



# SPURIOUS EMISSIONS

**INDIAN RIVER ARC**

MAY, 2019

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

## CLUB MINUTES

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**ARMANDO DELGADO**  
KN4JN

President Dave KU0R began the meeting at 7:32 PM with the Pledge of Allegiance. Following the Pledge, Dave called for visitors and guests and an old member, Dave Welborn KG4KYR, was recognized and new member, Mark KI4OBT, was recognized.

The April meeting minutes were published in the April newsletter. A motion was heard to approve the April minutes. A second was heard and the meeting minutes were approved by acclamation.

The Treasurer's report showed \$2576.82 in checking and \$1778.01 in the Equipment Fund. A motion to approve the Treasurer's report was heard, a second was heard and the Treasurer's report was approved by acclamation.

Following the Treasurer's report, Dave reported for the Technical Committee. Dave said there was a problem with the clock in one of the repeaters, but everything is working fine. We have two go-kits ready for action and spare parts for two more. Dwaine KM4HCN volunteered to assemble the spare parts into new go-boxes.

Upcoming events: The JDRF Walk at Wickham Park in Melbourne May 4<sup>th</sup>, Dayton hamvention May 17-19, and Field Day June 22-23.

Next Dave gave a report on the shack upgrades: all that remains is making the room pretty. He summarized recent improvements. The GFI outlet was removed because it was tripping too often and damaged the UPS battery. The access point for wi-fi originates in the north building and a wi-fi repeater has fixed the network problem. Now there are two mag-mounts in the ceiling and there are new Alpha Delta antenna switches. The OCF dipole needed strain relief and the Alpha Delta has been re-tuned for AF MARS and Army MARS. Another HF antenna is working great. Inside the shack are two Optima batteries. Del AK4EY brought up the subject of the Red Cross being kicked out of the facility. The Air Force has bought the land for the whole block. The EOC is moving to a new location nearby. We do not know what is going to happen to the Red Cross buildings, so Dave thinks the new shack will be a bargaining point for the county to provide us space in some future location.

Next was the topic of Field Day. There is no alcohol issue with using the Red Cross. It has been Steve's Field Day fantasy to have a single high power station operating in the auditorium using a Flex radio with the displays on the projector's big screen where two people could

operate and log and the rest of us be observers. The club house on Merritt Island is also available and there will be a Field Day operation of some sort there. Dave called for a volunteer to coordinate Field Day and Viron stepped forward. Viron made a motion that IRARC throw in with LISATS and CARS at the club house on Merritt Island for Field Day activities. A motion to that effect was made, a second was heard and the motion was approved by acclamation.

The winning 50-50 ticket was found to be in the hands of Dave KU0R who donated the winnings to the Equipment Fund.

A motion to adjourn occurred at 8:12 PM and was moved and approved.

Respectfully Submitted

Steve N4UTQ

### HAPPENINGS

Florida ARES, State of Florida Considering Memorandum of Understanding:

Amateur Radio Emergency Services (ARES®) Section Emergency Coordinators (SEC) from the ARRL Northern, West Central, and Southern Florida sections met recently with state Emergency Management Communication leaders to discuss improved integration of Ama-

teur Radio during emergencies.

A draft Memorandum of Understanding (MOU) between ARES and the State of Florida was presented for further consideration. If agreed upon, the MOU would make ARES and Amateur Radio a valid resource that can be easily requested during an incident.

Read more from the ARRL [here](#).

The amateur radio community grew slightly during 2018, according to FCC figures:

755,430 total licensees

Technicians 384,145--51%

General 175,949--23%

Amateur Extra--147,368--19%

Advance--39,607--5%

Novice--8360--1%

"Listening Outside the Ham Bands" is the topic of the April 11 episode of the ["ARRL The Doctor is In"](#) podcast, and "Handheld Transceivers" is the latest.

ARRL has rolled back Outgoing QSL Bureau rates to 2011 levels. Effective May 15, 2019, the new rates will be: \$2 for 10 or fewer cards in one envelope; \$3

## HAPPENINGS

for 11 - 20 cards in one envelope, or 75 cents per ounce for packages with 21 or more cards. For example, a package containing 1.5 pounds of cards – 24 ounces, or about 225 cards – will cost \$18. There are no transaction service fees. Any cards received before May 15 will be charged the current rate. There will be no adjustments for cards received before May 15.

Joe Taylor K1JT has announced a new digital mode, **FT4**, which is 2.5 times faster than FT8. FT4 is an experimental digital mode designed specifically for radio contesting. Like FT8, it uses fixed-length transmissions, structured messages with formats optimized for minimal QSOs, and strong forward error correction. T/R sequences are 6 seconds long, so FT4 is 2.5 ×

faster than FT8 and about the same speed as RTTY for radio contesting. FT4 can work with signals 10 dB weaker than needed for RTTY, while using much less bandwidth. More info [here](#).

The Army Military Auxiliary Radio System (MARS) will host the traditional military/Amateur Radio communication tests to mark the 68th annual Armed Forces Day (AFD) on **Saturday, May 11**. The event is open to all radio amateurs. Armed Forces Day is May 18, but the AFD Crossband Military-Amateur Radio event traditionally takes place 1 week earlier in order to avoid conflicting with Hamvention®. Complete information, including military stations, modes, and frequencies, is [available](#) on the US Army MARS website. Military stations expected to be on the air for the

event include those in Arizona, Japan, Hawaii, Okinawa, Washington, DC (and elsewhere in the contiguous states), the USS Midway, the USS Yorktown, the USS Iowa, LST-325, the US Naval Academy in Annapolis, and the Newport Naval Radio Station Museum in Rhode Island.

**Museum Ships Weekend** will take place over the June 1 – 2 weekend, sponsored by the Battleship New Jersey Amateur Radio Station NJ2BB. Radio operation will be from a variety of vintage and noteworthy vessels. This is not a competition. So far 75 ships are on the roster to take part. All stations working at least 15 different participating ships will receive a certificate, if they send a copy of their log showing these contacts. While operation on any amateur frequency is allowed, most ships

will be operate in the General portion of the bands. PSK31 operation will be on 14.070 MHz, 10.142 MHz, 18.100 MHz, 21.070 MHz, and 28.120 MHz. Some ships also may be found on 75 meters (3.880 – 3.885 MHz) and on 40 meters (7.290 MHz) using AM, some using the vessel's original restored equipment.

Germany's telecommunications regulator, the Federal Network Agency (BNetzA), has released a new edition of the Amateur Radio callbook for free download. The 763 page PDF with station information as at April 1, 2019 is at [this link](#). Regulatory information about Amateur Radio in Germany can be seen in Google English at <https://tinyurl.com/BNetzA-Amateur-Radio> 2018 Statistics for German amateur radio licenses and exams are at [this link](#)

## ON THE AIR

**SPAIN, EA.** To celebrate the 70th anniversary of the IARU Society Union de Radioaficionados Espanoles, or the URE, special event stations AM70URE, AM70A, AM70C, AM70D, AM70E, AM70F, AM70I, AM70L, AM70N, AM70O, AM70P, AM70R, AM70S and AM70U are QRV until June 9. Activity is on 160 to 6 meters. QSL via bureau.

**ITALY, I.** Special event station I10KT is QRV until August 31 to commemorate the 1947 voyage of the raft Kon Tiki. QSL via IOKQB.

**FRANCE, F.** Members of the Radio Club du Val d'Issole are QRV with special event call TM500LDV until July 20 to mark the 500th anniversary of the death of Leonardo da Vinci. Activity is on the HF bands using CW, SSB, PSK and FT8. QSL via F4GPB.

**UKRAINE, UR.** Special event station EN185UNIV is QRV until the end of 2019 to celebrate the 185th anniversary of the Taras Shevchenko National University of Kyiv. QSL via UT8UF

**Vermont Parks on the Air**  
**May 15-Jun 1, 1200Z-1200Z,**  
**Various calls,** various cities, VT. Radio Amateurs of Northern Vermont and Vermont Parks Department. 14.244 7.244. QSL. QSL to station, worked. <https://www.facebook.com/groups/292829457810746>

**The INDYCAR Grand Prix**  
**May 5-May 12, 0400Z-0400Z,**  
**W9IMS,** Indianapolis, IN. The Indianapolis Motor Speedway Amateur Radio Club. 18.140 14.245 7.245 3.840. Certificate & QSL. Indianapolis Motor Speedway Amateur Radio Club, P.O. Box 30954, Indianapolis, IN 46230. [www.w9ims.org](http://www.w9ims.org)

**Centennial Celebration of San Antonio Radio Club**  
**May 11, 1500Z-2100Z,**  
**W5SC/100,** San Antonio, TX. San Antonio Radio Club. 14.260. QSL. SARC, PO Box 4263, San Antonio, TX 78265. SASE required. Club members may operate their own stations, signing "own-call/100" during 2019. Club station will operate from San Antonio Museum of Science and Technology (www.samsat.org). [www.w5sc.org](http://www.w5sc.org)

**W7K Special Event - Redefinition of the Kelvin**  
**May 20, 0000Z-2359Z, W7K,**  
American Fork, UT. K7FLK Fluke Lord Kelvin Amateur Radio Club. 3973.15 7273.15 14273.15; Echolink 762028. QSL. Frank Liebmann, 799 East Utah Valley Dr, American Fork, UT 84003. W7K celebrates the redefinition of the SI unit Kelvin which will take place on May 20, 2019. This station will be operated from one of the most accurate temperature standards

laboratories in the world in American Fork, Utah. Times of operation will be 00:00Z to 23:59Z. On 20 May 2019, the definition of the kelvin will be redefined. Historically, it has been defined as the triple-point of water being equal to 273.16 K. Starting May 20, the kelvin will be defined by assigning an exact numerical value to the Boltzmann constant. This redefinition will ensure a long-term stability and traceability of the unit for temperature by making it independent of any material substance. [tinyurl.com/w7kelvin](http://tinyurl.com/w7kelvin)

**75th Anniversary D-Day Invasion**  
**Jun 6-Jun 9, 1200Z-1700Z,**  
**WW2DDM,** Bedford, VA. Old Dominion Chapter 202 QCWA. 3880 KHz AM, LSB 3585 KHz CW 7285 KHz AM, LSB 14.245 MHz USB. QSL. WW2DDM c/o H. A. Boaz, Jr., 1389 Budd Lane, Montvale, VA 24122

## RADIO ZONES by Armando Delgado, KN4JN

The International Telecommunication Union (ITU) is a branch of the United Nations tasked with coordinating communication systems on earth and space. Radio is the primary means of communications presently, and the ITU assigns portions of the radio spectrum to the different users. Over 190 countries are signatories in the ITU and they all agree by treaty to abide by ITU recommendations.

Because radio propagation patterns and interference differ in different parts of the world, the ITU has created three regions of operation. Region 1 encompasses Europe and Africa, Region 2 the Americas, and Region 3 Australasia. The radio spectrum assignments are universal but each region has subtle differences. For example, in amateur radio, Region 1 allows a small segment for operations in the 70.1-70.2 MHz frequency range to amateurs; none of the other regions have this assignment. Region 1 also allows amateurs in the 40m band phone privileges below 7.1 MHz while in Region 2 the phone privileges begin above 7.15 MHz.

Another international agency involved in radio affairs is the International Amateur Radio Union (IARU) which coordinates amateur radio activity around the world. The IARU works closely with the ITU and represents amateur radio interests in the ITU. One of the principal functions of the IARU is to encourage amateur radio participation and activities. Radio contesting is probably the most popular form of amateur radio exchange. Contests are competitions and require a score in order to define a winner. Most scoring schemes utilize a multiplier to reward different areas of contact as well as total number of contacts. Using country prefixes as multipliers would create large score numbers; also some countries have few amateurs and others have large numbers of amateurs, creating a disparity in availability of prefixes. To alleviate this problem, the IARU

created radio zones around the world that encompass in places multiple countries and in large countries multiple zones, forming a more even pattern of multiplier areas (Figure 1). There are 90 ITU zones in total. The continental United States encompasses three zones. Florida is in zone 8.

Another organization involved in international amateur contesting is CQ magazine. It also divided the world in radio zones for contest multiplier purposes. These zones are similar to the ITU zones but number only 40, thus making them bigger (Figure 2). In the CQ scheme, the continental USA also has three zones with Florida being in zone 5. This proliferation of zones with different numbering can be problematic if contestants confuse the zone number, which would disqualify their contacts.

One other geographical zoning scheme is the Grid Square System (Figure 3), an instrument of the *Maidenhead Locator System*, named after the town outside London where it was first adopted in a meeting of European VHF managers in 1980, after being conceived by Dr. John Morris, G4ANB. A grid square measures 1° latitude by 2° longitude and measures approximately 70 × 100 miles in the continental US. A grid square is indicated by two letters (the *field*) and two numbers (the *square*), as in EL98, the grid square which encompasses Brevard county, Florida. This system further includes smaller squares for more precise location. Each sub-square is designated by the addition of two letters after the grid square, as in EL98pk. These more precise locators are used as part of the exchange in the 10-GHz contest. They measure 2.5 minutes latitude by 5 minutes longitude, roughly corresponding to 3 × 4 miles in the

continental US. A web site that permits calculating grid squares based on address, zip code or call sign is at [http://levinecentral.com/ham/grid\\_square.php](http://levinecentral.com/ham/grid_square.php).

These geographical designators are the main international ones. Besides those, most countries use their own regional designators, such as the ARRL Sections in the USA and the Russian oblasts used in the Russian contests.



### 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,  
50.350, 147.555

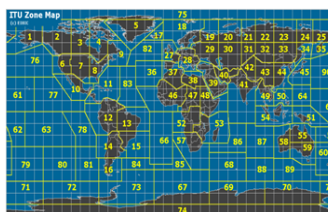


Figure 1. ITU Zones



Figure 2. CQ Zones



Figure 3. Grid Squares



### Editor's Note:

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

olardelga@aol.com.

ACTIVE REPEATERS AND SIMPLEX FREQUENCIES (FM ANALOG)

REV 5/25/2018

OUTPUT FREQ.	OFFSET	TONE	CALL	LOCATION	OWNER
145.130	-600	107.2	AB4AZ	VERO BEACH, INDIAN RIVER	AB4AZ
145.350	-600	103.5	K4OSC	St. CLOUD, OSCEOLA	K1XC
145.370	-600	156.7	W2SDC	COCOA	IRARC
145.470	-600	107.2	K4HRS	MELBOURNE	HIRAC
145.490	-600	100	WN3DHI	TITUSVILLE	NORTH NET
146.610	-600	None	W4MLB	MELBOURNE	PCARS
146.775	-600	100	K4KSC	MIMS	TARC
146.850	-600	107.2	W4MLB	PALM BAY	PCARS
146.880	-600	107.2	W4NLX	ROCKLEDGE	IRARC
146.895	-600	107.2/107.2	K4EOC	PALM BAY	EOC
146.910	-600	107.2	K4KSC	TITUSVILLE	TARC
146.940	-600	None	K4GCC	ROCKLEDGE	LISATS
146.970	-600	107.2	K4KSC	TITUSVILLE	TARC
147.075	+600	107.2/107.2	K4EOC	TITUSVILLE	EOC
147.135	+600	107.2/107.2	K4EOC	ROCKLEDGE	EOC
147.240	+600	123	KV4EOC	VOLUSIA	VARES
147.255	+600	107.2	K4DCS	PALM BAY	DCS
147.330	+600	107.2	K4NBR	TITUSVILLE	NBARC
147.360	+600	107.2	N4TDX	TITUSVILLE	NBARC
444.325	+5000	107.2	K4DCS	PALM BAY	DCS
444.375	+5000	107.2		SEBASTIAN	SARNET
444.425	+5000	107.2	W4MLB	Melbourne	PCARS
444.525	+5000	103.5/103.5	K4EOC	ROCKLEDGE	EOC
444.650	+5000	107.2	W4NLX	COCOA	IRARC
444.925	+5000	131.8	N1KSC	KENNEDY SP. CTR.	KSCARC
442.850	+5000	107.2/107.2	N4TDX	TITUSVILLE	NBARC
444.750	+5000	107.2/107.2	N4TDX	TITUSVILLE	NBARC
224.520	-1.600	107.2	N4TDX	Titusville	NBARC
PACKET STATIONS:					
145.010	WINLINK		W2PH-10	PALM BAY	DCS
145.090	PCARS		W4MLB-2	MELBOURNE	PCARS
145.770	SEDAN		K4EOC-7	PALM BAY	N2DB
145.770	SEDAN		KD4MWO-4	TITUSVILLE	N2DB
146.550	SIMPLEX		K4DCS	SOUTH REGION	DCS
147.540	SIMPLEX		K4EOC	RACES Bay	EOC
146.520	SIMPLEX			GENERAL CALL	
146.580	SIMPLEX		W4MLB	MELBOURNE	PCARS
146.480	SIMPLEX		W4NLX	CENTRAL REG	IRARC
146.595	SIMPLEX		K4KSC	NORTH REGION	TARC
146.560	SIMPLEX		NBARC	NBARC General Simplex	NBARC

Repeater in bold are owned by Brevard Emergency Management and are maintained by the county. Truste

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MACOM  
MAXON  
MIDLAND  
MOTOROLA

NTE TRANSISTORS  
NELLO TOWERS  
NTE ELECTRONICS  
NORMAN LAMPS

PANASONIC  
PANAVISE  
PHILIPS ECG (SEE NTE)  
PHILMORE  
PIONEER  
POMONA  
POWERSONIC  
PRB  
PROAM ANTENNAS

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WAVETEK (BECKMAN)  
WILSON ANTENNAS  
WILSON ELECTRONICS

YAESU

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