VOLUME XLVII, NUMBER 8

SPURIOUS EMISSIONS

AUGUST, 2025

INDIAN RIVER ARC

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

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N4VEP

CLUB MINUTES

President Steve Luchuk, N4UTQ called the meeting to order at 7:15 PM.

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

President's Report: Steve mentioned that the Saturday tests are popular and in the past few tests participants covered VHF SSB, UHF SSB, 1.2 GHz SSB, 160 m SSB and FT8, and VHF FT8. All operations achieved contacts with multiple stations. Next Saturday, August 23 at 10 AM will be the next test. After check-in on 147.42 MHz SSB, the group will decide what mode and band to use.

Treasurer's Report: The club's finances remain unchanged for this month: the checking account, $1249.89 and the Equipment Fund, $2013.65. The Treasurer's Report was approved for audit.

The minutes of the July meeting were approved.

Technical Committee Report: Steve mentioned that all repeaters are working and linking correctly. The 146.88 repeater is still operational at the church. Dave, KU0R said that he has been installing the tower he recently obtained. Next week he will pour the base and plans to have a 2m horizontal antenna, a 70cm beam pointed in the Orlando direction and a 2m vertical on top.

Past President Report: Viron, N4VEP announced that the next QRP event will be on September 20 at Tom Statham Park at the usual time.

Following the business meeting, Steve reprised his presentation from last year on manned spacecrafts. He gave an informative and detailed discussion of all the main American and Russian spacecrafts of the past and a brief review of the ones planned for the future. All detailed with diagrams and pertinent photographs.

The salient vehicles were the Russian Vostok-1, the first craft into space, carrying Yuri Gagarin and launched on April 12, 1961. The capsule was spacious and allowed the cosmonaut to float free inside. Also, it had an uncontrolled reentry and the cosmonaut had to eject from the craft and parachute down.

The Voskhod 1, the first flight of the second Russian space program, carried a crew of three, no space suits and no ejection seat for landing. Two of the crew were cosmonauts, but the third was an engineer. The second flight, Voskhod 2, carried two suited cosmonauts and in this flight Alexei Leonov made the first space walk which he almost did not survive due to a spacesuit malfunction.

Later Russian vehicles included the Zond, designed for unmanned Moon flybys. It was basically a Soyuz craft without the crew capsule. The Soyuz was designed for a Moon landing. The first flight of Soyuz 1, manned by cosmonaut Vladimir Komarov, ended in tragedy when on reentry the craft parachute malfunctioned.

The first American manned space flight was the Mercury program. The Mercury carried one astronaut and was smaller than the Vostok, not allowing the astronaut to leave his seat. The electric power for the capsule was a silver-zinc battery of which the craft carried three for redundancy. This powerful battery is also used in ICBM rockets and is still in use today.

The next American program was the Gemini that carried two astronauts. As part of the program, on June, 1965 during the Gemini 4 flight Ed White became the first American to do a space walk. Gemini also performed the first rendezvous in space.

The Apollo program followed Gemini. The capsule was roomier and carried a crew of three. Its engine was an AG 10, the same one used in the Agena target vehicle from the Gemini program. Apollo was designed for a lunar landing and included a landing module. This module, designed by Grumman, had no seats. It consisted of two components, a descent stage and an ascent stage. The Soviets also had a lunar lander, but it was only one component without a descent stage, carried only one crew, and no computer to assist the landing.

Later space programs included the Space Shuttle, and the Russian Buran which was a copy of the American Shuttle that never made it into space. The Buran flew only once as an unmanned craft.

Other more recent space capsules include the Orion capsule designed by Lockheed, the Dragon capsule, and the CST-100.

Future space ships in development are the Dream Chaser and the Starship, which with its rocket is larger than the Saturn V and is being developed to return to the Moon and later to Mars.

Following the presentation the meeting adjourned at 8:46 PM.

Respectfully submitted,
Armando Delgado, KN4JN
Secretary

HAPPENINGS

The ARRL and Radio Relay International (RRI) signed a memorandum of understanding to help revamp and expand the National Traffic System, particularly its operation during emergencies. The text of the agreement can be found here.

The club held its monthly simplex exercise on Saturday, July 26. As usual, athenet was called on 147.42 MHz , FM with nine stations checking in. Later the net moved to 144.20 MHz , SSB where many participants succeeded in making contact in spite of some stations having horizontal antennas while others had only vertical ones.

Following the previous contacts on 2 meters, the participants moved on to experiment contacts in 160 meters SSB. Although most stations could not achieve SWRs below 2:1 to 3:1 using tuners, many stations managed to be heard and stablished limited contacts. In spite of the limitations, we showed that 160 meters allowed contacts in daytime through ground wave propagation.

Throughout the experiment the 147,35 MHz club repeater served as the coordination center.

International Dog Day (IDD), National Dog Day in the United States, is held on August 26 every year. Special event station K2D will be on the air, joined by operators in Europe. The US-based team of 10 operators will be operating from August 20 – 26, 0000 to 0000Z. The tradition was cre-

HAPPENINGS

ated 21 years ago in 2004 (147 in dog years) by pet advocate Colleen Paige, a pet and family lifestyle expert. August was chosen because it was the month her family adopted their first dog, Sheltie, from an animal shelter. International Dog Day stations will be using Hamlog Online. Four awards will be available to amateur radio operators making contacts with IDD stations.

There's a new resource from ARRL documenting the history of ham radio. Radio Alpha is the ARRL® Museum and Research Library. It is available for viewing at www.arrl.org/museum. Radio Alpha is envisioned as a Wikipedia-like project, administered by a trusted group of volunteers.

From the ARRL Solar Report: Weekly Commentary on the Sun, the Magnetosphere, and the Earth's Ionosphere for July 31, 2025 by F. K. Janda, OK1HH: We are most likely still in the period of the maximum of 11-year solar activity cycle No. 25. Its peak was preliminarily recorded in the fall of 2024, but this year's course was very unusual, while its response in the ionosphere was unexpected, especially in May and June. Solar activity should continue to decline slowly this year, with a more rapid decline expected starting in 2026. Therefore, there is still hope for favorable shortwave propagation conditions this fall, especially in the shorter part of the range (say, at frequencies above 20 MHz).

The Virtual NTS Training Net (VNTN) continues to meet on Wednesday evenings at 7 PM Eastern time. Anyone interested in learning more about the NTS, radiograms, traffic nets, and message relay is welcome. Shawn Dodds, N1CVO, has been doing an excellent job in working with folks with varying levels of experience — including none — but would benefit greatly from the ability to share his screen for teaching purposes. For this reason, we have changed the Zoom link. Effective Wednesday, August 6, the new link will be bitl.to/4tL3. We look forward to seeing you there.

Frank Butler, W4RH, Former ARRL Southeastern Division Director, Passes Away at 100
Former ARRL Southeastern Division Director Frank Butler, W4RH, has become a Silent Key. He passed away at the age of 100. Butler was an ARRL member for at least 78 years. He served 29 years as the ARRL Southeastern Division Director until his retirement from 50 years of service as an elected official of ARRL in 2007. He began his elected service as the Western Florida Section Communications Manager in 1957.

Frank Butler, W4RH, Silent Key | 1925 – 2025

HamSCI Meteor Scatter QSO Party A reminder that HamSCI, Ham Radio Science Citizen Investigation, is preparing now for a series of meteor scatter (MS) experiments and needs amateur radio operators to help. This is a combination "special event" and a contest to generate contact data during meteor scatter events using 10 and 6 meters. To be successful, this effort needs operators, both active and passive. Operators are needed to be active (calling CQ) on MSK144, or passive, if possible, reporting via PSK Reporter as "monitors."The best times are early morning hours prior to 10 meters opening to F2 propagation. Eventually, the HamSci team will be collecting operator contact information, but for now, all that is required is for participants to report through PSK Reporter. For more information on the operating guidelines for the activity, please visit Meteor Scatter QSO Party Guidelines | HamSCI. The next HamSci Meteor Scatter QSO Party will be December 12 – 13, 2025 during the Geminids

ON THE AIR

International Dog Day 2025 Aug 20-Aug 26, 0000Z-0000Z, K2D, K2D/x , MELVILLE, NY. Caryn Eve Murray, KD2GUT. 7.045 14.050 21.030 28.050. Certificate. Caryn Eve Murray, 2 Wallingford Dr, Melville, NY 11747. After August 1st, chasers may look to see where K2D and our international partners are on the air by visiting https://hamlog.online/idd dogdayradio.org

80th Anniversary of Victory Over Japan Day Sep 2-Sep 14, 1400Z-2359Z, W2V, Gastonia, NC. Radio Gastonia . 14.345 21.345 7.245 18.145. QSL. W2V VJ DAY SE RADIO GASTONIA, 243 Moore Dr, Gastonia, NC 28056. www.qrz.com/db/W2V

ROUTE 66 ON THE AIR Sep 6-Sep 14, 0001Z-2359Z, W6JBT, San Bernardino, CA. CITRUS BELT AMATEUR RADIO CLUB. 3.866 7.266 14.266 28.466. Certificate & QSL. CITRUS BELT AMATEUR RADIO CLUB, PO BOX 3788, San Bernardino, CA 92413. The Citrus Belt Amateur Radio Club of San Bernardino, California will host the 26th annual Route 66 On The Air special event, September 6-14,2025. The event offers radio amateurs a chance to perhaps relive their own Route 66 memories and to celebrate the famed highway's rich history. Opened in 1926, US Route 66 was the first major improved highway to link the West Coast with the nation's heartland; it once served as the backdrop for a popular TV show and has been the subject of songs and stories. There will be multiple stations — some will be "rovers" — operating in or around the major cities along Route 66 from Santa Monica, California to Chicago, Illinois. They will use 1 × 1 W6-prefix special event call signs www.w6jbt.org

SS John W Brown Sept 13 Living History Cruise Sep 13, 1500Z-2000Z, K8JWB, Baltimore, MD. SS John W Brown Radio Club. 7210 14230 21300 28320. Certificate. Randall Crenwelge, 2 Laurel Hill Road Unit K, Greenbelt, MD 20770. Join us as we sail on the Chesapeake Bay for a living history cruise honoring those that built and served on the liberty ships during WW2. Please send us full size envelope with postage for a certificate. Dam the Torpedoes! Full speed ahead! www.ssjohnwbrown.org

Constitution Day Sep 17-Sep 24, 0700Z-0700Z, W3C, Rancho Cucamonga, CA. Jeff Widen. 7.275 14.074 14.250 21.315. QSL. Jeff Widen, 7548 Ramona Ave, Rancho Cucamonga, CA 91730. Celebrating the signing of our defining document the US Constitution on September 17, 1787 at Independence Hall Philadelphia, PA. www.qrz.com/db/w3c or www.qrz.com/db/k6qcb

Toroids by Armando Delgado, KN4JN

Transformers in radio have been used since the early origins of radio, mainly in converting input power to a level compatible with the devises used in receivers, and in transmitters to increase power to a level that allows a signal to travel as far as possible. Power transformers in modern amateur radio are relegated to power supplies, mainly. However for the past few years amateurs still use transformers but principally as broadband transformers to match impedance between feed lines and antennas. These transformers became practicable with the introduction of the toroid core.

Toroids are doughnut shaped devises made of materials that can be magnetized. There are two common types, ferromagnetic toroids and ferrite toroids, each with a multitude of component varieties to meet the different requirements. The ferromagnetic toroids are made of iron particles mixed with inert substances, such as carbon or silicone. The size of the iron particles primarily determines the qualities of the toroid. The ferrites are made of combinations of different magnetic metals, such as zinc, manganese and nickel.

In use, toroids serve as cores in wire inductors. Their function is to enhance the magnetic field created by the wire coil. The magnetization level of the toroid depends on its permeability, which is the readiness of the material to respond to the applied magnetic field of the inductor. Unfortunately, permeability is not infinite and always has a saturation point that varies with the different materials. As a rule, the iron based toroids have a higher permeability than the ferrites. The magnetization in AC and RF circuits also depends on the frequency of the current.

One other factor to consider in choosing a toroid is the power that will be applied to the circuit. All toroids have an internal resistance that is different for different components, and electric power passing through a resistor dissipates some energy as heat. A characteristic of magnetizable materials is what is called the Curie temperature, a temperature level that causes the material to lose its magnetic properties. Actually, the permeability of materials decreases gradually with rising temperature until it reaches that level where it is totally gone.

Besides temperature, higher power requires bigger conductors. Since the wires must be coiled through the body of the toroid, the size of the toroid becomes important at higher powers. A bigger size also dissipates heat better but becomes bulky and heavy as well, an important fact when the transformer is used in wire antennas.

Since toroid performance depends on so many variables, it is critical to understand the factors of the circuit where they will be used to assure the best operation. It is also important to know all the characteristics of the toroid to be used. Fortunately, toroid manufacturers publish all of the important toroid factors, which is very helpful in selecting the best toroid for the job at hand.

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