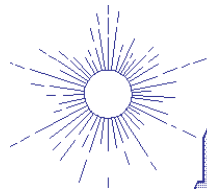


ADAW

4529 W. Park Place
Glendale, AZ 85306-1512



HAPPY NEW YEAR! 2017



ADAW

Arizona Desert Aire Waves

Vol 42, No 1

January 2017

CLUB MEETINGS SCHEDULE

SARC

Jan 4th
Scottsdale Senior Center
7:00 PM

OPRC

Jan 11th
Marshall Conference Ctr
at Tucson Medical Ctr
7:15 PM

CARL

Jan 21st
AZ Science Center
TBA

AARC

Jan 12th
Red Cross Bldg. - Phx
7:30 PM

TBARC

Jan 19th
North Phoenix Campus
Northern Arizona University
7:00 PM

CADXA

Jan 22nd
PERA Club
5:00 PM

CLUB MEETINGS SCHEDULE

QCWA

Jan 7th
Horny Toad Restaurant
Cave Creek
11:00 AM

SuperstitionARC

Jan 17th
Charles K Luster Bldg
7:00 PM

MARCA

Jan 17th
Denny's Restaurant - Tempe
6:30 PM

ANSR

Jan 16th
via Skype
7:30 PM

OVARC

Jan 2nd
Ascension Lutheran Church
7:00 PM

WVARC

Jan 2nd
St Clement Catholic Church
Social Hall
7:00 PM

ARA

Jan 26th
Denny's Restaurant - Tempe
7:30 PM

MARA

Jan 28th
Barrow's Pizza - Maricopa
9:00 AM

YARC

Jan 5th
Mile High Middle School
7:00 PM

ARCCC

TBD
American Red Cross Bldg
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	Mike Zachary	KG7OSR	
Treasurer	Bob Hodges	K7JIT	602.375.9982
Activities Mgr	Lori Cripps	WA7EDI	
Membership	Bob Hodges	K7JIT	602.375.9982

AARC c/o Bob Hodges, K7JIT, 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	Bob Johnsen	K7TR	480.946.1427
Secretary	Kelley Law	KF7ZVL	
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 MONDAY** of the month at 7:30 p.m. on Skype. Technical meetings are held the first Monday of the month at 7:30 p.m. on Skype. Please contact an officer about joining our meetings.

President	Stephen Thomas	KE7TLS	iamgadget1@yahoo.com
Vice President	Vince Jenkins	KC7IUU	vince.jenkins@meggitt.com
Secretary	Kim Jenkins		vince.jenkins@meggitt.com
Treasurer	Bill McLean	K7WWM	bmclean1@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	N7GDP	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 each month (except June, July and August) 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:	Bill Price	N7GUO	
	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	Raymond Tyrrell	N6MY	n6my@gmail.com
Treasurer	David Hanson	W7BJ	602.615.3444
Secretary	Lori Cripps	WA7EDI	602.955.7517

Web Site: <http://www.mingusmountain.org> and <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 **LAST SATURDAY** of each month at 9:00 a.m. at Barrow's Pizza, 44600 W Smith-Enke Rd. (Smith-Enke and John Wayne Parkway) in Maricopa.

President	Josh Babb	W3JB	801.358.1078
Vice President			
Secretary	Bob Beltz	KU4ZG	770.680.1204
Treasurer	Heather Canevit	KG7MUY	
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 3025, Arizona City AZ 85123

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 second Monday of the month at Boswell Medical Center, Ironwood Room 2, Sun City. 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	Mike Corder	K7MJC	602.439.1303
Vice President	Alex Munro	K7AEM	
Secretary	Sharon Blaylock	KI7DOK	623.584.6974
Treasurer	Jim Rogers	N7YTI	623.214.9219
Membership	Tom Connor	W7TLC	623.444.7956
Club Directors:	Bob Paul	KG7FIL	623.252.0149
	John Siepman	N9NA	630.209.4116
	Martin Fitzpatrick	WB7X	wb7x@cox.net
	Tom Connor	W7TLC	623.444.7956

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	Jeff Harris	KD2DFE
Treasurer	Douglas Mitchell	W7ADD
Board Members:	Brian Betz	W7JET
	Dale Schmidt	N7QJK
	Dan DeVliieger	KC7MSU
	J.D. Smaylis	KF7VOX
	Andy Keels	KD4ABB
	Charlie Brown	NJ7V
	Steve Gurley	KY7W

SuperstitionARC, P.O. Box 21522, Mesa, AZ 85277-1522. Web Site: SuperstitionARC.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 1343 Broadway in Tempe (SE corner of Broadway & Priest). 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.

President	Norm Johnson	AA7OO	480.278.2886
VicePresident	Dave Hall	N7ZPY	
Secretary	T D Kennard	N7ISR	
Treasurer	Don Aldridge	WA7RLL	
Director	Bill Hosking	W7JSW	
Director	Dusty Morris	W7ITM	
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, 1343 W. Broadway, Tempe, AZ, on the southeast corner of Priest and Broadway. 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, WB7TUI	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	Tom Bishop, KI7FWZ	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	Bob Molczan, KA7VPR	vicepresident@tucsonhamradio.org
Secretary	Carl Foster, KB7AZ	secretary@tucsonhamradio.org
Treasurer	Hanna Eckert, KG7TPD	treasurer@tucsonhamradio.org
Board Members	Scott Boone, K7ADX	
	Lanny Voight, KF7LV	
	Ross Eckert, K4WBR	
	Fred Bresani, W2HZ	
	Bob Stephens, AF9W	

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/>.

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 ADAAW. ALL RIGHTS RESERVED. **Deadline is 10th of the month**

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	Bob Burleson	KG7QJ	480.961.1109
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/QSLs
Mike KG7OSR	Scheduling/Membership

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

For information: Email to carl@w7asc.org or call Bob Burleson, KG7QJ at 480.961.1109. 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
Acting V P	Fred Hoffert, III	NA2U	
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	lwlloen@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

ADAW Staff

PUBLISHER/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
CARL EDITOR		
Jean Jolkovski	W4CIH	480.664.7353
MARA EDITOR		
Steve Miller	W6SDM	602.290.1603
MARCA EDITOR		
Norm Johnson	AA7OO	480.278.2886
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		
Robert Paul	KG7FIL	kg7fil@cox.net
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 WEB SITE		www.adaw.org

ADAW



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From The Editor's Desk

Test Sessions Continued from Previous Column

Happy New Year everyone! Welcome to 2017! The new year promises to bring plenty of changes. Be they good or bad is all in how you perceive them and how you decide to let them affect you.

One of the changes is the election of a new ARRL Arizona Section Manager. Robert Spencer, KE8DM (our current Section Manager) has decided not to run for reelection. Three Arizona hams have answered the call for applications and are seeking your vote (if you are an ARRL member). A request to publish the candidate's bios was approved by Mr. Spencer, KE8DM. ADAW is pleased to introduce you to the candidates for ARRL Arizona Section Manager. Their bios are on page 7 (in no particular order). Be assured, ADAW does not "endorse" or favor any candidate over another. The information is provided in this publication simply to help you with your decision when time to cast your vote.

Speaking about casting your vote - Ballots will be mailed to all Arizona ARRL members January 2nd. The ballots need to be returned to ARRL Headquarters by February 17th.

Also in ARRL news - the position of Vice-Director for the Southwestern Division is currently open. Marty Woll, N6VI resigned from the position creating the current vacancy. The league will bring up this issue in March 2017. Watch for more later.

Please join the ADAW staff in thanking both Robert Spencer, KE8DM and Marty Woll, N6VI for all their service to the Amateur Radio Council of Arizona. We wish both of you success in your future ventures and hope to see you at some of the upcoming radio events. Thanks, Robert & Marty.

On the hamfest front, some sad news. After 13 years, the Amateur Radio Council of Arizona has decided to discontinue the ARCA/Williams Hamfest held each July in Williams, AZ. The decision was made at the winter meeting of the council at the Superstition Superfest in December. The council advises that the dates are still available should any club wish to continue the tradition of the Williams Hamfest.

The cancellation of the ARCA Summer Hamfest leaves a question about the location of the 2017 ARCA Annual Meeting. A change of the Constitution and By-Laws is necessary to allow the council to schedule their annual meeting at one of the June hamfests that are currently held in the state. This change is pending and the proposed changes will be published with the minutes of the December meeting. The change will be voted on at the Spring meeting and will take effect at that time.

On some brighter hamfest news - The Thunderbird Hamfest will be held on January 14 at Northwest Community Church on 43rd Avenue in Phoenix. This is a great event to attend. Last year's hamfest was very well attended and the parking lot was

full of eager shoppers and motivated sellers. For all the details, check the Hamfest Calendar of page 15 and the flyer in the secondary attachment. Don't miss it!

Also in January is the annual QuartzFest in Quartzsite, AZ. This week-long ham radio, camping, learning and living event is celebrating its 20th year. The ARRL Specialty Convention will be held the 22 through 28. For more information, visit their web site at <http://quartzfest.org>.

Following directly on the heels of QuartzFest is the ever popular Yuma Hamfest/ARRL AZ Section Convention held each year in Yuma, AZ. This hamfest has grown by leaps and bounds. It boasts the largest prize list up for grabs in the state. There are seminars, talks, meetings, and more. Tailgaters are always plentiful and the main hall is usually full of vendors. Their Buzzard Barbecue on Saturday night is excellent, and with a \$10 price tag, very affordable. If you are interested in attending this prodigious event, you'd better make your reservations soon. Spaces sell out early!

Requests to host the 2017 ARRL Arizona State Convention are being solicited by the Amateur Radio Council of Arizona. This state convention was set up to be a "mobile" event so that it would better serve the ham population of the state. A decision on host and location needs to be made by the January 14th meeting. Check with your club to see if they might be interested.

Many other changes will be taking place in our world in 2017. With luck and perseverance we will survive.

Wishing you a Happy, Healthy, and Healthy New Year!

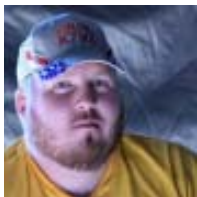
73 'til next month,
Chris, N7PVL



Continued Next Column

ADAW

Meet the Candidates for ARRL Arizona Section Manager



Virgil Silhanek, K7VZ
Currently President of the
Arizona Repeater
Association
K7VZ@w7ara.net



Rick Paquette, W7RAP
Currently ARRL Assistant
Section Manager
W7RAP@ARRL.NET

AZPAQUETTES@GMAIL.COM



Steve Wood, W1SR
Currently President of the
Oro Valley Amateur Radio
Club
president@tucsonhamradio.org

I'm running for Arizona Section Manager because I believe I can bring an energetic, can-do attitude to the role. I grew up and attended college in central Iowa before my wife Marcia and I moved to Arizona in 2002. Many of our weekends are spent 4 wheeling and camping with our 5-year old, Evan, enjoying the variety of landscapes the southwest has to offer. I am one of the founding members of 4x4 Ham which led me to get involved with Field Day, portable HF operations, APRS, public service, and the Arizona Repeater Association, where I've been president for the last 3 years.

The number of FCC licensed amateurs continues to grow each year and we need to provide a welcome place for them to operate and learn. Arizona clubs need positive support and backing from the ARRL, without putting unrealistic demands on what they are able to do. I believe that each club should have the freedom to operate as they wish. I oppose any effort to divide Arizona into multiple sections as we should be one section that is united and works together for a common goal.

I'd like to see us work to develop extracurricular activities connected with schools, maker groups, and boy/girl scouts that will help bring youth into our ranks and get them interested in the hobby. Growth is important, but we also need to focus on what got us here such as existing DX groups, hamfests, repeater organizations, and all of the various special interest groups in the state. Emergency communication and public service remain important, and we need someone who will support and strengthen the relationship between amateur operators and government agencies. I look forward to the opportunity to serve you as the next ARRL Arizona Section Manager.

- Rick (W7RAP) has been a Radio Amateur since 1975 and holds an Amateur EXTRA class license.

- He retired as Design Manager at Hughes/ (Raytheon) in 2007.

- He has served as ARRL Assistant Section Manager since 2004, and as a ARRL VE team lead since 1998. He helps coordinate activities and resources among VE teams throughout Arizona.

- Rick is certified as a VE with the ARRL, W5YI, and Laurel VECs.

- For over Ten Years he has led VE teams conducting test sessions at AZ State conventions and Hamfests.

- He has been making ARRL presentations at major hamfests throughout Arizona since 2004.

- He is a ARRL registered License Instructor as well as one of Gordon West's (WB6NOA) certified Instructor/Elmers: He participates with Gordo in making presentations at Arizona Hamfests.

- He is past President of the General Dynamics Ham Club and Catalina Radio Club in Tucson.

- He is currently a member of several Amateur organizations: SARBA, CARBA, ORBA, Kachina, Cactus, and the Greens Peak ARA.

- Has been an AMSAT member, ARES qualified in 1990. RACES certified in 1993. and is a former ARCA representative,

- Rick has been mentoring young Arizona Hams for years.

- He maintains a linked UHF Remote Base repeater at his home in Oro Valley, and a Repeater and APRS Digipeater on Greens Peak.

- He participates daily in HF Nets, UHF Nets and D-Star.

- Meet him on 3.933 MHz any evening at 6:00 PM.

- Rick's goal is to help assure that new Hams are welcomed into our activities.

- He wants to boost the number of Arizona Amateurs and get more of them involved in ARRL activities throughout the state.

- He will work to develop a network of "Amateur Ambassadors" in Arizona assigned to "Link-Up" new

Hams to local and statewide clubs, organizations, activities, and adventures.

With over 40 years as a licensed amateur and an ARRL Life Member, ham radio has played a significant roll in my life. My Dad, now a silent key and formerly W1SR, my younger brother W1MTQ and my older brother W1QMY were all part of my learning such a fabulous hobby.

After earning my degree in Electrical Engineering at Northeastern University, I joined with colleagues to launch a New England based semiconductor company, later acquired by Texas Instruments. Twenty years ago I moved to Tucson and teamed with others to launch another power semiconductor business, which has since been acquired. Currently I am working full time as an Engineering and Physical Sciences Mentor at The University of Arizona and at The Arizona Center for Innovation. Did ham radio influence my career path? You bet!

Flying has been part of my life almost as long as ham radio which has given me a great appreciation for safety and communication skills. I have been a board member in my local homeowners association and am currently President of The Oro Valley Amateur Radio Club. I am also a member of several other clubs in Arizona.

Having an Extra Class license allows me to fully use my operating privileges during various CW operating events. Locally I am part of the D-Star special interest group in the Oro Valley Club.

I believe bringing the joys of ham radio to others is very important. Ham Radio has launched so many careers, provided safety to so many community organizations and has brought untold enjoyment to retirees. Bringing ham radio to schools, colleges, civic events, technical meetings, ham radio club meetings, conventions and ham-fests is my goal. I would appreciate your vote as Arizona Section Manager.

73, Steve Wood W1SR

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.

January Test Sessions

Jan 5th - 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

Jan 7th - Venture Out ARC -- 9:00 AM

Venture Out RV Resort, 5001 E Main St, Mesa

Contact - Robert Bingham 480.404.1408

No Walk-Ins

Jan 7th - ORO Valley ARC -- 10:30 AM

Oro Valley Police Sub-Station, Oro Valley Marketplace, Oro Valley

Contact - Quinton Gleason qagleason@comcastnet

Jan 7th - AARC & WVARC -- 8:00 PM

St. Clement Church, 15800 N Del Webb Blvd, Sun City

Contact - Joseph Cutitta 623.215.2226

Jan 9th - Radio Society of Tucson -- 7:00 PM

Hardesty Mid-Town Police Bldg, 1100 S Alvernon, Tucson

Contact - Diane Zimmerman 520.664.5070

Jan 14th - Venture Out ARC -- 9:00 AM

Venture Out RV Resort, 5001 E Main St, Mesa

Contact - Robert Bingham 480.404.1408

No Walk-Ins

Jan 14th - Thunderbird ARC -- 9:00 AM

Northwest Community Church, 16615 N 43rd Ave, Phoenix

Contact - Walter Reinert 602.938.8219

Jan 14th - Yavapai ARC -- 9:00 AM

Jeep Posse Bldg in Pioneer Park, 1200 Commerce Dr, Prescott

Contact - Donald Bauer 928.775.4690

Jan 17th - Hassayampa AR Klub -- 9:00 AM

Club House Park Entrance, 30625 Hwy 89, Congress

Contact - Charles Carter 316.651.7710

No Walk-Ins - Pre-Register

Test Sessions Continued from Previous Column

Jan 17th - Boy Scout Troop 127 -- 8:00 PM

St Francis Xavier School, 4715 N Central Ave, Phoenix

Contact - John Kelly 602.264.6854

Jan 18th - Thunderbird ARC -- 6:00 PM

Honor Health Medical Office Bldg, 19841 N 27th Ave, Phoenix

Contact - James Skinnell 602.826.1949

No Walk-Ins

Jan 21st - Coconino ARC -- 9:00 AM

North Country Healthcare, 2920 N 4th St, Ste A1, Flagstaff

Contact - Roderick Martin 928.527.1139

Jan 21st - Venture Out ARC -- 9:00 AM

Venture Out RV Resort, 5001 E Main St, Mesa

Contact - Robert Bingham 480.404.1408

No Walk-Ins

Jan 23rd - Un-sponsored -- 9:00 AM

Road Runner Camp Ground, 53rd St, N US Hwy 95, Quartzsite

Contact - Rick Paquette 520.425.6877

No Walk-Ins

Jan 28th - Venture Out ARC -- 9:00 AM

Venture Out RV Resort, 5001 E Main St, Mesa

Contact - Robert Bingham 480.404.1408

No Walk-Ins

Jan 28th - 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

Jan 28th - Un-sponsored -- 9:00 AM

Road Runner Camp Ground, 53rd St, N US Hwy 95, Quartzsite

Contact - Rick Paquette 520.425.6877

No Walk-Ins



Continued Next Column

ADAW



By the time you read this, the elections will have been announced. Right now I'm pretty sure about who's going to hold the following offices:

President: Gary Duffield WK7B
Vice-president: Chris Johnson K6OZY
Secretary: Gary Cline AF7BJ
Treasurer: Darren Johnson AF7CO
Director 2016-2017: Joe Arnold AD0X
Director 2016-2017: Andrew Cornwall KF7CCC
Director 2017-2018: Wayne Hale W6IZK
Director 2017-2018: Robert Fairfield K7RQN

It's too bad we couldn't put everyone who ran on the board - we certainly had our pick of worthwhile candidates, and the election was close this year. Thanks to everyone who participated. Your contributions are what help make TBARC such a vibrant club!

Speaking of the election, one of the outgoing 2015-2016 directors, Rick Tejera K7TEJ (who's also the head of the Elmering committee) wanted to send the following to the club:

"As you all know, after five years, I am not running for reelection to the TBARC board. My time serving as a director has been enjoyable and, I feel productive. I choose not to run again as I firmly believe that one can over stay their usefulness and should give way to new blood with fresh ideas that will keep the club moving in a forward direction.

"During my tenure, I have seen the club double in membership, add tangible value to membership through our programs & activities and leave on the verge of outgrowing our current meeting space.

"It has been my privilege and pleasure serving and I will continue to be an active and enthusiastic member of the Club and will continue to support the board in any capacity asked."

Thanks Rick for your dedication!

At the December dinner, Gary WK7B announced the Ham of the Year - this year, it was Walt Reinert NJ8G. Walt's willingness to volunteer and take care of the hundreds of tasks that a successful club needs to do was something Gary particularly appreciated. Thanks, Walt!

The TBARC hamfest is coming up very shortly. We hope we'll see everyone there! It will happen (rain or shine!) on

TBARC Continued from Previous Column

Saturday, January 14, 2017 at Northwest Community Church, 16615 N. 43rd Ave, Phoenix, AZ 85053 (Just south of Bell Road on the East side of 43rd Ave.) We open to vendors at 7:00 A.M. and open to the public from 8:00 A.M. through noon. General admission is \$3 per person; vendor spaces are \$10 per parking spot. We'll have DXCC card checking, VE testing and door prizes, and snacks will be available onsite. Sessions presented by Phil Arnold KJ6STS are scheduled to be "Understanding Impedance Matching Concepts" and "A Cardboard Reflectometer Calculator."

Right after the hamfest, we're going to hold a General License Course. This will run on Saturday mornings from 9:00 a.m. to noon, January 28th through April 8th, 2017 (with no class on February 18th - the day of the Yuma hamfest). The last day will be a test day. The class will be held at HonorHealth, formerly John C. Lincoln, Hospital, Deer Valley Campus, 19829 N 27th Ave (SW corner of North Loop 101 and I17 stack). The course is free to TBARC members. If you're not a member, you can join TBARC for \$25 at w7tbc.org.

Speaking of joining TBARC - it's that time of year again. Members can sign up for 2017 membership at w7tbc.org - following last year's success, this year we're also going to hold a drawing, and randomly pick three people who have joined or renewed by the February general meeting to receive HRO gift certificates. So make sure your name is in the hat by then!

It sounds like members may soon be hearing a familiar voice. Warren NU7R (currently in Colorado, but a past board member) is working with Wayne W6IZK and Gary WK7B to get an AllStar Link working to talk to the club repeaters. Participants in the Tuesday night net know that Wayne W6IZK used that successfully to run the TBARC net during the summer when he escaped the Phoenix heat. If you've got something to share with your fellow hams, why not join us on Tuesdays at 7:30 p.m. local time on the club repeaters? All are welcome to the round-table net.

Have you been to a TBARC meeting yet? Why not stop by? We'd love to have you join us, and guests are welcome. Our meetings are held on the third Thursday of the month at the North Phoenix Campus of Northern Arizona University. It's near Greenway and I-17, starting at around 7:00 p.m.. See the club website at w7tbc.org for directions. In January, we'll be hearing "20W EIRP on 137 KHz (2200m) and 75 KHz (4000m)" with Ron Douglas NI7J. When a half wave dipole is 2km long, how do you get on the air? Find out more at the meeting!

Andrew Cornwall, KF7CCC
kf7ccc@arrl.net

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On December 8 the Arizona Amateur Radio Club held its annual Christmas party at the American Red Cross Building. The club provided the turkey, and members brought in many delicious dishes. John Kainrath, K7JHK was able to purchase the delicious ham for the club as he does each year. Verdamae Cutitta set up the beautiful serving table and arranged it for maximum self-serve efficiency. A special treat was Sandie and Steve Tolnai's Hungarian Kaffli, a very special pastry.

Just for fun, after dinner we played a thrilling round of bingo games, our traditional Christmas party entertainment. Gary, K7GH did the calling of numbers. The big winner was Frank, KB7IQ who won \$20. Several others also won smaller monetary prizes. Everyone played with enthusiasm!

It is very nice to have a chance to socialize not only with the members but also their spouses and family members. Spouses and family members are always welcome at all club activities.

At the January meeting we will see the Christmas party photos. Election of officers for 2017 will also be at the January meeting, and although we're still a few months away from the AARC Hamfest, it's a good time to start thinking about that event. See you at the Red Cross Building on January 12.

73,
Lori, WA7EDI



Larry says "I've been a very good boy!"



Gary, K7GH calls the Bingo numbers



Mary, N7KKQ and his cat give the holiday toast while Roger, K7GXB looks on.



Frank, KB7IQ is the big winner of the night



Larry Kuck, WB7C, newsletter editor for the Superstition Amateur Radio Club was involved in a bicycle accident which resulted in a brain injury. Larry is currently residing in a group home. Please join the ADAW staff in wishing Larry a speedy recovery and remember him in your prayers.

.ed

Happy New Year! Between Thanksgiving and Christmas, it's been a busy month trying to make sure we've completed everything in 2016 that needs to be done. My goals for next year are not much different from what they were a year ago. The ARA will continue to maintain existing repeater systems, keeping them on air as reliable means of communication for public service and emergency communications.

As I mentioned last month, the technical committee has done a wonderful job of keeping everything working this year. Many of our projects are pending weather conditions on the mountain tops right now. The Pinal site is getting a new roof installed. We are working on linking Mingus VHF into Metrolink. Mt. Ord is getting some filter upgrades in the near future as well.

We attended the Superstition Superfest in Mesa on December 3rd and had a great time, as always. The weather was great which produced a good turnout. Next up is the Thunderbird ARC Hamfest on January 14th in north Phoenix. As always, I hope to see everyone there! We'll be set up with the ARA table with information on ARA repeaters and handouts as well as selling public service jackets and shirts.

If you are an ARA annual member and haven't renewed yet, please do. Use this link to check your ARA membership status, renew/join online, or contact our membership chair. <http://w7ara.org/mbr/Membership.aspx> Thanks to everyone for your support. If you are interested and able to help on the technical committee, I invite you to our tech meetings on the first Thursday of each month.

Location Change: The ARA General Meeting has permanently moved to a different Denny's for 2017. We will now be meeting each month at Denny's, 825 S. 48th St., Tempe, AZ 85281. See the updated information on the ARA web site. <http://w7ara.org/mtg/Dennys.aspx> Kicking off the year at our January 26th meeting will be Patrick WD9EWK covering the topic of AMSAT Ham Radio Satellites. Come early for the food, presentation, socializing, and check out the new meeting location.

Virgil K7VZ
ARA President

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 and Carries all Nets (except 10-Meters)

Club Nets

Morning Drive Time Net: Mon-Fri, 7:00-8:00 AM - Trivia

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

East Valley Swap Net: Thursdays, 7:30 PM

National History Net: Thursdays at 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

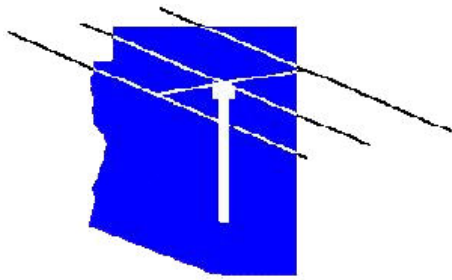
Club Membership is open to anyone with an interest in Amateur Radio. Send email to: membership@SuperstitionARC.org for more information.

Superstition SuperFest

The Superstition SuperFest is held on the first Saturday of December. Visit www.superstitutionsuperfest.org for the latest information.

ADAW

ADAW



MARCA INC.

The MARCA editor, me, missed a few months of articles. So, to begin, with the end of the year came the club's Election of Officers and Board for 2017-2018. President is Norm Johnson, aa7oo; Vice President is Dave Hall, n7zpy; Treasurer is Don Aldridge, wa7rll; Secretary is TD Kennard, n7isr; and Board is Dusty Morris, w7itm. The new officers can be contacted using W7MOT.org website.

Quartzfest is coming. This may not be the most popular or well explored, experienced, ham get-to-gather in Arizona, but it is big, and it is different, and there's always something for everyone. This is a well-organized, week-long event. I've managed to attend several days every year and seen it grow. Did I say it's organized? Probably more of a social event that has just about every kind of radio activity represented. There is tailgating, imagine a neighborhood garage sale held in a campground. And then there are multiple presentations every day. See ya there.

White Tank DStar, W7MOT, has had its share of problems last year through late summer early fall. The Gateway server failed catastrophically and required total hardware replacement and software rebuild. Several site visits were required to retrieve, reinstall, plus a few quick must do on site "tweakie" visits. Each trip was a half day in the high mid Hundreds n' Teens . . . 110 plus degrees. Thanks to the site team, Paul, kd7kdo and Majdi, n0rmz, for braving the elements for retrieval and installation. Thanks to Ron, wb7exl for all the work building the new gateway with software and database. October & November then required many remote tweaks to get rough edges smoothed out. While not everything is like it was, all features and utilities are working as they should.

I'm sure everyone in the DStar game is aware of the pending unannounced G3 upgrade to Gateway Servers is looming. ICOM has not announced a release date nor what a G3 Upgrade will consist. W7MOT plans to upgrade with G3. Exactly when and how we will perform the upgrade cannot be determined until ICOM releases what G3 upgrade actually is. Not to worry, it's just software. We'll keep you up to date in our monthly ADAW article, on our W7MOT.org website, and the Arizona DStar Yahoo Group.

Speaking of SDR activity; I have one of Scotty's, WA2DFI, CV A9 TX2 RX3 radios. This is neat SDR for someone that wants to get their hands in the quagmire. Scott wrote some

MARCA Continued from Previous Column

articles in QEX over the past year+, for those adventurers that wanted to go beyond a great performing SDR radio, could understand how they work, some of why they work, and then into the FPGA software. Getting your hands on the open source code and "porting" it from the Hermes FPGA platform to the CV A9 FPGA platform. And why do that? Because SDR FPGA software that is open source, can be ported; and new features available on one SDR model can be incorporated in "your" development / shack SDR. May have lost a few on the above, that's OK. I spent the summer learning Quartus programming tools and Vlog language. It's a challenge, but very doable at a skill level to play with SDR FPGA source code.

Another interesting summer SDR project was building a linear for SDR transmitters that output less than 300 mW. To some, 300 mW is way above the definition of QRP. But sometimes 300 mWatts doesn't perform the same as 5 Watts, and I've on occasions wished I had 25 Watts. There is a solution available from HobbyPCB in kit form, the Hardrock-50. Add to it a pre-amp, QSK, ATU and you have a project build. This was a fun project. The pre-amp built first worked perfectly, 2 Watts with 200 mWatt input from SDR. Hardrock-50 was next and fired up successfully 2nd time, bad solder joint, but with 2 Watts input gave 57 Watts output. The ATU was finally completed and installed in HR-50 and worked 1st time. Tuned the knife and fork at dinner with swr 1.1:1 . . . kidding, but almost. The entire package is rock solid, LPFs and all.

What's really impressive, is the ATU will tune at less than 1 Watt input, then turns off the linear, and finally just turn off the pre-amp, and the ATU is engaged at 200 mWatt. Now I have choices of QRP to 50 Watt configurations when in the Shack and a QRP to 2 Watt configuration for light weight field trips (leave the HR50 home).

Enough for now, always something going on.

Having repeater problems with any of MARCA's W7MOT repeaters, please let us know by using the simple & quick online report at <http://www.w7mot.org/index.php/repeaters/report-a-repeater-problem>. Nothing fancy or complicated, just a few quick entries and the system notifies half a dozen site managers.

Our website is www.w7mot.org .

Follow us on Facebook www.FB.com/W7MOT .

Norm Johnson, aa7oo
Secretary MARCA

ADAW

Continued Next Column



Happy Holidays to you and your family from me and mine. May 2017 bring a year full of joy, health, and happiness and lots of DX for all of us!

Annual Awards Banquet

The CADXA Annual Awards Banquet is just around the corner. It will be held on Sunday night, January 22nd at the PERA Club. Saturday night was not available that weekend, so we moved it to Sunday. Because the next day is a work day for many people, we are moving up the start time to 5:00 p.m. for our no-host bar, 6:00 p.m. for dinner, and 7:00 p.m. for our program. Our keynote presenters will be the NPOTA superstars Ingrid and Reinhard, W7ISG and K7RGG. They will be regaling us with the highlights of their year-long quest to activate National Parks as part of the ARRL's sponsored activity. They visited an amazing number of parks and made the NPOTA award chasers very happy. This will be a very special program you don't want to miss.

Dinner reservations must be made and paid in advance to Alton Chaney, W7ACX, CADXA Treasurer. Guests are always welcome. Banquet dinners are \$30 per person. Please don't put it off and include your 2017 dues of \$25 when you write your check. Alton's address is 722 N. Robson St., Mesa, AZ 85201, email: w7acx.480@gmail.com.

2016 Awards

If you have a nomination for the 2016 DXer of the Year Award or the new Presidential Service Award, please send it to me ASAP. The criteria for the two awards can be found on our CADXA website and should be used as your guidelines for writing a nomination.

Our Activities Chairman, Larry, WO7R, needs you to submit your final numbers to him for the DXpedition Master Award and the other awards he has been tracking through the year.

2017 Board of Directors

The 2017 Board was elected by acclamation at the November meeting and will be installed at the Banquet. Here is the list:

- President – Lee Finkel, KY7M
- Vice President – Fred Hoffert, III, NA2U
- Treasurer – Alton Chaney, W7ACX
- Secretary – Bill Poole, AA4Q
- Member-at-Large – Mickey LeBoeuf, K5ML
- Member-at-Large – Larry Loen, WO7R

Continued Next Column

CADXA Continued from Previous Column

Continuing on the Board as Immediate Past President is Tom Kramer, NQ7R.

Visalia International DX Convention (IDXC) Update

The Northern California DX Club is in charge of the IDXC this year and has asked CADXA to play a much larger role than last year. The IDXC will be held on April 21-23, 2017 in Visalia, California. CADXA is responsible for the program planning, which will include a full day track for all attendees on Friday for the first time in addition to the Contest University, and dual program tracks on Saturday. Ned, AA7A, and I are Co-Chairs for Programs. Larry Loen, WO7R, has taken over Banquet Seating this year. If you can help out at the IDXC, please let me know. The more we do, the more financial recognition the club is likely to receive in return.

Registration is now open at: <http://dxconvention.com/pages/registration.html>

DX is Out There





We may be at the sunspot minimum, but the ham bands are still full of surprises. There is long path DX awaiting at or after sunrise and around sunset on many of the LF bands plus 20 meters. Keep an eye on the DX clusters and don't be shy about tuning your radio to find your own unspotted DX – it is out there. While 10 meters was supposed to be dead, it yielded some very loud east coast, Caribbean, and South American signals during the ARRL 10 Meter Contest. Double-hop Sporadic E and meteor scatter were responsible for a lot of QSOs.

CU at the Banquet.

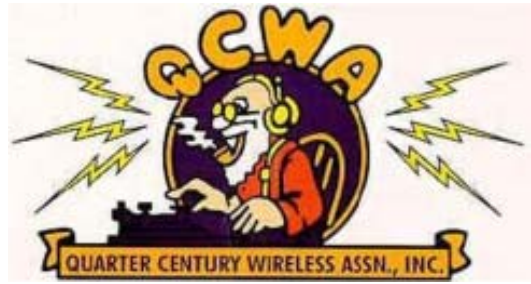
73,
Lee, KY7M
CADXA President



R.J. CARLI ENGINEERING CORP

 ELECTRICAL CONSULTING	 PROFESSIONAL CONSULTING	7311 E. STETSON DRIVE SCOTTSDALE, ARIZONA 85251
 MECHANICAL CONSULTING	 PLUMBING CONSULTING	RAYMOND J. CARLI, P.E. ELECTRICAL ENGINEER W7GNE (480) 941-8610 (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.



**CHAPTER 16
BARRYM.GOLDWATER ARIZONA CHAPTER**

On December 3rd, The Oro Valley Amateur Radio Club sponsored its last official NPOTA outing going to Tonto National Monument in Roosevelt, Arizona where 207 contacts were logged. 80 contacts were logged on SSB and 127 on CW.

With nearly a dozen activations during 2016, the club has used the NPOTA opportunity to bring club members together for some fun and enjoyable operating events.

Organizing the events has been Tom, W8TK along with Ken, K7EAZ. Lugging radios and batteries to some remote locations hasn't been easy so Tom and Ken are often accompanied by a regular team of OVARC NPOTA Members including Tom's XYL K8LJK, Quinton NU7Y, Paul K7AZT and his XYL KI7DET, Scott K7ADX, Fred W2HZ, George NG7A and Rick W7RMM. Some of the team is shown in the picture below.

O.V.A.R.C is exceptionally proud to have participated in this event and is grateful to those that led the charge. Now, we'll have to think of another activity to take its place in 2017!

It is time for our first QCWA meeting for the year 2017.

This meeting will take place at the Horny Toad Restaurant on 07 January 2017 at 11:00 a.m.. The address is 6738 E. Cave Creek Road, Cave Creek, Arizona. Our presentation will be by Ned Stearns, AA7A, on the "History of Moon Bounce."

I would like an RSVP if you plan to attend as I need to make sure that we have the necessary table seating.

Hope to see a lot of people there for our first 2017 meeting.

LTC Clifford E. Hauser
US ARMY Retired
KD6XH/AAR9BH
E-Mail: kd6xh@arrrl.org
520-744-9095



From Left to Right: Paul - K7AZT, Chris - KI7DET, Fred - W2HZ, Tom - W8TK, George - NG7A, Rick - W7RMM, Ken - K7EAZ and Scott - K7ADX



Want Ads

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: TFDFFF@cox.net



Hamfest Calendar

14 January 2017 - **Thunderbird Hamfest 2017** - hosted by the Thunderbird Amateur Radio Club will be held at Northwest Community Church, 16615 N 43rd Avenue in Phoenix. Hours are 8:00 AM until 12:00 Noon with vendor set up beginning at 7:00 AM. Commercial Vendors may also set up Friday night after 5:00 PM. General Admission: \$3.00 per person. Tailgate and Vendor: \$10.00 per Parking Spot. Door Prizes every half hour, VE Testing (exam fee \$15.00), and Seminars. Snacks and Beverages will be Available. Talk-In on 146.700 -600KHz, 162.2Pl or 446.150-5 MHz, 100Pl. Email hamfest@w7tbc.org for more details. Sorry - this is a church/school property - no firearms, alcohol or drugs are permitted.

6 February 2017 - **West Valley ARC Auction** - hosted by the West Valley Amateur Radio Club will be held at St. Clement Catholic Church Social Hall, 15800 Del Webb Blvd. in Sun City. Viewing of items begins at 6:00 PM until 7:00 PM. For more information, contact Mike Corder, K7MJC at afmikec@cox.net or James Rogers, N7YTI at jarogers@q.com.

17 - 18 February 2017 - **2017 Arizona Section Convention/Yuma Hamfest** - hosted by the Yuma Amateur Radio Hamfest Organization will be held at the Yuma County Fairgrounds, 2520 E 32nd St in Yuma. Hours are Noon - 5:00 PM Friday and 8:00 AM - 5:00 PM Saturday. Gates open Thursday, 16 February, at 2:00 PM for camping. Admission \$5.00 per person. Talk-In frequency - 146.840 (-) PL 88.5 Hz. Check web site at www.yumahamfest.org for full details. Email contact: info@yumahamfest.org.

18 March 2017 - **SpringFest** - hosted by the Scottsdale Amateur Radio Club will be held at the Mountain Valley Community Church, 17800 North Perimeter Drive in Scottsdale. Hours are 6:00 AM until 12:00 noon. Overnight RVs are welcome. Refreshments, VE Testing, Tailgating and more.

25 March 2017 - **Tucson Spring Hamfest** - hosted by the Radio Society of Tucson will be held in the north parking lot of the Target store, 9615 E Old Spanish Trail in Tucson. Hours are 7:00 AM until 11:00 AM. Set up starts at 6:00 AM. Free Admission and parking. Vendor/seller spaces - \$10 per space. Prizes, VE Testing, GOTA Station, ARRL Card Checking and Snacks. For map and information, visit the website at <http://www.k7rst.org>.

9 - 10 June 2017 - **Prescott Hamfest** - hosted by the Eagle Amateur Radio Club at ERAU and the Yavapai Amateur Radio Club will be held at Embry Riddle Aeronautical University, 3700 Willow Creek Road in Prescott. Hours are Noon to 4:00 PM on Friday, June 9, for Seminars and Commercial Vendors Only and 7:00 AM to Noon Saturday, June 10, for Tailgating and Commercial Vendors. Saturday Seminars will be held from 1:00 PM until 3:00 PM. VE testing will be available from 4:30 - 6:30 PM on Friday, June 9. Free Admission on Friday. General Admission on Saturday is \$5.00 (free for ERAU Students with ID) Saturday Tailgating - \$10 for one (1) parking lot space (\$5 for each additional). Inside Commercial Vendors - \$20 for 1st table, \$10 each additional. Club Information Booths - Free. Talk-In: 146.880 MHz (-) PL 100 Hz. Check website at www.prescotthamfest.com for updates. Hamfest contact: Frank Bender, K8FB - k8fb@arrl.net. Sorry - No Guns, Drugs, Alcohol, Smoking, Vaping, Fireworks or Pets per ERAU.



MMRG now has an IRLP node on the 442.150 + 5 MHz 100 PL repeater on Mingus Mountain. The node number is 5050. This node is furnished by MMRG member Mike K7QDX. MMRG wants to thank Mike for this addition to our system.

I was in Phoenix a couple of times in the last month and find the downtown 147.280 - 600 KHz PL 162.2 repeater is still working ok; however, the activity there is almost nonexistent. Those of you in the Valley of the Sun should try it out.

73 Bob K7POF

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
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MARA to Participate in Winter Field Day

The Maricopa Amateur Radio Association will be participating in Winter Field Day, January 28-29, at Pacana Park in the city of Maricopa. We decided that a year to wait between field days was just too long. I guess a lot of people feel that way because there's actually an association sponsoring the event. We have submitted our application to the city to use the park's Ramada for the 24-hour period.

We hope that by having the event in the park, we can showcase amateur radio for the surrounding community and build some goodwill in the process. It's easily accessible and open to the public. Having parking, barbecue grills, tables, and restrooms nearby doesn't hurt either. There's also a playground, basketball and tennis courts, and other athletic facilities for those who want to bring their family out while they take a turn operating.

The event is not sponsored by ARRL, rather the Winter Field Day Association (WFDA). This group is a dedicated group of hams who believe that practicing emergency communications in a winter environment is just as important as doing it in the summer. Depending on where you are in the country, there are unique operational issues to consider and plan for.

In Arizona, we certainly don't have the kind of concerns that you would have in North Dakota or Michigan, but then we're not known for ice fishing either. Actually, January is usually a more pleasant time of year than June in the Valley of the Sun and this event gives us a chance to get outdoors and enjoy the weather.

The need for emergency communications is unpredictable and comes unexpected. The more practice that we get, the better we'll be when called upon for help. This year, we will be practicing with Maricopa CERT, which is sponsored by our fire department. Many of the CERT members are also MARA members. We also believe that there is a role for non-CERT members in emergency communications, and this gives our two organizations the opportunity to work together and enhance our skills in operational areas.

The rules for Winter Field Day are similar to those for the regular field day. They can be found at winterfieldday.com.

Continued Next Column

For Sale

Partly Restored Vintage Tube-type Transmitter - \$485
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.

Ham QTH For Sale: 1800 sq. ft. 3 BR, 2BA house with separate HAM shack inside, includes fully permitted 55ft crank up tower, cables etc. Nice quiet SW Mesa area. No HOA or CCR. Available February 2017. For further info, contact Al (W7XA) by email at: W7XA.al@gmail.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.



MARA Continued from Previous Column

Licensed radio amateurs can also participate in Winter Field Day at home by signing up in the "home" class. The rules will tell you what the limitations are.

Everyone is welcome to come out and join us. We will make every effort to let any licensed hams who show up get a chance to operate. Pacana Park is located at 19000 North Porter Rd., Maricopa, AZ 85138.

Steve Miller, W6SDM

visit my web site and blog at w6sdm.net
follow me on Twitter <https://twitter.com/stevedmiller>





Old Pueblo Radio Club INTERMOD

President's Column

Each year the Yavapai ARC conducts elections for board members and one half of the club officers. New officers and board members for 2017 are: President, Kathy Laing KJ6KMK; Vice President, John Stevens AB9JS; Treasurer, Ted Bishop KI7FWZ; Secretary, Sandy Mattsen K9WIZ; Past President (board member), Frank Bender K8FB and board members Art Jackson KA5DWI, Rex Mauldin N7NGM, Art Protas KG6AY.

YARC continues our series of licensing classes for people interested in Ham radio. A Technician license class was completed in October, and the subsequent test session yielded 33 new or upgraded licensees. The next Technician class is scheduled for the end of February. There is a General licensing class coming up in the spring, as well. For more information contact bvlastelich@aol.com In addition, YARC offers discounted "HamTestOnline" subscriptions. Upcoming regular test sessions are Jan 14, and Mar 11 2017.

Our joint planning committee with Eagle Radio Club at Embry-Riddle has scheduled the 2017 Prescott Hamfest for Saturday, June 10, 2017, at Embry-Riddle Aeronautical University in Prescott. Planning is well under way. Watch for details as they become available.

YARC is gearing up for the 2017 schedule of public service events for which the club provides communications or support. Currently we have 14 events on our calendar, with the Whiskey Off-Road Bike race one of the largest. Last year there were about 2000 riders entered in this event.

Come join us for one of our monthly club meetings.

The Old Pueblo Radio Club will hold its first meeting of the new year on Wednesday, 11 January 2017 at 1915 hrs. at the Mason Room of Tucson Medical Center.

We wish all a great new year.

73 de
Ron Kalish, N7SPW
President, OPRC



OPRC Repeaters

146.66 - PL 110.9	wide coverage	W7GV
146.82 - PL 110.9	wide coverage	W7GV
147.22 - 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



SCOTTSDALE AMATEUR RADIO CLUB, INC.



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

Public Service Calendar

Maricopa County Emergency Communications Group Events

EVENT	LOCATION	DATE
Xterra - White Tanks	Waddell	01/08/17
Auxillary Communications	Papago Park Military Res.	01/14/17
Prickly Pedal	Cave Creek - Lake Pleasant	01/21-22/17
JOTC First Water	First Water North of Apache Junction	01/28/17
Runner's Den Pancake Run	EPhoenix Paradise Valley Mall	02/05/17
Xterra - McDowell Mtn	Fountain Hills	02/05/17
Black Canyon 100K	Spring Valley to Emery Henderson Trailhead	02/18/17
Lost Dutchman Marathon	Apache Junction	02/19/17
JROTC Lake Pleasant	West of Lake Pleasant	02/25/17
Xterra Black Canyon Trail Run	Black Canyon City	03/05/17
American Diabetes Tour de Cure	Northwest Phoenix	03/18/17
Mesquite Canyon	Waddell	03/18/17
Crown King Scramble	Lake Pleasant - Crown King	04/01/17
El Tour de Mesa	In and Around Mesa	04/01/17
March of Dimes for Babies	Wesley-Bolin Plaza, Downtown Phoenix	04/08/17
Phoenix Half Marathon	Downtown Phoenix	11/05/17
Scottsdale Half Marathon	Scottsdale Civic Center	12/04/17

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.



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.



As I am writing this column, everyone in our family is busy with Christmas preparations. There are cards to get out to everyone we know, there are gifts to buy for everyone we know, and there is a grand Christmas dinner to plan for everyone we know. I didn't know we knew so many people. But it is the season to share.

We did not have our December club meeting at the Senior Center. Instead, we held our annual Christmas Banquet at the Culinary Arts facilities at Scottsdale Community College. Again, this year, we shared this event with the Motorola Amateur Radio Club of Arizona. There were 51 members in attendance and they all enjoyed a great four-course gourmet dinner and great conversation.

The program for the evening was a presentation by Ned Stearns, AA7A on his remarkable adventures with a DX-pedition to the South Atlantic Ocean. He was part of a 14-person group of hams from many countries to travel to the Falkland Islands. From there, they headed south to several rocky islands where the weather can change from fair to impossible in a very short time. They had to scale rocky cliffs just to get on these barren islands. And they got on the top with all of their gear. This would be like holding Field Day in January in the mountains. But these guys are dedicated hams and like the postman's creed, neither rain nor sleet nor time of day shall keep them off the air. Even after a 100 mile-per-hour gale destroyed their tents and antennas, these guys went right back at it. In the end, the weather finally forced them to leave each island, but not before they racked up about 160,000 contacts. Impressive! The video of this adventure and Ned's presentation were really great.

By the way, a lot of our club members get together for coffee at the Denny's Restaurant in the Pavilions on Saturday mornings around 8:00. So if you are in town and wondering what to do with yourself on a Saturday morning, why not stop by and say hi.

Straight Key night is again this year on New Year's Eve. I am getting my old J-38 out and getting ready for some slow CW. I am getting slower and slower every year, but this year is going to be better. I just hope the bands cooperate. They have not been too good lately. I will let you all know how this goes.

The club has a VHF / UHF net every Tuesday evening at 7:00 P.M.. The club frequencies are 147.18 with a tone of 162.2 and 440.00 with a tone of 100. Everyone is welcome to check in.

Well, that is all I have for now. Be well and keep on hamming. I'll see you all next year.

Ed Nickerson WU7S
 enickerson427@aol.com



INSIDE THE ARIZONA SCIENCE CENTER HARKINS HAM SHACK

This Station has been operating for a few years now. It is going into year 21 and shows no signs of slowing down. The call sign is now well known, on local repeaters, for its service to the community. Visitors often get their first exposure to Ham radio right there on the third floor of the Arizona Science Center. That introduction has blossomed into full-scale participation for quite a few visitors who went on to take the test and become licensed.

The station has been the site of Boy Scout merit badge on-air qualification. Many Boy Scouts visit the station. Some of them learn about the Communication Merit badge while there. Not every Scout leader understands the connection between W7ASC and the Scout merit badge. Volunteers on duty have the Badge manual readily available in order to be able to show the Scout visitor that this is a real part of the Scout program. Do the Girl Scouts have a similar badge? The answer awaits the results of future research.

The W7ASC station serves another important community function. Arizona Science Center attracts many visitors who are about to move into Arizona. Not surprisingly, some of those newcomers are Hams. Here is where the Station provides a valuable service. And, as a part of the service, ADAW plays an important part.

Consider the Ham who has just transferred here from elsewhere. After finding housing, getting the kids started in school, what comes next? Ham radio of course! When they stop at the W7ASC station, they are provided a copy of the ADAW newsletter. There they see articles about local Ham activities. Most Hamfests are listed in the ADAW newsletter. Many Hams want to become a part of a local club, but how does a newcomer find them? The easy answer is right there in the ADAW newsletter, of course.

That letter is loaded with useful information. Visitors who express an interest in Ham radio as they do their name in Morse, or chat on that air, are provided a copy so that they can find, and visit, a local club. Those of you who write your club newsletter for ADAW should keep this in mind. Be certain that meeting dates and locations are listed accurately. Include good contact information, too. The diligent volunteers at W7ASC, using the high-tech copier provided by Arizona Science Center, produce many copies of the current issue. It is not unusual for more than 100 copies to be handed out each month.

Continued Next Column

CARL Continued from Previous Column

Consider this wide audience as you write your club news. New Ham residents will want to know about activities and which club would best fit into their Ham agenda.

There is nothing else in the area that is as comprehensive. When writing your newsletter, write it as an invitation for the newcomer to join your club. Operate one or more repeaters? Provide complete information about frequencies, PL and nets. Think of your newsletter as a recruiting tool. You write it and ADAW compiles all of those letters into one document. W7ASC does a pretty good job of placing the final product into the hands of Hams and Ham wannabees who would not otherwise find this great introduction to Ham activities in Arizona.

A common question that is asked by visitors to W7ASC is "What does a Ham do with that license?" Good question. We hand them an ADAW and suggest that they take it home and read it. If you have done a good job of writing your club newsletter, there will be a great answer to be found there. Try to include substantive material. Not just that you had a meeting with a presentation! Give a little summary of those interesting talks and demonstrations. Call for Volunteer presentations, and list some topics that might induce newcomers to come forth. Do your part by writing an appealing club newsletter. Promote your club's Hamfest. The ADAW will give it wide distribution.

The Superstition ARC 'Fest was December 3rd. I went to find a replacement "wall-wort." Yup! Lots of 'em. Found what I needed (120v to 12v 1.5 Amp) for my wi-fix. W7ASC volunteers were also there doing an estate sale on various equipment. Photo is of Dave W7PMD and Jim N7BBS working the W7ASC table. We took in ~\$500. Thanks to all that helped to make this possible with special thanks to David Zinder, Jim N7BBS, Alex Denslaw, John AG7AG, Tom Smart, and others that came and gave support.



W7ASC can always find a spot for a new volunteer. There are holes in the schedule. Call Bob at 480-961-1109 - or write to him at kg7qj@cox.net. Before long, you too might be handing out copies of ADAW.

73 de Jean W4CIH
jeanjol@hotmail.com

ADAW



Arizona Red Cross Communications Club

Hey Red Cross DST volunteers - a new class is being scheduled for late March in Tucson. This is a great opportunity for anyone thinking about deploying to a national disaster site! It's a three-day class and you'll get actual hands-on experience with all of the technology equipment in the Red Cross inventory. This includes computer networking and the setup and operation of the Viasat satellite terminal. Frank has taken this class and said it's worth your time - you'll learn a lot. These classes only happen every few years in Arizona, so don't miss it.

Don't forget that you must take the DST 101 classes first via Webex. There are seven easy and enjoyable on-line classes given. Just email: dst101@redcross.org to enquire about the current Webex schedule and registration for the Tucson classes.

Also - Don't miss your opportunity to get credit for 4 FEMA courses in 3 hours! Learn the Incident Command Structure (ICS) with Allen Clark, who will be facilitating Independent Study 100, 200, 700, and 800. After this combined ICS course you will be able to skip straight to the certification exams. These trainings are EXTREMELY important for our Volunteers who are involved in disaster. The class will be held at the Greater Phoenix Chapter Office, Clara Barton Room 4747 North 22nd Street Phoenix, AZ 85016 on January 24, 2017 at 5:00pm-8:00pm. Snacks and water will be provided. Use the following link to register: <https://rachelmure.wufoo.com/forms/z1f2ayzq06massu>

A few of us were in attendance at the annual AARC Christmas dinner on December 8th at the Red Cross Building. As always, there was lots of good food and even better company. Afterwards, we played a few rounds of Bingo (I didn't win, of course).

Did you know the ARCCC and ARCA accepts donations of equipment and cash and are both 501(c) (3) charitable nonprofit organizations? The ARCCC is part of the Red Cross and is always looking for good used equipment to supplement their communications activities. ARCA uses donated equipment to help school ham clubs (and other worthy groups), to get on the air. All donations are tax deductible and the end of 2016 is fast approaching!

Contact yours truly (Mark, N7KKQ) to answer any questions about donations for either organization - n7kkq@yahoo.com or 602-318-2920.

Your Humble Scribe,
Mark, N7KKQ



Emergency Communications Since 1961

SHORT SKIP



Richard (Dick) Delaney, KG7MR became a silent key on November 22, 2016 in Sun City, Arizona. Dick was born on March 27, 1933 in Melrose, Massachusetts. He leaves behind his wife of 21 years. He will be missed.



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

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

We will try from Boswell Hospital next, which looks good from the computer program. Will keep you posted.

Bob KG7FIL kg7fil@arrl.net



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AUXCOMM Class

Auxiliary Communications

A must for all emergency communicators

January 14 & 15 2017

This class is designed by the Dept of Homeland Security / Office of Emergency Communications for those auxiliary emergency communicators and groups who volunteer to provide backup emergency radio communications support to public safety agencies. Typically, this includes amateur radio, but may include other volunteer emergency communicators.

Volunteer emergency communications operators/groups, using amateur radio, have been providing backup communications to public safety for nearly 100 years. Event planners, public safety officials, and emergency managers at all levels of government utilize their services. Often, amateur radio services have been used when other forms of communications have failed or have been disrupted. Today, nearly all the states/territories have incorporated some level of participation by amateur radio auxiliary communication operators into their communications plans.

This course focuses on auxiliary communications interoperability, the relationship between the COML and the volunteer, emergency operations center (EOC) etiquette, on-the-air etiquette, FCC rules and regulations, auxiliary communications training and planning, and emergency communications deployment. It is intended to supplement and standardize an operator's experience and knowledge of emergency amateur radio communications in a public safety context.

This course is two days long (10 hours each day) and is limited to 30 students.

PLEASE NOTE THE EXTENDED WEEKEND HOURS: Saturday (1/14) and Sunday (1/15), 7:30am-6:00pm each day.

The next class is being taught in Phoenix on January 14th & 15th. The class ...roster is forming now! Don't miss out on this limited, no charge, classroom learning opportunity. Sign up at Erma www.erma.az.gov. Event ID# 1006116

Questions? Contact Dennis – KE7EJF at ke7ejf@cox.net or Michael – WB2SEF at wb2sef@cox.net



Some Answers to your Questions About High Altitude Ballooning

Arizona Near Space Research. The near space part always raises eyebrows. It sounds cool... and it is. We're a group of enthusiasts dedicated to studying the science of high altitude ballooning supported by amateur radio. But first of all, what is near space?

Actually the question should be, where is near space? Near space is that region of the atmosphere above 60,000 feet, but below the accepted altitude of outer space, which is 328,000 feet.

What's it like up there? It's really cold and inhospitable to creatures like us who were designed to live at sea level. Air pressure in near space reaches 99% of a vacuum — or better. Air temperatures drop to a low of minus 60 degrees Fahrenheit — or colder. Cosmic radiation is more than a hundred times greater than it is at sea level. Located within the ozone layer, near space is an environment of dangerous ultraviolet radiation. It is a lot more like Mars than it is like anywhere on Earth. Near space is not a place you would want to spend your vacation — unless you have a spacecraft capable of low earth orbit.

Near space is usually reached by helium or hydrogen-filled weather balloons. Since it is far less expensive to send payloads into near space than earth orbit, organizations like NASA will test new concepts there first. Many experiments that would be carried out in orbital platforms like the International Space Station can be carried out in virtually the same conditions in near space. A typical near space launch costs around \$450 not counting the time and travel donated by volunteers. It's definitely cheaper than sending a payload up on an Atlas rocket.

How does ham radio figure into near space research? When a payload is sent into near space on a high altitude balloon, it has to be tracked so that it can be recovered. While we can predict a flight path and model the reentry, the conditions can change rapidly. Having radio equipment aboard the flight allows us to track the payload during launch and reentry using APRS (Automatic Packet Reporting System). The chase team receives frequent updates from the tracking station on the location, direction, and speed of descent of the payload, which at this point is suspended from a parachute. Radio amateurs on

ANSR Continued from Previous Column

the chase team use ham radio to communicate with the ground tracking station and each other as they coordinate recovery. There is also a CW beacon aboard the flight that helps in locating the payload once it has touched down.

Oh yeah, our payloads come down slow enough that we don't have to worry about them burning up in the atmosphere. A parachute deploys when the balloon bursts bringing the payload down slow enough to avoid damage when it lands.

Air safety is of primary concern when sending something to near space because it must cross airspace that is used by commercial aircraft. ANSR flights carry a transponder that can be "seen" by FAA ground control stations so that proximity warnings can be relayed to pilots. We coordinate with the FAA to avoid restricted air space like approach paths to airports. Notices are published in advance of each flight that advises all pilots in a given area of our presence. We coordinate with the FAA before and during each flight to make sure that everyone is aware of what everyone else is doing.

Speaking of safety, each flight is equipped with a cutaway device. When a DTMF-coded signal is sent to the device, a cutter is activated that separates the payload from the balloon. This is used in the event that the balloon drifts somewhere unexpected like restricted air space or out over the ocean. The payload will immediately start reentry and the balloon will begin a rapid ascent into space, where it will disintegrate.

So why do we do it? ANSR members spend time preparing and launching flights, and recovering payloads, but why? Well, think of us at the Uber of near space. Students at various colleges and universities, the guys that may very well end up transporting us to Mars or curing cancer, have experiments that need to be carried out in the harsh conditions and low gravity of the Stratosphere. We also support agencies like NASA and NOAA. Our job is to get the experiment into space and locate their experiment when it comes back to Earth. Not only do we provide a valuable service, we have a lot of fun doing it.

ANSR also has its own experiments. We test things like APRS beacons, digipeaters, cross band repeaters, etc. so that we can improve the state of the art. Every flight has a number of cameras aboard that return breathtaking pictures characterized by a thin blue line of atmosphere embracing the curvature of the Earth, and the black void of space beyond.

If you have an interest in ANSR, would like to join our group, observe a launch, or ride along on a chase, visit our web site at ansr.org.

by Steve Miller, W6SDM
visit my web site and blog at w6sdm.net
follow me on Twitter <https://twitter.com/stevedmiller>

Continued Next Column

ADAW



HAM RADIO OUTLET

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\$600
MSRP SAVINGS

IC-9100 | The All-Round Transceiver

• HF/50MHz 144/430 (440) MHz and 1200MHz** coverage • 100W on HF/50/144MHz, 75W on 430 (440) MHz, 10W on 1200MHz** • Double superheterodyne with image rejection mixer



\$1000
MSRP SAVINGS

IC-7851 | HF/50MHz Transceiver

• 1.2kHz "Optimum" roofing filter • New local oscillator design • Improved phase noise • Improved spectrum scope • Dual scope function • Enhanced mouse operation for spectrum scope • More features



\$1000
MSRP SAVINGS

IC-7700 | HF/50MHz Transceiver

The Contesters' Rig • HF + 6m operation • +40dBm ultra high intercept point • F DSP: user defined filters • 200W output power full duty cycle • Digital voice recorder



\$800
MSRP SAVINGS

IC-7600 | All Mode Transceiver

• 100W HF/6m Transceiver, gen. cov. receiver • Dual DSP 32 bit • Three roofing filters- 3, 6, 15kHz • 5.8 in WQVGA TFT display • Hi-res real time spectrum scope



IC-7300 | HF/50MHz Transceiver

• RF Direct Sampling System • New "IP+" Function • Class Leading RMDR and Phase Noise Characteristics • 15 Discrete Band-Pass Filters • Built-in Automatic Antenna Tuner • Large Touch Screen Color TFT LCD



DSP
MSRP SAVINGS

\$75
MSRP SAVINGS

IC-718 | HF Transceiver

• 160-10M* • 100W • 12V operation • Simple to use • CW Keyer Built-in • One touch band switching • Direct frequency input • VOX Built-in • Band stacking register • F shift • 101 memories



\$100
MSRP SAVINGS

\$500
MSRP SAVINGS

IC-7100 | All Mode Transceiver

• HF/50/144/430/440 MHz Multi-band, Multi-mode, F DSP • D-STAR DV Mode (Digital Voice + Data) • Intuitive Touch Screen Interface • Built-in RTTY Functions



\$55
MSRP SAVINGS

IC-2730A | VHF/UHF Dual Band Transceiver

• VHF/VHF, UHF/UHF simultaneous receive • 50 watts of output on VHF and UHF • Optional VS-3 Bluetooth® headset • Easy-to-See large white backlight LCD • Controller attachment to the main unit with optional MSA-4 • Wideband receiver



\$20
MSRP SAVINGS

\$20
MSRP SAVINGS

IC-2300H | VHF FM Transceiver

• 65W RF Output Power • 4.5W Audio Output • MIL-STD 810 G Specifications • 207 alphanumeric Memory Channels • Built-in CTCSS/DTCS Encode/Decode • DMS



\$20
MSRP SAVINGS

\$100
MSRP SAVINGS

IC-5100A Deluxe | VHF/UHF Dual Band Digital Xcvr

• Analog FWD-Star DV Mode • SD Card Slot for Voice & Data Storage • 50W Output on VHF/UHF Bands • Integrated GPS Receiver • AM Airband Dualwatch • FM Analog/DV Repeater List Function



\$250
MSRP SAVINGS

IC-PW1 | HF/50 MHz Amplifier

• Wide freq. coverage - 1 kW from 1.8 MHz to 50 MHz (another bands only) • Wide ALC adjustable range • Full duty cycle • Auto antenna tuner built-in • Auto AG input voltage selector is employed • Current (Ip), Voltage (Vp), temperature, SWR and output power protectors are available



\$50
MSRP SAVINGS

\$100
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ID-880H | Analog+Digital Dual Bander D-STAR

• D-STAR DV mode operation • DR (D-STAR repeater) mode • Free software download • GPS A mode for easy D-PRS operation • One touch reply button (DV mode) • Wideband receiver **D-STAR ready!**



\$20
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IC-V80 | HD 2 Meter FM Transceiver

• Tough construction • 750mW loud audio • Powerful 5.5W of output power • IP54 and MIL-STD-810 rugged construction • Built-in CTCSS/DTCS • WX channel & weather alert function

ID-51A Plus | VHF/UHF Dual Band Xcvr

• 5/2.5/1.0/0.5/0.1W Output • RX: 0.52-1.71, 88-174, 380-479 MHz** • AM/FM/FM-N/WFM/DV • 1304 Alphanumeric Memory Chis • Integrated GPS • D-STAR Repeater Directory • IPX7 Submersible **D-STAR ready!**



ID-51A PLUS2 | VHF/UHF D-STAR Portable

• RS-MS1A, free download Android™ application • New modes for extended D-STAR coverage • Terminal Mode & Access Point Mode allow D-STAR operation through Internet • DV & FM repeater search function • Dplus reflector link commands



- 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
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*Except 6M Band. **Frequency coverage may vary. Refer to owner's manual for exact specs. **Optional UX-8100 required. †Instant savings and mail-in rebates expire 12/31/16. Contact HRO for prorogative details. GET NOVEMBER 2016. The Icom logo is a registered trademark of Icom Inc. Toll-free including Hawaii, Alaska and Canada. Call will be routed to the nearest store. All HRO 800-lines can assist you. If the first line you call is busy, you may call another. AZ, CA, CO, GA, TX, VA, WI residents add sales tax. Prices, specifications and descriptions subject to change without notice.