 restrictions has left us dreaming of times past and we long for a little self indulgence at this time of year.

*Continued Next Column*

### **CARL Continued from Previous Column**

If you have participated in a repeater net recently, you may have heard that desire play out over the airwaves. “I’d like a new HF rig.” “My antenna really needs to be replaced.” “I sure could use an alternate power source.” “My wife just bought a new couch, so I think I can make the case for another radio.”

Look no further. At the intersection of Covid-19 and Happy Holidays, you’ll find the pot of gold at the end of the rainbow. In our younger days, we would check the mailbox for that special holiday catalog offering everything a budding ham could desire, from fully assembled gear, to easy to build kits, and even electronic components for the brave hams who can build anything from a schematic diagram. Ahhh ... the smell of melting solder and burning flesh.

Today, the Internet has replaced the flashy catalogs. With a few clicks of the keyboard, we not only find just what we think we need, but a dozen or so testimonials from other hams to back us up. Even the big guy in the red suit has teamed with USPS, UPS, and FedEx to bring whatever we order to our door steps. Unfortunately, our reliance on global supply chains and high demands all things electronic have produced some delays and lots of empty shelves at our local brick and mortar stores.

~ ~ ~ ~ ~

So what can a group like C.A.R.L. do to backfill the void of not having a physical presence at Arizona Science Center? A temporary alternate venue sounds like a good idea, but the basic problem of COVID-19 concerns would likely remain. Our mission at ASC relies on foot traffic into the My Digital World suite. Once visitors enter the room, we have an attractive visual display of equipment, media presentations, and friendly operators. Kids who have visited us before come running up to send their names in Morse code again and take the microphone for a brief QSO. And they bring their friends with them. Adults who may have heard of amateur radio or just wonder what all our equipment is for will likewise approach or display.

That’s a scenario that is hard to create online, even with kids accustomed to online school. C.A.R.L. continues to keep the volunteer operators in touch through biweekly repeater nets and a weekly ZOOM conference. We are new to Twitter but are slowly learning how to reach more people with amateur radio tweets. While current times are challenging and old norms may never return, we continue to rethink our mission and prepare for whatever comes next. As hams, it’s in our blood and DNA.

73 de WB4ZSC, Steve  
wb4zsc@arrl.net







“IN TRYING TIMES, WE FIND A WAY”

In these challenging times it has been tough for all of us to move forward with our normal activities due the restrictions placed upon us. Our local Chandler VE Team (headed my Norm, K7NWF) has worked out an arrangement with a local church to allow us to continue our FCC License testing for the last several months. All though we are limited to the number of applicants we can process (10 per month) we are still able to provide testing for the Chandler/Phoenix area. We have tests scheduled for the 1st Saturday of every month thru June of 2021. In the last several months we have added at least 30 or 40 new operators to our wonderful hobby. Thanks to Norm and the rest of the Chandler Club VE’s for continuing to provide this important part of our hobby. Our testing schedule can be found on our club website as well as this newsletter. <http://chandlerhams.org/testing/>

73 de KI7PBR, Gary  
President, Chandler Ham Radio Club  
[chandlerhams.org](http://chandlerhams.org)



## For Sale / Wanted



**LOOK!  
Great Deals!**

## For Sale

**For Sale** - "The Dominator" 6 meter, 5/8 wave vertical antenna. Made like a tank in Italy by SIRIO. Is in perfect condition in Tucson. \$100.00

Contact Richard Bruns, K7VQ at [d\\_brunz27@yahoo.com](mailto:d_brunz27@yahoo.com)

**70CM Yagi** - 70 CM Yagi, KLM model 440-16X. Gain 14.0 dBd, Broadbanded 420-450 MHz. Boom length - 10 ft, 3 in. \$70 including manual.

Contact Erik Basilier K7TV at [ebasilier@cox.net](mailto:ebasilier@cox.net)

**Steppir 3-Element Antenna** with optional 40M - 30M Dipole (Trombone) Kit. Also with 6M passive element, SDA 100 with D25 splice, and plug in connector junction box (pipe-bomb upgrade). Excellent Condition - \$2,000.00

Contact Bob Drake AF7EL at 623.385.6531 or email [af7el@yahoo.com](mailto:af7el@yahoo.com)

### 11.0/13.5 KW 120/240 V Predator Generator

Looks and runs like new. Electric start with 12V battery and charger. Purchased 8/3/16, has 37 hours total run time. Comes with Manual, complete maintenance log, 90' 50-A cable, and dual 6' loading ramps. \$1800.00 Contact: Dave West K9JKN at [WestDL@aol.com](mailto:WestDL@aol.com) or 480.641.1480.

**Cleaning out 50 year collection** of ham related parts, connectors, ICs, cables, antennas, poles, and such, all on a "make offer" basis. Contact Bill, W7JSW at [hoskingb@cox.net](mailto:hoskingb@cox.net) to arrange a meeting.

The **West Valley Amateur Radio Club** has radios and ALL kinds of supplies available for sale through the club. We get some old equipment that won't sell that will be added to the items for free. Contact: Ken Jenkins, WB6MMV at [kjenkins5623@gmail.com](mailto:kjenkins5623@gmail.com) or Jim Seay, WB7RBN at [wb7rbn@arrl.com](mailto:wb7rbn@arrl.com).

**ADAW**

## Hamfest Calendar

5 December 2020 - **Superstition Superfest Prize Drawing & Pizza Party** - hosted by the Superstition Amateur Radio Club will be held at Organ Stop Pizza, 1149 E Southern Avenue in Mesa. Hours are 8:00 AM - 2:00 PM. Parking lot opens at 8:00 AM. 30 Free Tailgate Space Available by Reservation ONLY - No Tables Allowed. Go to <https://signup.zone/ei3yH25PRvmNsvmt8> to reserve space. Admission is Free. Organ Stop Pizza doors open at 10:45 AM. All You Can Eat Pizza Buffet - \$8.75/person - Cash Only - Drinks Extra. Organ Concert 11:00 AM - 1:00 PM. Grand Prize Drawing at 1:30 PM.

9 January 2021 **POSTPONED** **Thunderbird Hamfest** - hosted by the Thunderbird Amateur Radio Club. Watch for details

19-20 February 2021 - **Yuma Hamfest** - hosted by the Yuma Amateur Radio Hamfest Organization. Yuma County Fairgrounds, 2520 E 32nd Street in Yuma. Visit [www.yumahamfest.org](http://www.yumahamfest.org) for information. Watch for more details.

27 March 2021 - **RST Tucson Spring Hamfest** - hosted by the Radio Society of Tucson will be held at the Target Store, 9615 E Old Spanish Trail in Tucson. Hours - 7:00 AM - 11:00 AM. Set up begins at 6:00 AM. Free Admission and Buyer Parking. Tailgate Spaces \$10 per Parking Space. Free VE Testing at 9:00 AM to 11:00 AM - GOTA Station - QSL Card Checking - Prizes. Morning Snacks Available for Purchase. No Alcohol, Drugs, or Firearms. Talk-In Frequency 146.800 FM Tone 156.7. For Information & Map, visit <http://www.k7rst.org>

1 May 2021 - **Cochise Hamfest and 7th Region Communications Exercise** - hosted by the Cochise Amateur Radio Association will be held at the club site, 2756 South Moson Road in Sierra Vista. Gates open at 7:00 AM. Free Admission and Parking. Tailgating - \$5. Inside Table - \$10. VE Testing from 9:00 until 11:30 AM. Coffee, Pastry, and Drinks Available. Hourly Prizes with Main Prize drawing at 12:00 Noon. Talk-In on 146.76(-) PI 162.2 Hz.

25 September 2021 - **RST Tucson Fall Hamfest** - hosted by the Radio Society of Tucson will be held at the Target Store, 9615 E Old Spanish Trail in Tucson. Hours - 7:00 AM - 11:00 AM. Set up begins at 6:00 AM. Free Admission and Buyer Parking. Tailgate Spaces \$10 per Parking Space. Free VE Testing at 9:00 AM to 11:00 AM - GOTA Station - QSL Card Checking - Prizes. Morning Snacks Available for Purchase. No Alcohol, Drugs, or Firearms. Talk-In Frequency 146.800 FM Tone 156.7. For Information & Map, visit <http://www.k7rst.org>

Continued Next Column

## Public Service Calendar

### Maricopa County Emergency Communications Group Events

EVENT	LOCATION	DATE
Arizona Emergency Net - Maricopa Picnic	Payson, Houston Mesa Campground, Fox 2 Group Site	05/15/2021
ADA Bike Rides	North Phoenix	10/23/2021
Auxcomm Interest	TBD	12/31/2021

To sign up for an MCECG Public Service Event: [www.mcecg.net](http://www.mcecg.net)

For information, contact Dennis Bietry - KE7EJF at 602.274.3732 - email, [ke7ejf@cox.net](mailto:ke7ejf@cox.net), or contact the Event Coordinator for the event.



### Hamfest Calendar Continued from Previous Column

30 October 2021 - **Copafest** - hosted by the Maricopa Amateur Radio Club will be held at The Ultrastar at Ak-Chin Circle, 16000 N Maricopa Rd in Maricopa. Hours are 7:00 AM until 1:00 PM. Admission Donation is \$5.00 per person. Spaces are \$10.00 for two parking spaces. Setup begins at 5:00 AM. Balloon Launch, VE Testing, Card Checking, Vendor Exhibits, Seminars, Prizes and more. Many activities available in the Multitainment Center including laser tag, bowling, movies, games, dining and more. Dining and Hotel also available. For information, email [fest@copafest.org](mailto:fest@copafest.org) or visit the website at [www.copafest.org](http://www.copafest.org).

18-19 February 2022 - **Yuma Hamfest** - hosted by the Yuma Amateur Radio Hamfest Organization will be held at the Yuma County Fairgrounds, 2520 E 32nd Street in Yuma. Visit the web site at [www.yumahamfest.org](http://www.yumahamfest.org) for up to date information.



ATN Continued from Previous Column

The Amateur Television Network (ATN) promotes video operation on linked ATV repeaters, mesh networks and to all parts of the world over the Internet.

Join us online at [www.whereby.com/atn1](http://www.whereby.com/atn1) on Sundays at 7:00 PM AZ time and Tuesdays at 7:30 PM CA time for our ATV Nets. It's a lot of fun!

Amateur Television (ATV), also known as Video on Amateur Radio (VOAR), has improved a lot in the last few years. Here are a few new things you might not be aware of ...

1. **Better Analog TV** - We still use analog television, but it's better quality now because we upgraded our equipment with professional gear that we got from broadcast stations when they went digital.

2. **Better ATV Repeaters** - We have more ATV repeaters than we used to have and they're in better locations, linked together with microwaves. In Arizona, we currently link from West Phoenix to East Mesa to Tucson. We added a 421.25 MHz (Cable Channel 57) ATV transmitter in East Mesa to better serve the East Valley.

3. **Digital Receivers** - We added digital TV receivers that have increased the signal quality and range.

4. **Video Distribution** - ATV is ideal for distributing audio and video to many users at once. Equipment is optimized for video transmission, so it avoids bandwidth restrictions encountered with mesh networking.

5. **Enhanced Distribution** - All of our ATV repeaters enhance video content distribution further by streaming our signals over the Internet.

6. **Distant Sources** - We also use the Internet to collect video content beyond that which is receivable on RF. We are international.

7. **Diversity** - Our nets bring hams together from all over the world, often with as many as 25 RF check-ins and 25 Internet check-ins.

8. **Simplicity** - We embrace Mesh Video (mesh networking) as a valuable source of video content. It's easy and inexpensive. Using [www.whereby.com/atn1](http://www.whereby.com/atn1) is even simpler.

9. **Integration** - We integrate several technologies to great advantage: smart phones, mesh video, ATV, microwave links and the Internet. My smart phone is versatile and it's my favorite ham radio device. Smart phones attract younger hams.

10. **High Definition** - We have started to upgrade our equipment to output full high definition video to our repeater transmitters and on our video streams.

11. **More Effective** - ATV is getting less expensive, easier to use and it provides better quality audio and video. It's being used more effectively than ever in emergencies, public service events, education and for the enjoyment of hams who use it.

**Simple Reception** - It's easier than ever to get a feeling of what ATV is like today. Just connect an outdoor vertical gain antenna to your TV's antenna input. Point the antenna toward northeast Mesa and tune to Cable Channel 57. It is that simple to receive ATV. Try this and send your signal report to me at [wb9kmo@gmail.com](mailto:wb9kmo@gmail.com).

**Familiar App** - Many of you have used the Zoom application during the pandemic. The [www.whereby.com/atn1](http://www.whereby.com/atn1) application that we use is very much like Zoom so it will be familiar to you. Give it a try during our Sunday and Tuesday night nets. When you run whereby, we transmit your video to our ATV repeater network and stream it on YouTube so it can be viewed around the world. We are literally "On the Air to Everywhere!"

Our nets are remarkably interesting when hams from all over the U.S. and even in other countries share video.

73,  
Rod Fritz WB9KMO  
Amateur Television Network - AZ



Continued Next Column

## License Testing Information

When you are ready to take an exam for an Amateur Radio license, there are Volunteer Examiners available to assist you. Each Applicant will need to bring a picture ID (some test sessions require two forms of identification). If you are upgrading your class of license, be sure to bring the original (and a copy) of your license and/or Certificate of Successful Completion of Examination (C.S.C.E.). There may be a fee required.

**PLEASE NOTE:** Dates, times, locations, fees may change. Arrive promptly at time listed. Fees may vary and exact change or check is required at most sessions. Call test session contact to confirm information. Walk-ins are permitted unless otherwise specified.

**IMPORTANT NOTICE:** In light of the current situation with the COVID-19 virus, please call to verify whether test session will be held.

### December Test Sessions

**Dec 5th** - CHRC Laurel VE Team -- 10:00 AM

Tri-City Baptist Church, 2211 W Germann Rd, Chandler  
 Contact - Norman Fasoletos 602.319.4834  
 Appointment Only / No Walk-Ins / Call Ahead

**Dec 15th** - Hassayampa AR Klub -- 2:00 PM

Home, 30645 S Wandering Way, Escapees North Ranch, Congress  
 Contact - Charles Carter 316.651.7710  
 No Walk-Ins / Call Ahead

**Dec 5th, 12th, 19th** - NOMADS -- 9:00 AM

Venture Out RV Resort, 5001 E Main St, Mesa  
 Call or Email Team to Schedule a Test/On Demand Testing  
 Contact - Robert Bingham 480.404.1408  
 No Walk-Ins / Call Ahead

**Dec 16th** - Thunderbird ARC -- 6:00 PM

<https://www.w7tbc.org/ham-radio-license-ve-exams/>  
 See Website for Location  
 Contact - Walter Reinert 602.668.7804  
 No Walk-Ins / Call Ahead

**Dec 5th** - K7ARC VE Team -- 9:00 AM

American Red Cross, 4747 N 22nd St, Phoenix  
 Contact - Brandi Bridges 530.541.0760  
 No Walk-Ins / Call Ahead

**Dec 19th** - Hualapai ARC -- 10:00 AM

Fire District Station 31, 2485 E Northern Ave, Kingman  
 Contact - Alyce Ingle 425.231.9123

**Dec 12th** - Yuma ARC -- 9:00 AM

Yuma County Sheriff's Office, 141 S 3rd Ave, Yuma  
 Contact - John Ham 970.927.3273  
 No Walk-Ins / Call Ahead

**Dec 19th** - West Valley Electronic Club -- 9:00 AM

The Shack, 11115 W Nevada Ave (111th & Nevada), Youngtown  
 Bring FRN, pencil & pen, and \$15.00  
 Contact - David Morrill 623.680.5011  
 No Walk-Ins / Call Ahead / Limited Seating

**Dec 13th** - Radio Society of Tucson -- 7:00 PM

Biscuits Country Cafe, 7026 E Broadway Blvd, Tucson  
 Contact - Diane Zimmerman 520.664.5070

**Dec 26th** - Arizona ARC -- 10:00 AM

American Red Cross, 4747 N 22nd St, Phoenix  
 Contact - Gary Hamman 602.996.8148  
 Masks Required / No Walk-Ins  
 Pre-Register Required by Thursday, 9/24

**Dec 14th** - East Valley VE Team -- 6:00 PM

640 N Mesa Dr, By the Flag Pole, Mesa  
 Contact - Fred Bollinger 480.242.8606  
 No Walk-Ins / Call Ahead





Due to the ongoing situation with COVID-19, the December meeting will be held virtually using ZOOM. Meeting invitations will be sent to members via Groups.io and Slack a few days before the meeting. For anyone else who wants to attend, send an email to cadxa@cox.net. The next meeting will be Thursday night, December 3rd, starting at 7:00 p.m. You can begin checking in at 6:30 p.m., and visit informally with other club members on Zoom until the meeting starts. Please turn off your computer camera and microphone when the meeting starts.

The December program will be “Radio Contesting from Bonaire” by Jeff Clarke, KU8E. Jeff developed an interest in amateur radio when he was a freshman in high school after joining the radio club based on his interest in SWLing. He went after school to learn Morse code being taught by the radio club’s faculty advisor. He also studied for the Novice license and later that year, passed the test and received the callsign WN8ALG. Soon after, his callsign was changed to WD8ALG after he passed both the General and Advanced class license exams in Cleveland. A couple years later, he passed the Extra class license exam in Detroit and was issued his current callsign, KU8E.

Jeff’s major ham radio interests are CW contesting and DXing. He has been part of many multi-op and single-op contest operations. Since 2007, Jeff has made multiple trips to the island of Bonaire, off the northern coast of South America, to operate as PJ4A in the CQWW DX CW Contest. Prior to that, starting in 2003, he operated as PJ4R and PJ4A in the ARRL DX CW Contest. Jeff has operated the IOTA contest several times from the Georgia coastal islands (NA-058). He is the director of the Georgia QSO Party. Prior to moving to Georgia, he helped restart the Ohio QSO Party in the late 1990’s. Since getting involved in State QSO parties he became interested in being a rover. With his friend K4BAI, he does a rover operation almost every year in the Georgia, Florida, and Alabama QSO parties using the South East Contest Club call sign W4AN.

The November program was “Top Band DXing from Central Asia” by Nodir Tursun-Zade, EY8MM, the most active and best known ham in Tajikistan. Nodir is an outstanding photographer and showed us amazing pictures he has taken during his travels to the various Tajikistan radio districts. We saw a very mountainous country with hidden

*Continued Next Column*

As I write this, my calendar tells me that it is a little over three weeks until the AARC Christmas party on December 10. The event is something I REALLY look forward to because it is a chance to see not only our members, but also their spouses. At this point in time, no decision has been made as to where the party will be held this year since possibly food is not allowed in the American Red Cross Building. The party may be in my back yard. The decision will be made soon and we will let you know the details of our BIG EVENT!!

We welcome your comments concerning the event and hopefully some discussion on the matter may occur at the remaining Arizona Amateur Radio Club nets in the next few weeks. Join us on November 26 and December 3 at 7:00 PM on W7UXZ’s repeater at 147.060 MHz or on Echolink by connecting to W7IO-R or K7GH.

73,  
Lori, WA7EDI

**ADAW**

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#### *CADXA Continued from Previous Column*

lakes and rivers, and Nodir’s adventure to the 19,000 foot summit of “Amateur Radio Mountain.” Nodir then walked us through the evolution of his 160m operating career. Thanks to permission he received to use tall towers for his antennas at the country’s Institute of Astrophysics, Nodir has earned many awards for his contesting and DXing on Top Band. You can see the video of Nodir’s program on YouTube at <https://youtu.be/bh07nKtD1m8>.

In this day and age, clubs may be looking for socially distanced speakers. At CADXA, we have several presentations on the world of DXing, QSLing, and related subjects ready for your club. We know how to present via programs like Zoom. Contact us through our website <https://www.cadxa.org/contact.html> or email us at [cadxainfo@gmail.com](mailto:cadxainfo@gmail.com) for details.

See you on Zoom for the December meeting.

73,  
Larry Loen, WO7R  
CADXA President



Welcome to Dazzling December from the Kachina Amateur Radio Club!

We hope that November found many in the mode of “Good Will” toward their family and fellow man alike. Everybody has been so stressed, whether outright, or quietly. Faint not, and press on and let that “Good Will” perpetuate onward to the end of this year and throughout the coming new year! No matter if this election year turned out in favor of the persons you’d have preferred to take office or not, “Good Will” is always the clarion call and order of the day, every day. Finding chances to serve, to help someone else, be it briefly or long-term, can give you focus on the wonderful spirit and goodness of mankind. There is so much good being done amongst our communities and neighbors, and highly under reported, because many who do acts of service do not care to have the accolades, they are just happy to help. That’s why some months it is difficult to get any reports from our Ham Radio community up here for this newsletter. Many are quietly pitching in and helping all the time. “Good to see you!” conversations turn in to “How can I help?”. Helping never goes out of style, just grateful people and good friendships are formed and a “See you later!” We just had a crew go up and work on our Repeater for an issue, initially it wasn’t widely known who all went, just that they went and took care of the problem.

In our November meeting, our Elections of the new officers for the 2021 year was held. Here are the Election results:

- President - Jim Mortensen W7AZY
- Vice-President - Bill Turley KJ7GYH
- Secretary - Marie Mortensen N7SKS
- Treasurer - Dennis Wilkes W7DRW

We are grateful to the current officers for their hard work this past year, and of course grateful for the new group. Our Secretary and Treasurer stayed the same and we thank them for hanging in there, and we welcome the new President and Vice President.



Other Club business, no Christmas Party this year, no surprise there. We always looked forward to it, but it’s not going to happen this time. Marie Mortensen N7SKS acknowledged our Veterans at the meeting with a jar of her

*Continued Next Column*

***KARC Continued from Previous Column***

homemade Prickly Pear Jelly, showing her thanks and appreciation. She makes this every year for them. Salute and hats off to you all! What a great thing to do Marie!

Also, we received an inquiry from Doug Clemons, who is looking for assistance in an emergency, for communications at Haven Assisted Living Center. Another chance at serving in one of our communities! Those who attended the Ham Radio Swapmeet in Show Low, it sounded like all went well there. We are grateful for Rick Gurk W8YBM, who worked hard to pull that together!

Rick Paquette W7RAP made the journey up here and he attended the meeting and was mentioning about current updates pertaining to Ham Radio. After the meeting adjourned, LeDair Dixon KF7UBT, gave an explanation of his of his Go Box. He did a show and tell of how it was made and what all he put in it. There are two VHF, UHF radios and one HF radio. It is able to be powered by 120 volts AC and/or onboard battery with a solar charging system. It was a very good presentation.



LeDair Dixon KF7UBT

A THANK YOU to Pastor Tom Brown and the Board of the New Hope Christian Fellowship for letting us use their building to hold our club meetings, once again, so that we can keep in touch with each other and continue on in our education of Ham Radio and continue to be ready, and of assistance, to the Community whenever we may be needed.

Speaking of Community Assistance, the following report was received from W7RAP Rick Paquette.

"In the first weekend of October, a group of local Hams worked to replace the roof on the Green’s Peak building that holds several Ham Repeaters and equipment.

They included Rick Paquette (W7RAP) AZ ARRL Section Manager, Robert Knight (N7LPD), Charlie Zurenko (N2TFS), Frank Engstrom (KB7IQ), and Cliff Bailey

*Continued on Page 15*

**KARC Continued from Page 14**

(WA7GBL). A new steel roof was put on the building on the site, which should last through many severe winters.



While they were installing the new panels, they noticed a small column of smoke about two miles to the East of them, near Carnero Lake.

10:00 a.m. - The fire had spread and looked like it was growing rapidly.

10:30 a.m. - They called the Apache-Sitgreaves Forest Service Dispatch Center and notified them of the fire. They advised them of the location and status, and that they were Emergency Services Operators on top of Green’s Peak where they could observe the rapid spread of the flames.

11:30 a.m. – Another call was made to the Forest Service to advise them that the fire was accelerating quickly. They reported to the USFS, the current Wind Speed and Direction, and also the Type of Terrain of the fire area.

1:00 p.m. - The fire was spreading MUCH faster and they again called the USFS to give an update. They were apparently, the only Station reporting the Status.

2:30 p.m. - A Helio showed up and began dropping large buckets of water directly on the towers of flames. The fire continued, but the presence of the Helio enabled the firefighters to stem the tide of the ever-growing fire, preventing it from becoming an angry beast of a thing that refuses to back down without a lot of hard work. It took four days to completely contain the fire. Had it not been for the quick sighting, monitoring, and reporting of updated conditions from those Ham Radio Operators up there, that were maintaining the Repeater Site, it would have grown exponentially before someone realized it was not a control burn, and it would have taken longer to take the steps necessary to extinguish it, as early reporting helps tremendously.

The following Monday, the Deputy Fire Control Team Chief stopped by Rick Paquette’s W7RAP cabin, where the Repeater work site crew were all staying, to thank them all for reporting and keeping the USFS updated on the Fire Status and Winds. A discussion was held, about the possibility of putting

*Continued Next Column*

**KARC Continued from Previous Column**

a Remote Observation Site atop the USFS Fire Observation Tower on Green’s Peak using Amateur Mesh Networking technology. A presentation to demonstrate how they might be able to remotely observe specific incidents is currently being prepared as a result of that conversation and incident. Way to go Ham Radio Operators and their Repeater Sites! As those Sites are cared for and maintained by Amateur Radio Operators, our Ham Radio Service continues to help many communities and entities, such as the Forest Service, in this case. Working for the common good, free of charge, good will."



Rick Paquette W7RAP  
ARRL Section Manager Arizona  
W7RAP@ARRL.Org

That’s it from us up here in the not-so-snowy White Mountains. We have enjoyed so much hearing from the visitors as you’ve come up here to see family or friends or the fish or the big game this year, despite it all, and some of you have joined with us on the Green’s Peak Repeater Net. As always, we welcome you all to give us a shout when you are up this way, we love hearing from you. Stay true to the line of good will and hope and charity of all and may you have more endearing moments this month, and as we close out this year, that will strengthen you as we begin the journey into next year. Look for the good and joyful moments along the way, they are there if you seek them! Keep bending the Airwaves and introduce someone to the wonderful world of Amateur Radio!

Take care and be well, enjoy the good will that is more readily seen around this time of year and Happy New Year to ALL! 2021 – Here we come!

Tara KI7KLJ

**ADAW**





*Superstition Continued from Previous Column*

**Superstition PizzaFest Swap Meet, Saturday, December 5, 2020**

The Superstition ARC will host a scaled-down amateur radio and computer swap meet in Mesa on Saturday, December 5, with SuperFest Grand Prize tickets and Door Prize tickets on sale ahead of the 1:30 PM drawings.

Please see our latest flyer in this issue of ADAW. It has the complete list of door prizes being given away to people who are present for the drawing.

The Grand Prize drawing does not require your presence to win; only the Door Prize drawing requires your presence.

There is no admission charge for either attendees or vendors.

Organ Stop Pizza, 1159 E Southern Ave, Mesa, has offered its parking lot from 8:00 AM through about 11:30 AM for the swap meet. There will be a limit of 30 vendors. Vendors will be given one parking lot space and must sell from the trunk or the tailgate of the vehicle, no tables allowed. Amateur radio gear and computers, plus accessories, only please. Vendors, you are urged to leave your parking space and adjacent spaces free of litter when you prepare to leave. Thank you!

Vendor spaces will be offered on a first-come, first-served basis. There is a clickable link at <https://www.superstitionsuperfest.org> to reserve your space. That link will expire when thirty spaces have been reserved.

Face masks are required and an empty parking space will be set aside between each vendor for social-distancing. Please be sure to bump elbows in place of a handshake.

Organ Stop Pizza will open its doors at 10:45 AM for all-you-can-eat pizza, a salad and entertainment from the world's largest Wurlitzer organ of its kind, beginning about 11:00 AM, for an admission fee of \$8.75 (cash only). Drinks and dessert will cost extra. Face masks are required at all times in the restaurant except for when patrons are seated to eat. Alternate tables will be set off-limits for social-distancing.

At 1:30 PM, the club will hold the Organ Stop stage for the SuperFest Grand Prize drawing, winner's presence not required. The club will also draw winning door prize tickets. For the Door Prize drawing, winners must be present.

The PizzaFest will be over at 2:00 PM so employees can prepare to open to the general public later in the afternoon.

Grand Prize Tickets are available ahead of time at [www.superstitionsuperfest.org](http://www.superstitionsuperfest.org). Minimum purchase is only 5 tickets for \$10.00:



- First Prize: Yaesu FT-991A: All-Band Transceiver.
- Second Prize: Icom IC-7300 HF/50MHz Transceiver
- Third Prize: Yaesu FTM-300 DR C4FM Dual-Band Transceiver.

**Board of Directors and Officers for the Superstition ARC**

Voting was conducted from November 1 through afternoon of November 17, day of the club meeting on Zoom.

- President: Steve Estes, KB7KWK
- Vice President: Brian Betz, W7JET
- Secretary: Scott Simeon, KI7KIM
- Treasurer: Bryan Hubbard

**Seven Directors**

1. Fred Atkinson, WB4AEJ
2. Jeff Harris, K2DFE
3. Jeff Heinze, N7CCW
4. Robert (Bob) Thomas, N8ANV
5. Emmet Plant, KB3MPN
6. Greg Watkins, WB7VOK
7. John Wolven, KG7NSP

Steve beat Andy Keels, KD4ABB for President, with 63 votes to Andy's 44 votes and was running also for the Board. Steve garnered only 58 for the Board, so his successful bid for President made his last-place finish on the Board moot. With Ham Club Online voting, we had just over half of our 206 members casting a ballot versus maybe 45 attendees to our in-person club meetings in past Novembers.

**News from the meeting**

Due to Covid-19 on the rise, and our usual restaurant closed, there will be no Christmas party, but there will be a club meeting on Tuesday, December 15, 7:00 PM over Zoom. Therefore, in 2020, we have had a club meeting every month, including December!



### *Superstition Continued from Page 16*

#### **449.600 On Air at full coverage from its permanent location**

The Cooling system at the Stone Castle has been replaced. The repeater is back in the Stone Castle.

Our 147.120 is at full steam on Usery Pass. The tech team has done a wonderful job of correcting issues with static and broadcast radio interference, together with excellent audio balancing throughout the linked system.

#### **Math trick**

Of course you can determine at a glance if you can divide a number by 2, 5 and 10. If it is an even number, division by 2 without a remainder is possible; if it ends in 5 or 0, division by 5 is possible, and ending in 0 permits division by 10.

Division by 3 is an interesting one, where if you sum up the digits and they add up to 3 or a multiple of 3, the original number is also divisible by 3. Numbers like 105, 1101 or 3600 are good examples of this.

I did NOT know that if I sum up the digits and the sum equals 9 or is a multiple of 9, I can divide the original number by 9! I was writing an article about listening to European AM broadcasts on a Web SDR and because in ITU Region 1, which includes Europe and parts of Asia and northern Africa, broadcast channels are spaced 9 kHz apart, I was involved with numbers divisible by 9.

In Region 1, long-wave AM broadcasts are located starting at 153 through 279 kHz carrier frequencies and medium-wave AM broadcasts take place from 531 through 1602 kHz.

I noted that BBC Wales could be found at 822 kHz, and looked again at that number. I was incorrect for that number is not divisible by 9 –  $8+2+2=12$ . I looked it up and I found the correct frequency is 882 kHz ( $8+8+2=18$ ).

#### **Listen to radio receivers from overseas**

If you visit [www.websdr.org](http://www.websdr.org), there are a good number of web SDR sites that link a software-defined radio dongle to a good antenna and website. Any number of users can simultaneously tune these radios independently to all different frequencies to listen to ham, broadcast, even CB channels from several parts of the world. As a ham on HF, you may even hear yourself in another country.

#### **Qatar-Oscar-100 is an AMSAT geostationary satellite.**

Launched by Qatar (pronounced as “Cutter”) in cooperation with AMSAT-DL, Qatar’s amateur radio society and its satellite company, QO-100 is centered over Africa, covering from Antarctica to the Arctic including Europe, parts of eastern South America, western Asia, and parts of the Atlantic and Indian oceans. Its 10 GHz downlink can be heard via <https://eshail.batc.org.uk/nb/> North America and Australia are not

### *Superstition Continued from Previous Column*

within its coverage area. It just skirts the eastern coast of Greenland.

The narrow-band transponder is 250 kHz wide, has uplink at 2.4 GHz and downlink at 10489.5 – 10490 MHz, not inverting. Links to bandplan, operating guidelines and more are posted on the site also. Suffice it to say, they don’t allow remote linking or club and group stations.

#### **Club publication Article Submission deadlines:**

For this ADAW column, please submit by 3rd of this month for next month. Publishes 24th of this month.

For the Communicator, the club’s member newsletter: 27th of this month. Publishes first week of next month.

73 – Larry Kuck, WB7C for Superstition ARC’s part of this ADAW.



**ADAW**

### *Superstition Continued from Page 16*

#### **Superstition ARC Repeaters**

- **147.120 MHz (+)** 162.2 Hz - Linked to 449.600 (-)
- **449.600 MHz (-)** 100.0 Hz - Linked to 147.120 (+)
- **448.275 MHz (-)** 100.0 Hz - Fusion
- **KB7KWK-L** Echolink Node

#### **Club Nets**

- **Morning Drive Time Net:** Mon-Fri, 7:00-8:00 AM - Trivia
- **City of Mesa CERT Team Monthly Net:** First Tuesday of month, 7:00 PM
- **Weekly 6 Meter Sideband Net:** Wednesdays, 7:00 PM on 50.140 MHz, W7ASL-L EchoLink, and 145.575 FM Simplex
- **Club Net:** Wednesdays, 8:00 PM - Discussion, Elmer Q&A.
- **Mesh Information Net:** Thursdays, 7:00 PM - Net control Steve, KB7KWK
- **Fusion Confusion:** Monday & Friday, 8:00 PM - 448.275
- **10-Meter Rag Chew:** Thursdays, 8:00 PM, 28.465 MHz USB

● **Club Membership** is open to anyone with an interest in Amateur Radio. Visit: <https://superstitionarc.org> for more information.

#### **Superstition SuperFest**

● The Superstition SuperFest is held on the first Saturday of December. Visit [www.superstitionsuperfest.org](http://www.superstitionsuperfest.org) for the latest information.

*Continued Next Column*



**Elections happened in November!**

I don't know the results of the TBARC election as of press time, but we'll put them up on the website as soon as we can! Check out the club website, w7tbc.org, for the latest. Thanks to everyone who participated - by running and by voting. You're what make the club a success! I'm eager to hear what the new board has in mind for the club.

**Northwest Christian School Satellite Demonstration**

One of our club directors, Rick Tejera K7TEJ, has been working with Northwest Christian School teachers to bring them his experience in amateur radio. He went over on November 11 to show the kids what it's like to operate satellites. In his own words, "On Wed. Nov 11, I gave a demonstration of working satellites to the Northwest Christian School's radio club. I started with a quick presentation on how to get started, including equipment needed, how to program your radio and the basic protocol for operating on FM sats. Then we went outside and set up for the 2323 UTC pass of SO-50.

"When the voices started to come through, I could see the kid's interest pique. The first contact was with AC9E in New Mexico. Then came XE1GLA and XE2RV in Mexico. That really got their interest. The demo was really well received. Brett (one of the NWCS teachers leading the radio club) and I talked a bit after the demo about building antennas for satellites as a project they can use with the club's Yaesu FTX400. I was glad I got to share this part of the hobby with the kids and really enjoyed myself."

Thanks, Rick!

**No December meeting - enjoy the holidays!**

As is tradition, we're not holding a regular club meeting in December. We look forward to seeing everyone (probably on Zoom to start, but hopefully we'll be getting together in person) in 2021.

See you then!  
Andrew Cornwall KF7CCC  
kf7ccc@arrl.net



HELLO ALL,

I apologize for missing the last month's ADAW. It seems as though I spent a bit over two weeks in the hospital with a hematoma. I am now going through therapy for a couple months, which seems slow. I have also missed sending out my usual BLAST. In addition to this, I am replacing the roof on my house after 50 years of use. This has impacted my on the air time.

The sun spots seem to be improving for working skip communications. This is great for working DX and making new friends. I also have been in contact with some new to be hams, acting as an Elmer for them. I do not know how they found me, but it is rewarding.

During these health issues, we have been rewarded with LOTS of new hams in the East Valley each month, compared to the months prior to the onset of the COVID 19 issues.

Our club is having better participation with our Tuesday night net and at our monthly meetings. Please join in with meeting our fellow members by adding more subject matter to the meetings.

73's  
Paul, W7EFQ

**SARC CONSTANTS:**

**SARC is a 501 (c)(3) club. That means all donations are fully tax deductible. Contact Paul Finell W7EFQ at 602.741.6563 for information on estate donations and equipment pick-up.**

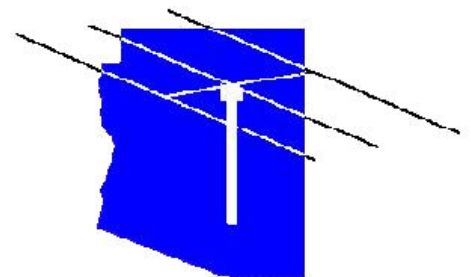
**For membership information, call Ed Nickerson, WU7S at 480.949.5162. Please send address change requests to Judy no later than the 7th of the month in which you would like the change to occur.**



*No Reports Received*

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**SHORT SKIP**





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### FTDX101MP | 200W HF/50MHz Transceiver

• Hybrid SDR Configuration • Unparalleled 70 dB Max. Attenuation VC-Tune • New Generation Scope Display 3DSS • ABI (Active Band Indicator) & MPVD (Multi-Purpose VFO Outer Dial) • PC Remote Control Software to Expand the Operating Range • Includes External Power With Matching Front Speaker



### FT-891 | HF+50 MHz All Mode Mobile Transceiver

Rugged Construction in an Ultra Compact Body • Stable 100 Watt Output with Efficient Dual Internal Fans • 32-Bit IF DSP Provides Effective and Optimized QRM Rejection • Large Dot Matrix LCD Display with Quick Spectrum Scope • USB Port Allows Connection to a PC with a Single Cable • CAT Control, PTT/RTTY Control



### FTM-400XD | 2M/440 Mobile

• Color display-green, blue, orange, purple, gray • GPS/APRS • Packet 1200/9600 b/d ready • Spectrum scope • Bluetooth • MicroSD slot • 500 memory per band



### FTDX3000 | 100W HF + 6M Transceiver

• 100 Watt HF/6 Meters • Large and wide color LCD display • High Speed Spectrum Scope built-in • 32 bit high speed DSP /Down Conversion 1st IF



### FTM-300DR | C4FM/FM 144/430MHz Dual Band

• 50W Reliable Output Power • Real Dual Band Operation (V+V, U+U, V+U, U+V) • 2-inch High-Res Full Color TFT Display • Band Scope • Built-in Bluetooth • WIRES-X Portable Digital Node/Fixed Node with HRI-200



### FT-70DR C4FM/FM 144/430MHz Xcvr

• System Fusion Compatible • Large Front Speaker delivers 700 mW of Loud Audio Output • Automatic Mode Select detects C4FM or Fm Analog and Switches Accordingly • Huge 1,105 Channel Memory Capacity • External DC Jack for DC Supply and Battery Charging



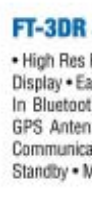
### FT-991A | HF/VHF/UHF All Mode Transceiver

Real-time Spectrum Scope with Automatic Scope Control • Multi-color waterfall display • State of the art 32-bit Digital Signal Processing System • 3kHz Roofing Filter for enhanced performance • 3.5 Inch Full Color TFT USB Capable • Internal Automatic Antenna Tuner • High Accuracy TCXO



### FT-2980R | Heavy-Duty 80W 2M FM Transceiver

• Massive heatsink guarantees 80 watts of solid RF power • Loud 3 watts of audio output for noisy environments • Large 6 digit backlit LCD display for excellent visibility • 200 memory channels for serious users



### FT-3DR C4FM/FM 144/430 MHz Xcvr

• High Res Full-Color Touch Screen TFT LCD Display • Easy Hands-Free Operation w/Built-In Bluetooth Unit • Built-In High Precision GPS Antenna • 1200/9600bps APRS Data Communications • Simultaneous C4FM/C4M Standby • Micro SD Card Slot



### FT-65R | 144/430 MHz Transceiver

Compact Commercial Grade Rugged Design • Large Front Speaker Delivers 1W of Powerful Clear Audio • 5 Watts of Reliable RF Power Within a compact Body • 3.5-Hour Rapid Charger Included • Large White LED Flashlight, Alarm and Quick Home Channel Access



### FTDX101D | HF + 6M Transceiver

• Narrow Band SDR & Direct Sampling SDR • Crystal Roofing Filters Phenomenal Multi-Signal Receiving Characteristics • Unparalleled - 70dB Maximum Attenuation VC-Tune • 15 Separate (HAM 10 + GEN 5) Powerful Band Pass Filters • New Generation Scope Displays 3-Dimensional Spectrum Stream



### FTM-7250DR | C4FM/FM 144/430MHz Dual Band

• 50 Watt Mobile • System Fusion-II Compatible • Operates Advanced C4FM Digital & Conventional FM Modes • 3 Watt Powerful & Clear Audio with Front Speaker



### FT-60R | 2M/440 5W HT

• Wide receiver coverage • AM air band receive • 1000 memory channels w/alpha labels • Huge LCD display • Rugged die-cast, water resistant case • NOAA severe weather alert with alert scan



- RETAIL LOCATIONS – Store hours 10:00AM - 5:30PM - Closed Sunday
- PHONE – Toll-free phone hours 9:30AM - 5:30PM
- ONLINE – WWW.HAMRADIO.COM
- FAX – All store locations
- MAIL – All store locations



**YAESU**  
The radio

HRO Phoenix is home to all your Ham Radio gift giving needs. We also have Gift Certificates to make your holiday shopping easier. Even though everyone will remember 2020 as a very difficult year, we want to wish everyone a much better 2021. For your last minute shopping needs, we will be open on 12-24 and 12-31 from 10am to 3pm. (We will be closed on 12-25-20 and 1-1-21)

HAPPY HOLIDAYS from all the staff at Ham Radio Outlet in Phoenix.

Now serving you at our Phoenix store: Manager Ron AJ7T, Steve W7QY, Mike K7DD, Jim K7EOG, Jim KE7EEU, Richard KIRAB, and Bob W8RH.