

OMIK TECH-TALK

AUGUST 2016



<http://www.omikradio.org>

***An International Educational and
Scientific Organization
Founded in August of 1952***

OMIK Tech-Talk is a monthly distribution of news and technical articles reviewed and chosen by our technical staff to provide you with timely ham radio-related topics collected from different sources on the Internet.

KØMIK

**OMIK Amateur Radio Association –
Net Schedule**

(NOTE: during Daylight Savings Time net times move back 1 hour)

	OMIK Nets meet on Sundays
20 Meter Phone	14.295 MHz from 16:00 - 18:00 UTC
40 Meter Phone	7.185 MHz from 12:30 to 14:00 UTC
75 Meter Phone	3.920 MHz from 12:00 - 13:00 UTC

OMIK is now using Dstar reflector REF074C on Sunday mornings to assist the net controllers with check-ins. If you can't hear the net because of band conditions and you have the resources to communicate on Dstar try checking in on REF074C. You can view the reflector dashboard by typing the link below in your web browser.

<http://REF074.dstargateway.org>. If you need assistance reaching the reflector contact Frank K6fed@yahoo.com.

Amateur Radio News

Amateur Electronics Supply (AES)

AES closed its doors after almost six decades in business, and the stunned ham radio community is reeling.

Amateur Electronic Supply sold radios, antennas and equipment that help hams connect with other hams throughout the world. It opened in Milwaukee in the late 1950s, attracted amateur radio enthusiasts from throughout the Midwest and eventually spawned stores in Cleveland, Orlando, Fla., and Las Vegas.

At one time, AES was the largest amateur radio supply company in the U.S. AES owner Phil Majerus earlier last month

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announced his decision to shutter the business, Ham Radio Outlet agreed to hire some AES staff members and open an outlet in Milwaukee in the AES facility.

Dayton Hamvention 2017 News Update -- (Hamvention Moving):

[email from Ron Cramer](#) on July 29, 2016

Dayton Hamvention® 2017 News Update:

The Dayton Amateur Radio Association (DARA) regrets to inform our many vendors, visitors and stakeholders that, unfortunately, HARA has announced the closing of their facility. We have begun execution of our contingency plan to move Hamvention 2017 to a new home.

DARA and Hamvention® have enjoyed many successful years working together with HARA Arena and we wish the Wampler family the best.

DARA and Hamvention® have been working on a contingency plan in the event HARA would become unavailable. We have spent many hours over the last few years evaluating possible locations and have found one in the area we believe will be a great new home! Due to logistics and timing issues, we will make a formal announcement introducing our new partner. This information will be coming soon. We all believe this new venue will be a spectacular place to hold our beloved event. Please rest assured we will have the event on the same weekend and, since it will be in the region, the current accommodations and

outside events already planned for Hamvention 2017 should not be affected. We look forward to your continued support as we move to a new future with The Dayton Hamvention®.

Ron Cramer
General Chairman
Dayton Hamvention 2017
<mailto:chair@hamvention.org>

Future FAA Rules Could Affect Some Amateur Radio Antenna Support Structures:

Source: ARRL News Letter

Yet-to-be-developed Federal Aviation Administration (FAA <http://www.faa.gov/>) rules stemming from the recent passage in Congress of H.R. 636 <https://www.congress.gov/bill/114th-congress/house-bill/636>, the FAA Reauthorization Act, could pose additional marking requirements for a small number of Amateur Radio towers. The bill instructs the FAA to enact rules similar to state-level statutes now in place that are aimed at improving aircraft safety in the vicinity of meteorological evaluation towers (METs) set up in rural areas. In the wake of fatal crop dusting aircraft collisions with METs, often erected on short notice, the National Transportation Safety Board (NTSB) recommended in 2013 that states enact laws -- sometimes called "crop duster" statutes --

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requiring marking and registration of METs. While some state crop duster laws exempt ham radio towers, the federal legislation does not. ARRL General Counsel Chris Imlay, W3KD, said, however, that the list of exemptions in the federal legislation restricts application of the new rules to a very small subset of Amateur Radio towers. "The FAA Reauthorization Act has very little application to Amateur Radio antennas. We will have a good opportunity to address the final FAA rules through the normal rulemaking process," Imlay said. "We'll be meeting soon with FAA officials to learn their intentions as well as to advance our own concerns to the agency. Uniform federal regulation is beneficial to hams, because it eliminates a patchwork of state statutes that can impose significant constraints on ham antennas in rural and agricultural areas." The FAA Reauthorization Act gives the FAA 1 year to issue regulations requiring the marking of towers covered by the new legislation. Marking of towers covered by the legislation will be in the form of painting and lighting in accordance with current FAA guidelines.

The law covers towers that are "self-standing or supported by guy wires and ground anchors;" are 10 feet or less in diameter at the above-ground base, excluding concrete footings; are between 50 feet above ground level at the highest point and not more than 200 feet above ground

level; have accessory facilities on which an antenna, sensor, camera, meteorological instrument, or other equipment is mounted, and are located outside the boundaries of an incorporated city or town or on land that is undeveloped or used for agricultural purposes.

Imlay said the law excludes towers erected adjacent to a house, barn, electric utility station, or other building, or within the curtilage (enclosed area occupied by a dwelling, grounds, and outbuildings) of a farmstead, among other exclusions.

"We do not anticipate that a significant number of Amateur Radio antennas will be subject to these rules," Imlay said, "but we need to monitor the FAA rulemaking process carefully to head off requirements that could put the cost of installing and maintaining affected structures out of any reasonable reach." Read more <http://www.arrl.org/news/future-faa-rules-could-affect-some-amateur-radio-antenna-support-structures>.

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FCC Seeks Comments on Waiver Request from Expert Linears:

Source: W1AW Bulletin via the ARRL.

To all radio amateurs
SB QST ARL ARLB028
ARLB028 FCC Seeks Comments on Waiver Request from Expert Linears
The FCC is inviting comments on a June 11 request from Expert Linears America LLC to waive Part 97.317(a)(2) of the Amateur Service rules to permit it to import, market, and use its model 1.3K FA amplifier in the US. The Texas company is seeking the waiver pending resolution of its earlier

Petition for Rule Making (RM-11767), which called on the Commission to eliminate the 15 dB gain limitation on Amateur Radio amplifiers altogether. Expert said the version of the model 1.3K FA amplifier it now imports has been modified to comply with current rules. "Expert seeks a waiver in order to be able to import the unmodified version of the Model 1.3K FA, which is capable of considerably more than 15 dB amplification," the FCC explained in a July 29 Public Notice. "Expert argues that the public interest would be served by permitting use of a higher-powered amplifier, because it would improve the communications capabilities of amateurs using portable, low-power transmitters by enabling them to approach

the maximum legal power output." Expert assured the FCC that its model 1.3K FA has proprietary software to prevent it from transmitting in the 26-28 MHz band, so it cannot be used in the Citizens Radio Service.

The Public Notice can be found on the web in PDF format at, http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0729/DA-16-864A1.pdf .

On May 26, ARRL told the FCC that it "strongly supports" Expert's petition seeking to eliminate the Amateur Service rule, spelled out in Part 97.317(a)(2), that amateur amplifiers not be able to boost the RF input signal by more than 15 dB.

Comments on Expert's waiver request are due by August 29, reply comments by September 13.

10 GHZ and UP Roundup

Source: ARRL News Letter

The objective of 10 GHz and Up is for North American amateurs work as many amateur stations in as many different locations as possible in North America on bands from 10-GHz through Light. Amateurs are encouraged to operate from more than one location during this event. August 20-21, 2016 and September 17-18, 2016). Operations may take place for 24

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hours total on each contest weekend. Each weekend begins at 6:00 AM local Saturday though 12:00 midnight local Sunday.



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

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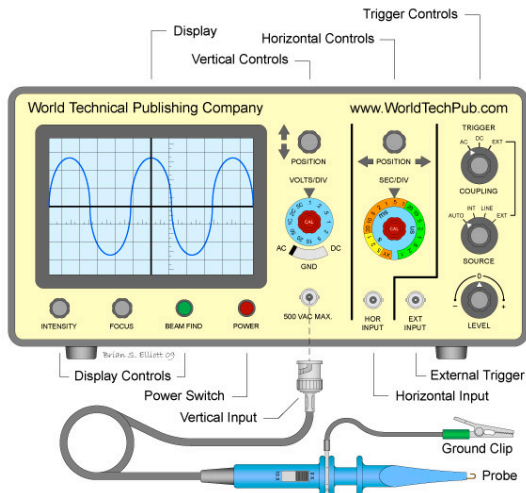
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Electronics Refresher

Oscilloscope

Source:

<https://en.wikipedia.org/wiki/Oscilloscope>



An **oscilloscope**, previously called an oscillograph, and informally known as a **scope**, **CRO** (for cathode-ray oscilloscope), or **DSO** (for the more modern digital storage oscilloscope), is a type of electronic test instrument that allows observation of constantly varying signal voltages, usually as a two-dimensional plot of one or more signals as a function of time. Other signals (such as sound or vibration) can be converted to voltages and displayed.

Oscilloscopes are used to observe the change of an electrical signal over time, such that voltage and time describe a shape

which is continuously graphed against a calibrated scale. The observed waveform can be analyzed for such properties as [amplitude](#), frequency, rise time, time interval, distortion and others. Modern digital instruments may calculate and display these properties directly. Originally, calculation of these values required manually measuring the waveform against the scales built into the screen of the instrument.

The oscilloscope can be adjusted so that repetitive signals can be observed as a continuous shape on the screen. A storage oscilloscope allows single events to be captured by the instrument and displayed for a relatively long time, allowing observation of events too fast to be directly perceptible.

Oscilloscopes are used in the sciences, medicine, engineering, automotive and the telecommunications industry. General-purpose instruments are used for maintenance of electronic equipment and laboratory work. Special-purpose oscilloscopes may be used for such purposes as analyzing an automotive ignition system or to display the waveform of the heartbeat as an electrocardiogram.

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Safety

Safety Tip

Distracted driving is seven times more deadly than drunk driving! Nonetheless, stay sober, or stay home!

Basics

Operating amateur radio equipment while underway is an activity we all enjoy, but one that should never be taken lightly. Besides driving, we have to contend with other vehicles and their drivers, driving conditions including weather and traffic congestion, yet deal with the distraction all of these activities generate.

Distracted driving is *the* leading cause of motor vehicle crashes and deaths! The major causes include cellphones, entertainment devices, navigation systems, and even amateur radio! While some of these devices are more distracting than others (their basic design plays an important part), cellphone use (especially texting) is by far the most distracting. This fact has prompted all-manner of political entities to enact laws governing their use while underway. Virtually every city and state (including the European Union) have enacted ordinances either limiting or eliminating their use while underway. Unfortunately, a lot of these ordinances have included amateur radio, albeit

inadvertently. For example, in some localities, you cannot drive with a communications device in your hand. While aimed at cellphone use, it effectively eliminates the use of a microphone.

To help combat these unintended consequences, the ARRL issued a [Mobile Policy Statement](#) outlining the differences between cellphone communications, and amateur radio communications. However, that isn't the end of the story!

One of the most important steps to minimize distraction is the proper [installation](#) of amateur radio gear (including antennas). Hurried and haphazard installations are not only distracting, they're frustrating, and often dangerous! Anything stuck on with hook and loop fasteners, magnets, clips, clamps, bungee cords, rubber bands, suction cups, and double-sided sticky tape will always fail at the most inopportune time!

When and how we operate are important attributes too. Talking on two meters while wolfing down a donut and drinking coffee, is both distracting and dangerous. Poor weather conditions, traffic congestion, spousal irritation, and entertainment device use, are all good reasons to hang up the microphone.

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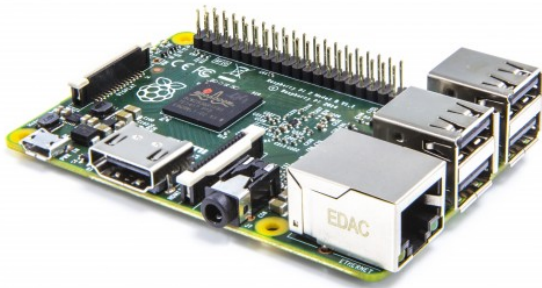
Radio and Software Tech Talk

New Technologies

Raspberry Pi 3

Source:

<https://www.raspberrypi.org/products/raspberry-pi-3-model-b/>



The Raspberry Pi 3 is the third generation Raspberry Pi. It replaced the Raspberry Pi 2 Model B in February 2016. Compared to the [Raspberry Pi 2](#) it has:

- A 1.2GHz 64-bit quad-core ARMv8 CPU
- 802.11n Wireless LAN
- Bluetooth 4.1
- Bluetooth Low Energy (BLE)

Like the Pi 2, it also has:

- 1GB RAM
- 4 USB ports

- 40 GPIO pins
- Full HDMI port
- Ethernet port
- Combined 3.5mm audio jack and composite video
- Camera interface (CSI)
- Display interface (DSI)
- Micro SD card slot (now push-pull rather than push-push)
- VideoCore IV 3D graphics core

The Raspberry Pi 3 has an identical form factor to the previous Pi 2 (and Pi 1 Model B+) and has complete compatibility with Raspberry Pi 1 and 2.

We recommend the Raspberry Pi 3 Model B for use in schools, or for any general use. Those wishing to embed their Pi in a project may prefer the [Pi Zero](#) or [Model A+](#), which are more useful for embedded projects, and projects which require very low power.

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Digital Technologies

D-Star No Radio Required!!

The **ThumbDV** and **Star*DV** are a big hit among the Amateur radio community. With either one of these items and a internet connection, a ham can plug it into their computers USB port, install some free software enjoy all the fun on Dstar.

Thumb DV

The Thumb DV allows the use of your MAC or PC's microphone and speaker to talk simultaneously on Dstar reflectors.



The ThumbDV can be purchased online at www.nwdigitalradio.com for a cost of \$119.

Star DV

The Star allows the use of your PC's microphone and speaker to talk simultaneously on Dstar reflectors.



The Star*DV can be purchased online www.moencomm.com at a cost of \$129.

DV4mini AMBE (Voice) 70 cm UHF



USB stick containing 70 cm data transceiver. This version contains an AMBE chip which allows the use of your PC's microphone and speaker to talk simultaneously to reflectors and through the

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DV4mini to other digital radios in range. DMR and DStar are supported with the AMBE chip. Fusion will be added later through a software upgrade. The other modes are supported like in the regular DV4mini using a handheld.
<http://wirelesshold.com/dv4miniVoice.aspx>

For Sale or SWAP

For Sale:

Kenwood TS 480 HX Transceiver
200 watts with MC 50 Amplified
Microphone
Asking \$750
Contact Tom KA6QDE
713-582-8743

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.