



Legacy Amateur Radio Club

# RCA AMATEUR RADIO CLUB



AFFILIATED CLUB

INDIANAPOLIS, INDIANA

APRIL, 2017

MONTHLY NEWSLETTER

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE  
TUESDAY, APRIL 11th, 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 MARCH MEETING** – Since the photos of RCA Building 1 being demolished were published in the last Newsletter, some discussion developed about the history of the site, originally built by Westinghouse 1928 to manufacture tubes. The '88 repeater is still experiencing some intermittent problems. AF9A will investigate further. The joint RCA ARC – Indy Radio Club field day operation was discussed. The emphasis will be to encourage more participation in the GOTA station this year. The FD chairman this year is KD9BIG. Again the possibility of getting the antennas/towers from Dave Brown's estate down and sold was discussed. If you know anyone who might be interested in these 30 foot Hazer towers, one with a HF vertical and the other with a rotor and VHF/UHF antennas, please contact K9RU. There are a number of VHF/UHF antennas to be sold. Upcoming contests were mentioned. Remember the IRC bus to the Dayton Hamvention. \$30.

### NEXT RCA / IRC AMATEUR RADIO LICENSE TEST SESSION

**Time:** Saturday, April 8. Exams start at 12:00 noon. Walk ins allowed.

**Location:** Salvation Army EDS Training Facility,  
4020 Georgetown Rd,  
Indianapolis, IN 46254

**Contact:** Jim Rinehart [k9ru@arrl.net](mailto:k9ru@arrl.net) 317 721-1458

**THE INDIANAPOLIS RADIO CLUB HAS CHARTERED A BUS TO THE DAYTON HAMVENTION** – The day trip will be on Saturday, May 20, with tickets for the bus running \$30 per person (same as last year). The bus has two pickup and drop off points in Indianapolis, Southern Plaza and Peddlers Mall. Stop for breakfast at McDonald's in Richmond and dinner on the way at MCL at Richmond. Contact Rhonda Curtis, WS9H, for more details and to purchase bus tickets: [ws9h@comcast.net](mailto:ws9h@comcast.net). You can buy ticket at an IRC meeting or mail a check made out to the Indianapolis Radio Club to Rhonda Curtis, 5936 Riva Ridge Dr. Indianapolis IN 46237.

Note that the bus ticket does not include admission to the show. Hamvention tickets are on sale now via their web site at <http://hamvention.org/purchase-tickets/>

**INDY MINI-MARATHON, MAY 6, AMATEUR RADIO VOLUNTEERS** – It is not too early to start thinking about volunteering to help out with the amateur radio communications for the Mini-Marathon. This is a lot of fun and there are the 500 Festival "perks", such as the free t-shirt, volunteer day passes at the IMS track, etc.  
For more information contact:

Michael R. Palmer, N9FEB  
Marion County IN Events Coordinator for Ham Radio  
7461 Hague Rd., Indianapolis, IN 46256  
(317) 849-3602 home, (317) 753-8691 cell, [www.IndyHams.org](http://www.IndyHams.org)

## HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Apr 5	ARRL Frequency Measuring Test (Wed. evening, in the US)
May 6	500 Festival Minimarathon
May 6	Indiana QSO Party (INQP)
May 19-21	Dayton Hamvention <a href="http://hamvention.org/">http://hamvention.org/</a>
May 27	500 Festival Parade
June 24-25	ARRL Field Day
July 7-8	Indianapolis Hamfest <a href="http://www.indyhamfest.com/">http://www.indyhamfest.com/</a>

Opportunities for public service: <http://indyhams.org/events>

## INDIANA QSO PARTY - 11AM TO 11PM EDT SATURDAY, MAY 6

The Indiana QSO Party is a great opportunity to get on the air, have some fun and promote Indiana. The club competition encourages competition between Indiana clubs and can be a club membership operating activity. It is usually one of the first nice weekends of the year, so you can go out mobile and put a few counties on the air.

The purpose of the Indiana QSO Party (INQP) is to encourage contact with Indiana hams by other Indiana hams and hams worldwide. Stations outside of Indiana work Indiana stations only. Indiana stations work everybody, including other Indiana stations.

The INQP is Saturday, May 6th 11am to 11pm EDT. All stations may operate the full 12-hour period.

Entry Categories: Single-operator (High Power, Low Power or QRP) ,Multi-operator single transmitter (Multi-Single), Mobile, Portable and Rover.

There one important change this year: The county name abbreviations have changed. The intent is that the new abbreviations will be more compatible with the other QSO Parties that occur at the same time as INQP. See for the details: <http://www.hdxcc.org/inqp/rules.html>

## NEW BANDS! FCC ISSUES AMATEUR RADIO SERVICE RULES FOR 630 METERS AND 2,200 METERS

The Amateur Service will officially get two new bands in the near future. The FCC has adopted rules that will allow Amateur Radio access to the 630 and 2,200-meter bands, with minor conditions. A *Report and Order (R&O)* was released on March 29. The new rules become effective 30 days following publication in *The Federal Register*. The *R&O*, which also addresses several non-Amateur Radio issues, allocates the 472-479 kHz band (630 meters) to the Amateur Service on a secondary basis and amends Part 97 to provide for Amateur Service use of that band as well as of the previously allocated 135.7-137.8 kHz band (2,200 meters). The *R&O* also amends Part 80 rules to authorize radio buoy operations in the 1900-2000 kHz band under a ship station license.

"It's a big win for the Amateur community and the ARRL," ARRL CEO Tom Gallagher, NY2RF, said. "We are excited by the FCC's action to authorize Amateur Radio access for the first time on the MF and LF spectrum."

The FCC said the Amateur Radio service rules it has adopted for 630 meters and 2,200 meters allow "for co-existence with Power Line Carrier (PLC) systems that use these bands." Utilities have opposed Amateur Radio use of the MF and LF spectrum, fearing interference to unlicensed Part 15 PLC systems used to manage the power grid.

Amateurs operating on 472-479 kHz would be permitted a maximum equivalent isotropically radiated power (EIRP) of 5 W, except in parts of Alaska within 800 kilometers (approximately 496 miles) of Russia, where the maximum would be 1 W EIRP. Amateurs operating in the 135.7-137.8 kHz band could run up to 1 W EIRP.

The FCC is requiring a 1-kilometer separation distance between radio amateurs using the two new bands and electric power transmission lines with PLC systems on those bands. Amateur Radio operators will have to notify UTC of station location prior to commencing operations.

The FCC also placed a 60-meter (approximately 197 feet) above-ground-level (AGL) height limit on transmitting antennas used on 630 meters and 2,200 meters. The bands would be available to General class and higher licensees, and permissible modes would include CW, RTTY, data, phone, and image. Automatically controlled stations would be permitted to operate in the bands. More details soon, on the ARRL website.

## ARRL REITERATES ITS CASE FOR NEW BAND AT 5 MHZ

In comments filed on March 20 with the FCC on its own January *Petition for Rule Making* ([RM-11785](#)), ARRL reiterated its case for a contiguous secondary 15-kHz wide, 60-meter band of 5,351.5 to 5,366.5 kHz in addition to the four existing discrete 60-meter channels that fall outside the requested band, with a permitted power level of 100 W EIRP and retention of current operating rules. More than 5 dozen comments, all supporting the proposed allocation, were filed on the League's petition. While some suggested more spectrum or higher power, or a combination, ARRL said in its comments that it does not at this time favor any changes in its initial request for a new band. The League proposal would implement a portion of the *Final Acts of World Radiocommunication Conference 2015* (WRC-15) that provided for a secondary international amateur allocation of 5,351.5 to 5,366.5 kHz at a maximum of 15 W EIRP.

"Each component of this proposal is intended to maximize spectral efficiency by permitting amateurs to operate throughout a band as conditions and availability warrant; to give primary service operations certainty as to where radio amateurs will be located within the broader fixed and mobile service band between 5.250-5.450 MHz; and it protects those primary users with the same successful interference avoidance techniques and protocols that have been used for the past 15 years domestically, with which radio amateurs have the technical training and experience to comply," ARRL asserted in its comments.

The League said the WRC-15 power limit of 15 W EIRP "would render the band unsuitable for emergency communication, especially between the US mainland and the Caribbean Basin during summer storms and hurricane season, when atmospheric noise can be severe.

ARRL said there were good reasons for hewing to the proposal it initially crafted and filed with the FCC, most relating to the fact that the spectrum is shared with federal government users, and radio amateurs must avoid interfering with them. ARRL also pointed out that there is no "European Model" for 5 MHz, noting that the vast majority of European countries have held to the 15 kHz agreed to at WRC-15, and some even to the 15 W EIPR power limit. The National Telecommunications and Information Administration ([NTIA](#)), which regulates government spectrum, would have to sign off on any proposal, and, ARRL noted, it has twice expressed concern about a contiguous allocation at 5 MHz and did not favor the plan agreed to at WRC-15.

"While ARRL understands and agrees that there is a long-term, justifiable need for an allocation at 5 MHz that is larger than the 15 kHz made available at WRC-15, and there is a very practical need for power in excess of the 100 W PEP requested in ARRL's *Petition*, there are practical considerations inherent in the ARRL *Petition* that stem from an urgent and ongoing need to share the amateur allocation compatibly with other, primary users," ARRL said. "The Amateur Service must, of necessity, avoid interference to the primary users of this band (which it has, to date) in order to be permitted to operate there."

Citing its decades-long effort to obtain operating privileges in the vicinity of 5 MHz, ARRL said there's "not really much room for debate about the size of the band and the power limit domestically at the present time, given the allocation status of the band (domestically and internationally) and the necessary interference protection requirements for primary users."

"It is hoped that as regular amateur operation in this contiguous band develops, with the operating parameters recommended in ARRL's *Petition*," the ARRL comments continued, "such operation will continue to demonstrate compatible sharing with federal and other users and the operating parameters and the band can be re-examined and adjusted equitably at a later time."

ARRL said the most important thing is to have the FCC grant an allocation before offering initiatives to alter the plan it proposed in January. It urged the FCC to adopt the rule changes it proposed "at the earliest possible time, if at all possible in advance of the 2017 hurricane season."

## ARRL SEEKING SYNERGY WITH MAKER MOVEMENT

ARRL is reaching out to members of the Maker movement to explore avenues of cooperation and collaboration, and perhaps to recruit some new radio amateurs. Considered an extension of the arts and crafts tradition, the Maker movement gained its own magazine, [Make.](#), in 2005. The philosophy of the Maker movement is reminiscent of an era when radio amateurs built their own equipment rather than buying it off the shelf. Those considering themselves Makers have tended to focus on such areas as electronics and computers, robotics, 3D printing, metal and woodworking, and even Amateur Radio, among other avocations.

Recognizing the similar characteristics of radio amateurs and Makers, the [Ham Radio](#) exhibition each summer in Friedrichshafen, Germany, has shared space with a Maker Faire, as Maker gatherings are known, for the past few years. Maker Faires in the US have attracted thousands more attendees than even the largest hamfest. The "Hamvention" of the Maker movement takes place in San Mateo, California, and ARRL will have a presence at events in the Bay Area in May, and in Chicago later this year.

"Maker communities and Makerspaces are springing up across the country, becoming the latest nexus of youthful aspirants and exotic technology, as well as the locus of highly innovative forms of experimentation -- including Amateur Radio," ARRL CEO Tom Gallagher, NY2RF, wrote in his Second Century editorial, "Make It Happen," in the April issue of *QST*. Gallagher considers Makers as "the next generation of hams."

Gallagher suggests radio amateurs consider attending Maker Faires -- not only to promote and give a presence to Amateur Radio, but to learn what they have in common with Makers, many of whom already are licensees. (An article in the January 2017 issue of *QST*, "Maker Faire Success for Ham Radio Clubs" by David Witkowski, W6DTW, is on Gallagher's recommended reading list, as is an interview in the same issue with Jeri Ellsworth, AI6TK, who is well known in the Maker and gamer communities.)

Any radio amateur who enjoys tackling an Arduino or Raspberry Pi electronics project for the shack should find some common ground in the Maker movement. Gallagher notes in his editorial that at last September's Maker Faire in New York City, a club in Queens offered a simple build-a-code-practice-oscillator project, provided by [QRPme.com](#), that only required five components. "The attendees were lined up six deep in two lines," Gallagher recounted. "There is nothing to match the delight in the builder's eyes when he or she first experiences the joy of oscillation." He hinted that this could, in time, translate to new licensees.

**ON A RELATED NOTE, AN INTERESTING SERIES OF ARTICLES AND KITS FROM VE6EY:** Earlier this year, VE6EY published a series of articles on his web site called the "Arduino Ham Radio Starter Kit". The purpose of this information is to encourage more hams and their clubs to engage with the local maker community as a gateway to amateur radio.

These articles explain Arduino basics in a ham radio context. They contain many suggestions about how amateurs can use Arduinos, as well as how a ham club can engage other makers in hobby activities.

Please take a moment to review the Arduino Ham Radio Starter Kit articles. If you find them to be useful, please consider passing these along to your members or contacts. <http://play.fallows.ca/wp/series/arduino-ham-radio-starter-kit/> --ARRL Letter, VE6EY

## MOTOROLA SOLUTIONS SUES HYTERA COMMUNICATIONS, ALLEGING PATENT, TRADE SECRETS THEFT

[Motorola Solutions](#) has filed [complaints](#) in federal court (US District Court for the Northern District of Illinois), alleging that [Hytera Communications](#)' digital mobile radio (DMR) products employ techniques and systems that infringe on Motorola Solutions' patents and trade secrets. Already known for its Land Mobile Radio Service products, Hytera entered the Amateur Radio DMR market last year. Motorola alleges that proprietary and patented information was taken illegally by three former company engineers who now work for Hytera, as "part of a deliberate scheme to steal and copy" its technology.

"Motorola Solutions believes that Hytera is intentionally infringing its intellectual property and misappropriating its trade secrets, which has enabled Hytera to compete unfairly by bypassing investment in innovation," Motorola said in a March 14 news release. Motorola Solutions General Counsel and Chief Administrative Officer Mark Hacker characterized the copying as brazen, blatant, and willful.

The three former Motorola engineers all signed non-disclosure agreements, agreeing to treat all Motorola trade secrets as confidential, when they left the company to assume similar positions with Hytera. According to the lawsuit, none of the three disclosed beforehand that they intended to go to work for Hytera.

Motorola contends that its digital radio products were rendering Hytera's analog systems obsolete, and rather than develop its own digital products, Hytera stole Motorola's ideas, its attorneys allege. Motorola said technology features it developed started showing up in Hytera products soon after Hytera began hiring engineers who had left Motorola in 2008, according to the lawsuit.

In a statement, Hytera, headquartered in Shenzhen, China, said it adheres to high ethical standards and complies with "the laws and regulations in markets where we operate," and "firmly believes that its business practices and operations will be fully vindicated." -- *Thanks to IWCE's Urgent Communications, The Chicago Tribune, and Motorola Solutions for information used in this story*

## AMATEUR RADIO GAINS A CHAMPION IN FAA TOWER SAFETY RULES CONTROVERSY

The owners of certain Amateur Radio towers have a friend in FCC Commissioner Michael O'Rielly, who feels that tower-marking provisions required under the FAA Extension, Safety, and Security Act of 2016, now [Public Law 114-190](#), "could use tweaks." In a March 10 [blog post](#), O'Rielly expressed his belief that thousands of tower owners in the US could face expensive, unnecessary retrofits resulting from the law's unintended consequences. The new FAA law would impose additional marking requirements for a small number of Amateur Radio towers, however. O'Rielly said §2110 -- the section of the new law that requires improved physical markings and/or lighting on towers of between 50 and 200 feet -- is too broad.

O'Rielly said that §2110 appears intended to address dangers to small, low-flying aircraft, such as crop dusters, from temporary meteorological testing towers (METs), among others, but that if implemented literally, "the provision will force expensive retrofits to potentially 50,000 existing

towers," including cell and broadcast station towers and all new towers meeting the law's broad definition, "all with little gain to air safety," he said.

The law instructs the FAA to enact rules similar to state-level statutes now in place that are aimed at improving aircraft safety in the vicinity of METs set up in rural areas. In the wake of fatal crop dusting aircraft collisions with METs, often erected on short notice, the National Transportation Safety Board (NTSB) recommended in 2013 that states enact laws -- sometimes called "crop duster" statutes -- requiring marking and registration of METs.

"Mandating new marking and/or lighting burdens for certain temporary aerial towers to aid agricultural pilots is a laudable goal," O'Rielly commented. "However, the new statutory provision may have been drafted broader than intended and, as a result, it unnecessarily captures permanent communications towers that have little overall impact on agricultural air safety."

While some state crop duster laws have exempted Amateur Radio towers, the federal legislation does not. ARRL General Counsel Chris Imlay, W3KD, has said, however, that the list of exemptions in the federal legislation restricts the application of the new rules to a very small subset of Amateur Radio towers. ARRL hopes to meet with FAA officials to discuss the issue.

Although O'Rielly did not mention Amateur Radio towers as a concern, he did allow that a small legislative fix to exempt certain towers or to require the FAA administrator to do so "would be appropriate." --ARRL

## VIRGINIA ENGINEERING STUDENTS TACKLE SATELLITE, GROUND STATION PROJECTS

The University of Virginia (UVA) [reports](#) that some of its engineering students are among those at other Commonwealth schools working on Amateur Radio satellites and matching ground stations to track them and collect data. UVA said its student-built satellite is set to go into space late next year aboard an International Space Station (ISS) resupply vehicle for later deployment from the ISS. The UVA project will be part of a joint mission with other Virginia universities to conduct atmospheric density studies, to gain a better understanding regarding the rates at which low-orbiting spacecraft slow down and ultimately leave orbit when encountering the drag of the atmosphere's outer edges.

"We're building our own version of NASA's Mission Control, to communicate with our own spacecraft," said Christopher Goyne, a mechanical and aerospace engineering professor who serves as faculty adviser for the UVA project. "Our students have a lot of work to accomplish prior to launch, and during the 6- to 12-month flight mission."

The CubeSat, which will operate in the 70-centimeter amateur band, will be the first developed and flown by UVA. Assembly and testing will be completed this summer. UVA's CubeSat is one in a constellation of three spacecraft being designed and built by students at UVA, Virginia Tech, and Old Dominion University through the [Virginia Space Grant Consortium](#). Hampton University also is collaborating. Each university will operate its own ground station, and students will communicate with each other throughout the mission. They also are collaborating on many other aspects of the project.

"One of the most worthwhile aspects of this project has been working with the student teams at Virginia Tech, ODU, and Hampton," said fourth-year student Colin Mitchell, KN4BBF, who is set to graduate this spring with degrees in mechanical engineering and physics. Mitchell is a member of the data and communications team, which is writing software for the UVA CubeSat and will handle the radio communication aspects. He and fellow student Tyler Gabriele, KN4BBE, studied for and obtained Technician licenses so they can test the radio gear, and other students associated with the project also will earn their licenses as the project develops.

Goyne's group recently began work to construct the ground station, with assistance from the UVA Amateur Radio Club (W4UVA). The Amateur Radio club will provide technical expertise and assist in the operation of the ground station.

"We've got to configure this station properly and shake out any bugs before the mission starts," said Mike McPherson, KQ9P, a UVA ham club trustee and ARES Assistant Emergency Coordinator for Albemarle County. "We're going to spend about 6 months tracking other satellites as practice." --ARRL

## AMSAT RESCHEDULES FOX SERIES LAUNCHES

[AMSAT](#) has announced that the launches of its Fox-1Cliff and Fox-1D CubeSats have been rebooked from a single launch to separate launches. Both satellites initially were set to go into space on the Spaceflight [FORMOSAT-5/Sherpa](#) mission aboard a SpaceX Falcon 9 (Sherpa is launched as a rideshare program for small, low-budget satellites). Fox-1Cliff will launch on Spaceflight's SSO-A dedicated rideshare mission aboard a SpaceX Falcon 9 scheduled to launch from California's Vandenberg Air Force Base in late 2017 or early 2018. Fox-1D will ride into orbit on an Indian Polar Satellite Launch Vehicle set to launch late this year.

"These moves will serve to expedite the launch of these two satellites, both of which carry an Amateur Radio U/V FM repeater and an experimental L/V FM repeater," AMSAT said. "The satellites also carry scientific experiments from university partners Penn State, Vanderbilt University ISDE, Virginia Tech, and University of Iowa."

Spaceflight said the recently announced 2017 SpaceX manifest would have a "significant" impact on the FORMOSAT-5 mission. "We learned our launch would occur potentially much later than expected," Spaceflight President Curt Blake, said in a March 2 statement. Spaceflight rebooked its FORMOSAT-5 mission customers and found an alternative launch for each one, he said.

In addition to the launch of Fox-1Cliff and Fox-1D, AMSAT is awaiting the launches of RadFxSat and RadFxSat-2. RadFxSat is currently scheduled to launch this August 29 aboard the NASA Educational Launch of Nanosatellites (ELaNa) XIV mission, as a secondary payload with the Joint Polar Satellite System ([JPSS-1](#)) on a Delta II vehicle from Vandenberg Air Force Base. RadFxSat-2 will be launched no sooner than December 2017 by Virgin Galactic on its LauncherOne air launch system from Mojave, California on the ELaNa XX mission. Read [more](#).  
-- Thanks to AMSAT News Service via Drew Glasbrenner, KO4MA, and Jerry Buxton, N0JY

## UK MUSEUM WANTS TO HEAR FROM THOSE WHO REMEMBER SPUTNIK LAUNCH

As part of an effort to tell the story of the International Geophysical Year ([IGY](#)) 60 years ago, a Cambridge, England, museum wants to hear from anyone who remembers the Soviet Union's launch of *Sputnik 1* on October 4, 1957. Many radio amateurs and shortwave listeners (SWLs) of the era were among those thrilled to receive the satellite's 20 MHz beacon. The Scott Polar Research Institute [Polar Museum](#) at Cambridge University will mark the IGY anniversary later this year.

The IGY was a global effort to better map and understand the planet, and it put heavy emphasis on Antarctica as well as studies of space and the atmosphere. The Polar Museum exhibition recount the story of *Sputnik*, the establishment of scientific bases in Antarctica, and the individuals involved in the IGY.

"Although largely forgotten now, the International Geophysical Year involved many thousands of people from all of the world and from all walks of life," said Museum Curator Charlotte Connelly. "We'd like to capture some of those experiences in our exhibition and show the phenomenal reach of this important moment for global science."

Contact Connelly [via e-mail](#), if you were among those monitoring and/or spotting Earth's first artificial satellite. The exhibit, "The Year that Made Antarctica: People, Politics, and the International Geophysical Year," opens on April 26.

## 30TH INTERNATIONAL MARCONI DAY EVENT SET FOR APRIL 22

Dozens of official "award stations" have registered to take part in the 2017 International Marconi Day (IMD) event, this year being held on April 22, 0000-2359 UTC (starting on April 21 in US time zones). All contacts counting toward the Marconi Award must be made on HF with registered stations, but other participating stations do not need to be registered to claim awards. This year marks the 30th IMD, held each year to mark the anniversary of wireless pioneer Guglielmo Marconi's birth on April 25, 1874. IMD is observed each year on a Saturday close to Marconi's birthday. Many special event stations — some operating from Marconi-related sites — will be on the air. Marconi Award certificates are available for both transmitting stations and shortwave listeners (SWLs).

The event is not a contest but an opportunity for amateurs around the world to make point-to-point contact with historic Marconi sites using HF communication techniques descended from those used by Marconi, and to earn an award certificate for working or hearing a requisite number of Marconi stations.

There are two categories. Transmitting amateurs attempt to complete contacts with 15 of the official award stations, while shortwave listeners attempt to log two-way communications made by 15 of the official award stations.

International Marconi Day special event station GB4IMD will be on the air from Cornwall, helmed by members of the Cornish Amateur Radio Club, which organizes the IMD event. Cornwall was home to some of Marconi's early work. A list of participating stations is on the Cornish Amateur Radio Club's website.

The Kerry Amateur Radio Group in Ireland will be taking part as an IMD award station. EI6YXQ will be set up on the site of the former Marconi Station at Ballybunion. The YXQ suffix commemorates the call sign of the Marconi Station at Ballybunion.

In the US, special event station K2M will be on the air from Binghamton, New York, the site of the remaining Marconi tower, where the inventor demonstrated in 1913 that it was possible to communicate via radio with a fast-moving train.

For the seventh year, radio amateurs in Norfolk, England, will be active from Caister Lifeboat as part of the IMD celebration. The Norfolk Amateur Radio Club (NARC) will be on the air from special event station GB0CMS at the Caister Lifeboat Visitor Centre to commemorate the village's original Marconi wireless station, established in 1900. The station's original purpose was to communicate with ships in the North Sea and the Cross Sands lightship.

Other IMD sites with historical links to the inventor's work include Cape Cod, Massachusetts (WA1WCC and KM1CC); Nantucket Island (W1AA/MS); Glace Bay, Nova Scotia (VE1IMD); Villa Griffone, Bologna, Italy (IY4FGM), and many others.

## FCC ISSUES A NOTICE OF VIOLATION TO SOLAR CITY FOR RFI INTERFERENCE

After an on-site visit and testing by an FCC Enforcement Agent of the ~S9 interference cause to an amateur radio station by a Solar City solar array located 2 houses away, the FCC issued Solar City a Notice of Violation.

It appears that at least one of the primary interference generating components is a load balancing device called an "optimizer" which is attached to back of each solar panel. Testing by the FCC Agent showed that the interference does not stop until the optimizer is detached from the solar panel. Attempts by Solar City to add filters were unsuccessful and only resulted in a few DB of change.



The optimizer (as well as the rest of the system) is manufactured by Solar Edge. I was told by Solar City when I inquired about them installing a different type of system that this is the only kind of system that Solar City installs. Given this it's not hard to envision that many Solar City installations are causing this type of interference. Fortunately the FCC is concerned about this issue and is actively working to resolve it.

## TECHNICAL

**USB 3.0 devices and cables have the possibility of radiating across a wide range of frequencies from LF to beyond 7.5 GHz.** [This Intel paper](#) discusses the specific case of USB 3.0 interference to 2.4 GHz band devices, but contains information on USB 3.0 radiation characteristics and potential ways to mitigate that radiation. (Jim, K9YC, via [RFI Mailing list](#))

## SHORTS

**Bernie Appel, Mr Radio Shack dies at age 85.** Legendary tech merchant Bernie Appel, who was instrumental in building [RadioShack](#) into an iconic national tech chain, died Sunday at the age of 85 from congestive heart failure.

The son of Russian immigrants, Appel joined RadioShack as a buyer in 1959, when the company was still a Boston-based catalog business with three stores. Over the next 33 years, as he moved from buyer to chief merchant to president and chairman under visionary leader John Roach, Appel's sourcing and merchandising prowess helped build the Tandy-backed chain into a neighborhood fixture, with some 7,000 tech shops across the country.

Along the way he ushered in the age of the personal computer with the introduction of the TRS-80, and helped open the door to retail sales of telephones by taking on AT&T in a case that went before the Supreme Court.

His work earned him the moniker "Mr. RadioShack," as well as a TWICE Distinguished Achievement Award in 1994, and entrée into the Consumer Technology Hall of Fame in 2002.

**Amateur Radio Links Search for Amelia Earhart's Plane with ISS Crew, Classroom** One of the enduring mysteries of the 20th century was the 1937 disappearance of famed aviator Amelia Earhart and her flight companion and navigator Fred Noonan, while she was attempting to circle the globe. It appeared that Earhart's plane went down in the South Pacific in the vicinity of Howland Island; her last-known radio transmission came from there. On February 18, a team from [Nauticos](#) -- with stratospheric explorer Alan Eustace and aviation pioneer Elgen Long, W7FT -- departed Honolulu for the vicinity of Howland Island, some 1,600 miles to the southwest, to complete the Eustace Earhart Discovery deep sea search for Earhart's lost Lockheed *Electra*. Nauticos provides ocean technology services to government, science, and industry.

The team has been conducting a sonar survey of about 1,800 square miles of sea floor where it's believed the aircraft may rest, and Amateur Radio has provided a means to link the crew of the research vessel *Mermaid Vigilance* with youngsters following the expedition, as well as with the International Space Station (ISS) crew.

Among those involved in the Earhart search is ARRL Midwest Division Director Rod Blocksome, K0DAS, of Iowa. Earhart was born and raised in Kansas and lived in Iowa and Minnesota. Bryan McCoy, KA0YSQ, of Iowa, also is on the *Mermaid Vigilance*, which is carrying out the deep-water sonar search for the lost aircraft. The team is using autonomous underwater technology provided by the [Woods Hole Oceanographic Institution](#) to image the ocean floor nearly 18,000 feet below. On March 17, the team launched the REMUS vehicle to search the depths of the Central Pacific.

**ARRL "60-Second Century" Videos Preview QST Editorials:** ARRL CEO Tom Gallagher, NY2RF, is now supplementing each of his QST "Second Century" editorials with a "60-Second Century" video. These videos offer a glimpse of the content in each month's QST editorial. ARRL began producing "60-Second Century" with the March QST editorial, and each video is posted on the [ARRL YouTube channel](#), as well as made available through ARRL social media platforms (Facebook, Twitter, and Instagram). Videos will become available on the 10th of each month, when the digital edition of QST is released to members, and they will be archived. For his inaugural "60-Second Century," Gallagher hit the New England National Scenic Trail in Connecticut to review the success of the National Parks on the Air ([NPOTA](#)) program in 2016, the topic of his March QST editorial.

**Richard Norton, N6AA, Director, ARRL Southwestern Division, recently [provided an update on California's Distracted Driving Law](#).** This is relevant if you are planning on using Amateur Radio gear while operating a motor vehicle in California. Anyone planning on operating while driving in California should read the entire update, and understand that the situation is still evolving. (Dennis, N6KI)

### **The Netherlands Modifies 5 MHz Amateur Radio Privileges to Conform with WRC-15**

Telecommunication regulators in the Netherlands have scaled back considerably the liberal 60-meter privileges announced for radio amateurs in that country just days after the conclusion of World Radiocommunication Conference 2015 (WRC-15). Since December 2015, amateurs in the Netherlands have had access to a 100-kHz wide amateur band at 5 MHz, with a maximum power of 100 W.

The Netherlands was able to do this because Article 4.4 of the ITU [Radio Regulations](#) permits countries to authorize frequency assignments that are contrary to the international *Table of Allocations*, only on a non-interference, non-protected basis.

[VERON](#), the IARU member society in the Netherlands, now reports that starting on April 1, Dutch radio amateurs will have to be content with the global secondary 15 kHz-wide allocation of 5351.5 kHz to 5366.5 kHz at up to 15 W effective isotropic radiated power that was agreed to at WRC-15.

**Midway and Kure Islands have been placed on the list of DXCC deleted entities, effective August 26, 2016.** This came about as an unintended consequence of action last summer by then-President Barack Obama that expanded the Papahānaumokuākea Marine National Monument to include the northwestern Hawaiian Islands west of Ni'ihau Island, making it the largest contiguous protected conservation area under the US flag.

Midway (KH4) had qualified for DXCC status by virtue of its being governed by a separate administration. Because it is now under the administration of Papahānaumokuākea Marine National Monument, however, it becomes a deleted entity. Approximately 50 people live on Midway, including US Fish and Wildlife Service staffers and contractors. The Battle of Midway, a turning point in the Allied World War II Pacific Campaign, took place in June 1942.

Now uninhabited, Kure Island (KH7K), a part of Hawaii, is separated from the rest of the state by Midway; because of that, it qualified for DXCC status under Section II, 2 (b) (iii) of the DXCC Rules — separation from its "parent" Hawaii. Midway Island's change in DXCC status in turn made Kure Island no longer eligible for DXCC status, since Kure no longer is separated from the rest of Hawaii by intervening land or islands that are part of another DXCC entity.

Kure Island once was home to a US Coast Guard LORAN station, remnants of which are still evident. It has been a state wildlife sanctuary since 1981.

**[Club Log](#) has become the first logging service to achieve Trusted Partner™ status for Logbook of the World® ([LoTW](#)),** ARRL and Club Log have announced. Radio amateurs

holding LoTW “[callsign certificates](#)” who have uploaded logs to Club Log now can readily cross-post them to the highly secure LoTW —world’s largest repository for confirming Amateur Radio contacts.

The Trusted Partner program defines the requirements for an online service to store user credentials with acceptable security. All LoTW users, whether or not they work through Club Log as a Trusted Partner, are responsible for ensuring the security of their credentials. Individuals who rely on a Trusted Partner site for security have met the requirement to keep LoTW their credentials secure. Users who allow their callsign certificates to be compromised or who knowingly exploit compromised credentials may lose the privilege of using LoTW and participating in ARRL-sponsored award programs.

Club Log has implemented security at the level required by the Trusted Partner program, as verified by ARRL’s Information Technology Department. Trusted Partners are re-verified periodically to remain in the program. [More information](#) on technical specifications and on current Trusted Partner program members is available on the ARRL website.

Other logging sites are invited to join the program by implementing the Trusted Partner standard.

**Past TAPR President Greg Jones, WD5IVD, of Denton, Texas, died on March 30. He was 54.** Jones was a professor in the Department of Learning Technologies within the College of Information at the University of North Texas, where he received his bachelor’s and master’s degrees. He received his PhD in Curriculum and Instruction at the University of Texas, and was the author of numerous scholarly articles.

He served as TAPR’s president from 1993 until 1999. “I am very proud of my time at TAPR,” he once wrote. “I was able, with the help of so many, to take TAPR from the brink of going away into a strong, living organization that 10 years later is still doing important research and education in Amateur Radio digital communications.”

**Yaesu Announces FT-70DR 5W Dual-Band C4FM HT** - a 5W Dual-Band C4FM Handheld. The FT-70DR is a compact System Fusion transceiver providing both conventional analog FM operation and the advanced C4FM Digital mode. Wide band receive coverage of 108 – 579.995MHz, Mini USB port for convenient programming and software updates and versatile Scanning Capabilities such as Programmable VFO Scan.

#### ***THANKS FOR READING!***

THE RCA ARC MONTHLY NEWSLETTER IS COMPILED AND EDITED BY JIM RINEHART, K9RU AND JIM KEETH, AF9A. 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/>