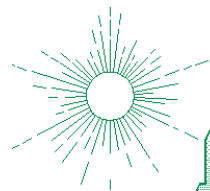


ADAW

4529 W. Park Place
Glendale, AZ 85306-1512



ADAW

Arizona Desert Aire Waves

Vol 42, No 12 December 2017

CLUB MEETING SCHEDULE

QCWA

December
TBD

Carefree Area
11:00 AM

WVARC

Dec 4th
St Clement Catholic Church
Social Hall
7:00 PM

SuperstitionARC

Dec 12th
Golden Corral
6:00 PM

ARA
Jan 25th
Denny's Restaurant - Tempe
7:30 PM

CLUB MEETING SCHEDULE

SARC

Dec 6th
Scottsdale Community College
6:00 PM

AARC

Dec 14th
Red Cross Bldg. - Phx
6:30 PM

MARCA

Dec 6th
Scottsdale Community College
6:30 PM

MARA

Dec 16th
Maricopa PD Community Rm
2:00 PM

OPRC

Dec 13th
Marshall Conference Ctr
at Tucson Medical Ctr
7:15 PM

TBARC

Dec 12th
Old Country Buffet
17125 N 79th Avenue
6:00 PM

ANSR

Dec 21st
via GoToMeeting
7:30 PM

YARC

Dec 7th
Mile High Middle School
7:00 PM

MCCARC

Dec 4th & 18th
Mesa Community College Tech Bldg
7:00 PM

CADXA

Dec 7th
PERA Club
7:00 PM

OVARC

Dec 10th
Ascension Lutheran Church
3:00 PM

CARL

TBA
AZ Science Center
TBA

ADAW Member Clubs

ARIZONA AMATEUR RADIO CLUB

The Arizona Amateur Radio Club meets on the **SECOND THURSDAY** of each month at 7:30 p.m. at the American Red Cross Building at 4747 N 22nd St. in Phoenix. Visit web site at www.W7IO.org for map. Visitors are welcome.

President	Gary Hamman	K7GH	602.996.8148
Vice President	Joe Cutitta	W0SL	623.215.2226
Secretary	Reinhard Geissler	K7RGG	
Treasurer	Bob Hodges	K7JTT	602.375.9982
Activities Mgr	Lori Cripps	WA7EDI	602.955.7517
Membership	Bob Hodges	K7JTT	602.375.9982

AARC c/o Bob Hodges, K7JTT, 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). 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	Kelley Law	KF7ZVL	
Secretary	Paul Jorgenson	KE7HR	
Treasurer	Alan Jensen	KE7FSD	
Past President	Paul Finell	W7EFQ	602.741.6563
Board Members	Jerry Jacques	KE7GYM	480.239.8679
At-Large	Dreux Jacques	W7EMU	
	Louis Schmitt	NQ7I	
	Judy Jensen	KE7IXI	480.773.8452
	David Yee	N7AJR	
	Paul Jorgensen	KE7HR	
	Ed Nickerson	WU7S	480.949.5162
	Charlie Brown	NJ7U	
	Bill Kouchis	N9EIV	

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

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	bmclean@gmail.com

ANSR, PO Box 31003, Mesa, AZ 85275-1003. DUES: \$10.00/YR. Web Site: 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	Gary Duffield	WK7B	602.843.7724
Vice President	Chris Johnson	K6OZY	623.866.2777
Secretary	Gary Cline	AF7BJ	
Treasurer	Darren Johnson	AF7CO	
Board Members	Joe Arnold	AD0X	
	Andrew Cornwall	KF7CCC	
	Wayne Hale	W6IZK	
	Robert Fairfield	K7RQN	
Past President	Walt Reinert	NJ8G	602.938.8219

For further information about the ThunderBird Amateur Radio Club, visit our website at <http://w7tbc.org>, send an e-mail to: info@w7tbc.org or call 602.938.8219. Mailing address: PO Box 83615, Phoenix, AZ 85071-3615.

OLD PUEBLO RADIO CLUB

The Old Pueblo Radio Club meets the **SECOND WEDNESDAY** of March, June, September and December at 7:15 p.m. in the Marshall Conference Center at Tucson Medical Center. Visitors are welcome.

President	Ron Kalish	N7SPW	520.207.3852
Vice President & Treasurer	George Devich	N9IUK	520.760.0125
Board of Directors:	Cliff Hauser	KD6XH	
	Jim Ulmer	KC7THU	
	Lin Donnelly	KF7CNR	
WebMaster	Ted Willis	AA7HX	520.790.3828
	(www.oprc.org)		
Trustees:	(all repeaters operating under the K7TRA call)		
Primary	Cliff Hauser	KD6XH	
	146.660, 146.820, 147.220-		
	Paul VanBeverhoudt	KA7LFX	224.06+
Secondary	Ted Willis	AA7HX	146.66-
	Ralph Turk	W7HSG	146.82-
	Paul VanBeverhoudt	KA7LFX	224.06+

Mailing address: OPRC, P.O. Box 42601, Tucson, AZ 85733-2601. DUES: Individual - \$20.00/YR, Family - \$30.00/YR.

AZ RED CROSS COMMUNICATIONS CLUB

The Arizona Red Cross Communications Club meets 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	Frank Engstrom	KB7IQ	480.209.7300
Vice President	Larry Buchanan	AA0LB	623.703.9161

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



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. Four luncheon meetings are planned each year. The meeting months and locations are announced by newsletter, but generally follow the following schedule:

Spring Meeting	March/April	Tucson Area
Summer Meeting	June/July	Prescott Area
Fall Meeting	October	Phoenix Area
Holiday Meeting	December	Carefree Area

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	Tom Fagan	K7DF	520.574.1129
Vice President	John Marshall	WA7BST	623.334.2583
Secretary	Clifford Hauser	KD6XH	520.235.7393
Treasurer	Dave Hanson	W7BJ	w7bj@outlook.com
Webmaster	John Marshall	WA7BSR	623.334.2583

Web Site: <http://azqcwa.org> Email: 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	Linda Sitterley	W7POF	mmrginc@gmail.com
Secretary	Lori Cripps	WA7EDI	602.955.7517

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

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	Steve Miller	W6SDM	602.290.1603
Vice President	Chris Canevit	W7CGC	
Secretary	John Wiltberger	NO7IN	
Treasurer	Curt Steger	NA7CS	520.568.9471
Board Members:	Steve Miller	W6SDM	602.290.1603
	David French	N7FAN	480.430.9426
	Bob Howard	W8RH	520.709.6176
	Curt Steger	NA7CS	520.568.9471
	Ronald Beasley	KG7MUV	520.568.4880
PIO:	Steve Miller	W6SDM	602.290.1603
Webmaster:	David French	N7FAN	480.430.9426

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. Mailing address: P O Box 951, Maricopa, AZ 85139

WEST VALLEY AMATEUR RADIO CLUB

The West Valley Amateur Radio Club is an Arizona 501(c)(3) non-profit corporation. Meetings are the **FIRST MONDAY** of each month at 7:00 PM in the St Clements Catholic Church Social Hall located at 15800 Del Webb Blvd., Sun City. The board meets the third Tuesday of the month at Lou's Trivoli Gardens, 12535 W Bell Rd, Surprise at 7:00 PM. The Emergency Preparedness Group meets the third Monday of the month at 7:00 PM at Boswell Hospital. Club nets are held on 147.300 (tone 162.2) at 9:00 AM daily and Monday - Thursday at 8:00 PM. The preparedness net is held the last Friday before the monthly Monday night meeting at 8 pm on the NY7S repeater 147.300 MHz, Tone 162.2 Hz. A weekly breakfast is held on Thursdays at Lou's Trivoli Gardens, 12535 W Bell Rd., at 7:00 AM.

President	Jim Rogers	N7YTI	623.214.9219
Vice President	Harry Scholz	AF7UT	623.878.0587
Secretary	Sharon Blaylock	KI7DOK	623.584.6974
Treasurer	Geoff Bock	KB7QFP	708.723.7757
Club Directors:	Bob Paul	KG7FIL	623.252.0149
	John Siepmann	N9NA	623.266.8333
	Tom Connor	W7TLC	623.444.7956
	Nancy Collins	KG6QWW	623.398.5286

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://www.westvalleyarc.org>.

SUPERSTITION AMATEUR RADIO CLUB

The Superstition Amateur Radio Club meets at 7:00 p.m. on the **THIRD TUESDAY** of each month (except December) at the Charles K Luster Building, 640 N. Mesa Drive, Mesa (use the glass door on your left at the main entrance). Visitors are welcome. Board meetings are held at 6:30 p.m. on the second Tuesday of each month (except December) at Black Bear Diner, 1809 E. Baseline Road, Gilbert.

President	Steve Estes	KB7KWK
Vice President	Jeff Machesky	K7ZLX
Secretary	Brent Butler	W7FK
Treasurer	Douglas Mitchell	W7ADD
Board Members:	Andy Keels	KD4ABB
	Don Rollock	W2EUL
	Charlie Brown	NJ7V
	Dale Schmidt	N7QJK
	Dan Karnes	W7TWR
	Jeff Heinze	N7CCW
	Larry Fort	AB7C

Superstition ARC, 5155 E Eagle Dr #21522, Mesa, AZ 85277. Web Site: SuperstitionARC.org and SuperstitionSuperFest.org. The Superstition Amateur Radio Club is a 501(c)(3) non-profit organization. For club information, please send email to: 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	Norm Johnson	AA7OO	480.278.2886
Vice President	Dave Hall	N7ZPY	
Treasurer	Don Aldridge	WA7RLL	
Board Member	David Yee	N7AJR	
Trustee:	Norm Johnson	AA7OO	480.278.2886
Webmaster:	Norm Johnson	AA7OO	480.278.2886

MARCA, Inc., PO Box 28246, Tempe, Arizona 85285. Membership dues \$25 annually. See our website (<http://w7mot.org>) for more information about meeting schedules, membership, repeaters, library, and club activities.

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.

President	Virgil Silhanek, K7VZ	k7vz@w7ara.net
Vice-President	Brian McCarthy, AK7F	ak7f@w7ara.net
Treasurer	Erv Heimbuck, K0OTZ	k0otz@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 (Mike Montalvo, KF7MBK 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.

YAVAPAI AMATEUR RADIO CLUB

The Yavapai Amateur Radio Club meets the **FIRST THURSDAY** of every month at the Mile High Middle School located at the end of W Carleton Street west of Montezuma Street (visit web site at 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	Kathy Laing, KJ6KMK	president@w7yrc.org
Vice-President	John Stevens, AB9JS	vice_president@w7yrc.org
Secretary	Sandy Mattsen, K9WIZ	secretary@w7yrc.org
Treasurer	Mike Reid, N7IEP	treasurer@w7yrc.org
Past President	Frank Bender, K8FB	k8fb@w7yrc.org
Board Members	Art Jackson, KA5DWI	ka5dwi@w7yrc.org
	Rex Mauldin, N7NGM	n7ngm@w7yrc.org
	Art Protas, KG6AY	kg6ay@w7yrc.org

Yavapai Amateur Radio Club, P O Box 11994, Prescott, AZ 86304-1994. DUES: \$20.00/yr. Visit the website at 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. (June is normally Field Day. December is annual Christmas Party and date and location varies.) Visitors are welcome. Board Meetings are held at 9:00 a.m. at the Oro Valley PD Substation EOC on Tangerine Rd (next to WalMart) in Tucson. Check the web site at www.tucsonhamradio.org for dates.

President	Steve Wood, W1SR	president@tucsonhamradio.org
Vice-President	Fred Bresani, W2HZ	vicepresident@tucsonhamradio.org
Secretary	Carl Foster, KB7AZ	secretary@tucsonhamradio.org
Treasurer	Hanna Eckert, KG7TPD	treasurer@tucsonhamradio.org
Board Members	Ross Eckert, K4WBR	
	Scott Boone, K7ADX	
	Gary Pierce, WE7GP	
	George Cooley, NG7A	
	Marnee Dearman, KG7SIO	

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/>.

MESA COMMUNITY COLLEGE AMATEUR RADIO CLUB

The Mesa Community College Amateur Radio Club meets the **FIRST and THIRD MONDAY** of each month at 7:00 p.m. at Mesa Community College located at 1833 W Southern Avenue in Mesa. The meetings are held in the Technology Center Building 50, Room TC414 on campus. Every other meeting focuses on beginner topics to assist members in testing for the Technician license. All are welcome to join and there are no membership dues or requirements other than only MCC students may vote and hold club officer positions. Visit us at <https://www.facebook.com/KM7CC>

President	Charlie Brown	NJ7V	nj7v@arrl.net
Vice President	Nick Bratcher		thetowerpeople@gmail.com
Senator	Victor Valderram		vicau50911@maricopa.edu
Secretary	Robert Swanson		robswanson30@yahoo.com

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. Board meetings are held the last month of each quarter at the AZ Science Center. 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
Secretary	John O'Neal	K7IP	480.961.1109
Treasurer	Karen McConaghy	NO7D	602.799.7338

Board Members:

Jean W4CIH	ADAW, Publicity
Steve WB4ZSC	Tech/IT, CARL/ASC Interface
Fred K9TOS	Logbook/QLS
Tom K9TOS	At Large
Sam N7INV	Scheduling
Dave W7PMD	Hamfests
John K7JP	Teacher Packets
Bob KG7QJ	Classes, ASC Contact

Web Master, ARCA Rep - Roger Buel, W9NCQ - 602.493.7242

For information: Email to carl@w7asc.org or call Jack, KD7ROB at 480.759.5195. Web Site: <http://www.w7asc.org>

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 PERA Club, located at 1 E Continental Drive in Tempe. Visitors always welcome. See www.cadxa.org/meetings.html for a map. The May meeting is an outdoor barbecue at 6:00 p.m. (reservations required).

President	Lee Finkel	KY7M	ars-ky7m@cox.net
Vice President	Fred Hoffert, III	NA2U	cwman1@aol.com
Secretary	Bill Poole	AA4Q	bill@poole.com
Treasurer	Alton Chaney	W7ACX	w7acx.480@gmail.com
Past President	Tom Kramer	NQ7R	tkramer@azci.net
Board Members	Larry Loen	WO7R	lwoen@gmail.com
At-Large	Mickey LeBoeuf	K5ML	k5ml@arrl.net

CADXA, P.O. Box 24616, Tempe, AZ 85285-4646. Email: 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.



ADAW Staff

PUBLISHER / MANAGING EDITOR

Christine Kesauer	N7PVL	602.843.0960
AARC EDITOR		
Lori Cripps	WA7EDI	602.955.7517
ANSR EDITOR		
Steve Miller	W6SDM	602.290.1603
ARA EDITOR		
Virgil Silhanek	K7VZ	623.850.1441
ARCC EDITOR		
Mark Kesauer	N7KKQ	602.318.2920
CADXA EDITOR		
Lee Finkel	KY7M	ars-ky7m@cox.net
CARLE EDITOR		
Jean Jolkovski	W4CIH	480.664.7353
MARA EDITOR		
Steve Miller	W6SDM	602.290.1603
MARCA EDITOR		
Norm Johnson	AA7OO	480.278.2886
MCCARC EDITOR		
Charlie Brown	NJ7V	602.529.4381
MMRG EDITOR		
Lori Cripps	WA7EDI	602.955.7517
OPRC EDITOR		
Ron Kalish	N7SPW	520.207.3852
OVARC EDITOR		
Ron Herring	W7HD	520.240.5322
QCWA EDITOR		
Tom Fagan	K7DF	520.574.1129
SARC EDITOR		
Ed Nickerson	WU7S	480.949.5162
SuperstitionARC EDITOR		
Larry Kuck	WB7C	l.m.kuck@gmail.com
TBARC EDITOR		
Andrew Cornwall	KF7CCC	kf7ccc@arrl.net
WVARC EDITOR		
April Kramer	KI7GFJ	602.284.6312
Nancy Collins	KG6QWW	623.398.5286
YARC EDITOR		
Don Bauer	WB7TPH	dbauer2250@aol.com
TECH SUPPORT		
Mark Kesauer	N7KKQ	602.843.0960
ADAW EMAIL		adawaz@arca-az.org or adaw@adaw.org
ADAW WEBSITE		www.adaw.org



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

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

From The Editor's Desk

The year is almost over and it's going out with a lot of Amateur Radio activity. There were three hamfests to attend in October (the Tonto Amateur Radio Association's SwapMeet in Payson, the Kingman Hamfest in Kingman, and the AZ State Convention/Copafest in Maricopa) and two events in November (the Oro Valley Hamfest in Marana and HARKfest in Congress). Wow! There was a hamfest for everyone the past two months. While Mark and I didn't get to attend all of them, we did make it to the convention in Maricopa and HARKfest in Congress. Both were great events, and we had a wonderful time. We even had the opportunity to spend a few days relaxing and visiting at the North Ranch Escapees RV Park.

Speaking of which, the Arizona Amateur Radio Club held a wonderful BBQ potluck after HARKfest. Several members and guests attended and were treated to some delicious barbecue ribs and beef fresh off the club's brand new smoker grill. Mark N7KKQ, Gary K7GH, and John K6JWA managed the grill and everyone brought a side to share. Delicious (and plentiful) eats. No one walked away hungry. There's talk of a repeat performance in the future! Watch for announcements and join us.

Have you attended any Amateur Radio events lately? Why not jot down a few notes about what you've been up to lately, activities you've attended and things you liked/disliked about them. Send your comments to ADAW and next month, we'll have a column devoted to reader comments. Sound good?

Don't forget about the Superstition Superfest on Saturday, December 2nd. This hamfest is the last one of the year in Arizona. It is always a great event to attend. This year's Superfest will feature lots of prizes, VE testing, card checking, a special event station to commemorate the USS Arizona, a GOTA station, and more. There will be food and drinks available and live music provided by John, KD8PC. The hamfest runs from 8:00 AM until 4:00 PM and admission is \$5.00 per person with children 12 and under free. See their flyer in the flyer attachment that accompanied ADAW for more details. Check it out!

As I type this, it's the day before Thanksgiving. Yeah - running late this month with all the afore mentioned activities we've been involved with. So, I'll wish you all a very Happy Thanksgiving. And since this is the last issue of 2017 - I'll also wish you a very Merry Christmas (or Happy Holidays, if you prefer) and a Happy and Healthy New Year.

73,
Chris, N7PVL



The Arizona Amateur Radio Club was treated to an especially interesting presentation at the November 9th meeting. Ray, W7USA, gave a SOTA presentation, Summits on the Air, to the AARC, and many of the attendees commented afterwards about how much they enjoyed learning about SOTA and Ray's experiences, both from the radio part as well as the side effects that resulted. Ray showed us the antenna he used, and we were able to see the equipment he used, which he displayed on the table in front of the room. Our thanks to Ray for sharing his SOTA experiences with us.

By the time you read this article the AARC will have participated in Harkfest which is scheduled for November 18. We will have used the AARC's new Char Broil smoker. Hopefully all of us will enjoy some very delicious barbecued brisket done on the new smoker. We are sure that Mark, N7KKQ, and Roger, KEØBQQ, will demonstrate their expertise at using this new equipment. We are looking forward to a great culinary experience.

We are also looking forward to the AARC's Christmas party on December 14. Get those special recipes out for that special AARC potluck event.

73,
Lori, WA7EDI



ADAW

ADAW



It's been a busy month for the club. James Wasson N7ELL gave a presentation on contesting the week before the ARRL School Club Roundup. We participated in the SCR for the first time and made quite a few contacts. We really weren't competitive, but the log has been submitted and we had fun.

In addition to our adventure in contesting, we learned about transmitter hunts. Byon Garrabrant N6BG and Gary Hinton AC7R assisted us with an antenna build for one of our club meetings. We build the tape measure yagi typically used for t-hunts. The following week, Byon N6BG gave a presentation to the club on transmitter hunts. Then the following Saturday, the club attended our first t-hunt at Kiwanis Park in Tempe using the antennas we built. One club member commented that it was the most fun the club has had to date - now that's saying something.

After our T-hunt adventures, Jay Baack N1RWY gave a fantastic presentation on portable operations. This was a very informative presentation and those present loved it. The Saturday following Jay's presentation, the club participated in Radio Under the Sun Shade (RUSS) for our first portable operation experience. Thanks to Gary Hinton AC7R for hosting the station.

In addition to all that we also held a few Knack Shack sessions where we practiced our soldering skills, made a dummy load kit, and tested the dummy load accuracy. A super busy month, but a whole lot of fun.

Remember! MCC alumni or anybody else interested may join our club. There are no dues. The only stipulation is that members of the club can only vote if they are attending classes at MCC.

Merry Christmas!!!

Charlie NJ7V
MCC ARC President

ADAW

The Yavapai Amateur Radio Club encourages members of the area community to join us for our monthly meetings. We continually strive to make our programs interesting by addressing as many facets of amateur radio as possible.

Our club has grown to 300 plus members as a result of the dedication of our officers, directors and our many wonderful volunteers. For those just getting started, we offer bimonthly license testing, periodic classes and a club radio station. Information about classes and testing can always be found on the club website www.w7yrc.org under "Become a Ham."

The next scheduled license exam session will be on Saturday, January 13, 2018, at 9:00 AM. Our website also allows for pre-registration for the test sessions. We have posted all the test sessions for 2018 on the website as well as the ARRL website, so you can plan ahead.

Since the days of Heathkit, fewer hams are building things. We hope to make a meaningful change in that in 2018. We are planning to begin a weekly (?) "build night" where we will select a construction project, gather parts and do a group build. Skilled members will help beginners out with proper assembly and soldering techniques as well as troubleshooting methods.

The Prescott Hamfest 2018 is scheduled for June 1-2, 2018. This event is only going to get bigger and better. For 2018, it will be two full days, so plan to attend. We will be happy to see you there.

Come join us for one of our monthly club meetings. We always meet on the 1st Thursday of the month at the Mile High Middle School in downtown Prescott - 15 degrees cooler than the valley at 5400 feet.

ADAW





MARA Continued from Previous Column

Elmering. You can find affordable used equipment, learn what to buy and what to avoid, and how to configure your station for the type of operating that suits you. When it's time to raise that tower or mast, your local club is a good place to get the hands-on help that will be required to get it safely done.

Ham clubs are great places to learn for new guys. They're great places for experienced hams to pass on their knowledge. Clubs have different purposes. Some are public service oriented. Others are technical groups. Some specialize in very vertical aspects of ham radio like high altitude ballooning or off-roading. Still, others focus on licensing by holding classes and conducting VE licensing sessions. Nothing says you can't belong to more than one club.

Not everyone has the time for it, but if you do, consider taking a leadership role. One of the things I've seen in organizations over the year is that when nominations come up for officers, everyone gets really quiet or heads for the bathroom. Don't be afraid to volunteer if you have the time and inclination for it. Good diverse leadership is what keeps a club together. Active and involved members are what keep it going.

73,
Steve

Ham radio is a subculture. What's a subculture? The dictionary says that a subculture is "a cultural group within a larger culture, often having beliefs or interests at variance with those of the larger culture." If you needed to shake your head and reread that definition a few times and still aren't sure you understand it, you're not alone.

What that means is that ham radio is a society unto itself. We have our own jargon. For example, when you wave at someone and say, "Hi," they usually say hi back. Do that to a stranger and they usually think you're either very outgoing or just plain weird. Of course, we all know that in ham radio, "Hi" is a laugh. Ham radio is a place where some dude called "Elmer" knows darn near everything about everything.

There are a number of other oddities in ham radio – go to any hamfest and you will see most of them. Everyone's got a hat with their callsign emblazoned on it. Callsigns become pronouns replacing one's given name. I have friends that I've known for years whose name I can never recall, but whose callsign comes to mind every time I see them.

Most of us obsess about our antennas. We worry about our SWR. We're eager to discuss intimate details like our front-to-back ratio with people we don't even know. Ham radio is not for everyone, but for those of us who have embraced it, we tend to seek out others of like mind.

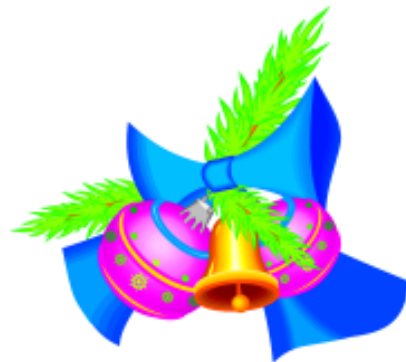
Hence, the ham radio club has become a fixture in our subculture. It's not enough to have the camaraderie of millions of other hams across the country and around the world. We need that local eyeball to eyeball gathering to reassure ourselves that we are not alone.

Clubs are where that new ham discovers that his old CB ground plane won't do him too much good on two meters, or any other ham band for that matter. He will learn the meaning of the jargon that he heard on the air, but was too embarrassed to ask what it meant. He will hear debate about which digital mode is best, laments about those who tune up on the DX operating frequency, and opinions that every ham in California operates with a kilowatt, most of them pointing east, and that the "six" call means they take up an extra kilohertz of bandwidth just for being a six. Oh, and before I get chastised for being politically incorrect, "she" will learn the same things that "he" does.



It's okay to be a lone wolf, but clubs are really the best places to learn about ham radio. It's a good place to get one-on-one

Continued Next Column

ADAW



R.J. CARLI ENGINEERING CORP

		7311 E. STETSON DRIVE SCOTTSDALE, ARIZONA 85251
		

RAYMOND J. CARLI, P.E.
ELECTRICAL ENGINEER
W7GNE

(480) 941-8810 (OFF.)
(480) 945-7020 (FAX)

If anyone is considering a major radio shack, workshop, addition or going into business for yourself, I am offering professional Electrical, Mechanical and Plumbing Engineering services to radio club members at a 20% discount for residential property, and 10% discount for commercial property. Talking is always free.



CARL Continued from Previous Column

The Amateur Radio Service demonstration station, W7ASC, located on the third floor of the Arizona Science Center continues to be busy. Visitors are educated, entertained and provided with information on how science has contributed to communication technology. Volunteers are able to correct misunderstandings about Amateur Radio that still exist in the community.

If you are licensed and have some spare time, consider volunteering at the Station. When you do, you will be amazed at how much pleasure you will be. There is a huge population waiting to be made aware of what Ham radio operators do for the community, even when there is no emergency. Curious? Visit the Station and chat with the volunteers who are on duty.

Here is a little incident that should warm your heart and give you a glimpse into the scene at the Station. A few Saturdays ago in October, the Station was visited by two young girls who had never heard of Morse code or Ham radio. They had seen the blinking lights and heard the curious sounds emanating from the Station area, so they stopped to see what was going on. The Volunteers treated them to the usual attention, guiding them through the Morse code and providing certificates and badges. They might have been treated to a QSO as that experience is a standard offer. They did seem to have fun. They left wearing their Morse badges, clutching their certificates. Nothing really unusual. Age? Probably eight or nine. So the day continued as other visitors lined up for a turn at the Ham experience.

The Shack phone rang, and one of the Volunteers on duty answered. This was a bit unusual! The caller was the Grandfather of the girls who had visited the Shack. He called to thank the station volunteers as the girls were very excited about the experience. They regaled their grandparents with tales of radio and Morse code. Their certificates were displayed with pride and excitement. So the Grandparents wanted to express their thanks to the Science Center and to the volunteers at the Ham Shack! Warm feelings all around.

A phone call came in from a Ham who asked for help from W7ASC. There would be a Community event in Gilbert on November 4 designed primarily for children. Could we help with on-air conversations? There would be a temporary Ham station at the event. Some of the children had visited the Arizona Science Center and an on-air contact might capture their interest. For three hours on Saturday, November 4, W7ASC supported that event. There were more than a few fun conversations with those young children.

Continued Next Column

Amateur Radio Service – that is what it says on our license. Who know that, except for our fellow licensees? It is your job to be more visible. Our legislators, our neighbors, and the HOA managers think of us as just geeky hobbyists - hobbyists who wish to pollute the neighborhood with hundred foot towers. People actually believe that! Every one of us must work to correct that impressions and replace it with the understanding that we actually make many contributions to the safety of our non-ham neighbors. When visitors to the Station are told that Ham radio can provide a safety net if they go camping, hiking, or off-roading out of range of commercial telephone, they start to listen. As you know, that is only a small part of the service picture.

Every licensed Ham is a representative of the Service. Each of us should be able to have an answer when asked just what it is that we DO with Ham Radio. That answer should make it clear that our major reason for existence is to help the community. So – what DO we do? This Newsletter is not planning to spoon-feed our readers with answers. Do some research! You all know, or should know, about RACES. If you are a bit fuzzy about the mission, go to the ARRL web site and read.

You have certainly heard of the Maricopa County Emergency Communications Group. Be prepared to explain them to the people that you meet who ask about Ham Radio. Volunteer to talk to any group about the MCECG, especially if your HOA is considering antennas. Most HOA's only know what their lawyers [usually interns] tell them about Hams. You can change that misinformation!

How about Sky Warn? Do you know how valuable these spotters can be, and can you explain that to your neighbors? There is a great web site that will give you a full basket of talking points. Go to <https://www.skywarn.org/> and learn enough to inform visitors. Then listen to 442.800 Wednesday 8:00 PM and 147.200 Tuesdays, also at 8:00 PM.

When the spirit moves you, send a Letter to the Editor of your local newspaper, and make the case that the editor is missing some important news when they neglect the contribution to community safety and comfort when they fail to report when Hams are providing FREE communications for bike races or a 10k run.

Be visible, be vocal, and always in terms of the Service that we provide to the community, not what we want for ourselves.

The Volunteers at W7ASC work hard on this approach. Care to join them? Applications are available at the Shack, or on-line. Volunteering at W7ASC is a great experience!

Questions or comments are always welcome, via phone or email. Happy Thanksgiving,

73 de W4CIH
jeanjol@hotmail.com 480-664-7353

ADAW



REMINDER: There is no ARA General Meeting in December. Merry Christmas and Happy Holidays everyone.

The ARA will have a table at the Superstition Superfest on December 2nd and at the Thunderbird Hamfest on January 13th. If you haven't already, please renew your membership on www.W7ARA.org or see us at one of the upcoming hamfests. The ARA repeater listing has been updated on the web site as well. We're also stocking up on the yellow public service shirts and jackets and will have those for sale.

As always, the technical committee has been hard at work. We're trying to get sites like Elden and Pinal secured before winter. Shaw Butte is on the to do list for a new set of batteries. Thanks to Mike KI7NOK who took this awesome photo of Mike KF7MBK and Joe AE7JG on the Mt. Elden tower.



Virgil K7VZ
ARA President

Listen to the ARTICLE FIVE HOUR on Sunday, November 26th at 4:00 p.m. MST on INDEPENDENT TALK 1100 KFNX. Normally a political talk show, host JD KF7VOX will be joined in the studio by Steve KB7KWK, Superstition ARC president; Mike, from Godar Electronics; and Virgil K7VZ, ARA president. Discussion will be centered around various ham radio topics and promoting the upcoming Superstition SuperFest. Listen on your AM radio or visit the web site for alternate ways to tune in from the internet.

<http://www.articlefivehour.com>

Virgil K7VZ - ARA President
623-850-1441 - k7vz@w7ara.net

ADAW

For Sale / Wanted



PRICE REDUCED!

Partly Restored Vintage Tube-type Transmitter - \$350

Baker Williams B&W 5100B AM/CW, 80-10m, 150w(2)6146's, has built in VFO and restored dial. Included is: Matching B&W 51SB-B SSB Generator (for ssb operation). Both will need new electrolytic filter capacitors. Interconnect cables (between 5100B and 51SB-B) included. Contact: Ray, W7GNE @ 480-540-4629.

A-4 Antenna For Sale - \$450

This is an older model that does not have the stainless steel hose clamps on the elements. It is the same size and has the same features as the modern A-4S. The mast mount plate is new, and some of the elements have been replaced with stock A-4S parts. The antenna is stock - does 10, 15, & 20 meters. It does not have the 40 meter add on. It is boxed and ready to go now. Contact: Bob Howard, W8RH at 520.709.6176 voice/text or email w8rh@live.com.

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 or Bob Kettler WA6MIO at rdkettler@msn.com.

WANTED:

I am looking to purchase an alinco DJ-G29T 222/900 MHz Dual-Band HT. If you have one to sell, please contact: Larry Stafford, N7WBU, 3527 S Chesin Drive Tucson, AZ 85730-2319 -- email: TFDFF@cox.net





ANSR Continued from Previous Column

balloon burst is visible from the ground and can be visually tracked until landing. APRS data is relayed to the chase vehicles along with any visual sightings. If the parachute deploys correctly, it takes about a half-hour for the payload to land. In that time, the chase team will zero in and hopefully be able to visually sight and recover the payload. The typical chase vehicle is an off-road vehicle equipped with a dual-band radio, APRS, mapping software, and binoculars.

Okay, so the question that we hear the most is, “Do you always recover the payload?” The answer is yes. One of them took about a year (someone found it in a wilderness area and brought it into the nearest fire station) but so far we have a perfect recovery record.

Another question we’re often asked is, “What kind of places have you recovered payloads?” Well, besides the usual recoveries in the desert, on farmland, or in vacant fields, we’ve recovered near a prison yard in Florence; on the restricted Yuma Proving Grounds; in an area that was so remote and inaccessible that we had to get the help of a professional search and rescue climbing group, and on top of someone’s roof.

Being part of Arizona Near Space Research is a very rewarding experience. We contribute to the community by sending student payloads into space. The students from ASU, U of A, Embry Riddle, and a whole list of community colleges are the pilots and aerospace engineers of tomorrow. Helping them in their academic endeavors is very gratifying.

ANSR is also educational for its members. Learning mapping and navigational skills, how to better understand how APRS works, and how to safely drive on desert trails that the average person never sees is enlightening.

If you’re interested in what we do, observing a flight, or even becoming part of our team, visit our website at www.ansr.org. Information on upcoming flights and membership is there.

73,
Steve

Getting a flight up into near space is pretty straightforward. Recovering it once it returns to Earth can be a little more challenging.

I remember when my oldest son was about ten or so, he got interested in model rockets. We would build them, painstakingly paint them, apply decals, and prepare them for flight. About half of the ones we launched we never saw again. He was convinced that they had achieved orbit and would circle the Earth for eternity. I knew they were probably caught up in a tree or hidden in someone’s backyard.

Not finding them was disappointing, but since most of the fun was building and launching them, it really wasn’t that big a deal. That’s where Arizona Near Space Research payloads differ. A single flight’s payload usually has Go-Pro cameras, an aircraft mode C transponder, cross-band repeaters, APRS beacons, and student experiments. Not only is there a significant monetary value to the payload, many times the success of a student experiment depends on recovery.

A successful recovery effort begins long before the flight. Each flight is modeled with the latest information about wind speed and direction at various altitudes, all of which can be different. The model gives us a good idea of how long the flight will remain aloft before and after the balloon bursts. We apply the information to a map using Google Earth, and this gives us an idea of where we can expect the recovery to be.

We do our best to avoid areas that are inaccessible, i.e., rough wilderness terrain, tribal land, water, or restricted areas. We also try to avoid urban or residential areas so that we don’t have a payload coming down on someone’s property where it would be difficult to locate – or worse yet, create a safety issue. Our entire flight is planned so that it avoids restricted airspace.

On ascent, if we end up in a situation we didn’t expect where safety or successful recovery warrants, we deploy an emergency cutaway device. A coded DTMF signal is transmitted to the flight aloft which activates a razor-sharp blade that cuts the payload away from the balloon. For example, we may deploy a cutaway device if a sudden change of wind direction takes the flight over the ocean or into a restricted area.

Balloon burst triggers the recovery activity. We usually have someone pre-deployed to the recovery area. Many times the



ADAW

Continued Next Column



**American
Red Cross**

Arizona Red Cross Communications Club

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

The sunspot numbers are certainly deceiving as far as what is possible on the HF bands. If 15 meters is “dead” at this point in the sunspot cycle, how was it possible to work 106 countries in the CQWW Phone contest at the end of October? That is what I did along with NA2U as a multi-op entry using a new tri-band yagi at our remote station in Safford. The openings to Europe on both Saturday and Sunday mornings were surprisingly good as was the opening to Asia both afternoons. Even 10 meters produced over 30 countries in the Caribbean, Central and South America, with a little of the Pacific and Oceania for good measure. 20 meters was reliable as expected, but it was a lot more fun to work the world on bands that are supposed to be useless at this point in the sunspot cycle.

For day-to-day DXing, 17 meters continues to be the go to band with strong signals from Europe on many mornings. For a check on band openings, aside from the spots on the DX clusters, you can get a quick read on propagation by checking the decodes on FT8 on any band. If you can print European signals on WSJT-X, you know the band is probably open for CW and Phone as well.

It is also the time of year when storm static has subsided and with the longer nights, propagation on 40, 80, and 160 meters is rapidly improving. I was surprised and delighted to find OH0Z on Aland Island very readable on 160m just after our sunset one recent evening. Several of the recent DXpeditions have been putting in time on the LF bands much to the delight of DXers. VK9MA is a great example.

I hope more CADXA members were inspired to try the new digital modes by the program at our November meeting led by Larry Loen, WO7R. “The FT8/JT65 Revolution” is for real and as a DXer, “if you snooze you lose” while more and more of the ham world transitions to these new modes to work DX.

The CADXA Board for 2018 was elected by acclamation at the November General Meeting:

- President – Lee Finkel, KY7M
- Vice President – Fred Hoffert, III, NA2U
- Treasurer – Alton Chaney, W7ACX
- Secretary – Bill Poole, AA4Q
- Member-at-Large – Larry Loen, WO7R
- Member-at-Large – Reinhard Geissler, K7RGG

Continued Next Column

In October, we installed new coax and the signal reports are positive. We can now reach farther north into Anthem and points west we couldn’t cover before. The new antenna had some issues, but those have been resolved and it should be back up before the next ADAW.

Our next project afterwards, is to run new rotator and CAT-5 cables down to the Red Cross “Shack” from the roof. The CAT-5 cable will allow us to connect into the Cox Wifi system to provide independent internet access.

See y’all at Superstition.

Your Humble Scribe,
Mark, N7KKQ

ADAW

CADXA Continued from Previous Column

Save the Date

The CADXA Banquet will be held on Saturday night, January 20th, at the PERA Club. More details will be sent to members in early December.

Next Meeting on December 7th

Our next meeting will be on Thursday night, December 7th, at the PERA Club, beginning at 7:00 pm. The program will be “The K3LR Story” presented by Tim Duffy, K3LR, a member of the CQ Contest Hall of Fame. For many years now, the K3LR station has operated in the Multi-Multi category of the big DX contests. Tim will give us a first-hand account of what it takes to compete with the best of the east coast stations in terms of radios, antennas, operators, and strategy. Tim is also very well known for his participation in DXpeditions and his involvement at DX Engineering.

Please feel free to arrive early to socialize with your friends. Refreshments will be served at the break. Guests are always welcome.

73,
Lee, KY7M
CADXA President

ADAW



TBARC Continued from Previous Column

date - and we have done that again this year. The Thunderbird Amateur Radio Club Christmas Dinner will be on Tuesday (not Thursday) December 12, 2017 at 6:00 PM Local Time. Join us at the Old Country Buffet at 17125 N. 79th Ave in Glendale. (Let them know you're with TBARC and you'll get a special rate.) You'll meet many enjoyable dinner companions. You'll find out the election results there, and Gary WK7B will be passing on the reigns to the new executive - meet them and let them know what you think!

Andrew Cornwall KF7CCC
kf7ccc@arrl.net



At the TBARC General Meeting on October 19, 2017 in accordance with the existing constitution and bylaws, the 51 members in attendance voted to modify the constitution and bylaws to the new ones posted on the website. There were no votes in opposition. The new constitution and bylaws came into effect on November 1, 2017. A number of people spent a lot of time to update and modernize these documents, and in particular Brian AK7F and Walt NJ8G worked hard to get them done. Thanks as well to the many people who took the time to comment - you've helped ensure we are on solid ground for the future. Most of the board signed the documents at the October meeting; the few who were absent signed them later.

Sadly, a prominent founding member of the club became a silent key recently. Ralph Barr, W0DNO, was the first president of TBARC in its current form after it was revitalized from the old Honeywell amateur radio club. His effect on ham radio in the Valley was immense: at one time Ralph was simultaneously president of TBARC, CARL, West Valley and QCWA. Memorials to Ralph may be made to the University of Minnesota Institute of Technology (<https://cse.umn.edu/donors/>) or Hospice of the Valley (<https://www.hov.org/donate/>). His work brought us to where we are now.

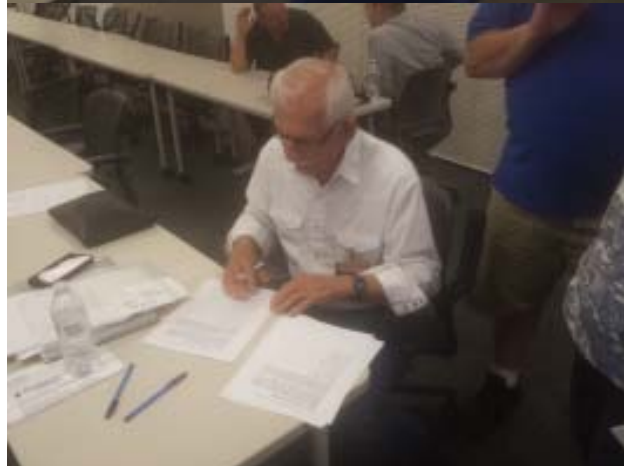
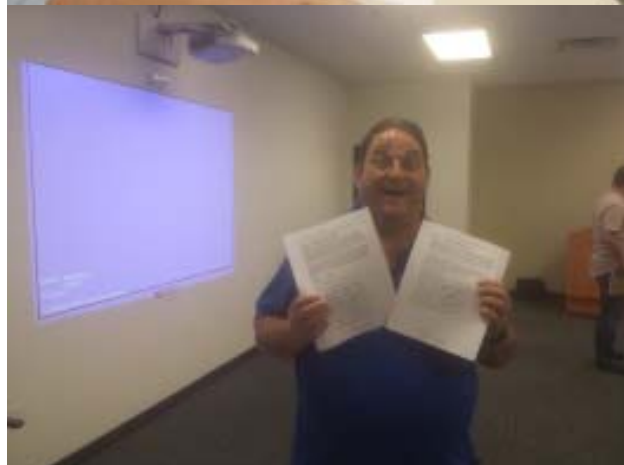
And where we are is impressive! We crossed the threshold at the October meeting of 150 members. You are what make the club so exciting. Lots of people means there's an expert for pretty much anything you want to know about.

Have you been doing something interesting in the ham radio world? If so, think about getting in touch with Israel K7HI about doing a presentation. We usually have a mini-presentation (10 minutes or so) and a longer presentation (30-60 minutes) every meeting. Share your expertise with a friendly group!

Hamfest season is starting up, and we'll be looking for volunteers to help with organizing and running it. We'll need help on Friday, January 12 and Saturday, January 13, 2018 at Northwest Community Church, 16615 N. 43rd Ave, Phoenix, as well as organizational help before then. If you can help, send an email to hamfest@w7tbc.org. If you can't help, join us there anyway - it's one of the largest hamfests in the Valley, and seems to be growing every year!

There's no general meeting in December for TBARC. By tradition, we've had a party instead. Because restaurant schedules fill up during the holidays, we often have to move the

Continued Next Column





Emergency Communications Since 1961

SHORT SKIP

ADAW



**West Valley
Amateur Radio Club
High-Speed Multimedia
Special Interest Group**

The West Valley Amateur Radio Club is starting a high-speed multimedia special interest and mesh networking group. If anyone is interested, please let me know.

Bob KG7FIL kg7fil@arrl.net

ADAW

Real Estate

Are you or someone you know looking for a Ham Home? I can help you find a home with a tower or one where a tower can be added. Call or email me to get started.

*Richard Haworth W7MDQ
Coldwell Banker Residential Brokerage
602-370-1450 Cell, rahaworth@cox.net*

Need Computer Help?

Computer consultant: in-home tutoring, problem solving, hardware and software installations, virus detection and removal. I am Patient and professional with 30 plus years in the computer field.

*Call Larry, KE7JXQ
L.E. Purchase Computer Consultants, Inc.
1-888-922-9295 or 602-863-0502*

Public Service Calendar

**Maricopa County Emergency
Communications Group Events**

EVENT	LOCATION	DATE
K's of Christmas Run	Freestone Park Gilbert	12/09/17
JROTC Shopies Flats	NE of Wickenburg	12/09/17
Scottsdale Half Marathon	Scottsdale Civic Center	12/10/17
Xterra-White Tanks	Waddell	01/07/18
Prickly Pedal	Cave Creek/Lake Pleasant	01/20/18
JROTC First Water	N of Apache Junction	01/27/18
Runner's Den Pancake Run	E Phoenix, Paradise Valley Mall	02/04/18
Xterra - McDowell Mtn	Fountain Hills	02/04/18
Black Canyon 100K	Spring Valley to the Emery Henderson Trailhead	02/17/18
Lost Dutchman Marathon	Apache Junction	02/18/18
JROTC Shopies Flats	NE of Wickenburg	02/24/18
Xterra Black Canyon Trail Run - Black Canyon City	Black Canyon City	03/11/18
Mesquite Canyon	Waddell	03/17/18
Tour de Cure	Midwestern University 59th Ave & Loop 101	03/17/18
Crown King Scramble	Lake Pleasant - Crown King	03/24/18
El Tour de Mesa	Mesa	04/07/18
March of Dimes March for Babies	Wesley-Bolin Park, Downtown Phoenix	04/14/18
Zane Grey 50 Highland Trail Run	Mogollan Rim on the Highline Trail	04/28/18

To sign up for an MCECG Public Service Event: www.mcecg.net

For information, contact Dennis Bietry - KE7EJF at 602.274.3732 - email, ke7ejf@cox.net, or contact the Event Coordinator for the event.



ADAW

SCOTTSDALE AMATEUR RADIO CLUB, INC.



Club Station: W7UF
 Club Repeaters: 147.78/18 & 445.00/440.00



There are always a number of contests listed in QST. This month I worked a few stations during the CW contest on the 4th. It seems the bands get busy during any contest. They were not great but much better than the normal quiet bands. I will try the SSB contest on the 18th and see if this trend continues.

The “Ham in the park” is in full swing now that the weather has become more seasonable. This event is on Friday mornings at the Pima Park, Thomas Road and Pima Road. Check the club web site for additional information.

The Saturday morning breakfast get together is also something you can do with a group of hams. The location has been at the Denny’s restaurant in the Pavilions. Again check the club web site. The web site is www.scottsdalearc.org

On the 11th, we remembered the valiant service men of the past. Our daughter is a registered nurse and she works for Cigna. They have a 91-year-old Navy veteran who was in the Pacific theater during the entire war. He is in pretty good health considering his age. He recounted many sea battles where the ship he was on was hit. So he was on a number of vessels because of the damaged or sunk ships. The last one was the USS Franklin CV-9. They were severely hit and almost sunk. There was a great loss of life but they managed to save the ship. They limped into port listing 25 degrees to the starboard. He is a remarkable guy and I admire him. I was in the Navy myself, but my tour was during peace time and there were no danger zones.

The annual club Christmas Banquet is coming up fast. This event will be held at the Scottsdale Community College Culinary Arts department Desert Oasis Dining room on December 6th at 6:00 PM. The dinner and celebration will be shared with the Motorola Amateur Radio Club of Arizona. There will be door prizes and a great speaker. I will have more next month.

The Club has a net every Tuesday at 7:00 PM on our repeater system. The repeaters are on 147.18 with a tone of 162.2 and on 440.00 with a tone of 100.00. Everyone checking in can give us a rundown on what they have been up to lately. Sometimes we have an interesting question for everyone. So set your clock for Tuesday’s at 7:00 and we will see you on the air. By the way, you will get a free raffle ticket for every time you check into the net. Use them at the club meeting raffle.

Well, that’s all I have for now. Be well and keep hamming.

Ed Nickerson WU7S
 enickerson427@aol.com



CopaFest on October 28th was a success with a good turnout. The ARCA meeting was held at 11:00 a.m. and approximately 27 people attended, representing 16 clubs. The new ARCA officers were confirmed. Rick W7RAP, the ARRL Arizona Section Manager, provided his report to members. Charlie K0TAN from LBARA and Mike W7IJ from RST gave progress updates of previous ARCA grants for mesh network development. The upcoming hamfest calendar was reviewed and approved. Discussion of license plate funding was tabled for the next meeting due to time constraints.

Visit the ARCA web site for updates on upcoming hamfests and other club information. <http://www.arca-az.org/>. Click on “ARCA Clubs” in the left column to view the recently updated listing of affiliate clubs. You’ll find contact info for each is provided as well as a link to each respective web site and Facebook page. It’s that time of year to make sure your club renews and updates its ARCA Affiliation, so don’t wait.

Join us at the next ARCA meeting at Superstition SuperFest on December 2, 2017 at 11:00 a.m.

Virgil K7VZ
 ARCA 1st Vice-Chair



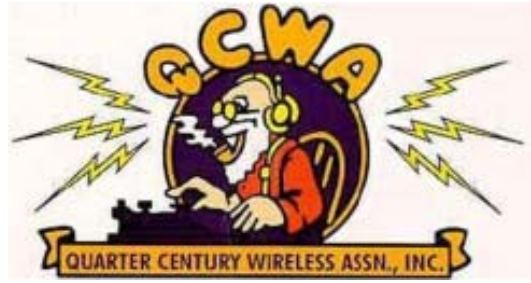
SARC CONSTANTS:

SARC is a 501 (c)(3) club. That means all donations are fully tax deductible. Contact Paul Jorgenson, KE7HR at 602.992.8043 for information on estate donations and equipment pick-up.

For membership information, call Judy Jensen, KE7IXI at 480.773.8452. Please send address change requests to Judy no later than the 7th of the month in which you would like the change to occur.



Hamfest Calendar



CHAPTER 16

BARRY M. GOLDWATER ARIZONA CHAPTER

12 December 2017 - **Superstition SuperFest 2017** - hosted by the Superstition Amateur Radio Club will be held at Mesa Community College, 1833 W Southern Avenue in Mesa. Hours are 8:00 AM to 4:00 PM. Admission \$5.00 per person, children 12 and under free. Tailgate \$10.00 per space. Grand Prizes and Hourly Door Prizes. VE Testing - Registration from 8:00 AM until 9:00 AM, Testing begins at 9:00 AM. Pre-register at times listed. ARRL Card Checking. Special Events Station - K7A Commemorating the USS Arizona. GOTA Station. Fox Hunts. For more information, contact the SuperFest Chairman at chairman@superstitionhamfest.org.

13 January 2018 - **Thunderbird Hamfest** - hosted by the Thunderbird Amateur Radio Club will be held at the Northwest Community Church, 16615 N 43rd Avenue in Phoenix. Hours are 8:00 AM to 12:00 Noon. Open to Vendors at 7:00 AM. Vendors may set up Friday night after 5:00 PM. General Admission - \$3.00 per person. Vendor and Tailgate Swap - \$10.00 per parking spot. Seminars - Door Prizes. VE Testing from 10:00 to 11:30 AM. Snacks and Beverages will be available for purchase. Visit the TBARC web site at www.w7tbc.org or email hamfest@w7tbc.org for additional information.

21-27 January 2018 - **QuartzFest** - will be held in Quartzsite. Hands-on Demos, Mobile Ham Shacks, Recreational Vehicles, EMCOMM Systems, Off-The-Grid Living, Alternative Energy, and Radio Education. Over a hundred Technical Seminars and Fun. For more information, visit the web site at www.quartzfest.org.

16-17 February 2018 - **2018 Southwestern Division Convention/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 for additional information.

31 March 2018 - **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. Seller setup starts at 6:00 AM. \$10 per space. Free Admission and Parking. Free VE Testing - GOTA Station - QSL Card Checking - Prizes. Coffee, Tea, and Donuts will be available. For Information & Map, visit <http://www.k7rst.org>

Continued Next Column



Have you been a ham for at least 25 years? Then celebrate by joining the Quarter Century Wireless Association!

The Barry M. Goldwater Chapter 16 Arizona chapter has four lunch meetings a year with fabulous speakers. Check us out at <http://www.azqcwa.org/> we are also on Facebook at <https://www.facebook.com/AZQCWA>. We are always looking for speakers and great lunch locations. Let us know.

Tom Fagan, K7DF, President

QCWA Barry M. Goldwater Chapter 16 Arizona

k7df_tom@yahoo.com

ADAW

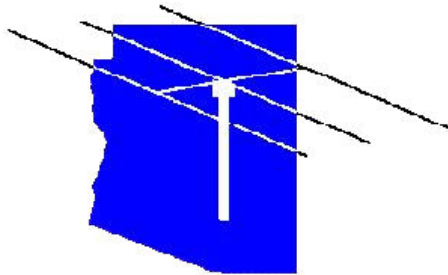
Hamfest Calendar Continued from Previous Column

1-2 June 2018 - **2018 Prescott Hamfest at ERAU** - hosted by the Eagle Amateur Radio Club at ERAU and the Yavapai Amateur Radio Club will be held at Embry Riddle Aeronautical University (ERAU), 3700 Willow Creek Road in Prescott. Hours are 7:00 AM to 4:00 PM on Friday and 7:00 AM to 3:00 PM on Saturday. Tailgating, Commercial Vendors, Youth Activities, Special Event Station, Prizes, Food Concessions, Seminars, DXCC Card Checking and more. Limited Free RV Dry Camping on Thursday and Friday nights (must pre-register). General Admission - \$5.00 good for both days. Full Time Student with Student ID and 12 years and under - Free. Tailgating - \$10.00 first parking space, \$5.00 each additional. Indoor Commercial - \$20.00 first table, \$10.00 each additional. Talk-In Frequency - 146.880 MHz(-) PL 100 Hz. For more information, visit the website at www.prescotthamfest.com or email Hamfest Chairperson - Frank Bender, K8FB at k8fb@w7yrc.org

29 September 2018 - **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. Seller setup starts at 6:00 AM. \$10 per space. Free Admission and Parking. Free VE Testing - GOTA Station - QSL Card Checking - Prizes. Coffee, Tea, and Donuts will be available. For Information & Map, visit <http://www.k7rst.org>

ADAW

License Testing Information



MARCA INC.

No Report Received



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.

December Test Sessions

- Dec 2nd** - Venture Out ARC -- 9:00 AM
 Venture Out RV Resort, 5001 E Main St, Mesa
 Contact - Robert Bingham 480.404.1408
 No Walk-Ins
- Dec 2nd** - ORO Valley ARC -- 10:30 AM
 Oro Valley Police Dept. EOC, 1920 Tangerine Rd, Oro Valley
 Contact - Quinton Gleason licensing@tucsonhamradio.org
- Dec 7th** - CARBA -- 7:00 PM
 Lighthouse YMCA, 2900 N Columbus Blvd, Tucson
 Contact - Matthew Grossman 520.750.7189
 Pre-Reg by email preferred - veregistration@rstclub.org
- Dec 9th** - Venture Out ARC -- 9:00 AM
 Venture Out RV Resort, 5001 E Main St, Mesa
 Contact - Robert Bingham 480.404.1408
 No Walk-Ins
- Dec 11th** - Radio Society of Tucson -- 7:00 PM
 Hardesty Mid-Town Police Bldg, 1100 S Alvernon, Tucson
 Contact - Diane Zimmerman 520.664.5070
- Dec 16th** - Central Phoenix VE Team -- 9:00 AM
 Gilbert Farmers Market, 222 N Ash Dr, Gilbert
 Contact - Bill Martin 480.205.3625
 No Walk-Ins - Limit Space - Contact Prior to Exam
- Dec 16th** - Un-sponsored -- 10:00 AM
 Kingman Fire Station #1, 2470 E Butler Ave, Kingman
 Contact - Daniel Miller 928.897.3883
- Dec 16th** - Hualapai ARC -- 10:00 AM
 Northern Arizona Fire District, 2470 E Butler Ave, Kingman
 Contact - Alyce Ingle 425.234.9173
- Dec 16th** - Venture Out ARC -- 9:00 AM
 Venture Out RV Resort, 5001 E Main St, Mesa
 Contact - Robert Bingham 480.404.1408
 No Walk-Ins

Test Sessions Continued from Previous Column

- Dec 18th** - East Valley VE Team -- 6:00 PM
 City of Mesa Utilities, 640 N Mesa Dr, Mesa
 Contact - Fred Bollinger 480.242.8606
- Dec 19th** - Hassayampa AR Klub -- 9:00 AM
 Club House Park Entrance, 30625 Hwy 89, Congress
 Contact - Charles Carter 316.651.7710
 No Walk-Ins - Must Pre-Register
- Dec 19th** - Motorola ARC of Arizona -- 5:00 PM
 Denny's, 825 S 48th St, Tempe
 Contact - Edward Olague 602.885.7725
 No Walk-Ins - Pre-Registration Required
- Dec 20th** - Thunderbird ARC -- 6:00 PM
 Honor Health Medical Office Bldg, 19841 N 27th Ave, Phoenix
 Contact - James Skinnell 602.826.1949
- Dec 20th** - Central Phoenix VE Team -- 6:00 PM
 South Mountain Community College, 7050 S 24th St, Phoenix
 Contact - Bill Martin 480.205.3625
 No Walk-Ins - Limit Space - Contact Prior to Exam
- Dec 23rd** - Venture Out ARC -- 9:00 AM
 Venture Out RV Resort, 5001 E Main St, Mesa
 Contact - Robert Bingham 480.404.1408
 No Walk-Ins
- Dec 23rd** - Arizona ARC -- 7:00 PM
 American Red Cross, 4747 N 22nd St, Phoenix
 Contact - Gary Hamman 602.996.8148
 No Walk-Ins - Pre-Registration Required by Friday night
- Dec 30th** - Venture Out ARC -- 9:00 AM
 Venture Out RV Resort, 5001 E Main St, Mesa
 Contact - Robert Bingham 480.404.1408
 No Walk-Ins



Continued Next Column



Christmas Party Tuesday, Dec 12 2017 6:00 PM

In lieu of a December meeting, the Superstition ARC has an annual Christmas dinner party at the Golden Corral Restaurant: 1868 N Power Rd., Mesa. This is located on the west side of Power Rd., south of McKellips.

The start time is at 6:00 PM. Club Members and Guests pay the Senior Discount price regardless of age. Just mention the Superstition Amateur Radio Club at checkout. We meet in the southeast corner of the restaurant. Just go left from the checkout all the way to the last room on the left.

November's President's Corner

Once again we wind down another month and this month was especially important for the club. Every October we put together a committee to handle the elections for the next year and we have our nominations for the Board of Directors and Officers. This of course was on the 17th and all nominations have been accumulated by the Elections Committee. They will have ballots ready to go out to all current club members for you to cast your vote at the November club meeting. I want to thank the committee for organizing and handling all the election duties.

I also want to thank all the current Board members and Officers for all the hard work done in 2017. With your help we have made many needed changes to the club that was long in the making. For those of you who have stated that you would like to remain on the Board, I thank you for your time and dedication. I have accepted the nomination for club President once again. If elected again, this will be my 10th consecutive year and if I am not mistaken, the longest back to back President the club has had. I enjoy what I do for the club and I hope everyone is happy how things are being operated. If I am elected again, this will be my last year. I feel it is time to hand things over to someone new in 2019.

We have one more general club meeting before the end of the year. We do not have a club meeting in December. Instead of a meeting we have our annual Christmas party at the Golden Corral restaurant at Power Road and Mc Kellips in East Mesa. We always have a great time and a lot of club members always attend. Remember that you can bring your friends and relatives along also.

As always, it has been great seeing the attendance increase at our meetings. We are also seeing a lot of new faces at each meeting and we grown our little club to a big one with close to 180 members, making the Superstition Amateur Radio Club one of, if not the biggest in Arizona.

CONGRATULATIONS TO ALL OF YOU!

73 – Steve Estes – KB7KWK

It was a very slow month as far as MMRG activities is concerned. We have one new member, Clyde Stanton, WA7GQN of Prescott. Clyde, welcome to MMRG!

The IRLP node on the 442.150 repeater is down at this time. Ray, N6MY, is working at getting it back up and running. Ray, we all appreciate the time and effort you are expending to get this back up and running.

The early morning roundtable on the 147.000 repeater is experiencing fewer check-ins. I suspect this is due to the sun not being up at that time and people are sleeping in.

MMRG is still looking for someone to take over the historian position that was formerly held by the late W7POF, Linda.

73 Bob K7POF

ADAW

Superstition Continued from Previous Column

Club Meeting Prize Drawings

I have been asked to publish meeting drawing winners in the ADAW. To that end, I have asked the Secretary to email me the prize winners and related information and photos. Starting with January's issue, I will publish that information as I receive it.

January 16 Meeting 2018 at 7:00 PM – Junque Auction

January's meeting begins at 7:00 PM, but if you are bringing items to auction off, please arrive up to 45 minutes early. If you want to look the goodies over, please arrive up to 30 minutes ahead of time.

The club gets 10% off the top, but sellers may choose to increase the amount of their proceeds to the club by including that info on a name label on each piece. Also, please group multiple items on your labels as applicable. We will log your items and issue them a number tag for the auctioneer.

We sometimes get complete stations to be auctioned so, buyers, please bring your money!

Visitors and Guests are always welcome to participate.

Merry Christmas! Happy New Year!

73 – Larry WB7C

Old Pueblo Radio Club INTERMOD

President's Column

No Report Received



OPRC Repeaters

146.66 - PL 110.9	wide coverage	W7GV
146.82 - PL 110.9	wide coverage	W7GV

RACES Repeaters

145.150	packet/wide	N7OEM
146.880 - PL 110.9	wide coverage	N7OEM
147.300 - PL 110.9	wide	N7OEM
448.55 - PL 110.9	wide coverage	N7OEM

The Holiday Season is here. By the time you read this our 2017 hamfest will be in the memory books and Thanksgiving will be around the corner. Thank you to the many visitors and tailgaters that drove quite a long way to get to our event. My hope is that everyone had a great time. If you have any comments or suggestions, I would love to hear them.

This is the perfect time to say THANK YOU to so many people that make our club a huge success. There are so many people that work so hard behind the scenes . . . those that make the coffee, sell raffle tickets, arrange the chairs for our meetings, pick up and drop off materials for our hamfests and other events and the list goes on. THANK YOU AGAIN!

A special thank you to those that have taken a leadership role in the club by organizing operating events, teaching licensing classes and Saturday morning FLdigi classes.

Our flagship repeater site at Keystone is now back up to speed. After some much needed antenna repairs, Gary - AE7GP, Gary - KT7AZ and Howard KC7AC went up the mountain and serviced the antenna's phasing harness and now we're back to 100% performance.

The OVARC Technician classes continue. David Beauchesne, AK2L is our master instructor. Twelve students are continuing along in the current class. All will graduate very soon and hopefully be on the air by the end of the year.

Throughout the year OVARC accepts donations of ham radio related equipment that we can use to pump up the club's finances. If you have a radio, power supply or some other ham radio item that you can donate, please contact me. As we are a 501C3 organization, we can provide you with a receipt that might help your finances too.

Our end of the year membership drive is underway. We hope that our existing members have seen the benefits of their membership and will renew for 2018. Likewise, we always welcome new members. We really make an effort to help new members get involved or continue their experiences with Amateur Radio. Membership benefits include connections to a team of extremely qualified Elmers, operating events throughout the year, 11 excellent meetings with top presentation topics and a year-end Holiday Christmas Party. Please come and join us!

Best wishes to all for a HAPPY THANKSGIVING!
Steve, W1SR

ADAW

Superstition Continued from Previous Page

Superstition ARC Repeaters

147.120 MHz (+) 162.2 Hz - Usery *
448.275 MHz (-) 100.0 Hz - Usery
449.600 MHz (-) 100.0 Hz - East Mesa *
KB7KWK-L Echolink Node 538499 *

* - Linked Full Time

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 Business Net: Wednesdays, 8:00 PM - Featuring Club News, Elmer Q&A and AR Newslines.

Mesh Information Net: Thursdays, 6:30 PM

East Valley Swap Net: Thursdays, 7:30 PM

National History Net: Thursdays, 8:30 PM. Quizzes you on National History.

10-Meter Rag Chew: Thursdays, 8:00 PM, 28.465 MHz USB
Morse Code Class Net: Saturdays, 7:00 PM

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 for the latest information.

Looking for a Ham Home?

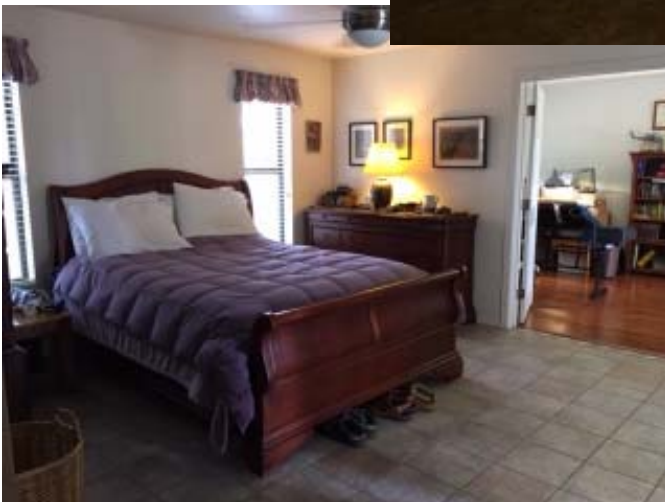
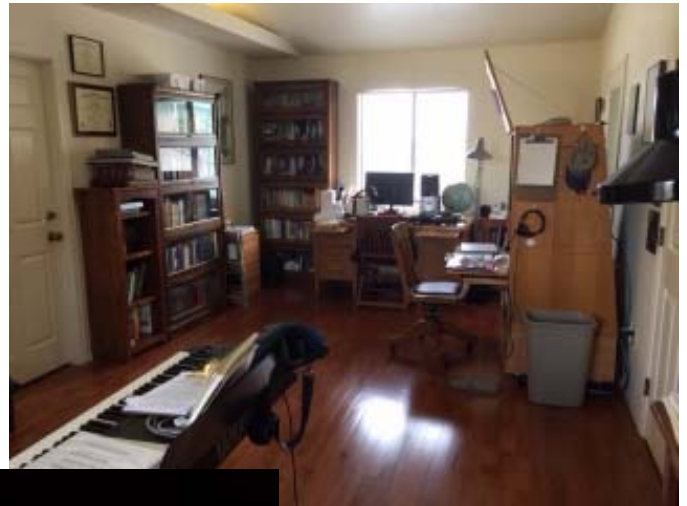
Rare in the valley: no HOA and towers under 75 feet require only building permit. Ham friendly neighbors.

QTH: Mesa, AZ \$330K 2078 sq ft, 4 bedroom, 2 bath, flat terrain w/5 antennas: **SteppIr DB-11**; **5/8 wave VHF/UHF**; 55 foot motorized *custom* tilt-over tubular US Tower; rated 90 mph *fully extended*; **Inverted 40/80 vees** on 35-ft flagpole; **30-ft marine vertical whip**, fed by SG-237 autotuner. Elegant ham shack/office with 110/220. Large shelved storeroom adjoins.

Home: Tile and hardwood plank flooring throughout. 15x14 masterBR w/walk-in, adjoins 11x22 office/ham shack, 110/220VAC, and 5x22 shelved storage room. Open plan cathedral ceiling L-R 17x28; with 9x10 dining alcove; 2-car attached garage w/air-conditioned shop; RV pad. Pool. More photos on qrx.com

Interested? Contact: denis@ix.netcom.com

W6EW



HAM RADIO OUTLET

WWW.HAMRADIO.COM

***FREE 1 OR 2 DAY DELIVERY TO MOST OF US!**



\$600
Kilobaud
compare

TS-990S | 200W HF + 6M Transceiver

- World's first dual TFT display • 200W output on all bands • ±0.1ppm TCXO ensures both high stability and reduced power consumption • Triple 32-bit DSP's dedicated to main/sub receivers and band scope • Main receiver employs full down conversion, new mixer & narrow band roofing filters • Third order intercept point (IP3) +40dBm for highest level of RX performance (main receiver)

Call For Special Price!



\$40
Kilobaud
compare

TM-D710G | 2M/440 Dualband

- V-VV-U/U+U operation • Built-in GPS • Built-in TNC for APRS & DX-Cluster operation • 50W 2M & UHF • 1,000 memories • Dual receive • Green or amber backlight colors • Latest APRS firmware w/new features • Sky Command II remote functions

Call For Special Price!



\$250
Kilobaud
compare

TS-480SAT/HX | HF + 6M Transceiver

- 480HX 200W HF & 100W 6M (no tuner) • 480SAT 100W HF & 6M w/AT • Removable w/front panel/speaker • DSP built-in

Call Now For Low Price!



NEW

\$300
Kilobaud
compare

TS-590SG | HF/50MHz Transceiver

- Equipped with 500 Hz/2.7 kHz roofing filter as standard • ALC derived from TS-990S eliminating spike issues • Antenna output function (shared with DRV connector) • CW - morse code decoder function • Improved 1st mixer • New PFB key with multi-function knob • New split function enabling quick setting • LED backlight with selectable color tone



\$25
Kilobaud
compare

TM-V71A | 2M/440 DualBand

- High RF output (50W) • Multiple Scan • Dual receive on same band (VxV, UxU) • Echolink® memory (auto dialer) • Echolink® Sysop mode for node terminal ops • Invertible front panel • Choice of green/amber for LCD panel • 104 code digital code squelch • "Five in One" programmable memory • 1000 multifunction memory

Call Now For Your Low Price!



\$40
Kilobaud
compare

TH-D72A | 2M/440 HT w/extended RX

- SW TX, RX 118-524 MHz, VxU, VxV, UxU • APRS w/built-in 1200/9600 TNC • Built-in GPS, Built-in USB, digipeater • Echolink® compatible, • MI-Spec STD810

Call For Special Low Price!



\$200
Kilobaud
compare

TS-2000

\$250
Kilobaud
compare

TS-2000X

TS-2000/2000X | HF/VHF/UHF Transceiver

- 100W HF, 6M, 2M • 50W 70CM • TS-2000X 10W 1.2GHz • Built-in TNC, DX packet cluster • IF Stage DSP • Backlit front key panel

Call For Special Price!



\$25
Kilobaud
compare

TM-281A | 2 Mtr Mobile

- 65 Watt • 200 Memories • CTCSS/DCS • MI-Std specs • Hi-quality audio

Call For Special Low Price!



TH-D74A | 2M/220/440 HT w/D-STAR

- D-STAR compatible • APRS ready w/built in GPS • Color weather station information • Built-in KISS mode TNC • High-performance DSP voice processing • Standard compatibility for Bluetooth

Call For Low Price!



TH-K20A | 2M Handheld

- 2M 5.5W • V0X • CTCSS/DCS/1750 Burst built-in • Weather alert

Call For Special Low Price!



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

KENWOOD

The staff at HRO Phoenix would like to congratulate and wish Gary, N7GJ a happy retirement after 32 years of service with HRO!

*Now serving you at our Phoenix store:
Manager Mike KB6VHF, Steve W7QY, Mike K7DD, Jim K7EOG, Jim KE7EEU, and Laura KB6UHF*