

RCA AMATEUR RADIO CLUB

APRIL, 2014

MONTHLY NEWSLETTER

INDIANAPOLIS, IN

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE
TUESDAY, APRIL 8th, 6:30 PM AT [G.T. SOUTH'S](#),
5711 E. 71st STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE MARCH MEETING – Thanks to all who attended the 11-March meeting. Jim AF9A, gave a report on the '88 repeater. Operating normally. A few things need to be addressed... The 440 MHz link antenna at the Ivy Tech receive site as been turned around in the wind and needs to be re-aimed. The “permanent” computer for Echolink is ready to be installed at the repeater site. “Kate” the voice for this computer has been found! Since we lost our north side receiver site, we're “in the market” for a new site. The tables to be purchased for the Indy Hamfest were discussed. K9RU has acquired a number of things for the Club to sell. The possibility of installing a club station at Leroy, WA4OTD's, church is on hold. Leroy was not present. K9RU detailed the advantages of riding the Indy Radio Club's charter bus to Dayton. Phil, WB9RXL, will be rejoining our VE test team. The subject of remote station operation over the Internet and some of the recent advancements was discussed.

INDIANA QSO PARTY MAY 3rd – The Indiana QSO Party (INQP) is an operating event for hams in Indiana to work other Indiana hams and hams worldwide. The event this year is May 3rd, noon to midnight EDT (1600 – 0400 UTC). The INQP is sponsored by the Hoosier DX and Contest Club. Please see the INQP web site for more information. www.hdxcc.org/inqp

80, 40 and 20 meters are the most common bands used during the INQP, with 40 meters being the best band for QSO's to work other Indiana stations in daytime, and 80/75 after dark. If the current 10 meter band conditions continue this could make the 2014 INQP very interesting.

There are a number of operating classes, from QRP single operator to all-out club efforts to multi-operator high power. In between are mobiles, portables (like Field Day operations), and rovers (mobiles using real dipoles and beams, moving from county to county).

This year the Indianapolis Radio Club will be on as W9JP/100 to celebrate their 100th anniversary. If you log them during INQP you'll get a 50-point bonus.

There are plaques for best Indiana and out of state efforts as well as certificates for best individual county efforts! – Jim, K9RU

INDIANAPOLIS RADIO CLUB DAYTON HAMVENTION BUS SATURDAY, MAY 17 – If you want to go to the Dayton Hamvention, but don't want to drive or worry about parking this may be the ticket for you. The Indianapolis Radio Club has chartered bus to the Dayton Hamvention on Saturday, May 17.

The bus will have two pick up points: (1) 6:30 AM at Southern Plaza, and (2) about 7:00 AM at Peddler's Mall (behind Blue Berry Hill Pancake House) on the east side of Indy. As in the past, there will be a short stop at McDonald's in Richmond for breakfast. The bus will drop off at the front door of Hara Arena, and be parked in close proximity to the facility so items can be stored on the bus for your convenience. On the return trip, it will leave from Dayton around 4:00 PM with a dinner stop at MCL in Richmond.

The cost for the round trip is \$30 per person, and does not include admission to the Hamvention. You don't need to be an IRC member to ride over on the bus. Tickets for the bus trip will be available at IRC meetings, or by contacting club treasurer Rhonda Curtis, WS9H. e-mail: ws9h@arrl.net

Tickets for admission to the Hamvention are available on their website at <http://www.hamvention.org/tickets.php>. – Jim, K9RU

ARRL SM ELECTION – If you are an ARRL member, you should be receiving a ballot between Apr. 4th and 9th. Lou Everett, WA5LOU, our current ARRL Indiana Section Manager, is running for re-election. Lou has done an outstanding job as SM and he enjoys doing it. He lives in Cumberland, IN, and has been very active supporting local clubs, hamfests, and other activities. His opponent in this election is from the Ft. Wayne area. Our suggestion would be mark your ballot and send it back as soon as possible. --Jim K9RU

The CQWPX SSB CONTEST - Last weekend provided great band conditions on all the HF bands. 10 meters was still the star performer, open worldwide and well into the evening. 20 meters was open all night and 40 provided many good DX contacts. The sun unleashed a major solar flare on Saturday (March 29), One surprise was the brief X1-class flare erupted at 1:48 p.m. EDT (1748 GMT) causing a radio blackout for several minutes. This happened as I was changing bands and retuning my amp and I thought I had blown either the antenna or rig. The band was crowded when I started and when Ai finished nothing. - K9RU

NEXT TEST AMATEUR RADIO LICENSE TEST SESSION --

Time: 12:00 PM (Walk-ins allowed)

Contact: Rhonda S. Curtis (317) 363-7457

Email: ws9h@arrl.net

Location: Integrated Public Safety Commission, 8468 E 21st St., Indianapolis, IN 46219

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Apr 8 (EDT)	ARRL Frequency Measuring Test http://www.arrl.org/frequency-measuring-test
Apr 12	North Central Indiana Hamfest, Peru, IN http://www.nci-hamfest.net/
Apr 12	Carmel Marathon, Carmel, IN contact Steve Kremer kf9za@kremer.com
May 3	Indianapolis Mini Marathon contact Mike Karter n9feb@comcast.net
May 3-4	Indiana QSO Party http://www.hdxcc.org/inqp/rules.html
May 16-18	Dayton Hamvention http://www.hamvention.org/
May 17	IRC Charter bus trip to Dayton Hamvention ws9h@arrl.net
May 17	Geist Half-Marathon contact Mike Karter n9feb@comcast.net
May 24	500 Festival Parade contact Mike Karter n9feb@comcast.net
May 24-25	CQ WW WPX CW Contest http://www.cqwp.com/
June 14-16	ARRL June VHF QSO Party http://www.arrl.org/june-vhf
June 21	ADA Tour de Cure contact Mike Karter n9feb@comcast.net
June 28-29	ARRL Field Day http://www.arrl.org/field-day
June 29	N.I.T.E. Ride, contact Elaine Carter KC9KZH@hotmail.com
July 12	Indianapolis Hamfest, Marion Co. Fairgrounds, www.indyhamfest.com

All dates, unless otherwise stated, are UTC.

<http://www.arrl.org/contest-update-issues> Contests updates

<http://www.hornucopia.com/contestcal/> WA7BNM Contest Calendar

<http://www.arrl.org/special-event-stations> ARRL Special Event Stations page

http://www.arrl.org/exam_sessions/search ARRL training page for test sessions

<http://indyhams.org/events/> Indiana events and public service opportunities.

AMATEUR RADIO, FEDERAL GOVERNMENT ENGAGED IN JOINT 5 MHZ EXERCISE

Amateur Radio operators and federal government stations are engaged in a 12-day nationwide test of their capability to communicate with each other on HF in the event of an emergency or disaster. The High Frequency Interoperability Exercise 2014 ([HFIE-2014](#)) is running concurrently with the federal National Exercise Program ([NEP](#)) 2014. Activity is taking place on two of the five 60 meter channels. The primary center-frequency channel is 5358.5 kHz, and the secondary center-frequency channel is

5373.0 kHz. Amateur Radio is secondary to government users on the band. The joint readiness exercise that began March 27 will continue through April 7 and include all areas of the US. Participants will use Automatic Link Establishment ([ALE](#)), a standardized digital selective calling protocol, to establish communication between stations.

"The HFIE has been a semi-annual exercise for some years," explained HFIE-2014 Coordinator Bonnie Crystal, KQ6XA. "Previously, HFIE has been a ham-only exercise. This year, we scheduled HFIE so it coincides with the NEP."

Participation in the interoperability exercise is open to all ALE-capable federal government radio stations and to all ALE-capable US Amateur Radio stations. A Special Temporary Authorization (STA) has been granted, giving permission for radio amateurs to communicate with federal government stations for the duration of the exercise.

Crystal said ALE signaling "sounds like turkey gobble," adding that ALE calls last about 15 seconds. Stations listening "may also hear the operators then start talking on USB voice," she said. "The signals can be up to about 40 seconds long, if there's texting riding on it, using a very rapid type of ARQ [automatic repeat request] handshaking."

"Once someone links with another station, they have the choice of using SSB voice or sending/receiving up to about 80 characters of text," Crystal said. "Or they can switch to some other mode, such as CW or PSK or PACTOR."

ARRL Regulatory Information Manager Dan Henderson, N1ND, said the exercise offers an excellent opportunity for those amateurs with ALE capability. "It is a good exercise that highlights one of the key elements under which US amateurs were granted secondary status on the 60 meter band," he said. "The amateur community's ability to participate in an interoperability exercise with governmental communications is a great way to assess where things stand in this area -- and to explore the next steps to take. We encourage those amateurs familiar with the ALE protocols and have the station equipment to participate in a meaningful way to do so." Read [more](#). --ARRL Letter

AMATEUR RADIO VOLUNTEERS STAFF SHELTERS, EOC IN WASHINGTON LANDSLIDE RESPONSE

Amateur Radio volunteers are on hand at the Snohomish County, Washington, Emergency Operations Center (EOC) and supporting communication with American Red Cross shelters set up in the wake of the disastrous and tragic landslide on March 22 near Oso. Snohomish County Auxiliary Communications Service ([Snohomish ACS](#) -- formerly RACES) Radio Officer Scott Honaker, N7SS, reported this week that his organization has been active "but at a fairly low level."

"Because of the danger, only fire and search and rescue (SAR) are on scene, and only during the day," he reported March 24. Honaker said that even SAR teams were pulled back from the debris field earlier that day, after some movement of the remaining hillside had been detected. The response remains in rescue mode. Sheriff's helicopters have been crisscrossing the area, searching for any signs of life. Authorities have been telling area residents to stay away.

Honaker said ACS volunteers have been coordinating their activities on the Granite Falls 146.92 MHz repeater and on cell phones. "Emergency Services Coordinating Agency (ESCA) RACES is active staffing the Red Cross shelters, and they are using our UHF ham repeater near Arlington (444.200 MHz)," he added. "We have been hearing good communications between the shelters." The ARC has established shelters for displaced residents in Arlington and in Darrington.

The slide swept a massive avalanche of trees, wet soil, rocks, and debris across the rural Northwest Washington community. It leveled about two dozen houses and blocked a mile-wide stretch of State Route 530. The governor's office quickly declared a state of emergency in Snohomish County. The landslide also blocked the North Fork of the Stillaguamish River near Oso, raising the threat of localized flooding.

Authorities said on March 26 that 25 people lost their lives in the disaster, but they lowered to 90 the number of people who remain unaccounted for.

Honaker said the slide damaged some communication infrastructure, and fire and law enforcement personnel have been using cell phones to keep in touch, with SAR and air operations utilizing VHF radios.

"Snohomish ACS is staffing the EOC around the clock in Everett, and we have one member who lives in Darrington supporting the county command vehicle there," he said. "With the loss of phone lines to Darrington, there are no functional landlines or Internet access." He said the Darrington police and fire departments were using their command vehicle as an EOC, because it has working telephones as well as Internet service and computer-aided dispatch capability.

"The Incident Management Team in Arlington is using the other command vehicle to provide communication support for the staff in the City Council chambers," he said.

ARRL Western Washington Section Manager Monte Simpson, K2MLS, said this week that crews were working to restore the fiber optic cable in the area of the mudslide. "When that's completed, communications will be back on line," he said.

Honaker said he appreciates the many offers of support from hams within and outside the area -- more help than is needed at present. "It is good to see the community rally during these types of events," he said.

Recent heavy rainfall is being blamed for the slide. "This is not a good situation," ARRL Northwestern Division Director Jim Pace, K7CEX, told ARRL Headquarters earlier this week. "Our ground out here is so saturated, it is a miracle that we haven't had more landslides." He anticipated that ARES/RACES activity could increase as the operation moves into the recovery phase. --ARRL Letter

FCC INVITES PUBLIC COMMENT ON PETITION AFFECTING 10-10.5 GHZ BAND

The FCC has invited public comment on a *Petition for Rule Making* ([RM-11715](#)) that would make a significant portion of the 10.0 to 10.5 GHz band available for wireless broadband services. The *Petition* by Mimosa Networks Inc proposed a band plan for 10.0 to 10.5 GHz that, it said, would protect frequencies most often used by radio amateurs. The petition hinges on FCC adoption of rule changes that would put the 10 GHz band under Subpart Z of the Commission's Part 90 rules. Subpart Z currently sets out regulations governing wireless licensing, technical standards, and operational standards in the 3650 to 3700 MHz band.

"[T]he application of the coordination procedures and requirements provided in Subpart Z will ensure that Amateur Radio operations in the band will not be disrupted," Mimosa told the FCC. "In addition, as a further safeguard, Mimosa proposed a band plan for the 10.0-10.5 GHz band that would protect frequencies in the band that are most often used by Amateur Radio operators." The proposed band plan would specify 10.350 to 10.370 GHz as an "Amateur Calling Band," and 10.450 to 10.500 GHz for Amateur-Satellite operations in the midst of 21 wireless broadband channels and a small guard band.

Mimosa has proposed to include in the rules a requirement for wireless broadband service operation in the band "to avoid harmful interference with Amateur service and Amateur-Satellite service operations in the band."

Mimosa contended that its proposal would "promote the Commission's goal of providing broadband access to all Americans, would benefit wireless Internet service providers, mobile wireless carriers, and telecommunications equipment providers, and would benefit the national economy." Mimosa cited the band's "long-reach, high-capacity characteristics" and called 10 GHz "a promising candidate for wireless broadband."

ARRL Chief Executive Officer David Sumner, K1ZZ, said that while the League appreciates Mimosa's efforts to acknowledge existing and growing 10 GHz Amateur Radio activity, several aspects of the petition are of concern.

"Use of the band for fixed or mobile wireless broadband would be contrary to the international Table of Frequency Allocations and would inject a new sharing consideration that is not contemplated in the preparatory work being done for World Radiocommunication Conference 2015 (WRC-15)," he said. "Mimosa's proposed power limit of 55 dBW EIRP is very high, particularly for point-to-multipoint operations, and no mechanism has been proposed for ensuring that harmful interference to amateur operations does not occur."

Sumner said that while the ARRL has not yet adopted a position with respect to the petition, "some aspects of the petition require careful study."

Interested parties may comment on RM-11715 using the FCC's Electronic Comment Filing System ([ECFS](#)). Read [more](#). --ARRL Letter

ARRL TO FCC: "GROW LIGHT" BALLAST CAUSES HF INTERFERENCE, VIOLATES RULES

The ARRL has formally [complained](#) to the FCC that a "grow light" ballast being widely marketed and sold is responsible for severe interference to the MF and HF bands. The League urged Commission action to halt sales of the Lumatek LK-1000 electronic ballast and to recall devices already on store shelves or in the hands of consumers. In a March 12 letter, ARRL General Counsel Chris Imlay, W3KD, told the FCC Enforcement Bureau and its Office of Engineering and Technology (OET) that, during ARRL Laboratory testing, the Lumatek device exhibited conducted emissions that exceeded FCC rules.

"ARRL has received numerous complaints from Amateur Radio operators of significant noise in the medium and high frequency bands between 1.8 MHz and 30 MHz from 'grow lights' and other RF lighting devices generally," Imlay said in the complaint. "The level of conducted emissions from this device is so high that, as a practical matter, one RF ballast operated in a residential environment would create preclusive interference to Amateur Radio HF communications throughout entire neighborhoods." An extensive [Conducted Emissions Test Report](#) detailing the ARRL Lab's test results was attached to the League's correspondence.

"[T]he *Report* concludes from the conducted emissions tests that the six highest emissions from the device in the HF band vastly exceed the quasi-peak limit specified in Section 18.307(c) of the Rules," Imlay told the FCC. The ARRL further pointed out that, while an FCC sticker had been affixed to the device, it lacked FCC compliance information. FCC Part 18 rules require RF lighting devices to provide an advisory statement with such a device, notifying users that it could interfere with radio equipment operating between 0.45 MHz and 30 MHz.

The League noted that the device is imported into the US and marketed and sold by Sears, where ARRL purchased its test sample, as well as by Amazon.com and other retail outlets. The ARRL also called on the FCC to consider enforcement proceedings against the importer, Hydrofarm Horticultural Products of Petaluma, California. Read [more](#). --ARRL Letter

FCC CONSENT DECREE REQUIRES RADIO AMATEUR TO RELINQUISH HIS LICENSE

As part of a [Consent Decree](#) ending an enforcement action against him, a Cocoa, Florida, radio amateur has agreed to give up his Advanced class Amateur Radio license. Terry L. Van Volkenburg, KC5RF, also has agreed to make a \$1000 "voluntary donation" to the US Treasury, in installments, and waive all rights to contest the validity of the *Consent Decree*, released March 19.

In turn, the FCC is terminating a 2012 enforcement proceeding against him involving unlicensed transmissions that interfered with a sheriff's department radio system. On March 1, 2013, the FCC found Van Volkenburg liable for a \$25,000 forfeiture, which the Commission subsequently determined he would be unable to pay. The Enforcement Bureau also agreed not to institute any new proceeding on the basis of the one just concluded.

The Commission said it was entering into the agreement and terminating the enforcement proceeding in part, "to avoid further expenditure of public resources."

Prior to signing the *Consent Decree*, the FCC said, Van Volkenburg requested in writing that the Commission cancel his Amateur Radio license.

The FCC investigation began in September 2012 in response to an interference complaint filed by the Brevard County Sheriff's Department. The Enforcement Bureau subsequently determined that Van Volkenburg transmitted on 465.300 MHz without a license, interfering with the radio system in the county jail.

In settling the enforcement action, Van Volkenburg "admits, solely for the purpose of this *Consent Decree* and for Commission civil enforcement purposes" that the radio transmissions he made on 465.300 MHz sparking the investigation violated the Communications Act. --ARRL Letter

RADIO AMATEUR FACING SUBSTANTIAL FINE FOR CB VIOLATION

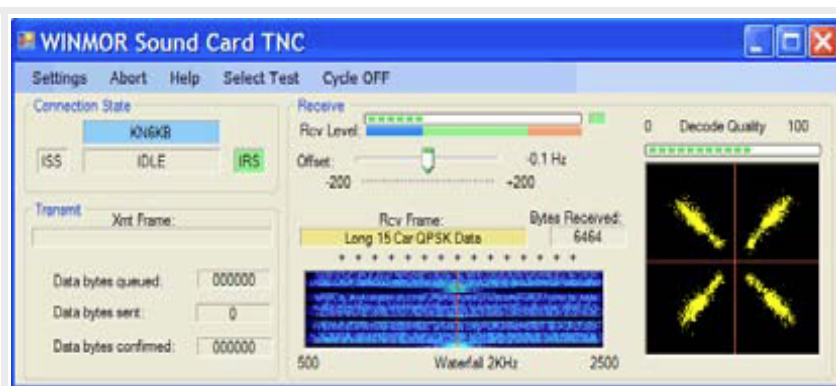
An Oklahoma Amateur Extra class licensee is facing a \$12,000 fine for operating his Citizens Band radio to "interfere with the communications of other CB stations," the FCC said in a *Notice of Apparent Liability for Forfeiture (NAL)* released March 21. In May 2013 an FCC agent used mobile direction-finding techniques to positively identify the source of a continuous carrier of CB channel 19 (27.1850 MHz) to the residence of Orloff Haines, KF5IXX, in Enid, Oklahoma. Haines was not at home, but his wife showed the agent her husband's CB station, which was transmitting on channel 19.

"Mrs Haines stated that Mr Haines was 'keyed on,' or continuously transmitting on channel 19, because other CB operators in the area were harassing her," the FCC reported in the *NAL*. The agent telephoned Orloff Haines during the station inspection, and, the FCC said, he admitted that he was transmitting a continuous carrier on channel 19. Mrs Haines "voluntarily turned off" the CB transmitter at the end of the inspection. The FCC said the carrier was interfering with CB communication within an approximately 2 mile radius.

Prior to last May, Haines had received two written warnings from the Dallas FCC office, advising him of the consequences of intentionally interfering with other CB communications. "The fact that Mr Haines interfered with other CB communications despite being twice warned in writing that such actions violated [the Communications Act] and FCC rules demonstrates a deliberate disregard for the Commission's requirements and authority," the FCC said, in justifying an upward adjustment of \$5000 in the proposed forfeiture.

The FCC gave Haines 30 days to pay the fine or file in writing for reduction or cancellation of the proposed fine. --ARRL Letter

WHY EXPERIMENT WITH WINMOR/WINLINK ?



Many have played around with sound card based digital communication, things like PSK or JT65. While these modes make for an interesting new challenge there is another mode that is just a software download away.

RMS Express is a Winmor client used to send and receive email through the Winlink2000 system. It can

be downloaded at http://autoupdate.winlink.org/User%20Programs/RMS_Express_setup_1-2-25-0.zip

or search for RMS express. This system can send and receive email to any email address through a network of internet connected radios that take the email from HF and sends it through standard email protocols.

So why experiment with Winmor/Winlink? In an event where internet connection is severed in a regional outage, the Winlink system can be used to get the word out to family and friends about how you are doing. It is also a great way to act as a communication liaison for others around you.

The Winlink system can also be used for NTS messages. For more on the NTS system look at the links listed at the end.

My first experience with Winlink was in setting up sailing vessels for HF communication ahead of offshore excursions. Way back in the 2000's the need for a TNC to be involved and non intuitive software was a deterrent to the casual boater. After all the work setting these up on a half dozen vessels I received all of one email through the years. Thankfully those headaches are over.

"So is it as simple as dodging a wrench?" Well the software loads and runs you through a setup wizard. Be prepared to know what sound card your rig is setup to, and what port your CAT control and PTT is connected to. If you have full computer control of your rig then the software will switch the frequency for you, one less thing to worry about.

Once you go through the wizard, follow the Get Started instructions under the help section. You need to setup an email account with the Winlink system. This can be done at <http://www.winlink.org/GetStarted> where you can read more about the Winlink system.

Once the account is setup, you are ready to fire things up. The first step is not very radio at all. You need to write an email. The Winlink system has an iron curtain of a spam control system. You cannot email a Winlink address unless

- 1) The email address is in the RMS Express contact book
- 2) Is to another Winlink address
- 3) You have sent an email to the recipient first.

This is the appropriate setup as you will see receiving a bunch of spam will tie up your rig for hours. Send me a hello world email to my Winlink address at K3LLC@winlink.org to give it a test.

The essentials are starting the rig, the software and the obligatory first email. Next select Winmor WL2K from the drop down and press the open session button and the Winmor window will pop up. Click on the Channel Selection button and the propagation data from all the available stations will download. "But wait," you say "if I got no internet how do I do this?" In an emergency you can download the propagation map via the radio. The map will tell you what frequencies and what stations will have the most reliable connection. Common sense can intervene and skip this step, you are not getting Guam on 160 meters at noon local time, besides trial and error is a valid method as well.

Once you have the propagation map or you want to just fire into the dark select your target station. Make sure the rig switches to the frequency as needed and is in USB mode. In the soundcard window you should see the receive level bouncing around. Wait and listen for other stations. If another is connected and you try to connect you both fail. If the station is busy move on or wait, but the list of available stations is long so I usually move on.

Once you have an open station in the Winlink Station window click Start. This will start the session and whisk you back to the dialup modem days. It will explain what is going on and will check for new messages and send out your missive. Once it has completed the message exchange the session ends.

Make sure to check back for a reply if your message goes to someone as the email will only reply back to your Winlink address. Have fun, experiment, have this ready in case you need to get word out, and I await your test emails.

Additional Links and information:

The Winlink Group can be found at <http://Winlink.org>

The Amateur radio Safety Foundation:

<http://www.arsfi.org/>

Winlink client software description and other options are at:

<http://www.winlink.org/ClientSoftware>

Info on the NTS System:

<http://www.arrl.org/chapter-one-national-traffic-system>

<http://www.w7arc.com/nts/index.html>

<http://www.k5prt.com/ntsmanual>. --Kevin, K3LLC. Published in QRZ News, March, 2014.

SHORTS

VOA TOURS DURING THE DAYTON HAMVENTION - If you're in Dayton for the Hamvention, the original VOA West Chester, Ohio station is open for tours on the 3rd Saturday of each month, courtesy of WC8VOA, the West Chester Amateur Radio Association. <http://www.voamuseum.org/> (Thanks, Glenn K6NA)

QATAR'S ES'HAILSAT 2 SATELLITE TO CARRY AMATEUR RADIO TRANSPONDER – Qatar's [Es'hailSat](#) 2 satellite will provide the first Amateur Radio geostationary communication capability linking Brazil and India. The satellite, expected to launch by the end of 2016, will carry two "Phase 4" Amateur Radio transponders and will be positioned at 26° E. It will also carry Ku and Ka band capabilities for television, government, and commercial content distribution.

[AMSAT-DL](#) is providing [technical support](#) to the project. AMSAT-DL President Peter Guelzow, DB2OS, said the satellite's [footprint](#) will cover Europe, Africa, and parts of Brazil and Asia but not North America.

"Basically [it will be in] the same position as Es'HailSat-1," Guelzow said. "Perhaps we will find another one willing to sponsor a position more in the West." AMSAT-DL plans to publish additional details on the satellite's technical characteristics in the next month.

The Qatar Amateur Radio Society and Qatar Satellite Company are cooperating on the ham radio project. --ARRL Letter

OSCAR-11 CELEBRATES 30 YEARS IN ORBIT -- [OSCAR-11](#) has been in orbit for 30 years, and at least one beacon continues to transmit, albeit with a signal that grows ever weaker. Also known as UOSAT-2, OSCAR-11 was designed and built by a team at the University of Surrey in England. It was launched from Vandenberg Air Force Base in California on March 1, 1984. OSCAR-11 was the first amateur satellite to carry a digital communication package into Earth orbit. The satellite had beacons in three Amateur Radio bands -- 145 MHz, 435 MHz, and 2.4 GHz. Only the 145.826 MHz FM AFSK 1200 bps ASCII telemetry beacon remains in operation. --ARRL Letter

\$50SAT CUBESAT GETS OSCAR DESIGNATION -- The [\\$50SAT](#) CubeSat -- also known as Eagle 2 -- has been designated as Morehead-OSCAR-76 or MO-76. The first of the so-called PocketQube satellites, OSCAR-76 is one of the smallest Amateur Radio satellites ever launched, measuring 5 x 5 x 7.5 cm and weighing 210 grams. Transmitter power is 100 mW on 437.505 MHz FM CW/RTTY. \$50SAT is a collaborative education project between Professor Bob Twiggs, KE6QMD, at Morehead State University in Kentucky and three other radio amateurs -- Howie DeFelice, AB2S; Michael Kirkhart, KD8QBA, and Stuart Robinson, GW7HPW. Last month, the CubeSat's sponsors issued the [\\$50SAT PocketQube Amateur Radio Challenge](#). -- Thanks to [Southgate Amateur Radio News](#)

DX ENGINEERING HAS A NEW CALCULATOR - the [Mast Load Estimator](#). Designed for DX Engineering's 2 and 3-inch OD masts, the program needs information about the height of the mast and where antennas will be placed. Presto - you get a pass/fail results for four wind speeds. That sounds a little less risky than "put it up and see what happens!"

THE *RCA ARC MONTHLY NEWSLETTER* IS COMPILED AND EDITED BY JIM RINEHART, AND JIM KEETH. ALL MATERIAL CONTAINED HEREIN IS OBTAINED FROM THE SOURCES CREDITED AND EDITED FOR THIS NEWSLETTER. EMAIL TO <mailto:WebMaster@w9rca.org>. Check our web site at <http://www.w9rca.org/>