

OMIK TECH-TALK

JULY 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 64th Anniversary Convention

Houston, Texas

July 14 - 16, 2016

Holiday Inn

15222 John F. Kennedy Blvd

Houston, TX 77032

Phone (281) 449-2311

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.

FCC Says 'No' To Lifetime Amateur Radio Licenses:

Source: ARRL News Letter

The FCC has denied the petition of an Arizona radio amateur, who had petitioned for lifetime Amateur Radio licenses. Mark F. Krotz, N7MK, of Mesa, had filed his Petition for Rule Making (RM

OMIK TECH-TALK

JULY 2016

11760 <https://ecfsapi.fcc.gov/file/60001333714.pdf>) with the FCC last November, and the FCC invited public comments in February. Krotz wanted the FCC to revise 97.25 of its rules to indicate that Amateur Radio licenses are granted for the holder's lifetime, instead of for the current 10-year term.

Hundreds of radio amateurs commented on the petition, but the FCC was not swayed by those favoring the idea.

"Based on our review of the record, we are not persuaded that the petition discloses sufficient grounds for the requested rule change," the FCC said in a June 21 Order https://apps.fcc.gov/edocs_public/attachmatch/DA-16-707A1.pdf. "Krotz's primary argument is that extending the term of amateur licenses to the lifetime of the holder would reduce the Commission's administrative and personnel costs, but it is not clear to us that the proposal actually would enhance administrative efficiency." That's because the vast majority of license renewals are submitted online and processed automatically by the Universal Licensing System (ULS), "with minimal staff involvement," the Order said.

The FCC said it had further reduced its overhead by no longer routinely mailing paper licenses.

"[I]f license terms were extended to the holder's lifetime, we likely would receive more cancellations on account of the licensee's death, which are labor-intensive, because staff must carefully verify the deceased's identity and licenses in order to guard against erroneous cancellations," the FCC said in its Order, signed by Wireless Telecommunications Bureau Deputy Mobility Division Chief Scot Stone.

Krotz argued that the General Radiotelephone Operator License (GROL) already is issued on a lifetime basis, but the FCC said that's not a comparable situation, because an Amateur Radio license is both an operator's license and a station license, "and there is no Commission precedent for issuing a lifetime station license." Read more <http://www.arrl.org/news/fcc-says-no-to-lifetime-amateur-radio-licenses>.

Source:

The ARRL Letter

FCC wants your help understanding radio noise

Source: FCC

You could help solve problems with wireless interference. Interference from radio noise remains a big problem... and it's tricky enough that the FCC wants your help understanding the issue in the first

OMIK TECH-TALK

JULY 2016

place. The agency has [put out a call](#) for public input that should not only determine the scale of radio noise problems, but design the studies needed to measure them. It wants to identify the main sources of this noise, where it's most likely to happen and whether it varies based on time. It's particularly concerned about "incidental" noise from devices that aren't meant to emit radio frequencies, like motors or power lines.

Any results from the consultation and the resulting studies are bound to take a while, let alone any solutions that come from them. There's definitely pressure to hurry things up, however. On top of longstanding concerns for ham radio, the US is entering an era where [multi-gigabit 5G](#) and [WiFi](#) networks may be crucial to getting people online. The last thing the country needs is a rising volume of radio noise bogs those connections down.

FCC Turns Away Petition to Permit Experimental Operation on Amateur Bands:

Source: ARRL Newsletter

The FCC has denied https://apps.fcc.gov/edocs_public/attachmatch/DA-16-645A1.pdf the 2015 petition of a Missouri radio amateur seeking to have the Commission authorize low-

power experimental activity on Amateur Radio frequencies. James Edwin Whedbee, N0ECN, of Gladstone, sought to amend FCC Part 97 Amateur Service rules to let radio amateurs conduct experiments on all Amateur Radio bands, subject to certain limits on duration, power, and bandwidth.

The FCC declined to put his petition on public notice and invite comments.

The Commission's rules contain numerous provisions for experimentation and development of new radio equipment and techniques," the FCC said in a June 9 letter to Whedbee. "The Experimental Radio Service (ERS) rules contained in Part 5 permit a broad range of experiments, including in the Amateur Service, and prescribe the manner in which the radio spectrum may be made available to experiment with new radio technologies, equipment designs, characteristics of radio wave propagation, or service concepts related to the use of the radio spectrum."

The letter pointed out that the FCC "recently revised and streamlined" its Part 5 rules "to provide additional flexibility to innovators" and noted that Whedbee did not discuss in his petition whether those rule changes might address his concerns.

OMIK TECH-TALK

JULY 2016

In the same stroke of the pen, the FCC denied a 2016 petition from Whedbee seeking to delegate to the chiefs of the Wireless Telecommunications Bureau (WTB) and the Office of Engineering and Technology (OET) the authority to dispose of certain requests for exemptions, waivers, and rulemaking regarding new technologies or new application of existing technologies.

"The Commission has already delegated to WTB and OET authority to act on applications, waiver requests, petitions, and even some rulemaking matters, so long as they do not raise novel questions of law or policy which cannot be resolved under outstanding Commission precedents and guidelines," the FCC told Whedbee.

We conclude that [both] petitions present no evidence of an existing problem or other evidence meriting a rule change, and we dismiss the petitions," the FCC concluded.

Whedbee is no stranger to the FCC petition process. Earlier this year he petitioned <http://www.arrl.org/news/missouri-radio-amateur-petitions-fcc-to-designate-symbol-communication-subband> the FCC to designate Morse (radiotelegraphy) Amateur Radio band segments as "symbol communication" subbands, and the FCC invited public comment on that request

(RM-11769

<http://apps.fcc.gov/ecfs/comment/view?id=6001692464>). In 2012, the FCC turned down Whedbee's request that the FCC declare homeowners associations' covenants, conditions, and restrictions (CC&Rs) unenforceable.



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>

OMIK TECH-TALK

JULY 2016

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

Source:

https://en.wikipedia.org/wiki/Direct_current#cite_note-1

Direct current (DC) is the unidirectional flow of [electric charge](#). Direct current is produced by sources such as batteries power supplies, [thermocouples](#), [solar cells](#), or [dynamos](#). Direct current may flow in a [conductor](#) such as a wire, but can also flow through [semiconductors](#), [insulators](#), or even through a [vacuum](#) as in [electron or ion beams](#). The electric current flows in a constant direction, distinguishing it from [alternating current](#) (AC). A [term formerly used](#) for this type of current was **galvanic current**.

The abbreviations *AC* and *DC* are often used to mean simply *alternating* and *direct*, as when they modify [current](#) or [voltage](#).

Direct current may be obtained from an alternating current supply by use of a [rectifier](#), which contains electronic elements (usually) or electromechanical elements (historically) that allow current to flow only in one direction. Direct current may be converted into alternating current with an [inverter](#) or a motor-generator set.

OMIK TECH-TALK

JULY 2016

Direct current is used to charge batteries and as power supply for electronic systems. Very large quantities of direct-current power are used in production of [aluminum](#) and other [electro chemical](#) processes. It is also used for some [railways](#), especially in urban areas. [High-voltage direct current](#) is used to transmit large amounts of power from remote generation sites or to interconnect alternating current power grids.

Safety

Ultimate Headphone Guide Articles:
Headphones and Hearing Safety

By [John Grandberg](#)

Source: <http://www.innerfidelity.com/content/ultimate-headphone-guide-articles-headphones-and-hearing-safety#gLjEYRyoIXPwtmL5.99>

Headphones and Hearing Safety

Safety is very important for any hobby involving loud noises. Education, along with some common sense, is essential.

Overexposure to loud volumes has a cumulative effect that damages the ears on a physical level. Hearing a temporary ringing sound after attending a loud concert is a just small glimpse of what could eventually become a permanent condition called "tinnitus".

Setting the Volume

The simplest way to set the volume on headphones at a safe level is to slowly turn them down until it's obviously too quiet, then turn it back up a notch or two. Try to resist slowly creeping up the volume over time. Your audio will actually have better sound quality if the volume remains at a moderate level.

Signal to Noise

Open headphones don't offer any isolation. So people tend to listen at louder levels to overcome interference from background noise. Sealed headphones, and particularly noise-cancelling models, should require lower levels to get the same audio signal to environmental noise ratio.

A good practice is to completely lower volume on the playback device before inserting the monitors, then slowly raise the volume to comfortable levels.

Hearing Tests

Part of being a responsible listener is getting periodic hearing checkups. Routine testing makes it easier to spot early signs of hearing loss and make the necessary adjustments to help combat further damage.

OMIK TECH-TALK

JULY 2016

Recommended Noise Exposure Limits

LEVEL	NIOSH MAX TIME
> 115 dB SPL	NONE
115 dB SPL	28 seconds
112 dB SPL	56 seconds
109 dB SPL	1 minute 52 seconds
106 dB SPL	3 minutes 45 seconds
103 dB SPL	7 minutes 30 seconds
100 dB SPL	15 minutes
97 dB SPL	30 minutes
94 dB SPL	1 hour
91 dB SPL	2 hours
88 dB SPL	4 hours
85 dB SPL	8 hours
82 dB SPL	16 hours
80 dB SPL	24 hours (continuous)

Radio and Software Tech Talk

MB-1 SDR Transceiver for shortwave and VHF/2m with built-in computer



With the MB-1 by Expert Electronics a very remarkable SDR transceiver enters the market. The MB-1 offers transmit and receive capabilities of the usual HF bands,

plus 6m, plus 2m VHF. The outstanding feature is a built-in computer with 7" screen and a user interface like it is known from more traditional radios. The MB-1 combines excellent state-of-the-art technology with established design and usability principles.

• **MB-1 Functions and Features**

- **Receive frequency range: 9 kHz – 65 MHz & 95 – 148 MHz**
- **Direct HF sampling receiver (DDC, Direct Down Conversion)**
- **Transmit frequency range: all ham radio bands from 160m to 10m, plus 6m, plus 2m VHF (configurable)**
- **Direct synthesising of the transmit signal (DUC, Direct Up Conversion)**
- **100W transmit power on HF, 50W on VHF**
- **Receiver with 16Bit ADC @160MS/s**
- **Two independent receivers with up to 312kHz waterfall and spectrum width each**
- **Up to 80 MHz wide panorama spectrum width**
- **Extremely short latencies, ideal for CW, direct audio output on the transceiver with 24 Bit DAC**
- **Input for external 10 MHz hi-precision clock**
- **Optional built-in antenna tuner (HF)**
- **Connections for transverter and external filters**
- **7 programmable control and sequencer outputs (open collector)**
- **ALC input for automated adjustment of transmit power when using an amplifier**
- **Full and half duplex operation [1]**
- **Power supply, 100-240V AC input, 50/60Hz**
- **Built in computer with Mini-ITX Board (Intel Core i5 @3GHz, 8MB RAM, 128GB SSD, HDMI/DP, 4x USB3, 2x USB2, 1x GBit-LAN)**
- **7" screen (1280 x 800 px resolution)**
- **Windows 10 installed ready to use**
- **ExpertSDR2 Software included in shipment, installed ready to use**
- **Extensible functions by any PC software (Decoder, Logger, Skimmer etc.)**

OMIK TECH-TALK

JULY 2016

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.