VOLUME XLVII, NUMBER 3

# SPURIOUS EMISSIONS

MARCH, 2025

INDIAN RIVER ARC

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

## OFFICERS

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N4UTQ

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KU0R

**DIRECTOR**
ROBERT SCORAH
W0AGE

**PAST PRESIDENT**
VIRON PAYNE
N4VEP

## CLUB MINUTES

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

Following the Pledge of Allegiance, Steve called for visitors; there were none. He then went on to discuss that it was brought to his attention that the PCARS club's liability insurance through the ARRL was only about $200. Steve mentioned that when he checked last year for the insurance it was higher than the amount he negotiated with another insurance company, the ARRL having asked for over $800 at the time. The issue will be researched before this year's insurance quote comes about.

Next, the minutes of the March meeting were approved.

Technical Committee: Dave, KU0R mentioned that the date for the removal of the 146.88 MHz repeater from the hospital has been moved to March 31. In the mean time, Dave will be clearing the space at the church's storage room to accommodate the repeater rack. He asked for assistance with the work and will notify members when he is ready.

Past President Report: Viron, N4VEP said that the QRP event was very good, he having achieved multiple DX contacts.

Following the business meeting, Steve gave a presentation on nuclear fusion and how elements are created in the sun, and supported his presentation with many colorful and interesting slides.

In summary, the sun's gravitational pressure causes hydrogen atoms to collide creating neutrons, which then collide with other hydrogen atoms to produce helium, and as more complex elements collide, the process continues until iron is produced. Up to this point all fusion reactions release energy, but iron does not. Iron is called the "magic element" because it will not release energy with fusion.

Average stars like the sun define their life cycle by the production of iron in their core. When the total cycle of element production reaches iron, the star will collapse and goes on to produce a small dwarf or a neutron star.

Neutron stars have an iron atmosphere and a core composed of neutrons. They rotate very rapidly and create a magnetic field that generates strong electromagnetic waves. X-ray bursts are caused by neutron stars.

Black holes can develop after some large stars collapse as supernovae.

Note that our sun will never go supernova because it has not enough mass. Black holes are massive, compact objects with intense gravitational fields that prevent anything, including light, from escaping. We believe that there is a black hole at the center of our galaxy, but we know little about these entities.

The universe's elemental particles are quarks, leptons, and bosons. There are six types of quarks recognized, five flavors of bosons, which interestingly have mass but not matter. Leptons are elementary particles that carry a charge or are neutral, like the electron.

Steve, further brought up an interesting fact that protons are made up of two up quarks and one down quark. The mass equivalent of the quarks is 2.4 MEV for the up quark and 4.8 MEV for the down quark, yet the proton as a whole has 897 MEV. This is a puzzling quandary.

Following the presentation and question period the meeting adjourned at 8:22 PM

Respectfully submitted,

Armando Delgado, KN4JN

Secretary

## HAPPENINGS

Bob. W3RDL will be teaching a General and Extra class starting on March 8 at the Melbourne Fire Training center. The intent is to get Technician licensees ready for their General exam and possibly Extra and to get General licensees ready for their Extra exam.. Bob can be reached at 321-452-0450 or w3rdl@arrl.net.

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**NTS® Resources**: The National Traffic System® (NTS®) is a network of amateur radio operators who move information during disasters and other emergencies. General messages offering well wishes also move through the NTS® to help test the system and to help amateur radio operators build traffic handling skills. While the NTS® is primarily set up to serve the United States and Canada, it is possible to move traffic internationally through the NTS® through various local, regional, area, and international network connections.

NTS 2.0
NTS Manual
NTS Methods and Practices
Guidelines
Handling Instructions
Numbered Texts
Form Encoding Rules for Form

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The Titusville Club is holding their Mosquito Net tailgate March 22nd at Fox Lake Park, Titusville, starting at 7am.

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The 2025 Florida QSO Party will be held the weekend of April 26th – 27th, 2025. Times: Saturday 16:00:00Z (Noon EDT) – Sunday 01:59:59Z (9:59:59 PM EDT Saturday) Sunday 12:00:00Z (8 AM EDT) – 21:59:59Z (5:59:59 PM EDT)

## HAPPENINGS

No registration prior to the FQP is required, although Florida entrants are encouraged to post their intended operation here: https://floridaqsoparty.org/counties/
The website also has further information on the contest.

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The ARRL A-1 Operator Club has 6,359 all-time members as of May 2024. Launched in May of 1933 by ARRL's then-Communications Manager Ed Handy, W1BDI, the spirit of the A-1 Operator Club membership is to "bring attention to good operating as a paramount issue, and to give it something of the importance it deserves."
Membership is available to all currently active, licensed, amateur radio operators. Membership comes after nomination by two club members who find the nominee qualified to be a member of this elite group. Those who gain membership to an A-1 Operator Club will receive a gold seal, A-1 Operator Club certificate. Pins recognizing this achievement are available in the ARRL Store. For more information on how to nominate someone for this prestigious membership and to see the nomination guidelines, please visit www.arrl.org/a-1-op.

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Registration is open for the next interactive session of ARRL's "On the Air Live," which is scheduled for Tuesday, March 25, 2025, at 8 PM Eastern / 5 PM Pacific in the ARRL Learning Center. It will focus on advanced functions of handheld radios, including getting them on digital modes. "On the Air Live" is accessed through the ARRL Learning Center at learn.arrl.org. It is a benefit of ARRL membership, and members must be logged into the website to access it for live or archived sessions.

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Now is the time to start planning for Field Day, which this year is on June 28-29. Initially created as an exercise in emergency communications, it has evolved into something more. Field Day is a learning opportunity on how to set up a station and on operating HF. It is also an opportunity for club members to socialize and to get to know each other. For new hams, in particular, the process of installing an antenna can be daunting and Field Day gives them a chance to see how experienced hams do it and to ask questions on things they may not understand or that might pertain to their particular home setting. Likewise, they can get advise on hints and kinks of radio station set up.

Hams who cannot operate HF from their homes due to antenna restrictions or limited space, or hams who cannot do it because their license does not allow it can experience HF operating during Field Day. The FCC allows anyone to transmit in the amateur HF frequencies as long as there is a properly licensed control operator supervising the transmission.

There is no better introduction to ham radio than achieving a contact during Field Day, a challenging proposition amid a veritable chaos of QRM, with a sprinkling of QRN. Like the old song says, if you can do it there, you can do it anywhere.

Field Day is a team event that allows all club members to participate, not only in the technical aspect of setting up stations under time limitations but also to spend time to get to meet other club members, have some good food, and good conversation.

So mark your calendar or phone Reminders app for the last weekend in June and come to enjoy the fun of Field Day.

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Every year the National Hurricane Center holds a conference where interested parties make presentations, including the amateur community, that regularly participates in the Hurricane Net, when activated. This year, the National Hurricane Conference will be held in New Orleans, Louisiana on April 14-17. An important aspect of the conference is the Amateur Radio Workshop. Last year's workshop is available courtesy of Jim Palmer, KB1KQW on this link.

## ON THE AIR

**CAPE VERDE**, D4. A group of operators are QRV with special event call sign D450ICV until December 31 to celebrate the 50th anniversary of the independence of Cape Verde. Activity is on all bands and modes. QSL via LoTW.

**GABON**, TR. Roland, F8EN is QRV as TR8CR until at least April. Activity is on the HF bands using only CW. QSL via F6AJA.

**The White House Communications Agency 83rd Anniversary**
Mar 22-Mar 29, 0000Z-0000Z, W0H, Jackson, OH. White House Communications Agency Amateur Radio Club. 3.875 7.275 14.250 28.550. Certificate. Lowell Yates, 6809 Four Mile Rd, Jackson, OH 45640. https://whitehousecomms-arc.org

**Sun & Fun Aerospace Exposition**
Apr 1-Apr 6, 1300Z-2200Z, W4S, Lakeland, FL. Lakeland Amateur Radio Club. 14.40 7.40 18.93 28.40. QSL. Lakeland Amateur Radio Club, PO Box 90853, Lakeland, FL 33804. Lakeland International Airport, KLAL info@lakelandarc.org

**GERATOL NET 52nd Anniversary**
Apr 6-Apr 13, 0001Z-2359Z, N1KL, Wheelwright, MA. GERATOL NET. 3.668. Certificate. Kevin Lynch, POB 124, Wheelwright, MA 01094. Ther GERATOL Net Worked All States net is celebrating 52 years of service to the Amateur Radio community. For special downloadable certificate, look for W1G Special Event on 3.668 Mhz starting at 0100Z each evening. https://geratol.net

**Activation of State Parks in the State of TX Commemorating Tom King, WK5DX** Apr 12-Apr 13, 0800Z-2000Z, K5LRK, The Colony, TX. Lake Area Amateur Radio Klub. CW bottom of +40 kHz; Phone General segment +25 kHz and 28.350; VHF 50.200 144.200. QSL. Ken Rainy, AC3EZ, 529 Kenilworth Ave, Oak Point, TX 75068. www.k5lrk.com

VP2VI Team will be active from **British Virgin Islands**, IOTA NA-023 in April 2025.
Team - members of the Bavarian Contest Club, DA1DX ex DL6FBL, DK9IP, DL8LAS, DM6EE. QSL via DJ4MX, LOTW, ClubLog OQRS.
The callsign VP2VI was originally assigned to Mr. Robert W. Denniston, W0DX.
Bob was IARU President from 1966 to 1974. In addition to many other accomplishments, Bob was instrumental in preparing the release of the new WARC bands, which were
finally approved at the World Radio Conference in Geneva in 1979.
After his retirement, Bob lived in the British Virgin Islands until he passed away in 2002.

## Amateur Logging by Armando Delgado, KN4JN

For the first time, in 1912, the US government began to regulate radio transmissions in this country. The regulations applied to any devise capable of emitting radio signals, which included amateur radio. The primary rule was that all radio emitting devices had to be licensed, with the license issued to the address where the devise was located. This meant that if the devise was moved to a different region in the country, a new license was required with the number of that region. Another important rule was that radio operators had to keep a log of all transmissions showing the date, the time the transmission started, the call sign of the station contacted, the time the transmission ended, the power used and the antenna used. These particular rules remained in effect until 1976 when the FCC changed them.

In 1976, the FCC revamped some rules pertaining to amateur radio. Whereas the initial licensing protocol was to issue the license to a devise at an address, the rule change issued the license to the operator, thus eliminating the need for a new license if the transmitter was relocated. At this time, the FCC also eliminated the logging requirement for all radio transmissions, a rule that initially allowed government inspectors a means of tracking radio interference, at a time when radio equipment was rather primitive and spurious signals were a common occurrence. By 1976, radio technology had greatly advanced and radio equipment was more precise in their transmissions, with very rare off-frequency signals occurring due to equipment malfunction.

Although after that ruling in 1976 logs were not mandated, hams continued to keep logs of most of their operations, up to the present.

There are many reasons amateurs keep transmission logs. For one, it is a historical record of a ham's radio activity, which gains importance with time, as we tend to forget details and try to recall important exchanges of the past.

Also, if a ham receives a QSL card from a contact several months, or years, previous and wants to reply, he needs the log to confirm the details of his exchange.

For contesters, logs are a requirement if they plan to enter the competition. All contests require a log submission to score the participants.

In the beginning, all amateur logs were recorded on paper. Some hams used ruled notebooks, others used loose sheets of paper that they kept in binders, and others purchased preprinted commercial log books. To this date, the ARRL sells a logbook that has not changed format in years.

With the advent of computers, enterprising hams began to develop programs for logging radio contacts. Most of these were intended for contests, in particular Field Day. Yet, some amateurs used data managing-programs, like Excel, to develop their own logging setup.

The internet soon followed computers. Logging programs, some very sophisticated, became available for download from the internet. The internet also introduced the concept of open source programming, which made for more sophisticated programs available free to anyone. Most of these programs are in constant flux with revisions, improvements, and the inevitable bug corrections. Presently there are many logging programs downloadable from the internet. Some are free and some not, but they all provide for general logging and contest logging.

Probably, the most popular logging program is N1MM+ created by Tom Wagner, N1MM several years ago. He made the program free of charge with open source programming that now has several programmers continuing its evolution. Although N1MM+ is primarily a contest logging program, it also allows general logging. Presently, the program has modules for all the main contests and many minor ones. Each contest module is designed for the rules of the specific contest. The program is simple to use by the average contester, but it also offers sophisticated modules for advanced contesters, including capability for SO2R operations. The program will create the required Cabrillo format that most contests require today for submission and can also create ADIF files.

Another popular logging program is N3FJP created by Glenn (Scott) Davis, N3FJP , Initially intended for the ARRL November Sweepstakes, the program has expanded to include Field Day and many other contests, as well as general logging. This program is not free, but it has a reasonable price and updates are free. There many more logging programs available such as Ham Radio Deluxe, AC Log, OM Log, Swiss Log, Rumlog, and Aether which is only for Mac OS.

More recently, internet logging introduced by a number of sites that permit hams to verify contacts by entering their callsign or log information. The largest of these types of site is the ARRL Logbook to the World (LoTW) that will take QSOs and search for a confirming QSO from another station to achieve a match. This matching process allows stations to apply for most of the awards the ARRL gives, like WAS, DXCC, etc. Other sites that offer logbooks include QRZ.com, Clublog.com and the POTA website that shows contacts with POTA stations.

Although contact logging was mandatory at one time, today it is voluntary, but it is an integral part of amateur radio.

**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