



**INDIAN
RIVER ARC**

P.O. BOX 237285, COCOA
FLORIDA 32923-7285

VOLUME XLIII, NUMBER 11

SPURIOUS EMISSIONS

NOVEMBER, 2017

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ARMANDO DELGADO
KN4JN

CLUB MINUTES

RARC General Meeting 11-2-2017

The meeting began at 1930 with the pledge of allegiance..Following the pledge, visitor Jessie KN4GWN, Chapu KN4GEI and Danny, no license yet, were recognized. There were no ailing members recognized.

The minutes for the October meeting were printed in the newsletter. A motion to approve the October Meeting minutes was heard, a second was heard and the October minutes were approved by acclamation.

Treasurer Larry KK4WDD reported that we have \$938.46 in the checking account and we have \$1277.29 in the equipment fund. A motion was heard to accept the Treasurer's Report for audit, a second was heard and the Treasurer's Report was approved by acclamation. President Dave KU0R reported for the Technical Committee and all the repeaters are up and running and there is a new 220 repeater on the air. There is a use it or lose it factor on 220. Dave also showed slides how the hurricane bent the antenna on the 37 repeater. Jim Grossman did a tower climb and made repairs. Dave wants to upgrade the DR1X to a DR2X in the

next 60 days. We are passing the hat around to fund two DR2X(s). Dave went on to confuse the audience with some digital feature of the DR2X and upgrading the firmware.

Upcoming events, Veterans Day Special Event station at the club house, QRP Saturday and the Christmas party at the Olive Garden.

Next the election of officers for the 2018 - 2019 term commenced. There were no nominations from the floor. A motion to close the nominations was heard, a second was heard and the nominations were closed by acclamation. All officers were installed by acclamation. Officers for the 2018 - 2019 term:

President Dave KU0R
Vice President Viron N4VEP
Secretary Steve N4UTQ
Treasurer Larry KK4
Director at Large Dave K4UZM
Following the election Steve N4UTQ reported for the Red Cross Liaison that he attended a meeting with the Red Cross leadership to discuss the hurricane response. The Red Cross shelter managers had no access to the Wi-Fi. During the meeting one of the shelter managers asked where were the ham radio operators?

"We used to have ham radio operators."

Dave K4UZM reported that they ran central net from the hospital and they are working on a MOU with the hospital and he is asking for equipment to furnish central net there at the hospital.

The winning 50-50 ticket was found to be held by John KEOGG and was donated back to the equipment fund.

Next we heard from JD Shaw K7LCW, our county Emergency Coordinator. JD handed out forms to get peoples' contact information for ARES service. The EOC has separated ARES and RACES. JD is looking for people that have completed any ICS training. JD wants to have mini SET drills every three months. Dave K4UZM tried to explain the roles of RACES and ARES, but the confusion persisted. JD asked for feedback so that he can improve our response when we are needed.

A motion to adjourn occurred at 2025 and was moved and approved.

Respectfully Submitted
Steve N4UTQ
Secretary

HAPPENINGS

The October 4 webinar, "[A Look at Propagation for the 2017 2018 Contest Season](#)," sponsored by the World Wide Radio Operators Foundation ([WWROF](#)), has been posted.

The discussion covers such topics as "Adapting Your DX Contest Strategies to the Steadily Declining Solar Cycle," 160-, 80-, and 40-meter propagation at this point in the cycle, and some explanations as to why making con-

tacts with Southeast Asia, focusing on K4ZW's DXpeditions to Laos, is so difficult.

A warning from Norton:

A serious new vulnerability called KRACK (Key Reinstallation Attacks) was announced recently, likely impacting anyone who uses Wi-Fi. All Wi-Fi connec-

tion points and devices could be vulnerable—your local coffee shop, home, or workplace connection.

KRACK can allow attackers access to important information like credit card numbers, passwords, and emails transmitted over Wi-Fi networks. This vulnerability can also allow attackers to potentially infect your devices with malware or ran-

somware.

How to help protect your devices against KRACK

- Wi-Fi users should immediately update their Wi-Fi-enabled devices as soon as a software update is made available. Wi-Fi enabled devices are anything that connects to the Internet — from laptops, tablets, and smartphones to other smart devices such as wear-

HAPPENINGS

ables and home appliances.

- Stay informed - Learn More about the KRACK vulnerability.

- Only browse secure websites whose URL begins with HTTPS. HTTPS-enabled websites provides an extra layer of security by using encryption.

- HIGHLY RECOMMENDED - Consider using a secure Virtual Private Network (VPN) such as Norton WiFi Privacy*, to help protect your data against this new threat.

Note: Changing your Wi-Fi password will not prevent attacks.

Elements of the US Department of Defense (DOD) will conduct a "communications interoperability"

training exercise November 4-6, once again simulating a "very bad day" scenario. Amateur Radio and MARS organizations will take part. During the exercise, a designated DOD Headquarters entity will request county-by-county status reports for the 3,143 US counties and county equivalents, in order to gain situational awareness and to determine the extent of impact of the scenario. Again this year, a military station on the east coast and the Fort Huachuca, Arizona, HF station will conduct a high-power broadcast on 60-meter channel 1 (5330.5 kHz) on Saturday from 0300 to 0315 UTC. New this year will be an informational broadcast on Sunday, on 13483.5 kHz USB from 1600 to 1615 UTC. Amateur Radio operators should monitor these broadcasts for more information about the exercise and how they can

participate in this communications exercise.

Chinese CAS-4A and CAS-4B Amateur Radio Satellite Transponders Activated: The Amateur Radio linear (SSB/CW) inverting transponders on the CAS-4A and CAS-4B satellites [were activated](#) on October 18. CAS-4A (call sign BJ1SK) has a CW telemetry beacon on 145.855 MHz, and 4.8 kB GMSK telemetry on 145.835 MHz. The uplink is 435.220 MHz, the downlink is 145.870 MHz (20 kHz passband). CAS-4B (call sign BJ1SL) has a CW telemetry beacon on 145.910 MHz, and 4.8 kB GMSK telemetry at 145.890 MHz. The uplink is 435.280 MHz, the downlink is 145.925 MHz (20 kHz passband). -- *Thanks to Southgate Amateur Radio News via AMSAT-UK.*

The [General Availability release of WSJT-X Version 1.8.0](#) is ready! Check the [WSJT-X downloads page](#) for the version appropriate for your computer.

630-Meter Special Operating Event on November 11 commemorates Berlin Treaty. Some stations are expected to offer cross-band contacts, transmitting on 630 meters and listening on 160, 80, and 40 meters. Part 5 Experimental operators, including WD2XSH stations and others who don't yet have UTC approval, will operate in the 472-479 kHz band or just outside of it, and there may be some operation on 500 kHz. proper.

More info at

www.arrl.org/news/630-meter-special-operating-event-on-november-11-commemorates-berlin-treaty

ON THE AIR

Nov 4-Nov 14, 0000Z-2359Z, N7A thru N7Z, Lake Havasu City, AZ. London Bridge Amateur Radio Association, Inc.. 18.146 14.260 7.185 3.897. Certificate. Garry F. Fisher, 1850 Rainbow Ave South, Lake Havasu City, AZ 86403. Work 1 or all 25 Light Houses along Lake Havasu. Beautiful colored certificate available, website for details. Each of the 25 Light Houses will be identifiable by their own call N7A through N7Z. Special endorsement for working all 25. www.qrz.com/db/k9wzb or lbara.org.

11/10/2017 | U.S. Coast Guard Auxiliary 78th Anniversary Nov 10-Nov 12, 0000Z-2359Z, K1H, East Freetown, MA. US Coast Guard Auxiliary. 28.480 14.250 7.195 3.820. QSL. Paul G. Sadeck, 90 Doctor Braley Rd., East Freetown, MA 02717. Plus many more stations.

11/10/2017 | Veterans Day Special Event Nov 10-Nov 12, 1600Z-1800Z, W5H, Broken Arrow, OK. Broken Arrow Amateur Radio Club. 14.240 USB 14.040 CW 7.195 LSB 7.035 CW. Certificate. Wayne Hartsfield, 11106 S. 250th E. Ave, Broken Arrow, OK 74014. See w5drz.org for full details QSL Card on request. w5drz.org. Plus many more stations.

11/11/2017 | USS Midway Museum Ship Special Event: Veterans Day and the establishment of the US Marine Corps on 10 NOV 1775. Nov 11, 1700Z-2359Z, N6IW, San Diego, CA. USS Midway (CV-41) Museum Ship. 14.320 7.250 PSK31 on 14.070 D-STAR on REF001C. QSL. USS Midway cv-41 COMED-TRA, 910 N Harbor Drive, San Diego, CA 92101.

11/17/2017 | NRA's 146th Birthday Party Nov 17, 1500Z-2359Z, K7NRA,

Paulden, AZ. Yavapai Amateur Radio Club. 21.335 14.250 14.040 7.250. Certificate. Yavapai Amateur Radio Club, P.O. Box 11994, Prescott, AZ 86304. E-certificate available. See website for more information. www.w7yrc.org/nrbirthday

11/25/2017 | The First Pilgrim Landing at Plymouth

Nov 25-Nov 26, 1300Z-1900Z, N11X, Plymouth, MA. Whitman Amateur Radio Club. 18.160 14.260 7.260 3.860; EchoLink: WA1NPO-R, IRLP: 8691. Certificate. Whitman ARC, PO Box 48, Whitman, MA 02382. times are daily www.wa1npo.org

12/02/2017 | W2W – Pearl Harbor Commemoration

Dec 2-Dec 10, 1300Z-2200Z, W2W, Baltimore, MD. The Amateur Radio Club of the National Electronics Museum (K3NEM). 14.241 14.041 7.241 7.041. Certificate & QSL. W2W Special Event Station, Box 1693, MS

4015, Baltimore, MD 21203. Primary operation will be Dec 2-Dec 3 with additional operation possible Dec 3-Dec 10, 2017. Times are daily. ww-2.us

3B8HC Mauritius

Paul, HB9ARY will be active again from Mauritius Island, IOTA AF - 049, 4 - 18 November 2017 as 3B8HC.

GUINEA, 3X. A group of operators are QRV as 3XY3D from Kassa Island, IOTA AF-051, from November 2 to December 1. Activity will be on 80 to 10 meters using mostly CW. This includes being an entry in the upcoming CQ World Wide DX CW contest. QSL both calls direct to F5OZC.

METEOR SCATTER by Armando Delgado, KN4JN

Amateurs always look for innovative methods of communicating, especially during the low solar cycles when propagation in the HF bands is less than desirable. For many years now, hams have used a propagation method that allows long distance communications in the VHF bands without the use of repeaters and independent of the standard solar-influenced propagation. Although a promising technique, this method is not very popular due to some inherent limitations. This, of course, is meteor scatter.

Meteor scatter, also known as meteor burst communications, utilizes the ionic trail left by meteors entering the Earth's atmosphere to reflect radio signals. Millions of meteors enter our atmosphere daily, most of insignificant size, but most do ionize in the upper atmosphere. This ionization occurs in the E-layer region of the ionosphere at about 50-80 miles high. The size of the ion trail and its duration depends on the size of the meteor. Radio signals, primarily in the VHF region between 30-50 MHz, will reflect best off this ion trail and return to Earth, generally hundreds of miles away from the transmitter. Unfortunately, because the duration of the most common ion trails last only seconds, extended contacts are impossible, and this contributes to the lack of popularity of this mode of propagation.

Meteor scatter was first recognized by some scientists in the late 1920's and early 1930's, but it was not until after the end of WWII that it was used for communications. In the 1950's both the Canadian military and the United States Air Force used meteor scatter for communications in the Arctic regions due to the unreliability of normal HF propagation resulting from the extensive loss of sun light for long periods of time at those latitudes. The USAF greatly utilized this mode of communications until the advent of satellites.

Besides the Air Force, the Natural Resources Conservation Service (NRCS) which is part of the Department of Agriculture, uses meteor scatter for data transmissions from automated sites that measure snowpack size in order to predict water availability to western states. This program, known as SNOTEL, transmit daily data in the 40.670 MHz frequency to receivers that then collect the data in computers and post it to the Internet. The NRCS also runs a separate, more recent, program called Soil Climate Analysis Network (SCAN) that has stations throughout the entire country that also use meteor scatter propagation for its daily data transmissions. Most of these transmitter sites use frequencies between 40-50 MHz.

Due to the fact that meteor scatter propagation is so brief, contacts using the traditional modes of CW and SSB can be obtained only with the rarer, larger meteors that leave longer lasting trails. In recent years some digital modes, in particular WSJT, specifically designed for meteor scatter communications, have made possible more frequent contacts, since this digital mode uses short bursts of data to achieve a contact.

During times of meteor showers the number, intensity, and duration of ionization trails increases and makes possible contacts in the more traditional modes. As a rule, on a daily basis the number and intensity of meteor trails increases at those times when the transmitter location on the Earth is facing the direction of movement of the Earth orbit. For us in the Western Hemisphere that is between the hours of midnight and dawn. Meteor showers, however, usually originate from a radiant compatible with a certain constellation,

and these could peak at different times of the day. Yet, the most intense trails will always happen in the direction of Earth orbital travel.

The best frequencies for amateur meteor scatter contacts are in the 6 meter band. At these frequencies there is more likelihood of a successful signal reflection and the effect of the ion trail lasts longer. Frequencies in the 2 meter band, or even 70 cm band, can be used, but as the frequency increases the duration of the effective signal reflection decreases. In 6 meters the informal listening frequency is 50.200 MHz, with most contacts starting at 50.130 and moving up. In 2 meters most activity is found between 144.175 and 144.225 MHz. On Saturday and Sunday mornings between dawn and 9 AM meteor scatter enthusiasts are regularly active in 6 meters.

The best chances for successful meteor scatter contacts happen during meteor showers. At these times the intensity, duration, and size of the meteors is greater and the location in the sky of the meteor radiant is more clearly defined, making it possible to direct an antenna. Meteor showers occur throughout the year. Some are bigger than others, but they all improve the chances for contacts. The following website lists all the major and minor meteor showers for 2017: <http://www.amsmeteors.org/meteor-showers/2017-meteor-shower-list/>



W1AW CW PRACTICE TRANSMISSIONS

7 PM EST Slow CW : 5-15 WPM
Mon, Wed, Fri

7 PM EST Fast CW: 35-10 WPM
Tue, Thu

FREQUENCIES:

1.8025, 3.5815, 7.0475,
14.0475, 18.0975, 21.0675,
28.0675, 147.555

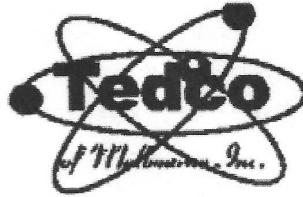


Editor's Note:

Send comments about the Newsletter or to contribute information or articles to the Editor's email address:

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