LOS ANGELES AMATEUR RADIO CLUB 40/S9
SEPTEMBER 2016

www.losangelesarc.org

Monthly Meeting

The Los Angeles Amateur Radio Club meeting for September 2016 TBD. Club meetings are held at the Audrey & Sydney Irmas Youth Activity Center located at 11911 Vermont Ave., in Los Angeles Ca. 90044. This is on 120th and Vermont across from the Ralphs Market parking lot.

Club Net

The LAARC holds a radio net on 144.430 FM simplex at 8 PM pacific time every Saturday nite.

Tip of the Month

If it's quiet on the bands it's because you are not talking. Calling (CQCQCQ, this is "your call") usually gets the conversation started.

Club Officers

L.A.A.R.C. Officers

Stan Thornton	**W6SMT**	**President**
Doug Long	**N6PZK**	**Vice-President**
Jess Craig	**W6CKC**	**Secretary**
Laverne Carter	**KJ6OSV**	**Secretary**
Archie Buchanan	**KD6OLH**	**Treasurer**
Peter V. Swearingen	**KJ6JQA**	**Sgt at Arms**

Health and Welfare

None Reported

Club News

None Reported

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Amateur Radio News Briefs

Growth in New Amateur Radio Licensees Ahead of Last Year's

Source: ARRL

The ARRL Volunteer Examiner Coordinator (VEC) reports that 20,447 new US Amateur Radio licenses have been issued since January 1. That's nearly 1500 ahead of the number that had been issued by this time last year. At the present pace, the US is on track to exceed 30,000 new radio amateurs for the third straight year by the end of the year.

"While I am thrilled with this prospect, I'm also keenly aware that without some mentoring, these new hams' initial curiosity and enchantment may fade if they don't get on the air right away," said ARRL VEC Manager Maria Somma, AB1FM. "Let's show these new hams what the magic is all about," she urged.

In addition, the ARRL VEC reports that upgrades are on track to reach nearly 11,000 by year's end.

HAMVENTION ANNOUNCES VENUE FOR 2017

Source:

http://hamvention.org/hamvention-announces-venue-for-2017/

XENIA, OHIO – The Greene County Agricultural Society Board of Directors in partnership with the Greene County Board of Commissioners, the City of Xenia and the Greene County Convention & Visitors Bureau is pleased to announce the Greene County Fair & Exposition Center will be the new home of the Dayton Hamvention.

Since 1952 Hamvention has been sponsored by Dayton Amateur Radio Association (DARA). For many years it has been the world's largest amateur radio gathering, attracting hams from throughout the globe. Over 25,000 amateur radio operators and their families will descend upon Greene County and the entire Miami Valley for three days of camaraderie, education and exhibits. In 2017, the Dayton Hamvention will be held May 19-21.

The annual economic impact of the Dayton Hamvention has been estimated at $15 – $17 million dollars. Hotels, restaurants, gas stations, local merchants, and the Greene County Agricultural Society will all directly benefit from the event.

The Greene County Fair and Expo Center located in Xenia, Ohio is a 501 non-profit, multi-purpose, 38 acre complex specially designed for fairs, concerts, meetings, convention/trade shows, sporting and livestock events.

Now Free of HAARP, US Air Force Still Wants to Tinker with the Ionosphere

Source: ARRL

A lot of radio amateurs bemoaning the recent spate of poor HF conditions would love to have a way to improve propagation — perhaps without even having to rely on the whims of the Sun. The US Department of Defense is thinking along the same lines. An August 9 **article** in *New Scientist* reports that the US Air Force is exploring a plan to bombard Earth's upper atmosphere with ionized gas dispersed from CubeSats.

According to the *New Scientist* article by David Hambling, the Air Force hopes to improve long-distance radio communication by "detonating plasma bombs" in the upper atmosphere, and the military branch has contracted with corporate and university researchers to figure out how to make this a reality.

The US Air Force is no stranger to ionospheric tinkering, having just last year transferred the High Frequency Active Auroral Research Project (HAARP) facility to the University of Alaska Fairbanks (UAF), which **hopes to restart it** next year. HAARP's super-power RF in the high-frequency spectrum has been used stimulate the ionosphere and create a plasma cloud that could support HF radio propagation; it also has been used to study how the ionosphere functions.

The trick with using CubeSats to disperse ionizing gas above Earth is coming up with a plasma generator small enough to fit within a CubeSat and controlling how the plasma will disperse. *New Scientist* said General Sciences of Souderton, Pennsylvania, and Enig Associates of Bethesda, Maryland, are working with scientists at Drexel University and at the University of Maryland, respectively, on separate methods to produce plasma.

An August 9 **article** in *Philly Voice* by Michael Tannenbaum said the nearly $150,000 contract with General Sciences and Drexel University proposes to develop a plasma gas generation device "based on the use of highly exothermic condensed phase reactions yielding temperatures considerably higher than the boiling points of candidate metal elements with residual energy to maximize their vapor yield and, with high probability to enter associative ionization (chemi-ionization) reactions with atmospheric oxygen," the research *Abstract* explains. The *Abstract* says researchers also will explore hardware development for controlled-release options. The benefit, according to the *Abstract*? "New ways of communication will become available to [the Department of

Defense] with significant benefits to the defense of the country."
For its part, Enig Associates **has announced** that its collaboration with the University of Maryland will lead to "an innovative and novel electrical approach, using in-house designed explosive-driven flux compression generators to convert explosive chemical energy into electromagnetic energy with very high current output and superb energy conversion efficiency." The researchers will aim to design "an integrated generator device whose form factor fits inside an air-launched vehicle or sounding rocket."
The *New Scientist* article said the better approach will be selected for a second phase, which will involve testing plasma generators in vacuum chambers and exploratory space flights.

FEMA Teaming with Amateur Radio Clubs to Present Preparedness Information

Source: ARRL

September is National Preparedness Month. As part of its focus on community education and preparation, **FEMA** offers a "Family Emergency Communications Plan" to help families work out their communication strategies in the event of an emergency. ARRL is partnering with FEMA to offer this material to interested Amateur Radio clubs that are willing to present it in their localities during National Preparedness Month. While the FEMA presentation focuses on the Family Communications Plan and doesn't specifically mention ham radio, the material offers Amateur Radio clubs a great opportunity to raise their visibility in their communities.
Registration is requested. The presentation of the FEMA material to local communities should take approximately 1 hour. It will include a *Power Point* presentation and links to worksheets that families can discuss and fill out together.
Clubs are free to offer additional presentations on their activities following presentation of the FEMA material.

Classes & VEC Testing

None scheduled

Ham Radio License Exam Practice

The ARRL has a online resource that allows users to take randomly generated practice exams using questions from the actual examination question pool. **ARRL Exam Review for Ham Radio™** is *free*, and users do *not* need to be ARRL members. The only

requirement is that users must first set up a site login (this is a different and separate login from your ARRL website user registration).

http://arrlexamreview.appspot.com

Free Amateur Radio Practice Testing is available on the Web

Practice exams are for those people who would like to study for a new US amateur radio license class. The questions contained within are provided by the Federal Communications Commission and are selected from the same sub-elements that would be used for an official license examination.

http://www.qrz.com/hamtest/

http://www.eham.net/exams/

http://arrlexamreview.appspot.com

Find and Exam in Your Area:

You can find an Amateur License Exam In your area at ARRL.ORG

http://www.arrl.org/find-an-amateur-radio-license-exam-session/

You can find an Amateur License Exam In your area at ARRL.ORG

http://www.arrl.org/exam_sessions/search

Electronics Refresher

Soldering Technique

Source:
http://components.about.com/od/PCB/a/Soldering-Basics.htm

Soldering begins with preparing the surfaces to be soldered and turning the temperature of the soldering station or soldering iron is set to an appropriate level depending on the work piece and solder being used.

- Make sure the surfaced are clean and free of debris. Once the surfaces are clean, the two surfaces to be soldered should be positioned together.
- It is recommended that the components be secured to prevent movement during

soldering, either through bending leads, twisting wires together, using clamps, or manually holding components with tweezers.

- Apply a small amount of solder to the tip of the soldering iron to wet the surface of the soldering iron. Place the tinned soldering iron tip on the joint to be soldered to warm the joint.
- Apply solder between the soldering iron and the joint to be soldered. Do not apply the solder directly to the tip of the soldering
- iron, but rather on the joint to be soldered. This allows the flux in the solder to flow where it is needed to create a good solder connection.
- Once the solder has completely wetted the surface to be joined, stop applying solder and remove the soldering iron.
- The joint should not be moved for several seconds to prevent a cold solder joint, which can be identified by dull and grainy appearance of the solder joint. If you have a cold solder joint, simply reheat the joint and apply a small about of solder or flux and allow the joint to cool without being disturbed.
- Finally, clean the solder joint to remove the flux residue as required.

Safety

Safety Tips When Soldering

Source:
https://www.circuitspecialists.com/blog/safety-tips-when-soldering/

Soldering is the process in which two or more metals are fused together through melting. A filler metal, which usually has a low melting point, acts as a joint to the two metals. In electronic components soldering is used to make a permanent connection. Melting metal can be very dangerous and precautions must be taken before doing any solder work. This article shows tips that should be taken when soldering to ensure the safety of yourselves and others.

- **Never touch the tip, or element, of a soldering iron** – The soldering iron element is heated to nearly 400 degrees.
- **Avoid touching the mains flex with the soldering tip** – Many soldering stations will have a heatproof flex for additional protection.
- **Return the soldering iron to its stand** – Never set the soldering iron on your workbench or near the area you are working in.
- **Solder in ventilated areas** – The fumes that are released from melting solder can be

very uncomfortable. It is recommended to move your head to the side of your project

- rather than above. This way the fumes can be avoided. Make sure to have fresh air circulating in and out of the work area.

- **Wash your hands** – Solder contains lead, which is a poisonous metal. After handling solder make sure to wash your hands thoroughly.

- **Avoid loose fitting clothing** – Do not wear clothing that can easily fall into your workspace.

Before anyone thinks about turning on their soldering station, it is important to have a first aid kit available. Being prepared is a necessity. Always pay attention to your surroundings and be careful with the soldering iron tip. Be safe and enjoy your time soldering.

Radio and Software Tech Talk

New Technologies

KENWOOD TH-D74 FM /"APRS" E "D-STAR" 5W V/U E GPS

The FCC just released the test report for the new TH-D74 tribander, which I've attached. This new 144/220/440 HT will support D-Star, includes a built-in TNC and GPS and also has built-in Bluetooth and a MicroSD slot. The fact that the FCC has published the test results indicates that the radio should hit the market shortly. This looks like a very interesting radio that I can't wait to get my hands on.

They have added support for D-STAR®, the digital voice and data protocol developed by the JARL, and enabled simultaneous APRS and D-STAR operation – an industry first. These handhelds offer intuitive operation and rugged IP54/55 weatherproofing. TH-D74A portable transceivers feature built-in GPS, wide-band multi-mode reception, IF filters, DSP equalizer, a transflective TFT color display, Micro-SD memory slot and Bluetooth/USB connectivity. And… there's much more!

Additional TH-D74A features:

* 1000 Alpha Memories
* DTMF Memory
* Built-in 1200/9600 bps TNC
* DSP Voice Processing
* Extended Receive with HF CW/SSB!
* Bluetooth Compliant
* 13.8 VDC Input Jack

These tri-band radios operate on the 144, 220 and 440 MHz bands. Supported modes include: DV / DV Fast data / FM / NFM / WFM / AM (receive). They are equipped with a built-in TNC (1200/9600) and provide APRS (Automatic Packet/Position Reporting System) with an integrated GPS! They also support D-Star… and with superior audio! Receive frequency ranges include: 136-174, 216-260, 410-470 MHz… and a very-wide 0.1-524 MHz general coverage.

Key features:
1. APRS packet-transfer communications for exchange of real-time GPS positional information and messages:
* Color display includes compass with station information (relative distance, heading and speed) or weather conditions (rainfall, temperature & humidity, wind direction/speed, pressure)
* Storage capacity for 100 fixed/mobile/weather stations and objects/items
* Messages exchanged with other APRS stations in real time
* Built-in KISS TNC for managing APRS** on a computer
* Rapid QSY using frequency embedded in beacon

2 ▪ D-STAR** for voice/data transmission over digital amateur radio networks
* Simplex, semi-duplex, Zone, and IP Gateway modes for local, wide or worldwide digital communications:
* DV (digital voice) and DV Fast Data mode (transmits data in unused voice frames for transfers that are 3.5 times faster)
* DR (D-STAR Repeater) list downloadable from D-STAR website
* Direct reply following receipt (just press PTT)
* Icon shows repeater availability when kerchunking
* TX/RX history (max. 120 items) for easy recall of parameters for a particular station
* Rapid QSY using information from D-STAR repeater

3 ▪ Multi-band, multi-mode reception:
* 0.1 to 524 MHz wide-band continuous reception on Band B (sub-band) FM/NFM/WFM/AM plus SSB/CW!
* Dual frequency reception (VxV, UxU, and VxU)
* Simplified zero-in with variable fine-step (20, 100, 500 and 1000 Hz)
* Ferrite bar antenna for mid- and low-HF bands

4 ▪ IF filters to reduce adjacent frequency interference (SSB: 2.2 to 3.0 kHz; CW: 0.3 to 2.0 kHz; AM: 3.0 to 7.5 kHz)

5 ▪ IF OUT mode to make IF signal (12 kHz center frequency, 15 kHz bandwidth) available via the Micro-USB port

6 ▪ High-performance audio equalizer with DSP

Other features include:
* Color 1.74 in. (240 x 180 pixel) transflective TFT display for high visibility indoors and outdoors
* Flat low-profile key tops
* Built-in GPS (Auto Clock Setting) with high-sensitivity patch antenna to track GPS signals from vehicle dashboard
* GPS Logger mode
* Bluetooth® (HSP/SPP)
* Micro-SD/SDHC slot
* Micro-USB jack
* Free downloadable PC software: MCP-D74 memory control program, ARFC-D74 for frequency management, etc.

** APRS is a registered trademark of Mr. Bob Bruninga, WB4APR. D-STAR (Digital Smart Technology for Amateur Radio) is a digital protocol developed by JARL (Japan Amateur Radio League).

Do you want a truly full-featured tri-band HT? Look no further than Kenwood TH-D74A Digital Tri-band Handheld Transceivers from DX Engineering!

For Sale or SWAP

For Sale:

This space is reserved for anything amateur related you want to sale, swap trade, buy or get rid of. Send your list to K6FED@yahoo.com. Items are listed for one month. Additional time can be requested by email.