



RCA AMATEUR RADIO CLUB

DECEMBER, 2013

MONTHLY NEWSLETTER

INDIANAPOLIS, IN

Merry Christmas and Happy Holidays

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

RCA ARC NEWS

SUMMARY OF THE NOVEMBER MEETING – Thanks to all who attended the November meeting! Report on the repeater operation... The repeater has been operating normally, including Echolink. John, KF9UH, is hoping to have a new (different) desktop computer available for Echolink in the near future. Leroy, WA4OTD, reported on progress getting a club station on his church's property. The Ft. Wayne Hamfest is this coming weekend, Nov. 16-17. Several members indicated they plan to attend. Dick, W9ZB, reminded everyone of the upcoming ARRL frequency measuring test on Wed. Dave, N9KZJ, summarized the Veterans Day operation at the USS Indianapolis station.

NEXT TEST AMATEUR RADIO LICENSE TEST SESSION --

Time: Saturday, December 14, 2013, 12:00 PM (Walk-ins allowed)

Location: Integrated Public Safety Commission
8468 E 21st St.
Indianapolis, IN 46219-2517

Contact: Rhonda S. Curtis WS9H Email: ws9h@arrrl.net (317) 363-7457

HAMFESTS, OPERATING EVENTS

Dec 6-8	ARRL 160 Meter Contest
Dec 8	Ten Meter RTTY Contest
Dec 14-15	ARRL 10 Meter Contest
Feb 22	Third annual Brownsburg Hamfest, Brownsburg, IN http://www.hcars.org/
Feb 22	Cabin Fever Hamfest, LaPorte, IN http://lpcarc.org

All dates, unless otherwise stated, are UTC.

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

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

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

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

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

MARS 48 HOUR TEST DEEMED "UNEQUIVOCAL SUCCESS"

Military Auxiliary Radio System ([MARS](#)) Army MARS Chief Stephen Klinefelter has declared the multifaceted national communication exercise early this month "an unequivocal success," and he thanked all three MARS branches and the other participating military units and civilian entities for their "hard work, long hours, and dedication to the mission."

The MARS station at ARRL's Maxim Memorial Station, AAN1ARL, took part in the November 3-5

exercise, which Klinefelter said was "designed to test and stress our networks and our members' ability to process and respond to a variety of message traffic."

In the drill scenario, a catastrophe had wiped out normal telephone and Internet links. Communication was by voice and digital HF radio, the bulk encrypted as it would be in a hostile contingency. From start to finish, nets throughout 48 states operated without a break, with military MARS stations overseas also connected -- more than 5500 hours of operation by Army MARS participants alone.

Eastern Massachusetts Amateur Radio Emergency Service (ARES) handled exercise traffic as well. US Army MARS representatives met with ARRL staff at League Headquarters in early October to discuss ways the two organizations might collaborate in emergency response activities. --ARRL Letter

ARRL FILES "SYMBOL RATE" PETITION WITH FCC

The ARRL has asked the FCC to delete the symbol rate limit in §97.307(f) of its Amateur Service rules, replacing it with a maximum bandwidth for data emissions of 2.8 kHz on amateur frequencies below 29.7 MHz. The ARRL Board of Directors adopted the policy underlying the petition initiative at its July 2013 meeting. The [petition](#) was filed November 15.

"The changes proposed would, in the aggregate, relieve the Amateur Service of outdated, 1980s-era restrictions that presently hamper or preclude Amateur Radio experimentation with modern high frequency (HF) and other data transmission protocols," the League's petition asserted. "The proposed rule changes would also permit greater flexibility in the choice of data emissions." Symbol rate represents the number of times per second that a change of state occurs, not to be confused with data (or bit) rate.

Current FCC rules limit digital data emissions below 28 MHz to 300 baud, and between 28.0 and 28.3 MHz to 1200 baud. "Transmission protocols are available and in active use in other radio services in which the symbol rate exceeds the present limitations set forth in §97.307(f) of the Commission's Rules, but the necessary bandwidths of those protocols are within the bandwidth of a typical HF single sideband channel (3 kHz)," the ARRL's petition pointed out.

The League said that while bandwidth limitations are reasonable, the symbol rate "speed limit" reflective of 1980s technology, prohibits radio amateurs today from utilizing state-of-the-art technology. Present symbol rate limits on HF "actually encourage spectrum *inefficiency*," the League argued, "in that they allow data transmissions of unlimited bandwidth as long as the symbol rate is sufficiently slow." The League said eliminating symbol rate limits on data emissions and substituting a "reasonable maximum authorized bandwidth" would permit hams to use all HF data-transmission protocols now legal in the Amateur Service as well as other currently available protocols that fall within the authorized bandwidth but are off limits to amateurs.

The League said it's been more than three decades -- when the Commission okayed the use of ASCII on HF -- since the FCC has evaluated symbol rate restrictions on radio amateurs as a regulatory matter. "The symbol rate restrictions were created to suit digital modes that are no longer in favor," the ARRL noted in its petition. Modern digital emissions "are capable of much more accurate and reliable transmissions at greater speeds with much less bandwidth than in 1980."

As an example, the League pointed to PACTOR 3, which is permitted under current rules, and PACTOR 4, which is not. Despite PACTOR 4's greater throughput, both protocols can operate within the bandwidth of a typical SSB transmission.

"If the symbol rate is allowed to increase as technology develops and the Amateur Service utilizes new data emission types, the efficiency of amateur data communications will increase," the ARRL concluded.

ARRL General Counsel Chris Imlay, W3KD, has emphasized that there is no broader plan on the League's part to seek regulation by bandwidth. The FCC has not yet assigned an RM number and put the petition on public notice for comments, and there is no way to file comments until that happens. --ARRL Letter

ARRL HELPS MANUFACTURER TO RESOLVE ARC FAULT CIRCUIT INTERRUPTER RFI PROBLEMS

The ARRL Lab has worked with a manufacturer of arc fault circuit interrupter (AFCI) breakers to resolve complaints that Amateur Radio RF was causing certain breaker models to trip unnecessarily. Like the more common ground fault circuit interrupter (GFCI), the AFCI is a safety device. Primarily designed to detect problems that could result in a fire, AFCIs detect potentially hazardous arc faults that result from often unseen damage or poor connections in wiring and in extension cords and cord sets.

"Several months ago we started receiving reports from amateurs that when they transmitted, their AFCI breakers were tripping," said Mike Gruber, W1MG, the ARRL Lab's EMC specialist. He noted that the issue has been a topic of online ham radio discussions as well as on homeowner sites; it seems that stray RF is not the only thing that can cause a "nuisance trip" of an AFCI. Gruber pointed out that the National Electrical Code (NEC) already requires AFCIs in some household circuits, but not all US jurisdictions have adopted the requirement.

Gruber said that as AFCIs became more common in new construction in the US, reports started coming in that AFCIs in the vicinity -- not just in the radio amateur's home -- would trip in the presence of RF from an Amateur Radio transmitter. While each manufacturer's design is proprietary, most AFCIs detect arcs by monitoring the shape of the alternating current waveform, changes in current levels, voltage irregularities, and the presence of high frequency emissions or "noise." The ARRL Lab dug into the problem.

"Last summer we built a test fixture in which we could test any type of circuit breaker," Gruber said. It involved using W1AW as an RF source. Gruber said he bought one of "every AFCI that I could get my hands on," but when the Lab began testing them during W1AW transmissions, none of the devices tripped.

A ham in New Mexico who had reported AFCI problems sent some of his breakers to the ARRL Lab, "and those tripped when we tested them," Gruber said. The problematic breakers were certain models made by Eaton Corporation. "We already had an Eaton breaker, an older model, but it did not trip," he noted, adding that the breaker had a yellow button. The newer model, which had a white button, did trip in the presence of RF, however, even at power levels down to about 50 W on 17 meters.

Gruber contacted Eaton, and two of the manufacturer's engineers visited ARRL Headquarters in August. "Eaton was extremely cooperative and eager to resolve this," Gruber recounted. "They spent the day with us, going over our test methods and took some of the problematic breakers back with them, eventually developing a modified version.

"We have just finished testing the new version of the breaker, and it did not trip during W1AW transmissions and in other tests," Gruber reported. He said the new breaker is still in the queue for UL approval.

Eaton Engineering Director Andy Foerster said arc fault detection is challenging, in part because so many common household devices -- such as vacuum cleaners and power tools that use motors with brushes -- create arcing. In information provided to ARRL Eaton engineer Lanson Relyea said that because AFCIs rely on HF emission detection to verify arcing, "any signal that conducts or radiates a signal within the detection band of the AFCI can cause interference and cause the device to trip without the presence of a true arcing condition."

Eaton and ARRL agreed that when the manufacturer comes out with any new models of breakers, it will ask the League to test them at W1AW. "It's a win-win situation," Gruber said. Eaton also has agreed to work with anyone having a problem with RF tripping its AFCIs.

Hams experiencing unwanted tripping problems with their or their neighbors' AFCIs should first contact the manufacturer. In the case of Eaton breakers, contact [Bob Handick](#) (412-893-3746) or [Joe Fello](#) (412-893-3745). Read [more](#). --ARRL Letter

SKYWARN RECOGNITION DAY IS DECEMBER 7

[WX4NHC](#), the Amateur Radio Station at the National Hurricane Center ([NHC](#)) in Miami, will be on the air for [SKYWARN](#) Recognition Day, Saturday, December 7, 1400 until 2300 UTC. Hurricane season officially ends today.

“This will be our 15th year of participation in the SRD, and our 33rd year of public service at NHC,” said Julio Ripoll, WD4R, the [WX4NHC](#) Amateur Radio assistant coordinator. “The purpose of this event is to test the Amateur Radio Station operations and equipment between NWS Office nationwide and is sponsored by [NOAA](#). This event is excellent practice for ham radio operators as well as NWS staff to become familiar with the unique communication skills available during times of severe weather. It is also a fun event.”

[WX4NHC](#) will take advantage of the occasion to conduct operator training. The station will make contacts on various frequencies and modes, to exchange signal reports and basic weather data, such as “sunny” or “rainy” between [WX4NHC](#), ham stations at other NWS offices, and stations throughout the US.

[WX4NHC](#) will be on HF, VHF, UHF, APRS (2 meters and 30 meters), and [WinLink](#) (subject should contain //WL2K). “We will try to stay on the recognized Hurricane Watch Net ([HWN](#)) frequency 14.325 MHz most of the time and announce when we QSY,” Ripoll said.

Ripoll said that due to space and equipment limitations at the NHC, plans call for having two to three operators on duty per shift. “We cannot be everywhere and on every mode at the same time,” he explained. “You may be able to find us on HF by using one of the DX spotting networks, such as the [DX Summit](#) website.”

[WX4NHC](#) operators also will be active on the [VoIP Hurricane Net](#), from 2100 until 2300 UTC (IRLP node 9219 / EchoLink WX-TALK Conference node 7203). South Florida area VHF and UHF repeaters will be part of the mix as well.

QSL cards are available via WD4R, with an SASE. Do *not* send QSLs directly to the National Hurricane Center.

Due to security measures, no visitors will be allowed in the NHC without prior clearance from the NHC PIO and Security. Only [WX4NHC](#) operators on the approved operating schedule will be allowed entry. --ARRL

AMSAT-UK FUNCUBE-1 SATELLITE IN ORBIT

A Russian Dnepr rocket carried AMSAT-UK's [FUNcube-1](#) -- now known officially as AMSAT-OSCAR 73 -- and 18 other satellites carrying Amateur Radio payloads to orbit at 0710 UTC on Thursday, November 21. Ground stations began receiving telemetry from [FUNcube-1](#) soon after deployment and the satellite appears to be functioning normally.

One of the satellites on the launch, [UniSat-5](#), will deploy a number of additional satellites. Among them should be the CubeSats PUCP-SAT-1, HumSat-D, estar-2, [lcube-1](#) and the PocketQubes [Wren](#), Eagle-1 (BeakerSat), [Eagle-2 \(\\$50Sat\)](#), QB-Scout1. PUCP-SAT-1 intends to subsequently release a further satellite Pocket-PUCP.

As well as UniSat-5 and its associated CubeSats and PocketQubes these Amateur Radio satellites were also on the launch: [HinCubeFUNcube-1ZAcube-1First-MOVEUWE-3Velox-PIICubeBug-2Triton-1Delfi-n3XtGOMX-1](#)

For a frequency list, see <http://amsat-uk.org/2013/11/13/three-amateur-radio-satellite-deployments-in-november/>.

The latest orbital elements for [FUNcube-1](#) are available at <http://funcube.org.uk/working-documents/latest-two-line-elements/>. --ARRL Letter

FIRST HIGH SCHOOL SATELLITE AMONG NOVEMBER HAM SATELLITE BONANZA

The first high school satellite, [TJ3Sat](#), which launched this week aboard a Minotaur I rocket from Wallops Island, Virginia, was among [several satellites](#) carrying Amateur Radio payloads -- two with ham radio transponders -- scheduled to be put into orbit during November. In addition to the Minotaur I launch, [other satellites](#) were launched early November 21 (UTC) aboard a Dnepr rocket from Russia, while still others were scheduled to be deployed from the International Space Station. The Minotaur I carried 29 satellites in all.

The TJ³Sat CubeSat is a joint project between the Thomas Jefferson High School for Science and Technology in Alexandria, Virginia, and industry partners to design and build a CubeSat to inspire interest in aerospace technology as part of NASA's Educational Launch of NanoSatellites ([ELaNa](#)) program. The school says the satellite's main mission is "to provide educational resources to other K-12 education institutions to foster interest in aerospace through the successful design and flight of a CubeSat."

Perhaps more to the point for high schoolers, the satellite's *Text Speak* module will convert text messages into analog voice signals. "Students and other users from around the world can submit text strings to be uploaded to the TJ³Sat website. Approved text strings will be transmitted to the satellite and the resulting voice interpretation will be relayed back to Earth over an Amateur Radio frequency," the TJ³ website explains. The small satellite also will transmit telemetry. [Details](#) are on the TJ³Sat website. The school says the November 20 (UTC) launch culminated 7 years of work by more than four dozen students. According to a *Washington Post* [article](#), the satellite will broadcast its first message to TJ alumni worldwide: "Go Colonials!" -- *Thanks to AMSAT News Service, AMSAT-UK, and NASA*

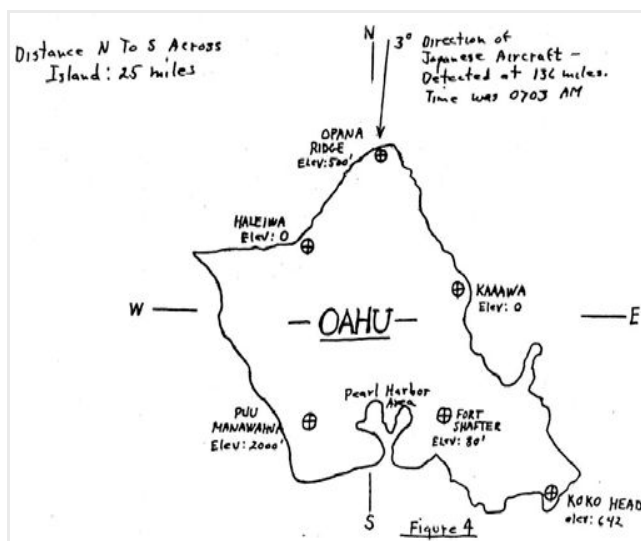
FIRST WARTIME USE OF RADAR

By Floyd Jury,* W3OLV and George Gadbois,* W3FEY

*Formerly with RCA Lancaster New Products Division (Burle Industries).

Reprinted from QRZ News.

The first wartime use of RADAR by the United States military was on Dec. 7, 1941 when Japan attacked Pearl Harbor to destroy as much as possible of the Pacific Fleet. The attacking Japanese planes were tracked by a portable SCR-270B radar installed on Opana Ridge (Elev ~500') the preceding Thanksgiving Day. A total of six portable radar stations were installed at that time.



The operating schedule for the six radar stations was 0400 to 0700 local time. The Opana Ridge radar station was manned that day by 19 year old Private Joseph Lockard, of Williamsport (PA) and Private George Elliott of Chicago. Lockard was the more experienced operator and he was training Elliott.

There were no eating facilities at Opana. An Army truck was scheduled to pick them up at 0700, but it was late so they kept the radar operating past 0700 at Elliott's request for more training.

Lockard spotted the largest group of aircraft he had ever seen at 0702. Lockard suspected an equipment malfunction, but after checking he decided the target was real. "By their

calculations, a large flight of planes was 132 miles off Kahuku Point and approaching at a speed of three miles a minute."¹



VT701A Pulse Modulator Floyd Jury Collection



WL-531, VT-141 High Voltage Rectifier
Floyd Jury collection

Radar Receiver Design



[RCA 1630 \(A-5588\)](#) [Tube Collectors Association](#)

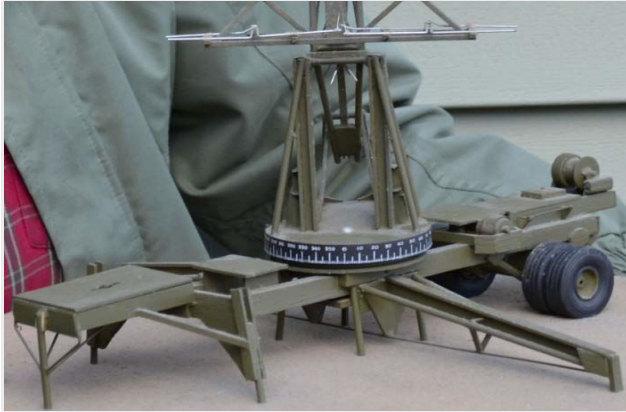
RCA Labs in Princeton, New Jersey did the receiver design work. Dr. Irving Wolff was assigned to the project. Production was probably done at the RCA Camden plant.

The superheterodyne receiver used an [RCA 1630 \(A-5588\)](#)⁴ VT-128 UHF Orbital Beam Hexode as a high gain VHF amplifier. It was later replaced by a conversion kit with 6J4s.

The radar display was before the PPI displays we all see on TV weather radar. It was much simpler and required more operator skill. It is described as an 'A' scope with the transmit pulse on the left and the return signal displayed as a blip above the baseline scan to the right. Distance was determined by the displacement of the return blip from the transmit pulse.



Radar display tube Floyd Jury collection



SCR-270B antenna model by Floyd Jury, W3OLV

The antenna used at Opana was a 9H x 4W dipole plus reflector array. There does not appear to be any extant photo of the Opana installation on Dec. 7, 1941. The radars were considered top secret at the time. There are photos of an SCR-270B installation in New Guinea similar to the Opana installation.

The Opana antenna was later turned to a horizontal position to improve azimuth resolution. The antenna array was probably changed to a 4H x 8W dipole configuration at that time. There is no evidence of vertically polarized antennas ever being used for the SCR-270 radars.

Azimuth was read with binoculars from the calibrations on the rotating base of the antenna.

Joseph Lockard reported to Floyd Jury in their interview that radar operators discovered they could track [China Clipper](#) flights out of Honolulu routinely beyond the 150 mile design range of the SCR-270B radar and sometimes beyond 300 miles. From what we know about 2m tropospheric propagation today, this is not a surprising result. It takes a lot of operator skill and a large target to recognize a return from an earlier transmit pulse. Knowing the course of the Clipper was the giveaway. Whereas the SCR-270 radar was ready for wartime use on December 7, 1941, the command and control organization required to make effective use of the radar data was not. It took awhile for the full capability of radar to be understood and used effectively.

[Admiral Isoroku Yamamoto](#) knew what he was doing when he planned the Pearl Harbor attack for Sunday morning. He knew that it was a day off for the more senior personnel at all levels, thus leaving less experienced personnel to handle the initial response to the attack. That paid off well for the Japanese attackers.



Morobe, New Guinea, September 1943

The SCR-268 and SCR-270 radars stayed in service throughout WWII. The Opana Ridge radar was given to the University of Saskatchewan after WWII for aurora research and later to the [National Electronics Museum](#).

Microwave radio and radars were developed rapidly during the war. Much of the work was done at the MIT Radiation Lab. After the war, their work was published as the [Rad Lab series](#) and they remain as valuable reference sources for VHF to microwaves.

[Joseph Lockard](#) passed away Nov. 2, 2012. Read his obituary in the Harrisburg Patriot News. He lived in Lower Paxton Twp at the time.

References:

Floyd Jury interview with Joseph Lockard circa 1988. This interview started at lunch and lasted over two hours.

"A History of the U.S. Signal Corps", Editors of the Army Times, The Army Times Publishing Co., G. P. Putnam's Sons, New York, 1961.

“The Signal Corps: The Test”, Thompson, Harris, Oakes, and Terrett, Office of the Chief of Military History, Department of the Army, Washington, D.C., 1957, U. S. Government Printing Office

“The Signal Corps: The Emergency”, Terrett, Office of the Chief of Military History

Department of the Army, Washington, D.C., 1956, U. S. Government Printing Office

OPANA RADAR SITE DESIGNATED AS AN IEEE HISTORICAL MILESTONE

<http://www.ieeeusa.com/communications/features/opanaradar.htm>

Wikipedia Encyclopedia http://en.wikipedia.org/wiki/SCR-270_radar

National Electronics Museum

<http://nationalelectronicmuseum.org/>

[Shadek-Fackenthal Library](#), Franklin & Marshall College, Lancaster, PA. This library has the Signal Corps series of WWII histories. The collection is in a repository of U.S Government documents. There are many of these repositories around the country. You should be able to find one near you.

[David Sarnoff Library](#) Dr. Alex Magoun RCA historian

[Tube Collectors Association](#) Ludwell Sibley, KB2EVN

[Hagley Museum & Library](#), Greenville, DE, (298 Buck Road, Wilmington, Delaware for GPS.) Sarnoff Library collection, notebooks and papers. Eighty one linear feet of records that need to be cataloged.

[The Sarnoff Collection at the College of New Jersey](#)

Contains museum samples of RCA developed hardware. A large display opened in October. Much more needs to be cataloged.



L-R Floyd Jury, Joseph Lockard circa 1988

SHORTS

QUICKIE ASCENSION ISLAND DXPEDITION SET --[The Daily DX](#) reports (11/29/2013) that G3VFC, M0VFC, M1BFX, M0BLF, and G3ZAY will be active as ZD8UW from Ascension Island December 2-6. Operation will be on SSB and CW on 40 through 10 meters, with some 6 meter and *WSPR* activity possible. [QSL](#) via M0OXO's online QSL request system ([OQRS](#)) for both bureau and direct cards. The team will upload logs to ClubLog and [LoTW](#). They will not have Internet access at the operating location. Ascension Island is the 238th most-wanted entity on the [ClubLog DXCC Most Wanted List](#).

Elsewhere, the [W8A/N8A](#) American Samoa DXpedition team is now on Samoa, operating as 5W8A. This call sign was previously issued to YT1AD, but QSL cards for the November/December 2013 DXpedition should go via ZL3CW (the team is attempting to get this changed on QRZ.com).

JH1BXH is now on the air from Tinian Island, Northern Mariana Islands, as KHØ/JH1BXH. QSL to JH1BXH.

Eric Hall, K9GY (ex-T6MO), notes that the Afghanistan International Security Assistance Force Spectrum Management and the Afghanistan Telecom Regulatory Authority “typically” do not authorize T6/<home call sign> operation within Afghanistan. Afghan authorities stopped issuing YA prefix call signs in 2005. — *Thanks to The Daily DX*

CANADA ISSUES SHORT-TERM 472-479 KHZ EXPERIMENTAL LICENSE – [Industry Canada](#) has issued an experimental radio license to the [Marconi Radio Club of Newfoundland](#) (VO1MRC). Experimental station VX9MRC has been endorsed to conduct transmissions on 472-479 kHz for just two days — December 14 and 15 — to call attention to the potential new Amateur Radio band there and to the role ham radio plays in emergency communication.

“A special message from our mayor will be sent on CW on 478 kHz as a beacon transmission on these days,” said Joe Craig, VO1NA, a low-frequency enthusiast. “Those receiving the message are invited to forward it to their respective municipal representative.”

Delegates attending the 2012 World Radiocommunication Conference ([WRC-12](#)) approved the secondary allocation between 472-479 kHz for the Amateur Radio Service. Industry Canada has proposed creating a new MF Amateur Radio band at 472-479 kHz on a secondary basis. Last year the ARRL asked the FCC to carve out the same band for US hams.

In November 2012 the FCC released a [Notice of Proposed Rule Making and Order](#) (ET Docket 12-338) proposing the creation of a new LF ham band at 135.7 to 137.8 kHz. Canadian hams already have such an allocation.

CLOSING OF CHANNEL 1 TV BRINGS 6 METERS TO ALL NEW ZEALAND HAMS - The last Channel 1 Television transmitter in New Zealand is due to close down at the end of November. And now telecommunications regulator Radio Spectrum Management has announced that as of December 6th that hams throughout the nation will have access from 50 to 51 MHz without needing to apply for a permit.

The actual allocation which is called a management right under which the channel 1 television transmitters operated does not expire until August 2015. Therefore 50 to 51 MHz can not appear on the Amateur General User Radio License until after this date.

To get around this, Radio Spectrum Management is putting in place a footnote called license No 4122. It simply says that those who hold a New Zealand General Amateur Operators Certificate of Competency and a callsign issued pursuant to the Radiocommunications Regulations of 2001 may operate an amateur radio station under this new grant. The power limit will be 1 kilowatt to bring it into line with the power on the nations General User Radio License for Amateur Operators. When the actual Management Right expires on August 30th of 2015, 50 to 51 MHz will be added to the New Zealand General User Radio License for Amateur Operators. --NZART

D-STAR HF TESTING CONTINUES FROM NORTH AMERICA - Kent Hufford, KQ4KK, reports that the International D-STAR HF Testing Net is continuing in North America with its just issued winter schedule. Net sponsors say that they routinely have two way communications coast to coast, north to south, and have had two way contacts to Europe and Japan.

The net is on each band only for 5 minutes and will spend less time if a given band is dead. The net also may need to move early or if the frequency is busy. It's also wise for D-STAR operators to monitor reflector REF030C to coordinate.

Also, please keep an eye on [hf.dstar-relay.net](#) for the latest information. A video demonstration of how all this comes together is on YouTube at [tinyurl.com/DSTAR-ON-HF](#). --KQ4KK, VHF Reflector.

FCC SAYS FLUORESCENT LIGHTING JAMMING CELLPHONE SITE - It doesn't happen very often but the FCC has issued an official Citation and Order for violation of Section 15.5(b) of the Commission's regulations governing what are called Incidental Radiators. In this case the recipient is being cited for operating incidental radiators and causing harmful interference to a cellular telephone system.

This past July 24th the FCC's Houston Office used direction finding techniques to locate the source of an unknown transmissions on 705 MHz to the Perfect Cuts Salon in San Antonio, Texas. The agent confirmed that the interfering signal was coming from the overhead fluorescent lighting in the salon.

The agent then interviewed Ronald Bethany who is the owner of the salon. He reportedly stated that representatives of AT&T had conducted on and off testing of the lighting in the salon and confirmed that the interior fluorescent fixtures were the source of interference to a cell site located next door. Bethany further stated that he had unsuccessfully asked General Electric, the manufacturer of the fluorescent lighting, to replace the lighting.

The FCC says that Bethany would not cooperate, so the agent from the Houston Office was unable to conduct his own on/off testing of the lighting in the salon. The agent verbally warned Bethany that he must repair or replace the lighting fixtures to resolve the interference.

On July 31, the agent spoke by telephone with Bethany, who stated that the lighting was not causing him any problems and that he saw no reason to repair or replace them unless he was paid to do so. The agent reiterated to Bethany that he must resolve the interference or be in violation of the FCC's rules. As of the October 25th release date of the Citation AT&T continues to report receiving interference at its cell site next door to Mr. Bethany's salon.

Now, based on the evidence it has on hand the FCC has found that Ronald Bethany is in violation Of Section 15.5(b) of its Rules by operating incidental radiators and causing harmful interference. It has directed him to cease operation of the incidental radiators immediately. Or in simpler terms, it basically told him to turn off the lights until the interference can be resolved.

WREN NOT HEARD SINCE LAUNCH - Meantime one of the new hamsat has not been as lucky. The WREN microsat team reports that it has had no confirmed reception of the signal from its Slow Scan TV Pocket Qube satellite which was launched on Russian Dnepr November 21st. The tiny bird is supposed to be transmitting on 437.405 MHz +/- 10 kHz for Doppler shift. The length of the beacon is 1.6 seconds and it is AFSK modulated. The team says that it needs help from every amateur radio operator and ground station operator it can get. More is at tinyurl.com/wren-in-space and at www.facebook.com/StaDoKo. --Southgate ARC

Magazine Roundup

- [Sky and Telescope](#) (Jan 2014) - "Tuning in to Radio Jupiters" - explains receiving radio noise from Jupiter and other extraterrestrial sources
- [Sky and Telescope](#) (Nov 2013) - "Amateur Space Exploration" - an overview of the CubeSat program from the amateur astronomy point of view
- Popular Science (Nov 2013) - [Waffle House Yellow](#) - shows how FEMA is using the status of individual Waffle House restaurants to aid in managing disaster response and recovery

[PC World](#) reports the end of an era as the iconic Radio Store closes up shop in Tokyo's world-famous Akihabara District. Founded in 1950, the store provided components and electronic items to shoppers for 64 years. (Thanks, Norman W9VQ)

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