

RCA AMATEUR RADIO CLUB



INDIANAPOLIS, INDIANA

SEPTEMBER 2018

MONTHLY NEWSLETTER

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE TUESDAY, SEPTEMBER 11th, 6:30 PM AT SQUEALERS, 5899 E. 86th STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE AUGUST MEETING – Thanks to all who attended the August meeting. The Club did quite well at the Indy Hamfest. The Indy Hamfest did good this year, with good attendance and finished in the black. They are looking for hams interested in joining hamfest committees for next year. The club still has plenty of 89913 coax with N-connectors if anyone needs some. (Belden 89913 is plentum rated RG-8 type cable.) The '88 repeater is still running the exciter only at medium power. We just haven't gotten around to reinstalling the power amp. Hopefully soon when the weather cools off. The field day committee had a wrapup meeting and started planning for next year. They have reserved the Victor Conservation Club for next year. The new version of FT-8, which is expected about the first of the year, was discussed. Remember the Indy Radio Club Hilltop contest on Sept. 15. See the IRC web site for details and a schedule of upcoming meetings.

AMATEUR RADIO LICENSE TEST SESSION -

Time: Saturday, September 8, 2018, 12:00 pm (Walk-ins allowed)

Location: Salvation Army Eagle Creek Corps Community Center, 4400 N High School

Road, Indianapolis IN 46254-2210

Contact: Jim Rinehart, k9ru@arrl.net, 317 721-1458

ARRL ANNOUNCES DIRECTOR, VICE DIRECTOR CANDIDATES FOR FALL ELECTION – The ARRL Board of Directors' Ethics and Elections Committee has declared as eligible the

candidates for the 2018 Board election cycle.

In the Central Division, Incumbent Director Kermit Carlson, W9XA, is being challenged for the seat by Valerie Hotzfeld, NV9L. Vice Director Carl Luetzelschwab, K9LA, is unopposed for reelection.

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Sept 3-9	W9IMS Brickyard 400 Special Event Operation
Sept 8-9	Worked All Europe SSB DX Contest
Sept 8-9	ARRL September VHF Contest
Sept 22	Bloomington Hamfest http://www.bloomingtonradio.org/
Oct 6	Indianapolis Half Marathon, Lawrence, IN mailto:N9FEB@comcast.net

Oct 6 Hoosier Hills Hamfest http://www.w9qyq.org/

Oct 6-7 Hilly Hundred, Ellettsville, IN mailto:N9FEB@comcast.net
For More Contests Information: http://www.contestcalendar.com/

Opportunities for public service: http://indyhams.org/event

CONCERN RISING WITHIN AMATEUR RADIO COMMUNITY OVER WWV SHUTDOWN PROPOSAL

ARRL members and Amateur Radio clubs are expressing increased concern over the inclusion of WWV and WWVH on a list of proposed cuts in the White House's National Institute of Standards and Technology (NIST) Fiscal Year 2019 budget request. The proposed cuts, which only recently came to light, would also include the Atomic Clock signal from WWVB. Online petitions soliciting signatures include one established by Tom Kelly II, W7NSS, of Portland, Oregon, who would like to see funding for the stations maintained. The decision is up to Congress.

"It is important to note that no changes to NIST services have occurred, and if the proposal were to be implemented, public notice would be provided," NIST said this week.

ARRL is suggesting that members of the Amateur Radio community who value the stations for their precise time and frequency signals and other information sign the petition and/or contact their members of Congress promptly, explaining how the stations are important to them, beyond government and military use. WWV is among the oldest radio stations in the US and has broadcast the official time for nearly a century.

According to the NIST <u>Fiscal Year (FY) 2019 budget request</u>, the specific cut would come from the NIST Fundamental Measurement, Quantum Science, and Measurement Dissemination budget and would amount to \$6.3 million.

"NIST has a long-standing history of providing time and frequency services through our radio stations and we appreciate that many people use these services," NIST said in a statement. "WWV is the longest continuously operating radio service in the US. At the same time, the proposed NIST budget for FY 2019 required difficult choices about budget priorities."

NIST said that it plans to eliminate "efforts that have been replaced by newer technologies, measurement science research that lies outside NIST's core mission space, and programs that can no longer be supported due to facility deterioration."

WWV and WWVH broadcast 24/7. Announcements include time announcements, standard time intervals, standard frequencies, UT1 time corrections, a BCD time code, geophysical alerts, and marine storm warnings. Transmissions are broadcast from separate transmitters on 5, 10, 15, and 20 MHz. An experimental 25 MHz signal is also currently on the air. WWVB transmits standard Coordinated Universal Time (UTC) signals on 60 kHz to appropriately equipped devices. Read more. --ARRL Letter

HOWARD E. MICHEL, WB2ITX, IS NEW ARRL CHIEF EXECUTIVE OFFICER

The ARRL Board of Directors has elected Howard E. Michel, WB2ITX, of Dartmouth, Massachusetts, to be ARRL's new Chief Executive Officer. He will start on October 15. Michel (rhymes with "nickel") is currently Chief Technology Officer at UBTECH Education, and Senior Vice President of UBTECH Robotics, a \$5 billion Shenzhen, China, artificial intelligence and

robotics company. As the Chief Technology Officer at UBTECH Education, Michel helped build this company from a startup in China to \$100 million in valuation.

"I have Amateur Radio to thank for starting me on a very successful career, and I'm excited about the opportunity to further ARRL's goals as CEO. Leading the League will allow me to 'give back' to a great community and provide a similar opportunity for future generations," Michel said. "I have been a licensed ham for 50 years, and I've seen many changes in the hobby. One of my top priorities as CEO will be to develop new products and services so all hams, whatever their license class or interest, find value in League membership," he added.

Michel was first licensed as WN2ITX when he was about 16 and upgraded to General and Advanced within a year. He earned his Amateur Extra-class license in 2000. "I've operated CW/AM/FM/SSB/digital on 80/40/20/15/10/2, on equipment that I have either built, repaired, or modified," he said.

ARRL President Rick Roderick, K5UR, said, "We are excited to have someone of Howard's qualifications to lead this organization. Howard's management experience, along with his experience at leading a membership-driven association, makes him an ideal person to move this organization forward."

In 2015, Michel served as president and CEO of the Institute of Electrical and Electronics Engineers (IEEE), a volunteer position.

"In any large membership-led organization such as ARRL, its members and volunteers are its greatest asset, and a good staff-volunteer relationship is crucial to its success," Michel said. "I intend to build on this relationship and multiply and amplify the efforts of both staff and volunteers in furthering ARRL's goals to advance the art, science, and enjoyment of Amateur Radio."

Michel is a retired US Air Force officer, having served as a pilot, satellite launch director, engineer, and engineering manager. During his time in the military, wherever he could set up an antenna, he took the opportunity to operate.

Michel earned his bachelor's degree in electronic engineering from New Jersey Institute of Technology, a master's degree in electronic and computer engineering from the University of Massachusetts, and a master's degree in systems management from the University of Southern California. He holds a PhD in computer science and engineering from Wright State University.

His noteworthy academic background further includes current service as a visiting professor in the Department of Electrical and Electronic Engineering Science at the University of Johannesburg in South Africa. Previously, he was on the faculty of the University of Massachusetts Dartmouth and of the University of Dayton.

Michel says that some of his favorite activities include attending hamfests to find old stuff to repair or repurpose, contest operating, and DXing, especially on 80 and 40 meters. He is a Life Member of the Southeastern Massachusetts Amateur Radio Association.

Michel will succeed Barry J. Shelley, N1VXY, who had been serving as ARRL's CEO since January, following the resignation of Tom Gallagher, NY2RF. Shelley previously served ARRL's Chief Financial Officer since 1992. --ARRL Letter

CONSENT DECREE SETTLES FCC NONCOMPLIANT DRONE TRANSMITTERS MARKETING CASE

The FCC Enforcement Bureau has entered into a Consent Decree with Horizon Hobby, LLC to

resolve a case involving the marketing and sale of noncompliant audio/video (A/V) transmitters intended for use on drones. The *Consent Decree* was attached to an FCC *Order* released on August 16. The Enforcement Bureau said the transmitters violated the FCC's equipment marketing and Amateur Radio rules.

"These laws ensure that radio frequency devices comply with the Commission's technical requirements and do not interfere with authorized communications," the Enforcement Bureau said. "Because the noncompliant A/V transmitters could operate in bands that are reserved for important operations, including Federal Aviation Administration Terminal Doppler Weather Radar, they must not be marketed or operated by anyone. Moreover, entities that rely on amateur frequencies in operating compliant A/V transmitters must have an amateur license and otherwise comply with all applicable laws for such operation."

In the *Consent Decree*, Horizon Hobby concedes that it marketed A/V transmitters that did not comply with FCC equipment marketing rules. The company has agreed to implement a compliance plan and to pay a \$35,000 civil penalty. Read more.

US COAST GUARD WARNS OF LED LIGHTING INTERFERENCE TO MARINE RADIOS, AIS RECEPTION

The US Coast Guard says it's received reports from crews, ship owners, inspectors, and other mariners regarding poor reception on VHF radiotelephone, digital selective calling (DSC), and automatic identification systems (AIS) when in the vicinity of LED lighting systems. This could include interior and exterior lighting, navigation lights, searchlights, and floodlights found on vessels of all sizes.

"Radio frequency interference caused by these LED lamps [was] found to create potential safety hazards," the Coast Guard said in an August 15 Marine Safety Alert. "For example, the maritime rescue coordination center in one port was unable to contact a ship involved in a traffic separation scheme incident by VHF radio. That ship also experienced very poor AIS reception. Other ships in different ports have experienced degradation of the VHF receivers, including AIS, caused by their LED navigation lights. LED lighting installed near VHF antennas has also shown to compound the reception."

ARRL has determined a wide range of interference-causing potential from consumer lighting devices. "While some are relatively quiet, other devices -- even those that meet the required FCC emissions limits -- can still cause harmful interference," said ARRL Electromagnetic Compatibility Engineer Mike Gruber, W1MG. "My best recommendation is to try LED lights before you buy, especially if there is a possibility that the device will be used while you're operating. Once you have determined that a particular LED device is quiet, then purchase as many as you need from that same store."

Over the past few years, ARRL has provided the FCC with reports of LED and other lighting systems that are not in compliance with FCC regulations. In several instances, these devices greatly exceeded the FCC's emissions limits, in one case by as much as 58 dB, creating as much noise as 650,000 legal devices, Gruber said. "Several recent FCC enforcement actions involving LED manufacturers have been encouraging," he added. "These actions can and will make a difference."

Gruber said ARRL remains committed to working with both the FCC and manufacturers to help facilitate that positive difference in every possible way. "It is possible for LED and other lighting technologies to coexist with both amateurs and other users of the radio spectrum," he said. Read more. -- Thanks to gCaptain.com and Frank Smith, WS1MH

HAARP'S WSPR RESEARCH CAMPAIGN YIELDS HUNDREDS OF REPORTS ON 40 AND 80 METERS

Just-completed research at the High-Frequency Active Auroral Research Program (HAARP) transmitters in Gakona, Alaska, successfully took advantage of the WSPR digital protocol and the Weak Signal Propagation Reporter Network (WSPRnet) on July 30 through August 1. University of Alaska Fairbanks (UAF) Space Physics Group researcher and HAARP Chief Scientist Chris Fallen, KL3WX, told ARRL that the research -- HAARP's fourth research campaign under management of the University of Alaska Fairbanks -- went well.

"My 'citizen science' experiments were funded by the National Science Foundation and were conducted for approximately 30 minutes at the end of each campaign day," Fallen said. "They consisted of 2-minute transmissions using the WSPR digital mode in the 40- and 80-meter bands, with a 2-minute off period between transmissions." He said HAARP transmitted in full-carrier, double-sideband AM because it does not have SSB capability. HAARP operated under its Part 5 Experimental license, WI2XFX, with Special Temporary Authority (STA) from the FCC to transmit on amateur bands.

"I systematically varied the HAARP transmission parameters, such as gain, net power, beam direction, and polarization, to see how they affected the reception reports collected in the <u>WSPRnet.org</u> database," Fallen said. "During the 3 days, we gathered more than 300 confirmed reports of signal strength and location from nearly 100 unique participants throughout Canada and the US."

Fallen said the spots, collected along with the corresponding HAARP transmission parameters, are available online, (1) and (2). He said the spreadsheet at the second link is editable by the public, "specifically by citizen scientists who want to manually add their spot or other interesting data analysis," he added. "In this sense, the experiment continues."

He said that HAARP's low-elevation transmissions on 40 meters resulted in the greatest number of spots. "The most distant spot was located at grid EL96xi, near Boca Raton, Florida, reported by W1NEJ, from a distance of 6,154 kilometers," Fallen said. "Interestingly, HAARP was aimed in the magnetic west direction during that spot."

HAARP and the Arecibo Observatory in Puerto Rico are planning to conduct heating campaigns this fall, Fallen noted, although not at the same time, as experimenters are shared. Read more.

SHORTWAVE RADIO REPORTS MAY OFFER BEST EVIDENCE OF AMELIA EARHART'S FATE, GROUP BELIEVES

The International Group for Historic Aircraft Recovery (TIGHAR) believes it has the key to unlock the decades-old mystery of what happened to famed aviator Amelia Earhart and her navigator Fred Noonan in their planned circumnavigation of the globe in 1937. TIGHAR's The Earhart Project analyzed dozens of radio transmissions received by radio amateurs and other shortwave listeners during the frantic search to locate Earhart's plane when she did make her scheduled arrival at Howland Island. Many theories have sprung up over the years to explain the mysterious disappearance, but a TIGHAR research paper entitled *The Post-Loss Radio Signals*, published in July by The Earhart Project, maintains that "the patterns and relationships emerging from the data show that TIGHAR has answered the 81-year-old question: 'What really happened to Amelia Earhart?'"

The Earhart Project "is testing the hypothesis that Amelia Earhart and Fred Noonan landed, and eventually died, on Gardner Island, now Nikumaroro in the Republic of Kiribati," its website says.

In July 1937, a young teenager named Betty Klenck, listening to shortwave bands on her family's radio, intercepted and transcribed pleas for help that TIGHAR calls "a remarkable record of perhaps the last communication" from Earhart and Noonan and "leave little doubt" that the 15-year-old heard a genuine distress call from the pair, transmitted from the aircraft *Electra*. Klenck's notebook, discovered in 2000, inspired TIGHAR's effort to catalog all reception reports.

TIGHAR analyzed nearly 60 other reception reports made in the wake of Earhart's failure to arrive on Howland Island. The vast majority, TIGHAR said, came from government or commercial operators as well as "licensed amateurs" working for the US Interior Department on Howland and Baker Islands, listening on Earhart's primary, harmonically related frequencies of 3,105 and 6,210 kHz. TIGHAR contends that higher-order harmonics of the primary frequencies enabled the "accidental" reception of Earhart's transmissions at greater distances, because those higher-frequency signals would be more prone to ionospheric propagation.

Reports came from the Pacific and the continental US, TIGHAR said, with Earhart reporting her plane down "on an uncharted island" that was "small, uninhabited." According to accounts, the radio transmissions became progressively more desperate, with Earhart reporting that Noonan was injured and subsequently delirious. The commander of the US Coast Guard vessel *Itasca*, which was involved in the search, discounted the contemporary radio reception reports, saying that all available land areas had been searched. He expressed doubt that Earhart and Noonan made any radio transmissions after their plane disappeared on July 2, 1937. Read more.

RECOVERY: ARISS PACKET SYSTEM REVIVES

Similar to the AO-7 satellite resurrection several years ago, the Amateur Radio on the International Space Station (ARISS) packet radio system on the International Space Station (ISS) has begun working again. NASA ISS Ham Radio Project Engineer Kenneth Ransom, N5VHO, said over the weekend that reports he'd received indicated that the NA1SS packet signal returned in mid-August.

"No idea how long it will last, given the degrading state of the current hardware. The longer it lasts, the better," he said. Ransom said the revived system will fill the gap until a replacement packet module is flown to the ISS later this year and is installed by the crew on a time-available basis.

The packet signal on 145.825 MHz has been copied in Europe, South America, India, and elsewhere. In another August 25 post, Mark Pisani, KK6OTJ, reported copying the packet system during an 18° pass over southern California and said he worked KB6LTY through the system. "Heard over Patagonia Argentina!" Francisco Rodriguez, LU2WBA, enthused in a post on August 24 at 2323 UTC. "Welcome back!" An August 17 post from Marco Antonio, PU2MUS, in Brazil indicated that the system was not active at that time.

Earlier this summer, ARISS hardware team members on the ground reported that they were able to locate a functional duplicate of the ISS packet module that had been in use on the ISS for 17 years before it failed more than a year ago.

ARISS has expressed hope that the new packet system hardware could be online again by the end of November.

HAM-ASTRONAUTS AMONG FIRST NINE ASTRONAUTS SCHEDULED TO FLY ON COMMERCIAL SPACECRAFT

Three radio amateurs are among the initial nine NASA astronauts scheduled to fly on commercial spacecraft to the International Space Station. Others in the group are studying for their ham licensing exams in order to take part in Amateur Radio on the International Space Station (ARISS) school radio contacts, or because they have expressed interest in supporting ARISS events. The women and men chosen will be the first to fly on one of two commercial spacecraft.

SpaceX plans to fly a two-person crew -- Robert Behnken, KE5GGX, and Doug Hurley -- in *Crew Dragon* atop a Falcon 9 rocket from Kennedy Space Center. A Boeing CST-100 *Starliner* capsule on an Atlas V vehicle from Cape Canaveral will carry a three-person crew -- Eric Boe, Chris Ferguson, and Nicole Aunapa Mann, who attended an ARISS introductory talk at Johnson Space Center (JSC) and voiced interest in doing ARISS contacts in the future.

Boe and Ferguson, along with Josh Cassada, Victor Glover, Michael Hopkins, KF5LJG, and Sunita Williams, KD5PLB, will also be on the commercial spacecraft on later trips following the first test flights.

Behnken earned his license with help from the ARISS team at JSC in 2005. Hopkins got his license in 2011 and made ARISS school contacts in early 2014. Within the Amateur Radio community, however, he may be best known for installing the ARISS Ham Video system in 2014, shortly before wrapping up his ISS duty tour. Glover has been studying for his ham radio license at Johnson Space Center with a little mentoring from ARISS team member Kenneth Ransom, N5VHO. Cassada spoke in person to students taking part in an ARISS contact at an ISS education conference in 2016, at the time telling the ARISS team that he wanted to get his ham radio license. Williams has supported a large number of ARISS contacts on the ISS throughout her career. Read more.

MICROWAVE UPDATE 2018 WILL BE HELD IN DAYTON OHIO ON OCTOBER 11-14, 2018

Microwave Update is an international ARRL sanctioned event with published Proceedings - dedicated to microwave equipment design, construction, and operation.

<u>Free for Students with ID</u>: Attend the seminars/forums/tours, and observe and/or participate in the Test & Measurement Lab activities, the Antenna Gain Measurements. (Note: Free participation does not include any meals or proceedings.) See the website for program details.

The programs include a **Free** tour of the Voice of America on Thursday 2-5pm. See the entire program schedule at http://www.microwaveupdate.org/schedule.php



www.MicrowaveUpdate.org

The FCC has launched a new podcast series, *More Than Seven Dirty Words*. The new media outlet will feature interviews with FCC officials and staff in addition to others in the communications arena. The podcast aims "to share untold stories, explain important policy issues, and maybe even do the impossible -- make telecom interesting," the FCC said in announcing the new media outlet. "One of the wonderful things about the digital age is the many ways to share information, so we're excited to launch this new FCC podcast," said FCC Chairman Ajit Pai, who shares some banter in an introductory segment with program host, FCC Policy Advisor Evan Swarztrauber. Guests will share their personal stories behind FCC news headlines and break down various telecommunications-related issues. The podcast's title is drawn from the first episode's introductory discussion, which touches on the court fight over George Carlin's "Seven Dirty Words" and the fallout from the 2004 Super Bowl halftime show. The first podcast, "Puerto Rico se Levanta," runs 22 minutes and focuses on the FCC's response to the 2017 Puerto Rico hurricane disaster. Each episode will be available at fcc.gov, as well as on iTunes and Google Play. --ARRL Letter

The ARRL Contest Branch has announced a new ARRL Contests Portal. ARRL Contest Branch Manager Bart Jahnke, W9JJ, calls it "a one-stop shop for all of your ARRL contest interests, offering access to everything from the starting bell of a contest to your post-event hard-fought certificate of accomplishment." Use the navigation tabs on the left to locate information about specific contests. Use the tabs at the top to submit logs, manage club eligibility lists, download certificates, and view other information for all contests. The new portal is still under construction. Information on specific contests and other contest-related content is being added every week.

The UN Amateur Radio Club's 4U1UN was back on the air briefly on August 22, after a lengthy absence. Following completion of antenna installation work, Adrian Ciuperca, KO8SCA, who has been helping to restore the station to operation, was on 20 meters for a short time (SSB only; a pirate was using the call sign on CW), generating a pileup and working about 2 dozen callers. Once all is in place, 4U1UN will operate from a remote operating position on the third floor of the UN Headquarters. 4U1UN is the 34th most-wanted DXCC entity. -- Thanks to The Daily DX

AMSAT has issued the second call for papers for the 2018 AMSAT-NA Annual Meeting and Space Symposium. The event is set for November 2 - 4 at the US Space and Rocket Center in Huntsville, Alabama. Proposals for papers, symposium presentations, and poster presentations are invited on any topic of interest to the Amateur Satellite community. Send a tentative presentation title and abstract as soon as possible, with final copy by October 15 for inclusion in the printed *Proceedings. -- Thanks to* AMSAT News Service

Reorganized and updated FCC Personal Radio Services (PRS) Part 95 rules have been published in *The Federal Register*. Among other things, the PRS covers the Family Radio Service (FRS), General Mobile Radio Service (GMRS), and the Citizens Band Radio Service

(CBRS). The revised rules allot additional FRS channels and increase the power on certain FRS channels from 0.5 W to 2 W. FRS channels are in the 462.5625 - 462.7250 MHz range. Effective September 30, 2019, it will be illegal to manufacture or import handheld portable radio equipment capable of operating under FRS rules and under other licensed or licensed-by-rule services. The FCC no longer will certify FRS devices that incorporate capabilities of GMRS capabilities or of other services. Existing GMRS/FRS combination radios that operate at power levels of less than 2 W ERP will be reclassified as FRS devices; existing GMRS/FRS radios that operate above that power level will be reclassified as GMRS devices, requiring an individual license. Radios that can transmit on GMRS repeater input channels will continue to be licensed individually and not by rule. Once the new rules are effective, CBers will be allowed to contact stations outside of the FCC-imposed -- but widely disregarded -- 155.3-mile distance limit.

Dave Popkin, W2CC/AAR2BU and Bill Sexton, N1IN/AAR1F, Receives Presidential Lifetime Achievement Award. ARRL Charter Life Member Dave Popkin, W2CC/AAR2BU, was recognized for his extraordinary contributions as a MARS member has received a Lifetime Achievement Award from President Donald Trump.

"On behalf of a grateful nation, I thank you for your lifetime of service to your fellow Americans and those most in need," President Trump said. "Through at least 4,000 hours of service, you have ensured the continuation of America's unparalleled commitment to improving the lives of others. You have served as a model of the American spirit. Your many hours of service have strengthened the bonds of cooperation and trust that bring people together, while helping to address some of the greatest challenges of our time."

"Dave is particularly noted for his MARS leadership roles, mentoring, and training initiatives," Washburn noted. "It all started with his inspiration and his motivation to take positive action that, to this day, has fundamentally enhanced the ability of [the Department of Defense] to achieve its goals under the most dire of circumstances, such as occurred in Puerto Rico during Hurricane Maria in September 2017."

"Also evident were his unique talents to train and mentor these team members, substantially expanding the strength of the organization," Washburn said. "Dave made a difference in innovative ways through this role. He worked on the HQ senior staff for many years as well. Chief Army MARS Paul English and I are most grateful for his long and valued MARS service."

Bill Sexton, N1IN/AAR1FP, has become the second of five MARS members presented with the Presidential Lifetime Achievement Award. Sexton served for many years as US Army MARS Public Information Officer. The President's Volunteer Service Award is a civilian honor, established to honor volunteers working through the President's Council on Service and Civic Participation.

The Lifetime award recognizes more than 4,000 hours of extraordinary volunteer service. "It is with great pride and pleasure that I announce that Bill Sexton, N1IN/AAR1FP, is one of five MARS members receiving the Presidential Lifetime Achievement Award," said MARS Region 1 Director Robert M. Mims, WA10EZ. "Bill has spent countless hours as National Public Information Officer and historian for the Army MARS program." Sexton also wrote *An Unofficial History: Army MARS at 90, Helping Protect the Homeland*.

Other US Army MARS members awaiting formal presentation of the Presidential Lifetime Achievement Award are, Steve Hajducek, N2CKH; Neal Morris, K0TIV, and Orlo Brown, K6SUJ.

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

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