

# RCA AMATEUR RADIO CLUB

FEBRUARY, 2012

MONTHLY NEWSLETTER

INDIANAPOLIS, IN

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THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE  
TUESDAY, FEBRUARY 14th, 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 JANUARY MEETING** -- Thanks to all who attended the 10-January meeting. Those present voted to pay the Club's liability insurance for another year. K9RU reported it may be possible, after June, to install the repeater in the building, now owned by Ivy Tech, where our "downtown" receive site is located. Jim also reported that some of the property belonging to Mike Koss has been sold. The towers are still standing. Dave, N9KZJ, reminded us of the Ships on the Air event coming up in June. Also in June, is the joint Field Day operation with the Indianapolis Radio Club (IRC). The Marion County Fair Grounds, our site for the last several years, will not be available. Any suggestions would be welcome. The February testing session will be on 11-Feb. A recommended study aid is the AA9PW on-line practice tests.

<p><b>SNOW? Meeting?</b> If we're having snow on the Tuesday afternoon before the scheduled Club meeting, check your email to make sure the meeting has not been cancelled. We'll try and make that decision by mid afternoon and send an email. --K9RU</p>
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**PAUL PETROWSKI, W9KMI SK** -- Fred Tenner, K9KKE, reports Paul Petrowski passed away March 9, 2011. Paul was a Test Engineer at the RCA Sherman Drive plant in the 1960s, 70s and 80s and was an active member of the RCA ARC. He was 89.

**FOR SALE 756 Pro II** -- Dave, N9KZJ, has an IC756 Pro II for sale, good condition no scratches. With hand mic, user manual, and power cord. \$1200. Call Dave 317 359-4738 or [n9kzj@arrl.net](mailto:n9kzj@arrl.net)

**FIELD DAY PLANNING IS GOING AHEAD** -- The IRC and the RCA ARC are still working on plans for Field Day. We are looking at several sites and should more by the next meeting. --K9RU

**JOHNSON COUNTY TECHNICIAN CLASS SCHEDULED** -- The Mid-State Amateur Radio Club is holding an all day Technician License class on February 11, 2012 beginning at 8AM. This entry level Amateur Radio license class is being held in the training room at the Johnson County Sheriff's office at 1000 Hospital Road in Franklin, IN. The eight hour class will cover all the rules, regulations and technology necessary to pass the 35-question test at the end of the day. The class is free to the public but all class members are required to pre-purchase the Ham Radio License Manual from the American Radio Relay League's on-line at: <http://www.arrl.org> Education section. This will be a condensed class and it is recommended that students study the workbook before attending the February class. Pre-register on-line at: [secretary@midstatehams.org](mailto:secretary@midstatehams.org). Class size is limited, so sign up as soon as possible.

**INDIANAPOLIS RADIO CLUB WILL CHARTER A BUS TO DAYTON** -- The Indianapolis Radio club is chartering a bus to go to the Dayton Hamvention again this year. This will be on Saturday, May 19, 2012 and the cost will be \$30 per person for the round trip. Admission to the Hamfest and the food stops are not included in this price. This is a great way go to the hamfest and avoid any parking problem. It is to the door service and they stop at McDonalds in Richmond on the way over for breakfast and at MCL for dinner on the way back. --K9RU

**SEVERE WEATHER SYMPOSIUM REGISTRATION OPEN** -- The 2012 Central Indiana Severe Weather Symposium will be held Saturday, March 10 at the Valle Vista Conference Center in Greenwood. This is an all day in depth conference featuring three professional meteorologists. Registration is due by March 8, and no walk in registration will be available. For more information, point your browser to <http://www.crh.noaa.gov/ind/spotter.php>

**IRC HEATHKIT MEETING** – The subject of the Indianapolis Radio Club this month, Friday 10-Feb, is Heathkits. If you have any Heathkit gear, please bring it. For those of us who started out with a DX-40, this page may bring back memories: <http://blog.makezine.com/2008/11/25/the-soul-of-an-old-heathk/>

## HAMFESTS, OPERATING EVENTS & TESTING

- Feb 10 IRC monthly meeting “Legacy” night featuring Heathkits <http://www.indyradioclub.org/>
- Feb 11 RCA/IRC Test session, 12pm-2pm, EDS Training Facility, 4020 Georgetown Rd., Indy. Contact Ronda Curtis, [ws9h@arrl.net](mailto:ws9h@arrl.net) or Jim Rinehart, <mailto:k9ru.indy@gmail.com>
- Feb 18 - 19 ARRL DX Contest, CW <http://www.arrl.org/arrl-dx>
- Feb 25 Brownsburg Hamfest, Brownsburg, IN <http://indyhams.org/hamfests>
- Feb 25 LaPorte Hamfest, LaPorte, IN <http://k9jsi.org/hamfest>
- Mar 3 – 4 ARRL DX Contest, Phone <http://www.arrl.org/arrl-dx>
- Mar 9 IRC monthly meeting, Kit building
- Mar 10 RCA/IRC Test session, 12pm-2pm, EDS Training Facility, 4020 Georgetown Rd., Indy. Contact Ronda Curtis, [ws9h@arrl.net](mailto:ws9h@arrl.net)
- Mar 24 Columbus Hamfest, Columbus, IN
- Apr 13 IRC monthly meeting, Tom Chance, K9XV on antennas
- Apr 21 North Central Indiana Hamfest, Kokomo, IN <http://www.nci-hamfest.net/>
- May 11 IRC monthly meeting, VOIP by Dave Gingrich, K9DC
- May 18-20 Dayton Hamvention, Hara Arena, Dayton, OH <http://www.hamvention.org>
- June 8 IRC monthly meeting, annual auction
- June 23-24 ARRL Field Day
- July 14 Indy Hamfest, Camp Sertoma, Indianapolis <http://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](http://www.arrl.org/exam_sessions/search) ARRL training page for test sessions

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

## WRC-12:

The International Telecommunication Union (ITU) 2012 World Radiocommunication Conference (WRC-12) began January 23 in Geneva, Switzerland. This is the “big show” for spectrum allocation matters and a very important meeting if you are an Amateur Radio operator anywhere in the world. Every 4 or 5 years a WRC takes place. The last one was in 2007. Approximately 3000 people will attend WRC-12. These are government officials, telecommunication industry people and others -- like the IARU -- who have an interest in the use of the radio spectrum. The agenda items discussed during WRC-12 were established at the previous WRC in 2007. In the past 4.5 years, there have been many committee meetings within the ITU to try to arrive at solutions that will satisfy each of the agenda items. In the case of some of the agenda items, several possible methods to satisfy the agenda item

have been identified. It is up to the WRC to select the most appropriate method to satisfy the agenda item, that is, to arrive at a worldwide solution to the issue presented in the agenda item.

There are a number of agenda items for WRC-12 that have some impact on Amateur Radio, immediately or sometime in the future. Each of the agenda items is assigned to a committee and also sub-working groups. Within each of these sub-working groups, the agenda items are discussed in detail, the proposals from regional telecommunication organizations are analyzed and the discussion proceeds toward developing a consensus on the agenda item. It seems to the casual observer to be a slow, tedious process, but it works quite well in developing consensus, assuming the parties are at least a little bit flexible in their views.

**Agenda Item 1.23:** The agenda item that has been discussed widely within the amateur community over the last five years is Agenda Item 1.23. In 2007, the agenda item was stated as follows: “To consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the Amateur Service on a secondary basis, taking into account the need to protect existing services.” There are a number of suggested ways to satisfy this agenda item that are being discussed at the WRC: 1) A secondary allocation of up to 15 kHz to the Amateur Radio Service on a worldwide basis between 472-487 kHz. 2) Two non-contiguous worldwide secondary allocations to the Amateur Radio Service at 461-469 kHz and 471-478 kHz, totaling 15 kHz. 3) A CEPT proposal for a worldwide secondary allocation of 8 KHz from 472-480 kHz. 4) No change.

According to Colin Thomas, G3PSM, CEPT Coordinator for Agenda Item 1.23, "Progress was made with a compromise proposal on Agenda Item 1.23, drafted to take into consideration the views of those for and those against an amateur service allocation around 500 kHz," Thomas explained. "This proposal suggests a 7 kHz segment between 472-479 kHz, very close to the [CEPT position of 472-480 kHz](#). Initial indications are that this could be acceptable to many administrations and regional organizations. However, various meetings need to take place to have these formally accepted. In order to tidy up the draft for the next meeting of the sub-working group, a weekend meeting of the drafting group will be held. At the time of writing [Saturday, January 28], the NOC (No Change) advocates steadfastly maintain their positions."

**Agenda Item 1.10:** This agenda item is as follows: “To examine the frequency allocation requirements with regard to operation of safety systems for ships and ports and associated regulatory provisions, in accordance with Resolution 357 (WRC-07).” This agenda item might have impacted the IARU goal of achieving a secondary allocation under Agenda Item 1.23; however, with the dropping of the Agenda Item 1.23 Method for an amateur allocation between 493-510 kHz, there should no longer be a conflict between maritime service objectives for Agenda Item 1.10 and Amateur Service objectives for Agenda Item 1.23.

**Agenda Item 1.15:** This agenda item is as follows: “To consider possible allocations in the range 3-50 MHz to the radiolocation service for oceanographic radar applications, taking into account the results of ITU-R studies, in accordance with Resolution 612 .” ITU committee meetings leading up to WRC-12 have identified the following bands to be studied under this Agenda Item: 3.5-5.5 MHz, 8-10 MHz, 12-14 MHz, 24-30 MHz and 39-45 MHz. These have been refined to particular candidate sub-bands including 5.060-5.450 MHz, 13.870-14.000 MHz, 24.000-24.890 MHz and 29.700-30.000 MHz. The IARU position is that oceanographic radar applications are incompatible with the Amateur and Amateur Satellite Services in the range 3-50 MHz and should not be allocated in bands already allocated to the Amateur and Amateur Satellite Service, including 5.250-5.450 MHz, in which a growing number of administrations are providing for some access by amateurs on a domestic basis.

**Footnotes:** At each WRC, there is an agenda item that deals with footnotes contained within the Radio Regulations. Generally, this is a situation where an administration (a country) has “opted out” of the decision of a WRC and therefore creates an exception to the table of frequencies in the Radio Regulations. For example, a country may say that it will not use a certain service in a portion of the spectrum that has been designated for that service by the WRC. Therefore, a footnote is created in the

Radio Regulations for that portion of the spectrum, indicating a designated use is not available in that country, even though it may be available in many other parts of the world. There are a number of examples of footnotes that relate to Amateur Radio. One of the IARU's tasks during each WRC is to try to get administrations to remove their country's name from footnotes that prevent amateurs in that country from using spectrum that is available for Amateur Radio usage in other countries.

There are other agenda items which the IARU has determined to be a low threat to the Amateur Radio and the Amateur-Satellite Services, but those items will be closely watched by the IARU Team at the WRC-12 to make sure they do not negatively impact Amateur Radio.

WRC-12 began on Monday, January, 23 and will conclude on Friday, February, 17. –ARRL Letter

## FCC SETS DATE FOR MEDICAL DEVICES ON 70 CM

In November 2011, [FCC Commissioners unanimously agreed](#) to allocate spectrum and adopt service and technical rules for the utilization of new implanted medical devices that operate on 413-457 MHz (70 cm). These devices will be used on a secondary basis as part of the Medical Device Radiocommunication (MedRadio) Service in Part 95 of the FCC rules. In the [Federal Register for Friday, January 27](#), the FCC announced that the effective date for these new rules is Monday, February 27. The new rules expand the existing MedRadio Service rules to permit the use of new wideband medical implant devices that employ neuromuscular microstimulation techniques to restore sensation, mobility, and other functions to paralyzed limbs and organs. These medical devices hold enormous promise to advance the state of medical care, lower health costs, and improve the quality of life for countless Americans. The rules will allow these new types of MedRadio devices to access 24 megahertz of spectrum in the 413-419, 426-432, 438-444, and 451-457 MHz bands on a secondary basis. –ARRL Letter

## LOGBOOK OF THE WORLD TO NOW SUPPORT CQ AWARDS

The ARRL and CQ Communications, Inc have signed an agreement to begin providing support for CQ-sponsored operating awards by the ARRL's Logbook of the World (LoTW) electronic confirmation system. The agreement was announced jointly on January 24 by ARRL Chief Operating Officer Harold Kramer, WJ1B, and CQ Communications President Richard Ross, K2MGA.

CQ's awards will be the first non-ARRL awards supported by LoTW and will be phased in beginning with the CQ WPX award, with additional CQ awards to follow. The ARRL's LoTW system -- an interactive database recording contacts between radio amateurs -- was created in 2003 and has been adopted by 47,500 radio amateurs worldwide. It already has records of 400 million contacts and is growing weekly. The target date for beginning LoTW support for WPX is April 1, 2012. Amateurs will be able to use LoTW logs to generate lists of confirmed contacts to be submitted for WPX credit. Standard LoTW credit fees and CQ award fees will apply. Read more [here](#). – ARRL Letter

## RSGB ANNOUNCES SPECIAL PREFIXES TO CELEBRATE DIAMOND JUBILEE, SUMMER OLYMPICS AND PARALYMPIC GAMES

The Radio Society of Great Britain (RSGB) and Ofcom -- the British equivalent to the FCC -- have authorized radio amateurs to use [special prefixes](#) during 2012 in celebration of Queen Elizabeth II's Diamond Jubilee and the 2012 Summer Olympics and Paralympic Games.

To celebrate the Queen's Diamond Jubilee, all UK radio amateur and club stations can apply to use a special prefix for a five week period, from May 5-June 10. This will add or substitute the letter "Q" in the place of the regional identifier in the call sign. During the Summer Olympics and the Paralympic Games, radio amateurs and club stations can apply to use the letter "O" in the same fashion for a seven week period, from July 21-September 9.

Amateurs in the United Kingdom who choose to apply for these special call signs will be using GQ, MQ and 2Q prefixes to celebrate the Diamond Jubilee, and GO, MO and 2O prefixes to celebrate the Olympic and Paralympic Games. In addition, calls in the series GB2012aaa will be available for Special Event Stations relating to the Olympics. Licenses will also be issued for four "flagship" stations using the prefix 2O12a (that's the letter "O," not a zero; "a" is a single letter relating to the location of the station). –ARRL Letter

## US DISTRICT COURT FOR MAINE ISSUES ORDER GRANTING SUMMARY JUDGMENT AGAINST GLENN BAXTER, K1MAN

On January 10, the US District Court for Maine issued a ruling in the FCC's lawsuit to collect monetary forfeitures issued to Glenn Baxter, K1MAN, of Belgrade Lakes, Maine. The [FCC had assessed forfeitures in the amount of \\$21,000 against Baxter](#) on three asserted violations of the *Communications Act of 1934* and its regulations: Failure to respond to an FCC inquiry in violation of [Title 47, Section 308 of the US Code](#), willful or malicious interference with other radio transmissions in violation of [Section 97.101\(d\)](#), and engaging in communications in which he has a pecuniary interest in violation of [Section 97.113\(a\)\(3\)](#).

Chief US District Judge John A. Woodcock Jr, in writing for the Court, agreed with the FCC on the first two counts -- willful or repeated failure to respond to FCC requests for information, and willful or malicious interference -- and granted summary judgments to the FCC in the amount of \$3000 and \$7000, respectively. On the third claim -- communications in which an amateur station licensee or control operator has a pecuniary interest -- the Court declined to grant a summary judgment to the FCC, holding that there were issues of material fact to be litigated in the Court in later proceedings. Find a link to the complete decision [here](#) (corrected link). –ARRL Letter

## FCC CHAIRMAN SPEECH AT CES ON LOOMING WIRELESS SPECTRUM CRUNCH

The U.S. needs to address the looming wireless spectrum crunch to allow for continued innovation in broadband wireless, [Federal Communications Commission](#) chairman Julius Genachowski said at the [Consumer Electronics Show](#).

One of the ways to do that is to offer so-called incentive auctions that motivate the owners of current wireless spectrum to make them available to those who bid the highest. TV stations using valuable spectrum that could be returned and auctioned for use in wireless applications, and raising money not only for the private companies that own the spectrum but also billions of dollars in money that could help address the budget deficit.

A third of Americans — almost 100 million people — don't have broadband at home. Closing the gap between haves and have nots would give the innovators much larger markets to go after. At the same time, the U.S. leads in the number of 3G subscribers and the American mobile industry has recaptured

leadership in the industry. Tens of thousands of jobs have been created. "Our apps economy is the envy of the world," he said.

The spectrum shortage was one of the reasons that AT&T made its ill-fated bid to acquire T-Mobile, which owns a lot of spectrum, because of the rapid growth of data usage on mobile devices. Genachowski said that we need to get incentive auctions done for wireless spectrum and "we need to get it right," he said. "We've led the world in spectrum policy." He urged Congress to adopt legislation to endorse incentive auctions to make the U.S. more competitive with the rest of the world. The approvals should apply to licensed and unlicensed spectrum. At the same time, he said in a conversation with Gary Shapiro, chief executive of the Consumer Electronics Association at the annual [Consumer Electronics Show](#) in Las Vegas, that the U.S. should innovate in making wireless spectrum more spectrally efficient by developing new wireless technologies. Without such approval, the country could fall behind. While many people note that technology destroys jobs in the old economy, Genachowski said studies have shown that 2.6 jobs are created for every one destroyed in the innovation economy.

Last year, [Genachowski told Shapiro](#) that innovation was needed for U.S. companies to stay competitive in the creation of 4G wireless networks by moving faster, without interference. This year, Genachowski walked the show floor and took note that there were more than 3,000 of them, each of them creating new jobs. "Virtually every company is fueled by broadband Internet," he said. "If you shut off the internet, virtually nothing on the show floor would work." He said there was innovation in education, healthcare, business, and other categories. "We saw smart textbooks, smart thermostats, and smart fitness equipment," he said.

He noted that Thomas Friedman, columnist for the New York Times, wrote recently that when bandwidth goes up, the technology gets better and the products get more useful communications, Genachowski said. "Though we can't see it, spectrum is becoming increasingly essential to the daily lives of almost every American. This invisible infrastructure is the backbone of a growing percentage of our economy and our lives," Genachowski said. He added that the looming spectrum crunch "threatens American leadership in mobile and the benefits it can deliver to our economy and our lives."

## SHORTS

**2012 FIELD DAY PACKET NOW AVAILABLE** -- It's that time of year again -- time to start gearing up for ARRL Field Day, June 23-24, 2012! ARRL's flagship operating event -- always held the fourth full weekend in June -- brings together new and experienced hams for 24 hours of operating fun. Field Day packets are now [available for download](#) and include the complete rules, as well as other reference items such as forms, ARRL Section abbreviation list, entry submission instructions, a Frequently Asked Questions section, guidelines for getting bonus points, instructions for GOTA stations and a kit to publicize your event with the local press. A brief one-page flyer with basic "What is Field Day" information has also been included in this year's Field Day packet. Amateur Radio clubs and individuals are encouraged to reproduce this flyer as a handout for information tables.

**4U1ITU NOW 4U1WRC DURING WRC-12** -The Amateur Radio station at the ITU will be signing as 4U1WRC during the 2012 World Radiocommunication Conference (WRC-12), through February 17. The station will revert to 4U1ITU just in time for the [ARRL International DX CW Contest](#), scheduled for February 18-19. According to ARRL Chief Executive Officer David Sumner, K1ZZ, who is attending WRC-12 as the IARU International Secretariat, the station is in really good shape, with two operating positions capable of going on any two bands at the same time. "A number of delegates are active amateurs, so the station should be quite active for the next several weeks," he said. Amateurs who work 4U1WRC between January 23-February 17, 2012 can receive a special QSL card via the HB9 Bureau or by QSLing direct to IARC, PO Box 6, CH-1211 Geneva 20, Switzerland.

**NEW RULES FOR 5 MHZ (60 METERS) TO GO INTO EFFECT MARCH 5** -- On November 18, the FCC released a Report and Order (R&O), defining new rules for the 60 meter (5 MHz) band. These rules are in response to a Petition for Rulemaking (PRM) filed by the ARRL more than five years ago and a June 2010 Notice of Proposed Rulemaking (NPRM). In the February 3 edition of the Federal Register, the FCC announced that these new rules will go into effect on March 5, 2012. Details can be found at, <https://www.federalregister.gov/articles/2012/02/03/2012-2477/amateur-radio-use-of-the-allocation-at-5-mhz>

In summarizing the new rules, the FCC explained that the new rules amend the current rules to facilitate more efficient and effective use by the Amateur Radio Service of five channels in the 5330.5-5406.4 kHz band (the 60 meter band): "Specifically, and consistent with our proposals in the Notice of Proposed Rulemaking in this proceeding, the Commission replaces one of the channels with a less encumbered one, increases the maximum authorized power amateur stations may transmit in this band and authorizes amateur stations to transmit three additional emission designators. The Commission also adopts an additional operational rule that prohibits the use of automatically controlled digital stations and makes editorial revisions to the relevant portions of the Table of Frequency Allocations and our service rules." The Amateur Radio Service in the United States has a secondary allocation on 60 meters. Only those amateurs who hold General, Advanced or Amateur Extra class licenses may operate on this band. Amateur stations must not cause harmful interference to -- and must accept interference from -- stations authorized by any administration in the fixed service, as well as mobile (except aeronautical mobile) stations authorized by the administrations of other countries.

**NASA ASTRONAUT JANICE VOSS, KC5BTK SK** -- Janice Voss passed away on February 7, from cancer. She was 55. One of only six women who have flown in space five times, Voss' career was highlighted by her work and dedication to scientific payloads and exploration. Voss participated in making ham radio contacts from space via the Space Shuttle Amateur Radio Experiment (SAREX), the precursor to the Amateur Radio on the International Space Station (ARISS) program.

"As the payload commander of two space shuttle missions, Janice was responsible for paving the way for experiments that we now perform on a daily basis on the International Space Station," said Peggy Whitson, Chief of the Astronaut Office. "By improving the way scientists are able to analyze their data and establishing the experimental methods and hardware necessary to perform these unique experiments, Janice and her crew ensured that our space station would be the site of discoveries that we haven't even imagined. During the last few years, Janice continued to lead our office's efforts to provide the best possible procedures to crews operating experiments on the station today. Even more than Janice's professional contributions, we will miss her positive [outlook](#) on the world and her determination to make all things better."

Voss began her career with NASA in 1973 while a student at Purdue University. She returned to NASA in 1977 to work as an instructor, teaching entry guidance and navigation to space shuttle crews. After completing her PhD in 1987, she worked within the aerospace industry until she was selected as an astronaut in 1990.

Voss' first spaceflight mission was STS-57 in 1993, the first flight of the SPACEHAB module. She next flew on STS-63 in 1995, a mission to the Mir space station and third flight of SPACEHAB. She also flew as a payload commander on STS-83 in 1997 with the Microgravity Science Laboratory (MSL), but the mission was cut short due to problems with one of the orbiter's three [fuel](#) power generation units. Voss, the crew and MSL flew again as the STS-94 MSL-1 Spacelab mission, which focused on materials and combustion science research in microgravity.

Her last mission was STS-99 in 2000, a flight to the International Space Station (ISS) as part of the Shuttle Radar Topography Mission, which mapped more than 47 million square miles of the Earth's land surface. In total, Voss spent more than 49 days in space, traveling 18.8 million miles in 779 Earth orbits.

From 2004-2007, Voss served as the science director for the Kepler spacecraft at NASA's Ames Research Center. Designed to search for Earth-size planets orbiting distant stars, Kepler was launched in March 2009; to date, it has confirmed 61 exoplanets and identified more than 2000 planetary candidates. Voss most recently served as the payloads lead of the Astronaut Office's Station Branch. -- Thanks to NASA and AMSAT for the information.

**MORSE CODE NOT ON THE WAY OUT** -- Five years ago, on February 23, 2007, the Federal Communications Commission took action against the thorny question of mandatory code licence testing. Writing in the latest CQ magazine Rich Moseson W2VU has an article '*No-Code Plus Five Years: An Assessment*' which points to the situation then and now.

The article checks on signs of the state of play, by asking a manufacturer of keys and paddles, the FISTS group, looking at CW [contest results](#) and the licensing statistics. Rich W2VU finds it is alive and well, despite early predictions it was on the way out. CW has a bright future, despite or perhaps because of the elimination of the code test requirement. To see the entire article visit [http://www.cq-amateur-radio.com/cq\\_highlights/2012\\_cq/2012\\_02\\_cq/2012\\_02\\_zero\\_bias.pdf](http://www.cq-amateur-radio.com/cq_highlights/2012_cq/2012_02_cq/2012_02_zero_bias.pdf)

"The wireless music box has no imaginable commercial value. Who would pay for a message sent to nobody in particular?"

-- David Sarnoff's associates in response to his urgings for investment in the radio in the 1920s.

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