

OMIK TECH-TALK

AUGUST 2015



<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

Amateur Radio News

FCC Universal Licensing System, Other Applications to be Down for Maintenance:

FCC Universal Licensing System, Other Applications to be Down for Maintenance
FCC website maintenance in early September will make the Universal Licensing System (ULS), the Electronic Comment Filing System (ECFS), the Electronic Document Management System (EDOCS) and other public applications unavailable for more than 5 days. The Commission said the outage will begin at 2200 UTC on Wednesday, September 2, and continue through the Labor Day weekend. The maintenance work should be completed by 1200 UTC on Tuesday, September 8. During the ULS outage, it will not be possible to file any Amateur Radio applications.

"Most Commission resources normally accessible through the Commission's website, including access to all electronic filing systems and electronic dockets, will be inaccessible for the same period, with the exception of the Network Outage Reporting System (NORS), the Consumer Help Center (CHC), and the Disaster Information Reporting System (DIRS), which will remain available," an FCC Public Notice said on August 20. "The Commission's website will remain available, but with reduced content and

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limited search capabilities." According to the Public Notice, the FCC will follow its normal schedule of operation during the maintenance period, but voicemail will be offline, and most Commission staffers will not have access to e-mail. Static content webpages on the fcc.gov domain, such as the FCC consumer guides, should remain available during the outage.

The FCC will extend filing deadlines for all regulatory and enforcement filings that fall during the maintenance period. Filings due on September 2, 3, 4, or 8 now will be due on Wednesday, September 9. "Except for the due dates specified herein, we are not automatically extending the deadlines for any other comment or filing periods that will be running during this time period, but requests for extension of time will be considered consistent with the Commission's normal practice," the FCC Public Notice said. "To the extent the due dates for filings to which reply or responsive pleadings are allowed are affected by this Public Notice, the due dates for reply or responsive pleadings shall be extended by the same number of days."

In a blog, "Modernizing the FCC's IT," FCC CIO David Bray said that with the world and the technology we use are changing rapidly, "the information technology used by the Federal Communications Commission must change as well." Bray said the FCC has "made significant progress to upgrade and modernize our infrastructure, and we continue to work on modernizing the FCC's legacy IT systems with the

resources we have available."

"We understand that this temporary downtime before and during the Labor Day Weekend may be inconvenient for some FCC stakeholders," Bray added.

ARRL Summer Section Manager Election Results Announced:

Election season is over in the various ARRL Sections, and the office-holders now have a few weeks to prepare for the start of their 2-year terms on Oct. 1. In the Sacramento Valley Section, a new manager takes office: Dr. Carol Milazzo, KP4MD, of Citrus Heights, California, who is presently Assistant Section Manager. She was the only nominee for the position.

In the Los Angeles Section, David Greenhut, N6HD, was re-elected 601 to 213, over challenger Philip A. Minch, K6MUG. Greenhut has been section manager since 2009.

Other incumbents, who ran unopposed will stay on as section managers: Mark Tharp, KB7HDX, in eastern Washington State; Monte Simpson, AF7PQ, in western Washington State; Bill Hillendahl, KH6GJV, in San Francisco; Jack Ciaccia, W-M-ZERO-G (WM0G) in Colorado; Gene Clark, W4AYK in Georgia, and Lee Cooper, W5LHC in South Texas.

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Rockwell Collins mechanical filters are about to become a thing of the past. In Mississippi, a hospital system decides ham radio can be the best medicine for getting emergency messages through. Summer school ends for public school teachers of radio science just in time for regular back-to-school business. And we revisit the Huntsville Hamfest one more time, celebrating the accomplishments of Anna Veal, W-ZERO-A-N-T (W0ANT), our first Bill Pasternak Young Ham of the Year. All this and more in Amateur Radio Newline report 1973 coming your way right now.

WASHINGTON, D.C. -- Rockwell Collins yesterday announced plans for ARINC UrgentLink, a nationwide high-frequency (HF) radio network that is designed to provide communications between public-safety and critical-infrastructure entities when local terrestrial networks have been destroyed by a man-made or natural disaster. UrgentLink utilizes spectrum allocated for maritime use, but it can be used on land during times of disaster, when normal communication infrastructure is inoperable, according to Dave Chapman, product manager for Rockwell Collins. “We believe it’s the first purpose-built network for disaster response with nationwide coverage,” Chapman said. “We’ve developed a system and a network that allows people to communicate using HF radios instead of traditional land mobile

radios in disasters like this -- and we made it easy.” Because of the propagation characteristics of the spectrum, HF radio has long been used as a method to communicate across vast distances, but it traditionally was the domain of amateur-radio operators licensed by the FCC. By using automatic link establishment (ALE) technology, the Rockwell Collins system lets HF radio can be used by anyone, Chapman said.

Clarity on Amateur Radio Parity” Statement Separates Fact from Fiction –

See more at:

<http://www.kingscountyradioclub.com/arrl-clarity-on-amateur-radio-parity-statement-separates-fact-from-fiction/#sthash.1olXFgec.dpuf>

The ARRL has taken steps to address objections and concerns recently raised by representatives of community associations about the **Amateur Radio Parity Act of 2015** — H.R. 1301 and S. 1685. A statement released today, “**Clarity on Amateur Radio Parity**,” makes it clear that the bill would *not* create new federal policy with respect to outdoor amateur antennas. As it points out, the FCC already recognizes a strong federal interest in effective Amateur Radio communication from residences and has adopted a limited preemption of state and local regulation of Amateur Radio antennas. The Amateur

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Radio Parity Act of 2015 would extend the limited preemption to private land-use restrictions.

“Congress and the FCC already have acted to prohibit restrictions that prevent the installation of direct-to-home satellite dishes, TV antennas, and customer-end wireless broadband antennas,” the statement said.

The legislation also does *not* prohibit community associations from reviewing proposed ham radio antenna installations or from having final approval; it limits restrictions to those necessary to accomplish an association’s legitimate purposes — such as safety and aesthetics. The bill does *not* mandate that a particular size of antenna be permitted, as long as size and placement restrictions do not prohibit, but reasonably accommodate, Amateur Radio communication.

“Claims that the bill will do any of these things are simply wrong, and are either misunderstandings of the plain language of the bill or deliberate misrepresentations,” the ARRL statement asserted.

As introduced in both the House and Senate, the bill recognizes that the federal interest in effective Amateur Radio communication remains the same, whether a residence is subject to state and local regulations, to private land use restrictions, or both.



Classes & VEC Testing

None scheduled

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

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

*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://aa9pw.com>

<http://www.qrz.com/exams>

<http://hamexam.org>

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

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Safety Tip

Have you been considering placing a tower on your property for your antenna(s)?

First ensure that your local town authorities allow ham radio towers where you live! If the answer is yes, you are a lucky ham radio operator!

Armed with a copy of the local bylaws and ordinances, you will then be able to proceed to the next step. The selection.

Here are the first *essential limitations* to consider.

Your tower **must not** be installed where it could fall on power lines.

You **must** take steps to prevent children from climbing the tower (i.e. a locked fence around the base).

You *should not* install a tower where it could fall on the neighbor's property.

Take into consideration local climate (max winds, freezing rain in particular).

Antenna wind load (present and future). The tower should be sturdy enough to withstand the *wind load* that the size and weight of the antenna(s) will impose on the tower.

If this is *your first tower*, you should ask for the opinion of other hams in your neighborhood and local club.

Before buying a used ham radio tower, inspect it for rust (or paint covered rust!) and wind damage (warped).

This is when you *most definitely should* have a few experienced hams to help you with the selection and installation.

Digital Radio

D-STAR in Amateur Radio Emergency Communications

The use of D-STAR technology for Amateur Radio emergency communications provides a number of benefits augmenting traditional analog FM operations. Clear, crisp, noise-free communication is one of the most significant benefits of D-STAR. The ability to transmit simultaneous text along with voice increases the utility of Amateur Radio in emergency scenarios.

Add the ability to link to remote stations via the internet and the capability to transmit high speed multi-media (HSMM) at 128 kbps and the true benefit of D-STAR can be seen. The narrow-band aspect of D-STAR (6.25 KHz) also conserves precious frequency spectrum.

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How is D-STAR applicable to emergency communication?

Information source:

<http://delcoares.org/d-star.htm>

An important aspect of D-STAR technology is its ability to send large quantities of data to emergency responders in the event of a disaster. Served agencies can instantly send e-mail or Microsoft Word files to someone. The quantity of data sent can be extremely high-volume compared to traditional amateur modes. Voice and even CW are capable of getting a message through, albeit slowly, but D-STAR can place documents, images, and spreadsheets into the hands of those who need them most.

D-RATS is an emerging D-STAR communications tool that supports text chat, TCP/IP forwarding, file transfers, and can act as an e-mail gateway. There is also the ability to map user's positions using the DPRS function of D-STAR.

During the Great Coastal Gale of 2007 the Washington County ARES group was able to put D-STAR to the test. The event was made up of several strong Pacific storms that interrupted conventional communication systems. Emergency traffic for the American Red Cross and the Vernonia, Oregon Fire Department was handled by the group using FM voice

because the group had no D-Star repeater equipment available. The D*Chat communication tool was also used to send small text transmissions via simplex during this event at distances of up to seventeen miles.

An ability for amateurs to send files during this weather event would have greatly increased the capacity for ARES to help during the emergency. Although D*Chat was a useful means of communication D-RATS was developed to help fill the gaps that may have been lacking. Another improvement over D*Chat that D-RATS provides is form support. Users can set up frequently used forms well before they're necessary and when the need comes all that's required is to fill in the fields. In this way, for example, emergency forms from the Red Cross, National Traffic System, or the Incident Command System, such as the FEMA standard ICS-213, can be generated and quickly sent.

Ham Radio D-STAR satellite launch

The D-STAR satellite **Tablet-Aurora** is expected to launch with 11 other satellites carrying amateur radio payloads from Dombarovsky near Yasny on Thursday, June 19, 2014 at 19:11:11 UTC.

It carries a D-STAR Parrot (Store and Forward) Repeater running 0.8 watts of GMSK on 437.050 MHz (+/- 10 kHz) to a whip antenna. It can store up to 8 seconds of voice message.

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There are two other transceivers on the satellite that operate on 435.550 MHz and 436.100 MHz. Their power can be varied by command from the ground station between 0.8 and 2.0 watts. It is understood they will be used for command and control and transmit GMSK telemetry data. There is also a downlink on 8192 MHz.



It is not yet known how long it will be after launch before the D-STAR repeater becomes operational. It is understood that when the D-STAR repeater is active the telemetry transmitters will be inactive.

The OMIK Amateur Radio Club has XRF185 reflector up and running. If you are a D-Star user and would like to use it, feel free. Contact Frank at k6fed@yahoo.com he will provide you with the information. The information Dashboard is located <http://xrf185.dyndns.org>.

Owners of FLEX-6000™ Signature Series transceivers may add AMBE encoding/decoding to their radios by inserting the ThumbDV™ into one of the

available USB ports.

The NW Digital Radio ThumbDV™ digital voice dongle will be available directly from FlexRadio Systems®, as well as from NW Digital Radio.

D-Star on a USB Stick – N W Digital Radio & DUTCH*Star Sof.
DVSI AMBE-3000F Vocoder Chip (AMBE = **A**dvanced **M**ulti-**B**and **E**xcitation) it contains, to implement D-Star; DMR/Mototrbo capability and other digital standards!



The Raspberry Pi

In recent years the Raspberry Pi Foundation released a small inexpensive computer called the Raspberry Pi. The Raspberry Pi is about the size of a credit

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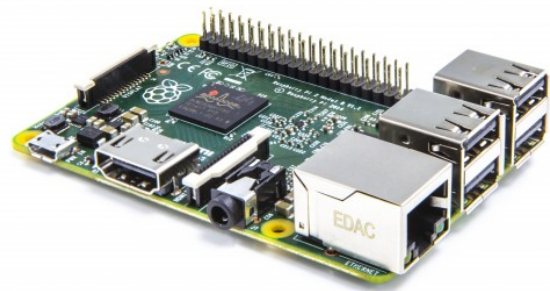
card, but yet is a fully functional computer. It has a HDMI monitor output, 4 USB ports, a network interface (optional), SD card slot, audio output jack (no input, but does work with external usb audio interfaces for input). The Pi also has a GPIO interface (General Purpose Input Output), which should be of great interest to hams, because it can be used to interface to external hardware such as relays. All this for a whopping \$35 dollars with the network interface (Model Pi 2). The Pi uses a 900 MHz ARM processor, 1 gig ram with a Videocore 4 graphics processor capable of Blu-ray playback. The system runs of 5 volts using a USB power supply that connects via a Micro USB jack.

The Raspberry Pi primarily uses [Linux kernel](#)-based [operating systems](#). The [ARM11](#) chip at the heart of the Pi is based on version 6 of the [ARM](#). The current releases of several popular versions of Linux, including [Ubuntu](#),¹⁶⁰¹ will not run on the ARM11. It is possible to run Windows on the Raspberry Pi 2 only.

The Pi at this point is a highly experimental device and is not comparable to your quad core desktop PC. So, why should hams be excited about the Pi? Due to it's small size and low power it makes an ideal embed-

able computer to be used as a controller. The GPIO makes it ideal for interfacing to hardware like relays or knobs. Maybe interesting for Antenna controllers, repeater controllers, APRS repeaters, D-star hotspot controllers, etc.

The implications for SDR use are also interesting. You could potentially couple a Softrock RXTX, Pi, 12v / 5V power supply, usb wifi dongle, and a usb audio dongle in a small case. You could then stick a cheap used Android phone on the front as a color display. The phone could get video via WiFi using VNC and audio out using Skype. So. for less than \$200, you could have a self contained SDR radio in a small case with a touchscreen. Stick a PSK31 program on the Pi and then us would have a small portable QRP rig for digital.



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Xreflector News

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For Sale or SWAP

For Sale:

ALS 600 AMP Solid State W/Pwr
Sup...\$950.00
Kenwood TS 450 SAT...Excellant cond.
495.00
Kenwood SpeakersSP 31.....
ALS 500 Mobile Amp..... 495.00
Kenwood 870 Transceiver..Excel
cond.1200.00
Icom 706 M2G HF, VHF,
UHF.....\$600.00
MFJ 962C Verse Tuner III 175.00
GAP Challenger Vert.
Antenna.....200.00
More items available, Pwr Supplies &
Meters. Better Price if Picked-up....

Hugh White,
n4gbi@att.net

DV Mega D-star WIFI Hotspot

This hotspot consist of the following:
Raspberry PI 2 with Case, Single
Band DVmega (UHF), AC power
supply. 14000 Mha battery, Wifi Card
and 10 ft Ethernet cable. \$320.00

Frank K6fed
K6FED@yahoo.com

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.