

OMIK TECH-TALK

SEPTEMBER 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

Phishing Scheme Targeting ARRL E-Mail Forwarding Service Participants

A phishing scheme currently afoot has been targeting ARRL members who have signed up for the ARRL E-Mail Forwarding Service and have an @arrl.net e-mail alias. An e-mail from “Arrl Webmail Admin” with the subject line “ACCOUNT UPGRADE” was received September 25 by an unknown number of members who use @arrl.net e-mail aliases. The e-mail, which requests that recipients reply by providing their usernames and passwords, did *not* come from the ARRL, and anyone receiving this sort of message should delete it and not reply. The ARRL would never distribute an e-mail requesting personal information.

“ARRL is aware of this phishing scheme and is working to block the sender’s e-mail address at our upstream provider,” said Andy Shefrin, KB1YHB, ARRL’s IT Infrastructure & Operations Manager. “As with any e-mails of unknown origin, do not open or reply.” Simply replying to this e-mail alerts the sender that your e-mail address is valid.

The bogus message indicates that access to @arrl.net account holders is being “removed” and accounts “upgraded to a new enhanced web mail user interface provided by arrl.net.” Recipients are being asked to provide usernames and passwords “to ensure your e-mail address book is saved in our database.”

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This is clearly an effort to harvest @arrl.net subscriber information and valid e-mail addresses. Ignore any message of this sort that seeks to have recipients provide any sensitive information, such as usernames, account numbers, and passwords. If you experience any problem with e-mail forwarding, [send](#) details to the ARRL IT Department.

China Successfully Launches Nine Amateur Radio Satellites:

After a few postponements, nine Chinese satellites carrying Amateur Radio payloads were launched on September 19 at 2300 UTC, separating from the Long March (Chang Zheng 6) launch vehicle about 15 minutes later. Four of the microsats and two of the CubeSats included in the launch have been designated as XW-2A through XW-2F. The other three satellites -- a CubeSat, a nanosatellite, and a picosatellite -- carry the designations CAS-3G, CAS-3H (LilacSat-2 <http://lilacsat.hit.edu.cn/>), and CAS-3I (NUDT-Phone-Sat), respectively. All of the new satellites have 2 meter downlinks and 70 centimeter uplinks. Satellite enthusiasts have been enjoying the sudden surfeit of spacecraft to work.

"So many signals, so little time," observed Tennessee resident Alan Biddle, WA4SCA, on the AMSAT-BB. China Amateur Satellite Group CAMSAT CEO Alan Kung, BA1DU, told ARRL that the anticipated life of the satellite cluster is 3 years.

"Very good copy on CW beacons on [XW-2] A, B,

C, D, E, F. Strong!" Clayton Coleman, W5PFG, reported from Texas. The nine satellites are in fairly close proximity in orbits about 310 miles up, and

the AMSAT Online Satellite Pass Predictions <http://www.amsat.org/amsat-new/tools/predict/index.php> page lists all under "XW-2."

Shortly after the launch, W5PFG and fellow Texan Glenn Miller, AA5PK, worked each other via CAS-3F. He reported the CW beacons were strong on all of the CAMSAT satellites. Special event stations commemorating the US visit of Pope Francis announced plans to be active on some XW-2 passes.

The CW beacons carry individual call signs for the satellites as well as telemetry in the form of three-character text groups and the word "CAMSAT." Text copied from XW-2A through XW-2F indicated call signs BJ1SB through BJ1SG, respectively.

The satellites have been heard around the world. "Good signals from CAS-3F at 0700 UTC," reported David Bowman, G0MRF, who was at the Rugby World Cup special event station GB0RWC.

He reported contacts with SP5ULN and F1AFZ. "The polarity shifts were challenging to keep up with, but other than that, signals were strong," reported Mark Hammond, N8MH, in North Carolina, after using the XW-2E transponder on a September 20 pass. "Congratulations to CAMSAT and everyone involved in these projects." The 200 mW FM transponder on LilacSat-2 (CAS-3H; call sign BJ1SI) was activated on the evening of September 22, and users took advantage. The transponder test was expected to last less than 24 hours. Dave Swanson, KG5CCI, in Arkansas said in an AMSAT-BB post that he checked out LilacSat-2

"on a whim" about 10 minutes after the transponder was turned on, and found the downlink "very strong."

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An updated frequency table and more information http://lilacsat.hit.edu.cn/?page_id=257 are on the LilacSat website.

The IARU was only able to coordinate operating frequencies for XW-2D and XW-2E, and the other seven satellites in the recent launch apparently will not be eligible for traditional OSCAR numbers. Information

<http://www.arrl.org/files/media/News/XW-2CAS-3%20Sats.pdf> on the just-launched CAMSAT satellites is available on the ARRL website. XW2 predictions <http://www.amsat.org/amsat-new/tools/predict/index.php> are available on the AMSAT website. In addition to the Chinese satellites, the Brazilian Serpens http://www.aerospace.unb.br/serpens_radioamateurs satellite, launched on September 17 from the ISS, has been heard.

The FCC Is Now Paperless!

The ARRL VEC is reminding Amateur Radio license applicants that the FCC no longer routinely prints or mails license documents. In an effort to streamline its procedures and save money, the FCC went "paperless" in February 2015.

"Customer contact with the VEC has tripled since this change, as many amateurs have not heard of the change or do not understand the FCC procedures for obtaining a license copy," said ARRL VEC Manager Maria Somma, AB1FM. She said the most frequently asked question comes from Universal Licensing System users who have applied for renewal or modification, but then think the transaction was not completed because they did not get a new copy of their license in the mail.

"Once we look up the info, our answer is nearly always that the requested transaction actually was completed and appears in the FCC database, but

they won't be getting a copy of the updated license in the mail," Somma said. Less frequently, her department hears from exam applicants who ask why they did not receive a copy of their license after they passed the test.

To help clarify things, Somma has created a web page, How to Obtain an Official FCC License Copy <http://www.arrl.org/obtain-license-copy>, devoted to explaining the various ways a licensee can get an official license document from the FCC. An official license displays the FCC logo and the "Official Copy" watermark across each page. A printer-friendly version <http://www.arrl.org/files/file/VEs/Obtain%20License%20Copy%202015.pdf> of the instructions is

available on the ARRL website.

Somma said the easiest way for a license holder to obtain a license copy is to call the FCC at (877) 480-3201.

Licensees can also download and print their own official license copy by logging into the Universal Licensing System (ULS) <http://wireless.fcc.gov/uls/> using their FCC Registration Number (FRN) and password, then clicking on "Download Electronic Authorizations" in the menu on the left. The ULS has also added a green informational banner that says, "Change your paper authorization preferences here, or download your official electronic authorizations now."

Somma points out that the green banner is only temporary, and it eventually will go away. At least for now, though, clicking the "here" hyperlink will take you to the Paper Authorization Preferences" page. To continue receiving paper license documents, click "Yes." Clicking the "now" hyperlink will take you to the "Download Authorizations" page.

On the "Download Authorizations" page, scroll

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down to the "Filter by Radio Service" box (remember, the ULS is not just for the Amateur Service). First, highlight your call sign and then click "ADD>" to put your call sign into the "Authorizations to Download" column. Scroll down a little further and click "DOWNLOAD>" to create an official FCC license PDF document that can be saved or printed.

When modifying, renewing, or requesting a duplicate license copy, a licensee who already has an FCC Registration Number (FRN) and provides a valid e-mail address under "Applicant Information" while logged into the ULS system will receive an official ULS-generated electronic authorization via e-mail.

All Amateur Radio exam applicants should include a valid e-mail address on their NCVFC 605 form, in order to receive a copy of their license electronically.

Future Events

Amateur Radio Roundtable

Barry Fitchew N6VOH

Amateur Radio Roundtable is a live weekly amateur radio webcast, held every Tuesday night at 8 PM CDT (0100 UTC Wednesday) at W5KUB.com

Pacificon 2015

October 16-18, 2015 at the San Ramon Marriott in San Ramon, CA. **Pacificon** gives you three great days of activities for one low cost: A full slate of outstanding Forum presentations about a wide range of amateur radio topics, a large Vendor Expo filled with exciting products and exhibits, an outdoor Swap Meet, great QRP activities, a Youth

Forum and great Youth Activities including

electronics kit building and soldering classes, a One Day License Prep Class to prepare you to pass the amateur radio Technician license examination and get your first amateur radio license, a chance to hear about and discuss important national amateur radio issues with top ARRL leaders, a chance to win radios and other great prizes throughout the convention, and perhaps the best part - *a chance to interact and share information with lots of other amateur radio enthusiasts to further (or begin) your own knowledge and to advance the hobby.*

About School Club Roundup

Fall Term: October 19-23, 2015

Winter/Spring Term: February 8-12, 2016

Objective: To exchange QSO information with club stations that are part of an elementary, middle, high school or college. Non-school clubs and individuals are encouraged to participate. Sponsored by the ARRL, its Hudson Division Education Task Force and the Long Island Mobile Amateur Radio Club (LIMARC) to foster contacts with and among school radio clubs. Award certificates will be issued for the following US and DX categories:

Schools: Elementary, Middle/Intermediate/Junior High School, High School and College/University
Non-school Clubs/Individuals

Electronics Refresher

Understanding Volts and Amps

Electronic circuits work with two units called volts and amps. Volts (V) measure how much of a kick the electricity has. For example a small batteries produce a few volts. Amps (A) measure the volume, or flow, of electricity. A car battery produces ten of amps. A small battery depending

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upon the size can produce less than one amp. When you connect two circuits or components, one circuit must be able to produce the correct volts and amps to drive the other. If it does not, your design will not work. Volts are measured across a component. Amps are measured through it.



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/>

Safety Tip

Amateur Radio Station Grounding and Lightning Protection

Even though each amateur radio station installation is unique with its' own physical and electrical peculiarities, common protection and grounding guidelines can be used to meet individual requirements. Whatever a specific situation requires, to be protected properly it needs;

- (1) a single point ground,
- (2) all site grounds bonded together,
- (3) all radio station conductors surge protected,
- (4) all incidental conductors entering the station grounded to single point ground.

- (5) surge protected AC line,
- (6) properly grounded tower or antenna support,
- (7) a good ground system-not just a single ground rod,
- (8) and if all possible-a dwelling perimeter ground ring.

Lightning protection is necessary even though some unprotected Amateur Radio stations have never had damage. Depending upon the local level of (thunderstorm days) it is simply a matter of time before an unprotected station is damaged. So ignoring lightning protection is playing Russian roulette.

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However, proper grounding is important for AC line fault protection even if there is no thunderstorm activity in one's geographical location.

Good grounding and lightning protection can be installed without the exuberant cost associated with commercial grounding systems. However, it requires purposeful design and exacting installation of the basic concepts. The requirements of the NEC are the bare minimum and generally not considered adequate for radio station protection, whereas adequate protection meets and exceeds the NEC requirements.

Digital Radio Info

The OMIK Amateur Radio Association 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 Dashboard is located <https://xrf185.dyndns.org> There is also a lot of activity of the following Dstar Reflectors:

General Rag chew

<http://ref004.dstargateway.org/>

Local and DX

<http://ref001.dstargateway.org/>

Late Night Rag chew

<http://ref030.dstargateway.org/>

New Technologies



The HRI-200 Internet Linking Kit that provides easy access to WIRES-X (Wide-Coverage Internet Repeater Enhancement System) taking another leap forward as the Leader in Amateur Radio VoIP Communications – this is the multi-mode network linking system Amateur Radio has been asking for!

WIRES-X supports both Analog and the new C4FM Digital radio communications mode. Yaesu's System Fusion, already the fastest growing Amateur Radio Digital System, is certain to see yet another pique in interest thanks to WIRES-X!

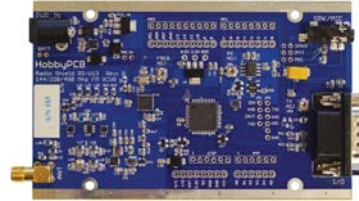
Note: I use the wWires-X in tehfollowing configuration:

Windows PC, FT-8800 and any analog handy talkie on a simplex frequency. Look at the image below.

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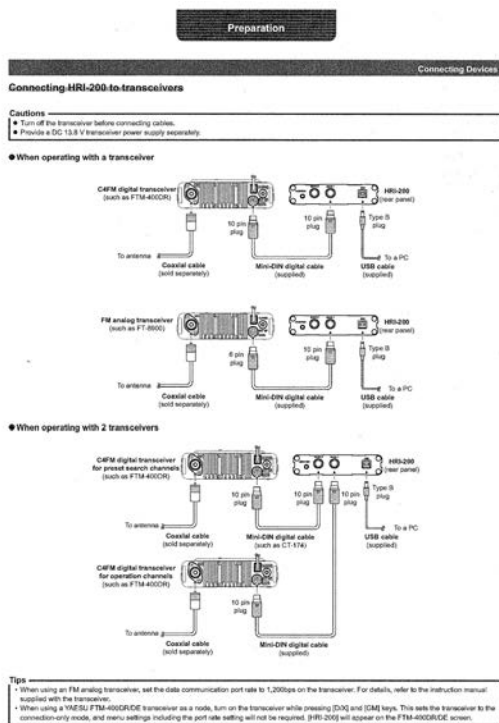
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RS-UV3 Radio Module



The HobbyPCB RS-UV3 radio module is a 144/220/450 MHz FM transceiver board. The RS-UV3 is a low cost transceiver solution for Packet Radio, repeaters, Echolink stations, base station and mobile applications. The RS-UV3 supports multiple interfaces including microphone/speaker, line level audio (soundcard), TTL serial control and Arduino Shield connections. The RS-UV3 has an built-in battery charger and provides conditioned power for the Arduino controller.

http://www.hobbypcb.com/index.php?option=com_virtuemart&view=productdetails&virtuemart_product_id=101&Itemid=425



SDRplay RSP



The **SDRplay RSP** is a powerful wideband full-featured **Software Defined Receiver** which covers all frequencies from 100kHz up to 2 GHz.

All it needs is a PC (Supported Platforms: Windows, Linux, Mac, Raspberry Pi 2 & Android) along with an appropriate antenna to provide excellent communications receiver functionality. Combined that with the power of readily available SDR receiver software and you are on your way to enjoy all modes of operation while monitoring up

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to 8MHz of spectrum at a time.

What's really exciting is that SDRplay offers an open API, allowing developers to create new demodulators or applications around the platform. Amateur Radio Operators will enjoy all modes of operation for the Ham Bands ranging from experimental LF, through all the HF bands, VHF, UHF and up to the 23cm band.

With the **SRDplay RSP** general coverage receiver, you can enjoy exploring the rest of the RF spectrum as well!

DV4MINI HOTSPOT



DV4mini Hotspot for the 70 cm band and can use it with a D-STAR or DMR or C4FM * transceivers – The DV4mini is a very small but also very capable USB Stick that can expand any PC into a Hotspot

for the D-STAR and DMR modes (C4FM * Fusion is in development) – (trial beta ver. 18.8 or later uncheck “C4FM Gateway” only DN & VW mode) – Please read official data and the User manual!

DV4mini allows linking with DCS, XRF and REF reflectors for D-STAR as well s DMR reflectors (trial beta ver. 18.8 or later uncheck C4FM Gateway!). With the DV4mini it has become possible to create a hotspot with minimal resources and thus get access to the (Digital Voice) DV network. Reflector is a server connected to the

Internet or Ham Net and is linked to a number of digital Ham Radio repeaters. If one of these repeaters is active it will send the voice data stream to the reflector- (Xreflectors are the second generation of D-STAR reflectors... etc) – (DCS (Digital Call Server) is the most modern D-STAR reflector system and in worldwide use, each as 26 rooms) – (DMR reflectors consist of several regional servers, ach other via a superordinate network one Hytera & one Motorola) (System Fusion supports WIRES-X internet linking – .. node station requires external optional HRI-200 !)

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

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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

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.