

Club Address: EAARS P.O. Box 398 Solomon, AZ 85551

#### www.eaars.com

#### **June 2015**

#### XYL Summer Net!

Summer is upon us. I have been hearing about a few women receiving their ham radio license and/or upgrading but I don't hear too many on the radio. A few years ago my husband asked me to start a women's net. I told him he was crazy. I recently had a husband ask me to start a net to get his wife on the radio more. I joked around with him and let it go. But...here I sit thinking about it. Why don't I start a women's net? School is out. I am free. I know you can be free.

Leave the chores for him and join me Monday Nights for the XYL Summer Net at 7:30 pm! Ok, men, you are always encouraging us to get on the radio. I am doing my best to help you get your lady on. You are in charge of dishes or whatever chores are going on around 7:30 pm Monday nights. I am going to test ride this net for the months of June and July, starting June 8th and run through July 27th. Mondays for eight weeks! Just for us gals!

I am going to run this net similar to how I run my Sunday night net but less informal. If you are more comfortable with me calling on YOU, email me your name, call sign and location to emberfire@cox.net. I will then call you the beginning of the net. Otherwise I will call for additional check-ins after I call my regular checkins (if any) and you can check in then. I hope to make this a comfortable net where we can chit chat about a variety of things, not just radio! I hope to get more women to check in just for the fun of it! Men, you are welcome to listen but I am making this a **women's net only**! Thank you!

Thank you EAARS for allowing us to utilize your system for this net. You may check into this net on any of the eleven EAARS repeaters on Monday nights, starting 6/8/15 thru 7/27/15, 7:30 pm, AZ time.

Ok, ladies, let's make this fun! Talk to you on the 8th! 73, *N7EMB* monitoring...

Angie Buchanan, N7EMB

#### **EAARS OPEN REPEATERS**

PL 141.3 UNLESS NOTED OTHERWISE ECHOLINK: 614350 IRLP: 7787 HELIOGRAPH PEAK AT SAFFORD, AZ: 146.860, 440.700 LINKED 146.900 145.010 PACKET JACKS PEAK AT SILVER CITY, NM: 145.210 LINKED WEST PEAK AT FT THOMAS, AZ: 145.350 ACCESS TO LINK TO NETWORK PINAL PEAK AT GLOBE, AZ: 145.410 LINKED SOUTH MT AT ALPINE, AZ: 145.270 LINKED CABALLO MT AT TORC, NM: 145.470 LINKED **GREENS PEAK AT SHOW LOW, AZ:** 146.700 LINKED LITTLE FLORIDA AT DEMING, NM: 147.060 LINKED MULE MT AT BISBEE, AZ: 147.080 LINKED MT. LEMMON AT TUCSON, AZ 147.160 LINKED **GUTHRIE PEAK, AT CLIFTON, AZ:** 147.280 LINKED

#### ARRL Field Day 2015

It's that time of the year again, FIELD DAY!

EAARS will be holding a Field Day event at Cluff Pond #3 South of Pima, AZ. Cluff pond is roughly 15 acres with a average depth of 20ft and contains Largemouth Bass, Rainbow Trout, Sunfish, Crappie and two species of Catfish. The pond is at approximately 3000ft elevation and is a really nice spot for swimming, fishing, hiking, and even some RADIOSPORT!

The club's air-conditioned bus will be on site to house the operating stations and GOTA (Get On The Air) for newly licensed hams or those without a license. An experienced Ham will be available to coach and help GOTA operators.

See www.FD2015.info for more information and to signup,

Come out and join the fun! Field Day really is the highlight event of the year in the Ham world!

#### Manufacturing of Synthetic Quartz Crystals

The Old School Way!

Amazing videos showing Synthetic Quartz crystal methods from the 1960s.

www.youtube.com/watch?v=oFH8\_uLzano www.youtube.com/watch?v=fcu8Lz5PHMw

Fascinating videos!

#### 2015 Officers and Staff

eaarsofficers@eaars.com to email all officers.

#### President

Dave Wells N7AM

#### Technical Adviser Milt Jensen

Nint Jensen N5IA

#### Vice President Newsletter Editor

Dan Quaintance AF7EF

#### Steve Lane *KY7K*

#### Secretary/Treasurer Net Manager

Larry Griggs *N5BG* 

**Site Trustee** 

Joe Montierth

K77EM

Chris Buchanan *N7JND* 

#### ARCA Rep

Open

#### **Net Control Operators**

Rick *KE7EDP* Bob *KD7LMV* Karl *N7DMA*  Angie N7EMB Chris N7JND



#### A BIG THANK YOU

We would like to send out a big thank you to Joe, *K3TYE*, for including the Vail Vaquero's 4 H club in his technician class. Joe is holding a technician class on Thursday evenings. He is a fabulous teacher and we are so lucky to have been included. So, **THANK YOU JOE** for dedicating your time!

The Vail Vaquero's 4H Ham Radio Project



#### FCC Eliminates Amateur Radio Vanity Call Sign Regulatory Fee

The FCC is eliminating the regulatory fee to apply for an Amateur Radio vanity call sign. The change will not go into effect, however, until required congressional notice has been given. This will take at least 90 days. As the Commission explained in aNotice of Proposed Rulemaking, Report and Order, and Order (<u>MD Docket</u> <u>14-92</u>and others), released May 21, it's a matter of simple economics.

"The Commission spends more resources on processing the regulatory fees and issuing refunds than the amount of the regulatory fee payment," the FCC said. "As our costs now exceed the regulatory fee, we are eliminating this regulatory fee category." The current vanity call sign regulatory fee is \$21.40, the highest in several years. The FCC reported there were 11,500 "payment units" in FY 2014 and estimated that it would collect nearly \$246,100. In its 2014 Notice of Proposed Rule Making (NPRM) regarding the assessment and collection of regulatory fees for FY 2014, the FCC had sought comment on eliminating several smaller regulatory fee categories, such as those for vanity call signs and GMRS. It concluded in the subsequent Report and Order (<u>R&O</u>) last summer, however, that it did not have "adequate support to determine whether the cost of recovery and burden on small entities outweighed the collected revenue or whether eliminating the fee would adversely affect the licensing process."

The FCC said it has since had an opportunity to obtain and analyze support concerning the collection of the regulatory fees for Amateur Vanity and GMRS, which the FCC said comprise, on average, more than 20,000 licenses that are newly obtained or renewed, every 10 and 5 years, respectively.

"The Commission often receives multiple applications for the same vanity call sign, but only one applicant can be issued that call sign," the FCC explained. "In such cases, the Commission issues refunds for all the remaining applicants. In addition to staff and computer time to process payments and issue refunds, there is an additional expense to issue checks for the applicants who cannot be refunded electronically."

The Commission said that after it provides the required congressional notification, Amateur Radio vanity program applicants "will no longer be financially burdened with such payments, and the Commission will no longer incur these administrative costs that exceed the fee payments. The revenue that the Commission would otherwise collect from these regulatory fee categories will be proportionally assessed on other wireless fee categories."

The FCC said it would not issue refunds to licensees who paid the regulatory fee prior to its official elimination.



#### Local 4H Club Selected for an ISS Contact This Summer!

The Vail Vaquero's 4H Club is one of twelve organizations in the United States that's been selected to make an ISS contact!!! The contact site is going to be held this summer in the theater at Empire High School.

Unfortunately, NASA cannot commit to an exact date but we do have a proposed week. The week of July 12 - 18, 2015 is week 19 of Expedition 44. This week is predicted to be a good week to make the contact. The contact date will be confirmed 7 - 10 days prior to the contact date. Once we have confirmation on a date we will make an announcement.

The Vail Vaquero's 4H Club would be honored to have you attend this exciting event. We are expecting to combine this event with a mini STEM career day. I am still working on establishing the program and will keep you updated on the progress. In the meantime, please check out our website to see what is going on with club. <u>pimacounty4hhamradio.shutterfly.com</u>

Hope to see the ham community at this exciting event!

Lani Dzicek, *N3IDN* 4H Ham Radio Project Leader



This new section is to introduce some of the younger operators on the EAARS Repeater Network. Some are new hams and some might have been licensed awhile, either way it's great to hear them out on the airwaves keeping us OFs inline...

Thanks to Lani, *N3IDN* and Joe, *K3TYE* and all the other Elmers/Instructors/Volunteers helping to bring this youthful renaissance to Amateur radio in Southern Arizona!

First up, Jake, KG7RHJ.

Jake is a very enthusiastic General class ham and is becoming a bit of a staple of the EAARS Network. Hi, my name Jacob Weller I am a new Ham Radio operator. In fact I only got my license in February. I am in the only Ham Radio 4-H project in the state of Arizona. The project is based out of the Vail Vaqueros 4-H club.

In the time I have been a Ham Radio operator I have gotten the chance to witness and experience the joy of speaking to other ham radio operators around the state. You can talk to people of all walks of life, if you are just talking locally in your state or talking to people around the world, in other countries.

Before you can talk on the radio locally, nationally or internationally you must earn your amateur radio operator license. There are three license levels that you may earn; they are technician, general and amateur extra. One level is a little harder then the last. It takes a lot of dedication, you must study and gain knowledge about radio frequency, electrical circuits and FCC regulations.

If you are interested in earning your amateur radio operator license I would like to end this article encouraging you to go to <u>qrz.com</u> or various other amateur radio web sites that are available information about earning your license and testing.

> Jake Weller *KG7RHJ* Age 15



#### Ham License Testing

There are four monthly VE test sessions in the **Tucson Area**. *Lighthouse YMCA / ARRL*: First Thursday Contact Matt, *AC7IL*, veregistration@ac7il.org

**Oro Valley / ARRL**: First Saturday Contact licensing@tucsonhamradio.org

**RST / Laurel** (No Fee): Second Monday Contact Diane, *AA3OF*, dzimmerman2002@gmail.com

Jacobs Park YMCA / ARRL: Third Saturday Contact Fred, K70FA, k7ofa@arrl.net

**Graham / Greenlee County Area** For VE testing on request, please contact Dave, *N7AM*, and he will arrange it.

**Technician License Class - Tucson** Every Tuesday, 6:30 - 9:00pm at TMC. Contact Dan, *KC7VDA* for info. kc7vda@gmail.com

**Coming Events** Near and Far...

- White Mountain Hamfest: Jun 6 See flyer this issue
- ARRL VHF Contest: Jun 13-15 www.arrl.org/june-vhf
- ARRL Field Day: Jun 27-28 www.arrl.org/field-day www.fd2015.info (EAARS FD)
- ARCA, Williams Hamfest: Jul 24-26 See flyer this issue



Send Event and Calendar additions to newsletter@eaars.com

#### **EAARS Badges**

Club badges are now available, see: www.eaars.com/newsletter/badges.htm For ordering information. Show your club colors!





For Sale

#### Kenwood TS-711A \$320.00

2M All-Mode with optional PL encode board Built-in Power-supply AC & DC operation Works fine, from non-smoking home. Contact Steve, KY7K ky7k@arrl.net

#### **GUIDELINES FOR REPEATER USE**

#### Read it! Remember it! Practice it!

The EAARS Network is a high traffic repeater system with a very large coverage area, and as such, we often need some reminders of proper operation. These guidelines are not intended to be hard and fast rules, but rather things to remember and consider when using the network or any repeater. Many of these things are common sense or common courtesy, so keep them in mind.

**Coverage**: The system covers several thousand square miles, in parts of three states and two countries. Remember to keep your conversations short and try not to monopolize the system. If you are close to the person you are wishing to talk to, and you are only wanting to talk with him, you might consider simplex or another repeater, if your conversation will last more than a few minutes. There is no reason to tie up multiple repeaters with extended one on one conversations when you are only a few miles apart. Remember to allow ample time between transmissions to allow for people to join the conversation. If you are not wanting to be interrupted, then the conversation might be better to have on the telephone. Remember that people everywhere can hear what you say, there is no privacy.

The system is designed to give priority to mobile operations, especially during morning and afternoon drive times. This may be the only time some people have to get on the radio, so defer to them as they travel to and from work. If you are operating from a fixed location, and have plenty of hours in the day to use the radio, then utilize the system during the slower times.

**Timing**: The repeater system is not instantaneous. There is a time delay from when you key the microphone to when the other parties will hear your audio. This typically is at least half a second or so. So, key the mic, give a short pause, then start your statement. If you say a single word or a short phrase, it may be clipped and not heard properly (if at all) on other repeaters in the system. There is a "beep" that occurs about a second and a half after a person unkeys. This is known as a "courtesy tone", and lets others know that you have finished. You should wait for that beep before you start talking. This second and a half delay gives time for people to break in with emergency traffic, or just to add comments or join the conversation.

The repeater system has a "hang timer" of around five seconds. That is the time delay from when you finish talking to when the repeater transmitter drops off. In normal usage, the repeater doesn't have to drop out, and you should not wait for it to drop. Wait for the second and a half, then the beep, then pick up the conversation. If you wait for the carrier to drop, it adds a lot of dead time to your usage.

The repeater also has an approximate 3 minute "time out timer", which limits the amount of time any single transmission can last. If you transmit longer than that, the timer will cut you off. The timer affects the link transmitter, so when it times out, the rest of the system will act normally. If you are timing out the repeater on a regular basis, you need to rethink your conversations. This isn't HF!

**Jargon**: Avoid CB style jargon and "hamisms". This isn't CB radio, so leave the "10-4s", "seventy thirds", "got your ears on", (and any other stuff that is common on CB) off the network. Likewise, there are a lot of other things that come from ham radio that aren't needed. You don't need to use Q signals or other abbreviations that are meant for CW operators. We're not sending code, so we don't need things like "QTH", "XYL", or "HI HI". Plain language rules on 2M FM, so use it! You don't sound more like a ham when you say things like "Got to QSY to the dinner table, the XYL is wanting an eyeball QSO, hi hi." Likewise, you don't need to use the word "handle" when referring to your name, and certainly don't use "personal", as that is straight from CB. Just say, "the name here is Bob" (unless of course it is something else).

**Signal Quality**: We use FM on two meters. That means the audio quality is going to be pretty good, if you have a decent signal into the repeater. Your signal level is how well your radio is getting into the repeater. This is usually reported by the station you are talking to by referencing the amount of noise in the background, while you are talking. A good strong signal to the repeater will be reported as "full quieting" or "no noise on your signal". A weaker signal might be reported as "readable, but has some (or a lot) of noise". A very weak signal will be reported as "barely making it", "in and out", "hard to copy", or some other report that indicates that the signal is poor. If your signal is not good, it is best to wait and continue your conversation when you get into a better location. Don't force everyone to try and decipher a barely readable signal! Unless you are in an emergency situation, or need to get some urgent message through, just relax and try again later. You may be hearing the repeater fine, but that doesn't necessarily mean that the repeater hears you as well. The repeater is fairly balanced when using a 25 to 50 watt mobile radio; if you are hearing it good, you will probably be getting into it about the same. But many people are using a 2 watt handie talkie, and that just doesn't work well unless you are pretty much line of sight to the repeater. If you're on an HT, and are getting poor reports, you might try a different location. Sometimes just a few feet will make a big difference.

Along with signal, audio quality and level are very important. If your transmit audio is too strong, or too soft, it will be hard to understand you. If you get reports of "low audio", get closer to the microphone, or speak up. Many of the newer Chinese handheld radios are coming with somewhat low audio, and you may need to speak closely, clearly, and somewhat loudly in many cases. And get an external antenna for that HT if you plan on using it much in the mobile!

**Courtesy**: The repeater doesn't belong to you, so you need to share it. Don't feel obligated to interject comments into every conversation going on and if you do have a comment it should be related to the current topic! Likewise, don't be surprised if someone breaks in to add some comments or information about what you're talking about. If you need to break in, give your callsign. If you say "Break" or "comment", the system is not likely to pick up fast enough so that everyone hears that single word. You may think you're being ignored, but what really happened is that they did not hear you. Your callsign takes enough time that the system will pick up, and even if they don't hear the whole call, they may pick up the last few letters and realize that someone is breaking in.

or

#### Policing the Air: If you hear someone you think is doing something wrong on the repeater, please, DO NOT confront or attack

them. Send a message to <u>eaarsofficers@eaars.com</u> with date, time, calls and a brief description of the problem and the officers will investigate and deal with it. IF you think "they" are in violation then joining the conversation may also put you in violation. If it is a serious violation like "somebody taking requests and playing music on the club repeaters" then feel free to call *N7AM* day or night but, **PLEASE DO NOT** add to the problem by getting involved.

If you hear a new ham struggling, then explaining about the timers and waiting for the beep or pausing before they start talking, or offering general technical guidance *in a polite manner*, that's great. (That means ask for a break, identify, and offer the assistance, not scream "wait for the beep" anonymously, *that is a violation*). Elmer to your hearts content. Most of the new users will appreciate it. If they tell you they don't want to hear it then leave them alone!

**Doubling**: This happens when two people talk at the same time. What will happen is either that the audio will mix, and you hear both people, but can't understand either one, or you will hear some interference that makes it hard to understand either transmission. To prevent this, try to make sure it is your turn to talk, and when you turn it over, say the person's name or callsign. "Over to you, Tom," or "Go ahead, K7XXX." If you say, "Pick it up, someone", then you are asking for multiple people to transmit.

**Identification**: Give your callsign as mandated by the FCC, every ten minutes, or when you clear off. You don't need your call each time you transmit, if the transmissions are short. And don't overuse phonetics for your name or callsign. If your name is Mark, people probably get that. You don't have to say, "name is Mark, Mary, Adam, Roger, Kilowatt", unless the people aren't getting it right. You also don't have to say, "K7XXX for identification purposes" or "K7XXX for ID". What else would it be for?

**Jammers**: Occasionally there are unidentified people who will try to interfere with ongoing communications, play music, or hurl insults or profanity. **DON'T ACKNOWLEDGE THE JAMMER!** Carry on as normal, or clear off. The jammer is there to get a reaction from the users. You play into his game when you talk about him, challenge him, try to reason with him, or argue with him. **DON'T DO IT!** It is never appropriate to talk about jammers on the air. If it is recurrent or chronic, the control operators will take appropriate action. In most cases, control ops will do nothing, since it is the intent of the jammer to disrupt communications, and shutting down a repeater does just that. If you have the capability to monitor the input of the repeater, you can try that to see if you hear him. But don't announce it over the radio, just log where you were and how strong the signal was on the input channel. Jammers have existed since the advent of ham radio, over 100 years ago. So, nothing new.

**Nets**: The EAARS network has several nets that meet regularly, at specified times. These nets are for some specific purpose, some are for general check in, others are for traffic handling. Although the nets do not have absolute priority, it is good practice to relinquish the repeater system if you are using it when the net is ready to start. You can finish your conversation when the net is through. If you are conducting emergency or priority traffic, the net will stand by for you.

**IRLP and Echolink**: The system has connection to internet based amateur radio linking. Another document on the EAARS website gives instructions on how to use this, and the protocols and procedures involved. If you use these connections, remember that you are tying up a large network, so keep your conversations succinct. Be courteous to other users. If you hear someone using these connections, please be courteous to them.

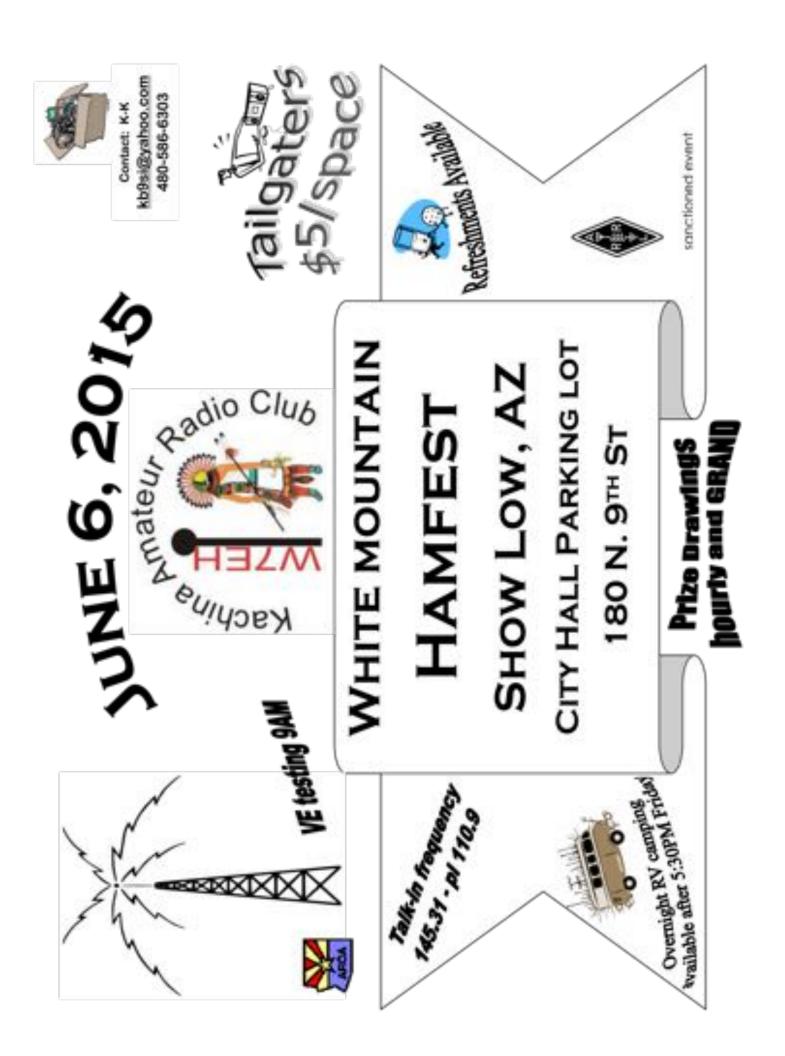
**Making a Contact**: If you want to make a contact, simply announce your callsign and say that you are monitoring or listening. You don't need to repeat it several times. If someone wants to talk to you, they will give you a call. If you are listening to an interesting ongoing conversation, you can call one of the parties after they have cleared off. That's a good way for newer hams to meet new friends. People will almost always respond to a direct call if they have the time. If you have a new radio setup or installation, you can ask for a signal report. Usually someone will respond. But don't make a habit of it. That should be reserved for changes or new equipment. Listen first to how things run on the system, and emulate the good operators.

**Topic Content**: The EAARS network is an open repeater system with many users. Be respectful in your choice of topics.

Controversial subjects are discouraged, as they tend to cause divisiveness. Do not engage in on air arguments with other amateurs, it serves no useful purpose. Do not let your emotions rule your words, think twice and speak once.

**Support**: EAARS is an open membership club, and sponsors all of the repeaters on the network. There is considerable cost involved with purchase, installation, maintenance, and ongoing services. If you use the system frequently, please join to support the system. The dues are only \$24 a year, so it shouldn't be a burden on anyone. No one will be asked to leave, or refrain from using the repeater simply because they are not a member. If you hear a new user on the system frequently, encourage them to join the club and point them to our website. **www.eaars.com** 

#### Changes and additions are in RED

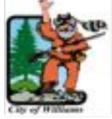




#### 2015 ARCA / WILLIAMS HAMFEST JULY 24, 25 & 26, 2015



Presented by the Amateur Radio Council of Arizona and the City of Williams



DVANCED NOTICE

WILLIAMS RODEO GROUNDS, RODEO ROAD, WILLIAMS, AZ

GATES OPEN AT NOON THURSDAY, JULY 23 FOR SET-UP. HAMFEST OPENS AT DAWN FRIDAY, JULY 24.

#### FREE ADMISSION!

#### JULY 26, 2015 - GRAND CANYON TRAIN TRIP

MEETINGS, SEMINARS, ACTIVITIES, COMMERCIAL VENDORS, HUGE SWAP, VE TESTS

#### PRIZES

DOOR PRIZES EVERY HOUR RAFFLETICKETS \$12 for \$20, or 3 for \$5.00

SATURDAY NIGHT BBQ DINNER AT RAILSIDE RV RANCH

SUNDAY GRAND CANYON TRAIN TRIP



RESERVATION INFORMATION

available soon

Visit the ARCA Web Site www.arca-az.org

On-Line Reservation Available on Web Site Soon Or Call - 602.881.ARCA (2722)

ADVANCED NOTICE

Talk-In - 146.78 - (91.5 Pl)

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5151 San Francisco Rd NE Albuquerque, NM 87109

# 2014 Prizes (2015 is Similar)

Kenwood TM-281 Vaesu FTM-400D Yaesu FT-7900 Yaesu FT-450 Icom ID-880 Elecraft KX3 Icom 7100

## Hamfest Fees (Preliminary)

Pre-Registration	\$5.0
Includes 1 Free Prize Ticket	
Registration at Door	\$7.5
Extra Prize Ticket	\$2.0
Flea Market Table	\$15
Ham Table with Electricity	\$20
Commercial Booth	1
Tailgate Space (1)	\$5.0
RV Space Per Night	\$10
Friday Night Mixer	\$12
Saturday Contest/EMCOMM Breakfast	\$17
Saturday BBQ Lunch	AtD
Saturday Evening Banquet	\$30
Sunday New Ham Breakfast	\$15

Rooms at Marriott Pyramid-\$89 + Tax https://resweb.passkey.com/go/ albugdukecityhamfest

Limited RV parking available on hotel grounds. No hook-ups available. Full service RV parks available nearby.

## Ham Radio Fun For Old-Timers & Novices

### **New in 2015**

New Venue & Better Floorplan All Activities Close Together Bigger & Better Than 2014 Tailgate Friday & Saturday New Saturday BBQ Lunch Good Equipment Auction FCC & New Rules Forum Nicer Indoor Sales Area Improved Friday Mixer **Open All Day Friday** Contest University

#### Themes

88

Building & Modifying Equipment STEM Education & Ham Radio Emergency Communications How to Get and Stay Active Attracting New Hams Hands-On Projects Contesting

200

88

2000

## Talk In Repeaters

Courtery of Amateur Radio Caravan Club 145.33 (-600 KHz, 100 Hz PL) 444.0 (+5 MHz, 100 Hz PL)



## **ARRL New Mexico**

New Mexico **Regional Hamfest Serving** 

Colorado



West Texas Oklahoma Wyoming Arizona Nevada Utah

## Special Guest Speakers

Mexico

To Be Announced ARRL Leadership

Retired FCC Enforcement Special Counsel Riley Hollingsworth (K4ZDH)

dures and how they affect Amateur radio" and "Our continuing duty to Ama-"Changes in FCC complaint proceleur radio "

Contesting / EMCOMM Community To Be Announced

# Albuquerque Duke City Hamfest

## Conference

The DCHF is a great source of information on all aspects of ham radio. Multiple simultaneous activity tracks with emphasis on current topics of interest to old hams and newcomers alike. Many popular forums will be repeated so as to minimise chances for conflicts. \*\* Contest Academy \*\* Contesting HF, DX and Contesting EMCOMM & Public Service STEM, Education & New Hams High Altitude BalloonSAT AMSAT / Moonbounce EME AMSAT / Moonbounce EME AMSAT / Moonbounce EME ARRL, ARES & RACES Forum Builders & Makers Forums Teachers & Educators Forums SDR, D-STAR, FM, Repeaters SDR, D-STAR, FM, Repeaters SDR, D-STAR, FM, Repeaters SDR, D-STAR, FM, Repeaters Equipment Design & Fabrication Using Test Equipment, How to Solder Remote Operation, Building a Station Mark, CAP, SOTA Mesh Networking, Raspberry Pi

## Hamfest

The DCHF provides the best opportunities to see, feel and touch the latest new equipment, antennas, publications, and accessories. Check out our expanded new equipment and fea market area for bargains on used gear, components, hidden treasures, and goodies you did not know

# 2014 Dealers & Manufacturers

Daryl's Electronics of El Paso RT Systems \* CQ Magazine DZ Kit \* Ham Radio School Wired Communications Tactical Communications **QRP Works \* NM-Mesh** High Tech Liquidators The Original Wireman In Logis \* Ham Crazy Flex Radio \* Elecraft Southwest Antennas El Paso Antenna Co WB2CUK Products CAIG Laboratories Ham Radio Outlet Yaesu \* Icom ARRL . QCWA

## Activities

The DCHF is 3 days of ham radio fun for the learned and learning alike. Chew the rag with old and new friends, and visit our many socials, demonstrations and banquets. Bring the family and enjoy local attractions, museums, shopping Good Equipment Auction Friday Mixer with Vendors Saturday Contesting Breakfast Saturday BBQ Lunch Saturday BBQ Lunch Saturday Awards Banquet Saturday STEMNew Ham Breakfast Near Space Balloon Project Tech/General License Review VE License Testing Specialized Modes Demo Skywam Class Hidden Transmitter Foxhunt Tours of Local Attractions Tour of Old Town Albuquerque Contests & Competitions

Bill Ripley (KY5Q), Chairman

KY5Q@arrl.net (505) 503-7491

For More Information

Duke City Hampest

Albuquerque, New Mexico

2015

http://www.DukeCityHamfest.org