VOLUME XLVII, NUMBER 5

SPURIOUS EMISSIONS

MAY, 2025

INDIAN RIVER ARC

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

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CLUB MINUTES

President Steve, N4UTQ called the meeting to order at 7:28 PM following a slight delay due to technical issues with the computer for the presentation..

Following the Pledge of Allegiance Steve called for visitors; there were none.

Steve then called on Vice-President Sam, KJ4VGR, who recently purchased a radio for 2m SSB operating and installed a new beam antenna for that purpose, to tell the members about his operating. Sam said that he had been calling CQ on multiple occasions but so far has had no replies.

Treasurer's Report: The general checking account is $1953.09 after a gain of $40.00 from last month. The Equipment Fund remains unchanged at $2013.65. The Treasurer's Report was approved for audit.

Next, the minutes of the April meeting were approved.

Technical Committee: Dave, KU0R mentioned that the antenna for the 146.88 MHz repeater was installed on the south end of the church roof. He plans to activate the repeater in a week's time and hopes that at the next Saturday Simplex Event the repeater coverage can be tested.

Following the business meeting Steve gave a presentation consisting of newspaper and magazine cartoons about amateur radio. Steve clarified that these cartoons were composed by non-hams. Most of the cartoons were satirical in nature.

Following the presentation the meeting adjourned at 8:14 PM.

Respectfully submitted,

Armando Delgado, KN4JN

Secretary

HAPPENINGS

A reminder that the Virtual NTS Training Net (VNTN) continues to meet on Wednesdays at 7:00 PM Eastern Time. The VNTN URL is bitl.to/3xj4. Anyone interested in message handling is welcome. No experience required, only an interest in learning.
VNTN will accept check-ins and radiogram traffic utilizing standard phonetics and pro-signs; in short, participants will enjoy the same experiences as those who check into conventional "RF" traffic nets. The net will incorporate a "hands-on" training approach in traffic procedures, radiogram creation, and relay.

On the first week of June will be the **ARRL Digital Contest** Amateurs worldwide contact and exchange QSO information with other amateurs using any digital mode (excluding RTTY) that supports the 4-digit Grid Square exchange — attended operation only -- on the 160, 80, 40, 20, 15, 10 and 6 meter bands (Technicians are limited per FCC Rules to the 10 and 6 meter bands). Any station may work any other station. Stations may only be worked once per band, regardless of mode. Automated operation is not permitted -- each claimed contact must include contemporaneous direct initiation by the operator on both sides of the contact.
Dates: First full weekend of June (June 7-8, 2025).
Contest Period: Begins 1800 UTC Saturday, ends 2359 UTC Sunday,
Complete rules found here.

The 2nd annual Queens of the Mountains YL Summits on the Air (SOTA) special event week-

HAPPENINGS

end will start at 0000Z on June 7 and end at 2359Z on June 8, 2025. The biggest change from last year is that women from around the world are being invited to activate summits. After positive feedback and support from several international YL resources last year, the hope for 2025 is that YLs world-wide will participate, making this a truly international event. New this year, event use of special 1X1 call signs for U.S. participants is not required. Operators may apply for and use a 1X1 call sign, but everyone should feel free to use their own call sign. All amateur radio operators, OM and YL, are invited to chase the Queens, and all SOTA YLs around the world are encouraged to activate. In addition to certificates recognizing various levels of achievement by YL activators, all chasers are eligible to receive a certificate for working 5 or more YL activators. For more information, visit www.sota.org.uk.

On that busy weekend of June 7 the Netherlands will also hold a Field Day event. It will go from Saturday, June 7, 1500 UTC until Sunday June 8,1459 UTC.

For more information visit their website.

COMMON HAM RADIO EMERGENCY FREQUENCIES

The following is a list of some of the more widely used and active national VHF frequencies.
34.90: National Guard during emergencies.
39.46: Inter-department emergency communications by local and state police forces.
47.42: Red Cross for relief operations.
52.525: Calling frequency used by ham radio operators in FM
121.50: International aeronautical emergency frequency.
138.225: Prime disaster relief operations channel used by the Federal Emergency Management Agency.
146.52: 2 meter calling frequency.
151.625: "itinerant" businesses, or those that travel about the country. Circuses, exhibitions, trade shows, and sports teams are some of the users you can hear
154.28: Inter-department emergency communications by local fire departments; 154.265 and 154.295 also used.
155.160: Used for inter-department emergency communications by local and state agencies during search and rescue operations.
155.475: Used for inter-department emergency communications by local and state police forces.
156.75: Internationally for broadcasts of maritime weather alerts.
156.80: This is the international maritime distress, calling, and safety channel. All ships must monitor this frequency while at sea.
162.40: NOAA weather broadcasts and bulletins.
163.4875: National Guard during emergencies.
163.5125: National disaster preparedness frequency used jointly by the armed forces.
164.50: Department of Housing and Urban Development.
168.55: Civilian agencies of the federal government for communications during emergencies and disasters.
243.00: Military aviation emergencies.
.311.00: U.S. Air Force.
317.70: U.S. Coast Guard aviation.
317.80: U.S. Coast Guard aviation.
319.40: U.S. Air Force.
340.20: U.S. Navy aviators.
409.20: Interstate Commerce Commission.
409.625: Department of State.
462.675: Emergency communications and traveler assistance in the General Mobile Radio Service.

ON THE AIR

National EMS Week May 19-May 25, 0000Z-0000Z, N4E, Gainesville, FL. W.T. Loften High School ARC K4WTL. 14.325 MHz. QSL. W.T. Loften High School ARC K4WTL, 3000 East University Avenue, Gainesville, FL 32646. Help us celebrate the work by EMS workers!

Living History Cruise of SS John W Brown: WW2 Liberty Cargo Ship May 24, 1500Z-2000Z, K8JWB, Baltimore, MD. Project Liberty Ship (SS John W Brown). 7210.00 14230.00 21300.00 28320.00. Certificate. Project Liberty Ship K8JWB, Pier 13, 4601 Newgate Ave, Baltimore, MD 21224. Join the SS John W Brown while it sails on the Chesapeake Bay maritime mobile. Remembering the United States Merchant Marine, Navy Armed Guard crew and the shipbuilders including Rosie the Riveter who built 2710 of them who deeply impacted the winning of WW2. Those people and ships were critical to Winning the war www.ssjohnwbrown.org

Scott Joplin International Ragtime Festival May 28-May 31, 1000Z-2000Z, W0R, Sedalia, MO. Sedalia-Pettis AR Klub (SPARK). 28.4 14.250. QSL. Bret Kuhns, 1880 Quisenberry Rd, Sedalia, MO 65301. Sedalia Missouri is where Ragtime Music started. An annual Ragtime Festival is held drawing musicians from all over the globe. The local WA0SDO SPARK Amateur Radio Club will be operating a special event station using the call sign W0R (for Ragtime!). wa0sdo.org

W2W D-Day Commemoration Jun 1-Jun 14, 1300Z-2200Z, W2W, Hunt Valley, MD. Amateur Radio Club of the National Electronics Museum (ARCNEM). 14.244 14.044 7.244 7.044. Certificate & QSL. ARCNEM, 338 Clubhouse Road, Hunt Valley, MD 21031. Amateur Radio Club of the National Electronics Museum (ARCNEM) will operate W2W in commemoration of the anniversary of D-Day and the role of electronics in WWII. Primary operation will be June 1-June 6 with additional operation possible during June 7-14 as operator availability permits. Operation on 80M (3.544, 3.844), additional bands and digital modes possible during event. Frequencies +/- according to QRM. QSL and Certificate available via SASE; details at ww-2.us. ww-2.us

Museum Ships Weekend Jun 7-Jun 8, 0000Z-2300Z, W4AVM, Tampa, FL. American Victory Museum Ship. 14.320 7.268. QSL. American Victory Ship & Museum - W4AVM , c/o Richard Burbes - KE9VS, 5224 Franklin Woodland Drive, Plant City, FL 33565. www.w4avm.org

Ships On The Air Jun 7-Jun 8, 0359Z-2359Z, W4JDD, Jacksonville, FL. Orleck Amateur Radio Society. 7.225 14.250. Certificate. John Reynolds, 5547 Lofty Pines Cir S, Jacksonville, FL 32210. Operate around the clock with the worldwide Ships On The Air event johnr1000@aol.com

ZL1RS will be active as E6RS from **Niue Island**, IOTA OC - 040, 27 May - 2 June 2025.
He will focus on 6m activity if no propagation on 10m.
QSL via ZL1RS, LOTW.

Impedance by Armando Delgado, KN4JN

When students of electricity and electronics begin their knowledge quest invariably they commence by learning about voltage, current and resistance in DC circuits. They also learn Ohm's Law and about the subject of inductors and capacitors. In DC circuits these concepts and laws are simple and straight forward, not requiring complex mathematics to understand. Inductors in DC circuits behave as a short circuit while capacitors act as an open circuit; the latter build up a charge and then the current stops in the system.

As the students advance in their electrical learning, they run into AC circuits. Although still obeying Ohm's Law and all other concepts that pertain to DC circuits, AC circuits are much more complicated. As the name suggests, the electrical potential in these systems "alternate". AC circuits have magnitude and phase, as compared to DC circuits that only have magnitude. That is, the voltage and the current fluctuate cyclically, the voltage from positive to negative and the current likewise from flowing in one direction to reversing in the opposite direction with each cycle. Moreover, the voltage and the current are out of phase from each other and their function depends on the frequency of cycles, a fact that leads to difficulties in understanding these circuits.

These complications are better illustrated in the response of inductors and capacitors to the AC current. In inductors, the voltage leads the current. In any particular cycle, as the voltage potential peaks, it creates a magnetic field. As the voltage begins to decrease, the magnetic field induces a current in the inductor that interferes with the lagging current in the system. In the capacitor, the current leads the voltage and as the current cycle declines and reverses, it creates a voltage that interferes with the oncoming lagging voltage. The end result of these processes is that a resistance is created, independent of the natural resistance of the physical materials in the circuit. This resistance is called *reactance* and is measured in ohms. Reactance added to the physical resistance in the circuit creates *impedance*.

Unfortunately, because reactance results from both positive and negative halves of the electric cycle, the math to analyze it introduces an imaginary number for the reactance which is represented with the letter "j". Thus, real resistance R cannot be added directly to imaginary reactance jX even though both use the same units, the ohm. And here is the problem for the student, R+jX is a complex number and cannot be easily resolved with simple math.

Fortunately, early researchers in mathematics and electricity recognized this problem and found a solution: they used polar coordinates to illustrate the relationship of the real and imaginary components of the complex number.

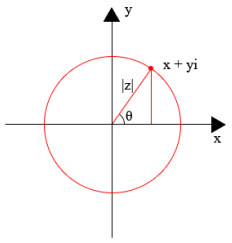

Figure 1. Argand Diagram

The diagram in Figure 1, called the Argand diagram, shows the concept. The real and the imaginary number are set as a point in a circle with coordinates established by the value of the real number on the horizontal axis and that of the imaginary number on the vertical axis. The radial line that connects the point in the circle to the origin represents the impedance. This diagram shows a resulting right triangle that, given the value of the real and the imaginary components, the value of the impedance can be determined by using the Pythagorean Theorem. This polar coordinate evaluation of impedance is also the basis for the Smith chart.

Impedance is a critical factor in AC circuits, with particular importance in long conductor lines, as found in transmission lines and antennas, where impedance mismatch can lead to problems.

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, 18.0775, 21.0675, 28.0675, 50.350, 147.555

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 INCLUDING DMR, PACKET & SIMPLEX

RACESBRE0008 REV B

Repeaters & Packet are open for all licensed amateur radio operators to use.

OUTPUT FREQ.	STD. NAME	OFFSET	TONE/CC	CALL	LOCATION	OWNER	NOTES
WBFM							
145.130	130 VB	-600	107.2	AB4AZ	VERO BEACH, INDIAN RIVER	AB4AZ	
145.350	350 SC	-600	103.5	K4OSC	St. CLOUD, OSCEOLA	K1XC	Radio Science Club, Fl Club
145.370	**370 CO**	-600	156.7	W2SDB	COCOA-BROADCAST CT.	IRARC	Yaesu Repeater replaced with Bridgecom FM
145.470	**470 ME**	-600	107.2	K4HRS	MELBOURNE- RIALTO PL.	HIRAC	
145.490	**490 TI**	-600	100.0	WN3DHI	TITUSVILLE SR405 & Fox lk rd.	WN3DHI	
146.610	**610 ME**	-600	None/107.2	W4MLB	MELBOURNE- HOLMES HOSP	PCARS	Tone Downlink only
146.625	**625 MM**	-600	100.0	KE4NUZ	NW of MIMS NEAR HARRISON RD.	KE4NUZ	Limited coverage
146.775	**775 MM**	-600	100.0	K4KSC	NW of MIMS Hog Valley , W of I95	K4KSC	
146.850	**850 ME**	-600	None/107.2	W4MLB	PALM BAY- Port Malabar Rd.	PCARS	Tone Downlink Only
146.880	**880 RO**	-600	107.2	W4NLX	ROCKLEDGE- WUESTHOFF HOSP.	IRARC	FUSION Repeater replaced with Bridgecom Fl
146.895	**895 PB**	-600	107.2/107.2	**K4EOC**	PALM BAY- DeGroot Library	EOC	TSQL as of 5/2018
146.910	**910 TI**	-600	107.2	K4KSC	TITUSVILLE Water Tower on south st.	TARC	
146.940	**940 RO**	-600	None	K4GCC	ROCKLEDGE Carver Rd.WLRQ Tower	LISATS	
146.970	**970 TI**	-600	107.2	K4KSC	TITUSVILLE-T'VILLE TOWERS	TARC	
147.075	**075 SC**	+600	107.2/107.2	**K4EOC**	SCOTTSMOOR Near US1-Aurantia Rd	EOC	TSQL as of 5/2018 Relocated 4/2019
147.135	**135 RO**	+600	107.2/107.2	**K4EOC**	ROCKLEDGE-EOC	EOC	TSql as of 5/2018
147.240	240 DE	+600	123.0	KV4EOC	DELAND	VARES	
147.255	**255 PB**	+600	107.2	K4DCS	Near Babcock & Palm City S City limi	PBARC	
147.330	**330 TI**	+600	107.2	K4NBR	TITUSVILLE-PARRISH HOSP.	NBARC	
147.360	**360 TI**	+600	107.2	N4TDX	TITUSVILLE-PARRISH HOSP.	NBARC	DSTAR Gateway in work
442.850	**850TI4**	+5000	107.2/107/2	N4TDX	TITUSVILLE-PARRISH HOSP.	NBARC	TSql;FUSION/WBFM/WIRES-X
444.325	**325ME4**	+5000	107.2	K4DCS	MELBOURNE-TRINITY TWRS-E	PBARC	
444.375	**CNLBRE**	+5000	107.2		I95 FDT Twr 1/2 Mile N of County Lin	SARNET	"SARNet Sebastian Repeater"
444.425	**425ME4**	+5000	107.2	W4MLB	MELBOURNE- RIALTO PL.	PCARS	
444.525	**525RO4**	+5000	103.5/103.5	**K4EOC**	ROCKLEDGE-EOC	EOC	TSql; VOICE/NBEMS
444.650	**CNMBRE**	+5000	107.2	W4NLX	COCOA-FHP SR520	IRARC	"SARNet Cocoa Repeater"
444.750	**750TI4**	+5000	156.7/156.7	N4TDX	TITUSVILLE- TGO WATERTOER 230 ft.	NBARC	TSql
444.875	**875MI4**	+5000	107.2	KC2UFO	MERRITT IS. COURTNEY SPRS.	K4UZM	
444.925	**925KS4**	+5000	131.8/131.8	N1KSC	KENNEDY SP. CTR.-VAB	KSCARC	FM Tsql ; P25 capable
224.120	**120CO2**	-1600	123.0	AA4CD	COCOA Broadcast Ct.	AA4CD	
DMR							
444.150	**150TI4**	+5000	CC1	K2JO	TITUSVILLE-PARRISH HOSP.	KC2CWT	DMR FL
444.575	**575CO4**	+5000	CC3	K4DJN	COCOA BROADCAST CT.	AA4CD	DMR Brandmeister
444.675	**675TI4**	+5000	CC3	K4DJN	TITUSVILLE-T'VILLE TOWERS	AA4CD	DMR Brandmeister
ATV							
427.250	**250CO4**			K4ATV	COCOA BROADCAST CT.	LISATS	NTSC INPUT 439.25 See www.lisats.org
PACKET STATIONS:							
145.090	**WL2KPB**	WINLINK		W2PH-10	PALM BAY-W2PH QTH	PBARC	WINLINK GATEWAY
145.090	**090 ME**	PCARS		W4MLB-2	MELBOURNE-TRINITY TWRS-EAST	PCARS-K1YON	BBS W4MLB-4 EASTNET
145.770	**770 PB**	SEDAN		K4EOC-7	PALM BAY	N2DB	http://www.fla-sedan.com
145.770	**770 TI**	SEDAN		KD4MWO-4	TITUSVILLE	N2DB	INACTIVE NODE
BREVARD RACES/ARES SIMPLEX							
146.480	**CENTX**	SIMPLEX		N/A	CENTRAL REG	IRARC	CENTRAL NET SIMPLEX BACKUP
146.550	**SOUTHX**	SIMPLEX		N/A	SOUTH REGION	PBARC	SOUTH NET SIMPLEX BACKUP
146.580	**MLBX**	SIMPLEX		N/A	MELBOURNE REGION	PCARS	MELBOURNE REGION NET SIMPLEX BACKUP
146.595	**NORTHX**	SIMPLEX		N/A	NORTH REGION	TARC	NORTH NET SIMPLEX BACKUP
147.540	**EOCROX**	SIMPLEX		N/A	RACES Bay	EOC	EOC VOICE/NBEMS
SIMPLEX							
146.520	**CALL52**	SIMPLEX		N/A	Station to station, anywhere		VHF national simplex calling freq
146.490	**TAC A**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
146.560	**NBRX**	SIMPLEX		N/A	NBARC -Club/Parrish Hosptial Activities		
146.580	**TAC B**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
147.420	**TAC C**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
147.420	**IRARCX**	SIMPLEX		N/A	IRARC 'FUN NET" and CLUB ACTIVIES		
147.450	**TAC D**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
147.570	**TAC E**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
446.000	**CALL46**	SIMPLEX		N/A	Station to station, anywhere		UHF national simplex calling freq
446.500	**TAC A4**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
446.600	**TAC B4**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
446.700	**TAC C4**	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006

2 Meter & 70 cm WBFM repeaters use CTCSS; if one frequency is listed it is for uplink (user Tx) , if two are listed the repeater is set for uplink and downlink (user Tx a

Repeater Call Signs in bold are owned by Brevard Emergency Management and are maintained by the county. Repeater Trustee: Ron K2RJ

NOT ON AIR

Standard Names in Bold are recommended for Emergency Radio in Brevard *

PBARC= Palm Bay Amateur Radio Club (Replaces DCS for South Brevard) See Ed W2PH for more info