

# RCA AMATEUR RADIO CLUB

MARCH, 2015

MONTHLY NEWSLETTER

INDIANAPOLIS, IN

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE  
TUESDAY, MARCH 10th, 6:30 PM AT [G.T. SOUTH'S](#),  
5711 E. 71<sup>st</sup> STREET, INDIANAPOLIS, IN

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## RCA ARC NEWS

**SUMMARY OF THE FEBRUARY MEETING** – Thanks to all who attended the February meeting! AF9A gave an update on the repeater and Echolink. Jim, K9RU and Dick, W9ZB operated the Jan. VHF contest. There was no additional news on Field Day for this year. Our Club has agreed to loan our IC756Pro to the W9IMS group for their special event operation this year. Remember, the Indianapolis Radio Club meeting will be this coming Friday. Dave Arland will be the speaker. The Indiana Radio Club Council has new officers. The IRCC will host a club workshop on March 7<sup>th</sup>. Remember the Brownsburg hamfest this coming Saturday, Feb.14.

### **NEXT TEST AMATEUR RADIO LICENSE TEST SESSION --**

**Time:** Saturday, March 14<sup>th</sup>, 12:00 PM (Walk-ins allowed)

**Location:** Integrated Public Safety Commission  
8468 E 21<sup>st</sup>, Indianapolis, IN

**Contact:** Rhonda S. Curtis, (317) 363-7475, Email: [ws9h@arrl.net](mailto:ws9h@arrl.net)

**NEW W9RCA REPEATER???** – You may be aware Yaesu has a new analog/digital repeater, the DR-1X, on the market. This repeater can transmit conventional analog FM or a new C4FM modulation scheme which Yaesu calls [Fusion](#). Of course, it is not compatible with other current amateur digital modes such as D-Star, DMR, P25, etc.

Yaesu has been offering a special promotion on the DR-1X repeater thru the end of March, 2015. Repeater groups which meet the requirements of the program can buy a repeater for \$500. The MSRP of the repeater is \$1700.

When we first looked at this product, we dismissed it because it didn't seem easy to integrate it into our system because of our use of remote receivers and voting, etc. But, because this is such a crazy deal, price wise, we took another look. Our conclusion is, we can operate this system with our same voting system if we do not use the built-in Yaesu controller and use our present controller as an "external controller." This would give us the same functionality as we presently have in the analog mode. In the digital mode, it could operate as a single site repeater. Digital remote receiver voting will have to wait and see what the software gurus come up with.

We'd like to discuss and vote on this at the March meeting. Time is short. For our club, the advantages would be, replacing some homebrew (old and not too well documented) equipment with a plug and play repeater which will act as a stand-alone repeater. Keeping in mind, those few of us who maintain the present system won't be around forever.

Whether or not the Fusion C4FM digital modulation system becomes a popular mode remains to be seen. All of this is very much in the early stages at this time. We'd like to hear your thoughts on this. --K9RU, AF9A, KF9UH.

**100 YEARS OF HAM RADIO IN SHELBY COUNTY** – The Grover Museum in Shelbyville is hosting an exhibit of vintage radio equipment spanning the past 100 years. The exhibit features broadcast radio artifacts of all types including amateur radio, AM radio, FM radio, commercial radio, and television. Also featured will be local inventors

and their products as well as local radio broadcast stations. <http://grovermuseum.org/2014/12/100-years-history-of-radio-in-shelby-county/> Bob, W9KVK, reports the exhibit has a large quantity of equipment and is worth taking a look.

**WRTC 2014** – [The World Radiosport Team Championship](#) (WRTC) is a competition between two-person teams of amateur radio operators testing their skills to make contacts with other Amateur Radio operators around the world over a 24 hour period. All teams use identical antennas from the same geographic region, eliminating all variables except operating ability.



Were you with us at the beginning of the Field Day contest in 2014? If so, you may remember we started operations at the SSB operating position about an hour late. During the first hour, Mike Wetzel, W9RE, and Tom Chance, K9XV, operated two transceivers from our CW position so Mike could check out hardware to be used during the WRTC 2014 competition coming up in July.

WRTC2014 included 59 competing teams from 29 qualifying regions around the world. Competitors represented 38 different countries. Mike and Mark Beckwith, N5OT, made up team NA59.

The official video was produced by James Brooks, 9V1YC, and runs approximately 59 minutes. James took advantage of 9 roving video teams to capture high definition footage of action at headquarters and out in the field, artfully telling the WRTC2014 story using the participants' own words. View the video at: <https://vimeo.com/119947598>  
**Very well done! Worth taking a look.**

## HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

- Mar 8-9 ARRL DX Contest - Phone
- Mar 14 Terre Haute Hamfest, Brazil, IN <http://w9uuu.org/>
- Mar 21 [Sam Costa Run \(Hamilton County\)](#)
- Mar 28 Columbus ARC Hamfest, Columbus, IN <http://carcnet.net>
- Apr 18 [Carmel Marathon \(Hamilton County\)](#) [KF9ZA@kremer.com](mailto:KF9ZA@kremer.com)
- May 15-17 Dayton Hamvention, Hara Arena, Dayton, OH <http://hamvention.org>
- Jun 27-28 Field Day
- July 11 Indy Hamfest, Marion Co. Fairgrounds, <http://indyhamfest.com>

## INDIANAPOLIS RADIO CLUB BUS TO THE DAYTON HAMVENTION

Again this year, the Indianapolis Radio Club has made arrangements to have a chartered bus to the Dayton Hamvention. The day trip to Dayton will be on Saturday, May 16. The bus will have two pick up points: 6:30 am at Southern Plaza, and pick up around 7:00 am at Peddler's Mall on the east side. It will leave from Dayton around 4:00 pm. As in the past, there will be a short stop at McDonald's in Richmond on the way to Dayton for breakfast, and a dinner stop at MCL in Richmond on the way back. The cost for the round trip is \$30 per person, and does not include admission to the Hamvention. The bus will drop off at the front door of Hara Arena, and be parked in close proximity of the facility so items can be stored on the bus for your convenience.

Contact: Rhonda Curtis, WS9H for tickets. (317) 363-7475, Email: [ws9h@arrl.net](mailto:ws9h@arrl.net)

## ARRL SEEKS MEMBER INPUT ON DRAFT HF BAND PLAN PROPOSALS

The ARRL is asking members to [comment](#) by April 19 on possible changes to the League's HF [Band Plans](#) suggested by the HF Band Planning Committee. The survey is part of the committee's efforts to tweak the band plans for the RTTY/data/CW portions of 80 through 10 meters -- excepting 60 meters. The committee developed its suggested revisions to the voluntary band plans after reviewing some 400 member comments in

response to a [March 2014 solicitation](#) that sought suggestions on how to use the spectrum more efficiently, so that data modes may coexist compatibly.

"The committee concluded that most of the concerns voiced by members could be addressed by modest adjustments to the existing band plans, and mainly by confining data modes with bandwidths greater than 500 Hz to the FCC-designated segments for **Automatically Controlled Digital Stations (ACDS)** and to parts of the RTTY/data subbands above those segments," ARRL CEO David Sumner, K1ZZ, said. His [article](#) detailing the committee's suggestions will appear in the April issue of *QST*.

The proposed changes differentiate among ACDS, narrow RTTY/data modes having a bandwidth no greater than 500 Hz, and wider data modes having a bandwidth up to 2700 Hz.

### ***Band-by-Band Draft Recommendations***

On **80 meters**, the committee suggests several modifications to the band plan. FCC action in 2006 reduced the 80 meter RTTY/data subband to 100 kHz and limited access to the 3600-3700 kHz segment to Amateur Extra class licensees. "Unless and until the FCC Rules are modified, changes in the band plan for 3500-3600 kHz will not improve the situation," Sumner said.

The HF Band Planning Committee recommends that the League petition the FCC to move the boundary between the 80 meter RTTY/data band and the 75 meter phone/image band from 3600 to 3650 kHz and restoring that segment to General and Advanced class licensees. Members are being asked to comment on this proposal, as well as on whether or not the ARRL should petition the FCC for these other changes:

Shift the ACDS band segment from 3585-3600 to 3600-3615 kHz, consistent with the IARU Region 1 and 2 band plans.

Extend the current Novice/Technician CW segment of 3525-3600 kHz to 3650 kHz.

Add 80 meter RTTY/data privileges for Novices and Technicians.

On **40 meters**, the committee concluded that it would be unrealistic to try to bring the ARRL band plan into alignment with the rest of the world, particularly with Regions 1 and 3 where operating patterns developed when the entire band, including phone, was just 100 kHz wide -- and is still only 200 kHz. While 7040 kHz is a recognized RTTY/data DX frequency in the band plan, the best place for other RTTY/data activity in the US is above 7070 kHz.

The committee proposes aligning the band plan with the "Considerate Operator's Frequency Guide," with wide data modes -- outside of ACDS -- at 7115-7125 kHz. The "Guide" shows 7070-7125 kHz for RTTY/data, while the ARRL band plan shows 7080-7125 kHz. The FCC mandates that ACDS be confined to the 7100-7105 kHz segment.

On **30 meters**, the committee recommends confining wide data modes to 10.140-10.150 MHz, separated from other RTTY/data at 10.130-10.140 MHz.

On **20 meters**, the committee recommends using the 1 kHz IARU/NCDXF beacon network frequency (14.0995-14.1005 MHz) as a line in the sand between wide ACDS in the 14.1005-14.112 MHz segment, and narrow ACDS in the 14.095-14.0995 MHz segment.

The committee recommends 14.070-14.095 MHz for RTTY and narrowband data, noting that so-called "weak-signal" data modes often are used between 14.070 and 14.078 MHz.

On **17 meters**, the committee recommends confining wide data modes to the FCC-mandated ACDS segment of 18.105-18.110 MHz, separated from narrow RTTY/data at 18.100-18.105 MHz. FCC rules do not permit RTTY/data above 18.110 MHz, limiting options for this band.

On **15 meters**, the committee recommends that 21.070-21.090 MHz for narrow RTTY/data modes, the FCC-mandated ACDS segment of 21.090-21.100 MHz for both narrow and wide automatically controlled data station activity, and above 21.100 MHz for any additional wide data activity.

The ARRL Board also wants members to comment on the desirability of adding RTTY/data privileges for Novices and Technicians in their existing 15 meter segment, where they're now limited to CW.

On **12 meters**, the committee recommends confining wide data to the FCC-mandated ACDS segment, 24.925-24.930 MHz, separated from narrow RTTY/data operation at 24.920-24.925 MHz. FCC rules do not permit RTTY/data operation above 24.930 MHz, limiting options for this band.

On **10 meters**, the committee recommends that wide data be confined to the FCC-mandated ACDS segment, 28.120-28.189 MHz, separated from narrow RTTY/data modes at 28.070-28.120 MHz.

### ***How to Comment***

The League has set up a [web page](#) to record members' preferences and comments, which includes links to the HF Band Planning Committee [report](#) to the ARRL Board and to Sumner's April QST [article](#) (and **high-resolution band charts**). Those wishing to offer more detailed comments may [e-mail](#) ARRL. The comment deadline is April 19. The HF Band Planning Committee will deliver its final report at the ARRL Board of Directors' July meeting. --ARRL Letter

## ARRL WARNS EXPERIMENTAL LICENSEE TO AVOID INTERFERENCE TO HF HAM ACTIVITY

The ARRL has asked a Massachusetts company that plans to conduct experimental transmissions over wide portions of the HF spectrum either to avoid Amateur Radio allocations or to announce the times and frequencies of their transmissions in advance. The FCC last fall granted MITRE Corporation of Bedford, Massachusetts, a 2-year Part 5 Experimental License, [WH2XCI](#), to operate 21 transmitters at 10 fixed New York and Massachusetts sites. MITRE plans to test wideband HF communication techniques on a variety of bands between 2.5 MHz and 16 MHz.

"[I]t will not be possible for MITRE to operate these transmitters within the Amateur Radio Service allocations without causing harmful interference to a large number of Amateur Radio operators on an ongoing basis," ARRL Chief Counsel Chris Imlay, W3KD, said in a February 12 letter to MITRE.

Imlay said that if MITRE does not agree to avoid ham radio bands or to announce times and frequencies of transmissions ahead of time, it will ask the FCC to rescind the company's Experimental License or to impose a prior notification requirement "in real time for each and every use of the transmitters authorized at each site."

The WH2XCI Experimental License authorizes maximum bandwidths of 5 kHz, 500 kHz, and 1 MHz at effective radiated power levels of 6 W, 24 W, or 122 W. MITRE has indicated that most bandwidths would be between 100 and 300 kHz.

"At these power levels with the operating parameters proposed, it will be impossible to conduct your tests at any time within the Amateur Radio allocations and, at the same time, avoid harmful interference," Imlay said. He noted that MITRE already conceded this point in a technical exhibit submitted to the FCC with respect to its 1 MHz bandwidth mode.

Imlay said that when interference from MITRE's wide-bandwidth transmitters "inevitably occurs in the narrow-bandwidth, sensitive receivers" hams use, amateur licensees will have no way to determine the source of the interference or know to whom they might complain. "Thus, your assurance of operation on a 'non-interference basis' is meaningless under the circumstances, and yet that is both a special condition of operation" of the WH2XCI license and under FCC Part 5 regulations, Imlay told MITRE.

MITRE obtained the Experimental License to investigate high data rate wideband HF communication systems. --ARRL Letter

## FCC "PAPERLESS" AMATEUR RADIO LICENSE POLICY NOW IN EFFECT

Effective February 17, the FCC no longer routinely issues paper license documents to Amateur Radio applicants and licensees. The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one, but what arrives in the mail now will be printed on plain white recycled paper, instead of the more distinctive stock the FCC had been using until recently. All of this is part of the FCC's efforts to streamline procedures and save money.

"We find this electronic process will improve efficiency by simplifying access to official authorizations in ULS, shortening the time period between grant of an application and access to the official authorization, and reducing regulatory costs," the FCC Wireless Telecommunications Bureau (WTB) said. According to the WTB, the new procedures will save more than \$300,000 a year, including staff expenses.

The Commission has maintained for some time now that the official Amateur Radio license authorization is the electronic Universal Licensing System ([ULS](#)) record, although the FCC had routinely continued to print and mail hard copy licenses until this week.

In mid-December, the FCC [adopted final procedures](#) to provide access to official electronic authorizations, as it had [proposed](#) in WT Docket 14-161 as part of its "process reform" initiatives. Under the new procedures, licensees will access their current official authorization ("Active" status only) via the ULS License Manager.

Licensees can also print an official license authorization -- as well as an unofficial "reference copy" -- from the ULS License Manager.

The ULS License Manager now permits licensees to change the default setting, so that the Bureau will print and mail a license document. --ARRL Letter

## AMSAT-NA BOARD APPROVES SEED MONEY FOR TECHNOLOGY DEVELOPMENT

As a part of its "[Design The Next AMSAT Satellite](#)" challenge, the AMSAT Board of Directors has approved \$5000 as seed money for future satellite development. The Board will also seek additional fund-raising possibilities.

"We're prepared to return to space in 2015 with a fleet of satellites that will equal, if not exceed, the performance, and availability to the average ham, of our previously popular AMSAT OSCAR 51," AMSAT President Barry Baines, WD4ASW, said. "Meanwhile, we are preparing for the future looking to potentially leverage new technologies, to provide the best opportunities for enhancing Amateur Radio's presence in space." The AMSAT Board met in December.

AMSAT hopes its Fox-1A CubeSat will be one of its 2015 successes. In January, the CubeSat successfully completed required pre-launch testing, including so-called "shake and bake" vibration and thermal testing. Fox-1A is scheduled to launch in late August on a NASA [ELaNa](#) flight .

AMSAT has expressed interest in supporting technology ideas that enhance the utility of the CubeSat form factor to support more robust Amateur Satellite capabilities. These could include microwave technology suitable for use in amateur spacecraft and complementary, low-cost ground systems. Another potential enhancement would be attitude determination and control systems that would point a spacecraft's antennas toward the user, while maximizing solar panel production.

For more details, contact AMSAT Vice President-Engineering [Jerry Buxton](#), N0JY. Buxton told the Board that construction and testing of five Fox CubeSats continues on schedule.

-- *Thanks to AMST News Service*



## ULRICH ROHDE, N1UL, WINS SECOND PRESTIGIOUS IEEE AWARD

Ulrich Rohde, N1UL (ex-KA2WEU), has been named by the Institute of Electrical and Electronics Engineers ([IEEE](#)) to receive the prestigious [I. I. Rabi Award](#) for 2015. The award recognizes outstanding contributions related to the fields of atomic and molecular frequency standards, and time transfer and dissemination. The author of some 200 scientific papers and books, including several *QEX* and *QST* articles, Rohde was cited specifically for "intellectual leadership, selection, and measurement of resonator structures for implementation in high-performance frequency sources, essential to the determination of atomic resonance."

"I am really in disbelief and overwhelmed by this totally unexpected honor close to my 75th birthday," Rohde said in thanking Gregory Weaver, the 2015 Awards Chair of the IEEE International Frequency Control Symposium (IFCS) Standing Committee. "Since the age of 16, I have been fascinated with oscillators as well as their performance and their influence on atomic standards. Some of the results of my research are still the basis of all really high-performance oscillators."

Last year Rohde was the recipient of another IEEE IFCS honor, the [C.B. Sawyer Memorial Award](#), which recognizes "entrepreneurship or leadership in the frequency control community; or outstanding contributions in the development, production or characterization of resonator materials or structures."

Rohde, who is the chairman of Synergy Microwave Corporation and President of Communications Consulting Corporation, will receive the Rabi Award at the 2015 Joint Conference of the IEEE International Frequency Control Symposium and European Frequency and Time Forum, held April 12-16 in Denver.

The award's namesake, physicist Isidor Isaac Rabi, received the Nobel Prize in 1944 for his discovery of nuclear magnetic resonance, which is used in magnetic resonance imaging. --ARRL Letter

## NO ONE IN THE SHACK AS STATION LOGS 4200+ CONTACTS IN ARRL DX CW CONTEST

The six-person group operating as K3TN in the recent ARRL International DX Contest (CW) may have made Amateur Radio history by mounting the first completely remote-controlled multioperator contest effort. The scattered K3TN team worked via the Internet through the station of Jack Hammett, K4VV, on Catoctin Ridge in Northern Virginia. All of K4VV's operating positions were vacant over the February 21-22 weekend, because the operators were elsewhere. One participant even managed to operate during the contest from *two* states -- Maryland and Florida.

"No one was in the K4VV shack for the entire contest!" said Mike Lonke, W0YR, who took part in the contest via K4VV from his own shack in Virginia. Two other operators were in North Carolina. "Perhaps this is a new category -- Totally Remote (TR)." Lonke said 3-minute timers at the remote-capable positions allow FCC requirements to be met.

The "Team K4VV" contingent made 4224 contacts and logged 556 multipliers for a claimed score of more than 7 million points -- not a Top 10 score, but respectable. For comparison, the top-scoring K3LR multi-multi operation has claimed 18.85 million points.

K4VV boasts two Telrex "Big Bertha" rotating masts that support 17 wide-spaced Yagi arrays for 10, 15, and 20 meters and a two-stack of four-element OWA Yagis on 40, plus wire antennas for 80 and 160 meters. This is not the sort of antenna farm likely found in the typical suburban neighborhoods from which the K3TN participants operated.

Despite the vagaries of winter weather, the station performed well. "We had a foot of wet snowfall Saturday afternoon/evening, and the station was totally inaccessible," said John Pescatore, K3TN, in a [3830 website](#) log post. "The ops fairly winced as they watched the on-screen direction indicators for K4VV's Big Berthas turn at a tortoise's pace in the near zero-degree cold. But, turn they did. The station played great, and band conditions were, across the board, good."

Until recently contacts made during such operations were ineligible for DXCC credit for either station. Changes to the DXCC Rules now allow a control operator to be outside the DXCC entity in which the radio transmitter/receiver is located. For DXCC purposes transmitter location continues to define a station's location. CQ Magazine recently began sponsoring an award for working 100 countries while using remote control.

Pescatore is hoping to gather a team of phone operators to mount a similar multi-multi effort in the ARRL International DX Contest SSB event, March 8-9. --ARRL Letter

## SHORTS

**THE INDIANAPOLIS 146.16/76 MHZ REPEATER IS NOW UP AND RUNNING WITH ONE OF THE NEW YAESU FUSION REPEATERS.** The antenna is at 21st and Post Road in Indianapolis at 340 feet running 25 watts out of the duplexer. For analog radios set the tone squelch to 151.4 Hz. A YAESU Fusion repeater has also been ordered for the 443.75 MHz repeater at the same site.

**NOMINATIONS SOUGHT FOR 2015 AMATEUR RADIO NEWSLINE YOUNG HAM OF THE YEAR AWARD** – [Amateur Radio Newsline](#) is seeking nominations for its 2015 Young Ham of the Year (YHOTY) Award. To be considered, a nominee must have used Amateur Radio in some way that has benefited his or her community or encouraged technological development directly or indirectly related to communications. Nominees must be no older than 19 and reside in the United States, Canada, or Puerto Rico. The individual must also hold a currently valid US or Canadian Amateur Radio license. Candidates considered for the Young Ham of the Year Award will be judged on their overall accomplishments and contributions -- especially in terms of public service activities or experimentation in the areas of science, technology, or electronic communication -- that may be of an outstanding nature. The decision of the judging committee is final.

The deadline to submit an [application](#) is May 30, 2015. An application form also is available by sending a self-addressed, stamped envelope to 2015 Young Ham of the Year Award, c/o Amateur Radio Newsline, 28197 Robin Ave, Santa Clarita, CA 91350. Basic information on required documentation and how to file are included on the nominating form.

Presentation of the 2015 Amateur Radio Newsline Young Ham of the Year Award will take place at the Huntsville Hamfest, August 15-16, in Huntsville Alabama. --Amateur Radio Newsline

**THE ARRL INTERNATIONAL DX PHONE CONTEST MARCH 8-9 (UTC)** -- The SSB weekend of the [ARRL International DX Contest](#) this coming Saturday and Sunday. This major event on the Radiosport calendar, the DX will be looking for stations in the US and Canada. Band conditions are still good, with plenty of activity on 10 and 15 meters. There are entry categories for single ops and for multioperator teams as well as a choice of power levels in each category, from QRP to full legal limit. In other words, there's a place for Big Guns, Little Pistols, and everyone in between. Excitement and enthusiasm levels will be high, and it's a terrific opportunity to boost DXCC totals too. [ARRL Letter](#)

**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/>