



**INDIAN  
RIVER ARC**

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

VOLUME XLVII, NUMBER 1

# SPURIOUS EMISSIONS

JANUARY, 2025

## OFFICERS

### PRESIDENT

**STEVEN LUCHUK**

**N4UTQ**

### VICE-PRESIDENT

**SAM THORPE**

**KJ4VGR**

### SECRETARY

**ARMANDO DELGADO**

**KN4JN**

### TREASURER

**DAVID LERRET**

**KU0R**

### DIRECTOR

**ROBERT SCORAH**

**WOAGE**

### NEWSLETTER EDITOR

**ARMANDO DELGADO**

**KN4JN**

## CLUB MINUTES

The meeting was called to order at 7:34 PM by David Lerret, KU0R, club Treasurer, in the absence of the President, Steve Luchuk, N4UTQ who was detained at work.

Following the Pledge of Allegiance, Dave called for approval of the November, 2024 meeting minutes, since there was no club meeting in December. The November minutes were approved.

The Treasurer Report was tabled for this month.

Technical Committee Report: Dave mentioned that the 145.37 MHz repeater is now functional again following a temporary patch to bypass the intermodulation problem until that issue can be resolved. The patch required the receive tone to be changed to 100.0 Hz to prevent the transmitter from responding. Dave stressed that this is a temporary fix to keep the repeater operational until the actual problem is permanently resolved.

New Business: Winter Field Day

will be the weekend of January 26-27. The club plans to participate but there is a conflict with the days the church will allow the club to use the band room facility. Presently, Saturday is available but not Sunday. Although not finalized, the current club plan is to operate from the EMCOM room at the church one HF station, since there is only one available HF antenna at that location, and to use the band room for social activities. Open, is an option to set up a second station at the band room for Saturday operations, although the limited operating time and the effort required for set up and take down of the equipment during daylight raises a question of feasibility.

One other option discussed is operating Sunday from a park. This year's Winter Field Day rules allow for a change of location, as long as the call sign remains the same and the stations remain within the same ARRL section. The club now

does monthly radio events from different parks in the county, and that option would provide an extra day of activities for the Winter Field Day.

Due to the limited time before the event, Dave encouraged members to email Steve with ideas, comments and suggestions.

In other new business, Dave mentioned that he would like to make a club presentation on antenna radiation exposure limits. This station evaluation is an FCC requirement for every active transmitting radio station. For hams, the calculations are limited to far field radiation effects, which significantly simplifies the calculations and any ham could do them. It being a legal requirement, it is important for all to understand the issue and the FCC requirements.

There being no further items for discussion, the meeting adjourned at 8:00 PM

Respectfully submitted,  
Armando Delgado, KN4JN  
Secretary

## HAPPENINGS

**The Orlando Hamcation** :02/07/2025-02/09/2025 at Central Florida Fairgrounds 4603 W. Colonial Dr., Orlando, FL 32801

Website: <http://www.hamcation.com>

Talk-In: 146.76 -.600 103.5

The counterpart of the ARRL Field Day is happening this month.

**Winter Field Day** is held the last full weekend in January. For

2025, it will be held on January 25th and 26th. The 30-hour operational period starts at 1600 UTC on Saturday (11 am EST), the 25th, and ends at 21:59 UTC on Sunday, the 26<sup>th</sup> (4:59 pm EST). Stations may begin setting up no earlier than 1600 UTC (11 am EST) on the Friday before. The designated Winter Field Day exchange includes your call sign, a category number, a class identifier,

and a location identifier. For details, go to the Winter Field Day website at <https://winterfieldday.org/sop.php> By the way, the predicted solar flux for January 25 is 230 and the predicted A Index is only 5 which should make for excellent propagation, barring an unexpected major solar flare.

One of the best amateur radio

contests of the year will be in the next few weeks. **The ARRL DX Contest** is divided into a CW and a phone portion on two separate weekends.

CW: Third full weekend in February (February 15-16, 2025).

Phone: First full weekend in March (March 1-2, 2025).

W/VE stations send a signal report and their state or province. DX stations send a signal report and power as a number.

## HAPPENINGS

The ARRL created a website called [Radiogram Portal](#) that allows anyone to send a radiogram anywhere in the country. It is a web-based application created by Jonathan Taylor, K1RFD, also the author of Echolink, that allows anyone to enter their name, email address, and ZIP code, followed by adding their message along with address information for the recipient. The software will format that information into a radiogram and list it for an authorized traffic handler to retrieve and move it on its way to destination. To date, the Portal lists over 70 authorized "radiogrammers" from all over the country and they are anxious to get practice in handling these messages.

**Ham Radio Science Citizen Investigation—HamSCI** is a collaboration of multiple educational and scientific institutions and organizations that advance scientific research and understanding through amateur radio activities, encourage the

development of new technologies to support this research, and provide educational opportunities for the amateur community and the general public. For more information visit the HamSCI [website](#).

ConTest University (CTU) holds an annual conference with many presentations on amateur radio contesting. Each presentation is carefully prepared with up-to-date information. CTU professors are experienced contesters who will share their knowledge, and participants can ask questions and learn new ways to enjoy contesting. Videos and PDF presentations from past CTUs can be viewed at their [website](#).

An AUXCOMM class will be conducted in Orlando, Florida, February 3-5, 2025, prior to the Orlando HamCation®. This is one of the best classes to take to foster understanding of where we fit into the overall NIMS/ICS structure. For Florida licensees interested in deployment outside of their county, this course is mandatory, per the

Florida Department of Emergency Management. — ARRL Northern Florida Section Emergency Coordinator Arc Thames, W4CPD.

Also Orlando HamCation will host the ARRL Southeastern Division Convention on February 7-9, 2025. The schedule of forums and programs devoted to state-of-the-art emergency communications topics is most impressive this year:

Disaster Response Communications & Auxcomm Florida (Roger Lord and David Byrum, KA4EBX, presenters)

SHARES, What is it? Why Should I Care? (Doug Lynch, W4DBL)

Near Vertical Incidence Skywave (NVIS) Antenna for EmComm (Gary Spangneberg, KF4GGK)

Army and Air Force MARS: Joint Mission to Support the Troops (Pat Johnson, Julio Schroedel, KJ4AVE)

SARNET (Statewide Amateur Radio Network) (Randy Pierce,

AG4UU, and Joe Poerschke, WB4HIS)

New emergency communications courses are now also available from the ARRL that are aligned with the new ARES Task Book. They are available [here](#).

The WSJT-X development team has announced that release candidate **WSJT-X 2.7.0 rc8** is ready for beta testers to download and use. This revision introduces a new message system primarily intended for contests. Otherwise, RC8 is mostly a bug-fix release of the well-functioning RC7. The WSJT-X message system can be used to invite your QSO partner to QSY to another frequency or mode (e.g., during contests), or to send some general short messages. To understand how to use the Message System, be sure to read Section 8 of the updated WSJT-X User Guide for RC8. Direct links to installation packages for Windows, Linux, and MacOS can be found at [wsjt.sourceforge.io/wsjitx.html](http://wsjt.sourceforge.io/wsjitx.html).

## ON THE AIR

**GUYANA**, 8R. Aldir, PY1SAD will be QRV as 8R1TM from Georgetown from January 1, 2025 to February 8. Activity will be on all bands using CW, SSB, and various digital modes. This also includes some Satellite activity. QSL direct to home call.

**CAMEROON**, TJ. Thierry, TK1CX is QRV as TJ/TK1CX until the end of February 2025. Activity is in his spare time on 20 to 10 meters using mostly FT8 and low power. QSL via EA5ZD.

**ANTARCTICA**. Oleg, ZS1ANF is QRV as ZS7ANF from Wolf's Fang Runway, IOTA AN-016, until February 2025. Activity is

in his spare time on 40 to 10 meters using mostly CW. QSL via DL5EBE.

**60th Anniversary of the Amateur Radio Stamp and the 110th Anniversary of ARRL** Dec 1-Jan 31, 0000Z-2359Z, K7S, West Jordan, UT. The Utah DX Association. All bands, all modes; 7.260 14.260 21.300 28.470. QSL. Wesley Wilkinson, 7363 S Galaxy Hill Road, West Jordan, UT 84081-3961. The first 200 confirmed contacts will receive a used Amateur Radio Stamp. SASE will be needed to receive your QSL. w7wes@yahoo.com, www.udxa.org or www.qrz.com/db/w7wes

**19th Annual Straight Key Month** Jan 2-Jan 31, 0000Z-2359Z, K3Y,

Ellicott City, MO. SKCC - Straight Key Century Club. 3.550 7.055 14.050 21.050. Certificate & QSL. SKCC c/o Ted Rachwal - K8AQM, 6237 Twin Lakes Drive, Kimball, MI 48074. K3Y/0 thru 9 plus KH6, KL7, KP4 and DX member stations in six WAC areas operating straight key, bug and cootie keys. QSL card confirms one QSO per area, up to 19 for all-area sweep. See URL for op sched/map, stats, etc. <https://www.skccgroup.com/k3y>

**Pluto Discovery Anniversary Special Event** Feb 15-Feb 23, 0000Z-1259Z, W7P, Flagstaff, AZ. Northern Arizona DX Association. 7.290 14.090 14.290 21.290; all bands, all modes.

Certificate & QSL. W7P c/o NADXA, 6315 Townsend Winona Rd, Flagstaff, AZ 86004-1493. Operating from the Lowell Observatory, and club member's home QTHs. www.qrz.com/db/w7p or [www.nadxa.com](http://www.nadxa.com)

**Celebrating Engineer's Week at Collins Aerospace** Feb 17-Feb 21, 1700Z-1900Z, W0CXX, Cedar Rapids, IA. Collins Amateur Radio Club. 14.263 MHz. QSL. Brice Anton Jensen, 1110 Lyndhurst Dr, Hiawatha, IA 52233. There may be club members that operate outside of the specified time above. There might also be some club members that will operate on Sunday, Feb 16 or Saturday, Feb 22. www.qrz.com/db/W0CXX

## SSTV by Armando Delgado, KN4JN

The first images transmitted electronically were done using a telegraph facsimile device invented in 1846 by Alexander Bain. During the following decades multiple fax devices were invented. After the introduction of radio communications, in 1924 Richard H. Ranger who worked for RCA invented the radio facsimile.

The radio facsimile used a rotating drum to hold the image to be reproduced. The image was then scanned by a horizontally moving light and the reflections were detected by a photoelectric cell. This cell produced a voltage proportional to the intensity of the reflected light. The signal was then transmitted on the air as an audio tone. At the receiving end, a similar rotating drum held a chemically treated paper that was scanned using a heated element that responded to the received voltages. The fax image was then created line by line.

After the invention of television, although there were multiple methods of creating and recreating the transmitted images, they all relied on a concept similar to the facsimile in that images were created and transmitted line by line and recreated in the receiving device line by line. To provide the perception of movement, television, like cinematography, projects multiple consecutive images every second. Due to the amount of data transmitted by a commercial television system, the signal requires 6 MHz of bandwidth. That large amount of radio spectrum makes this mode impractical for HF amateur bands. In 1958, Copthorne Macdonald, VE1BFL developed a method for transmitting images using only 3 KHz of spectrum, which made it practical for the amateur HF bands. Because of the limited size of the signal, the mode was called slow scan television (SSTV), or more technically, narrowband television.

To achieve this limited bandwidth, Macdonald limited the resolution of the transmission to 120 lines sent over 8 seconds, as compared to the commercial systems that

sent 525 lines in multiple images per second. The video recording is then converted by a transducer to frequency modulated audio tones ranging from 1500 Hz to 2300 Hz that are then fed to the microphone input of the radio. At the receiving end, the transducer converts the received signals into voltages fed to a cathode ray tube for display.

Although the initial concept was introduced in 1958, the FCC only allowed some experimenters to transmit on the air. It was not until 1968 that the FCC permitted open transmission of SSTV signals. Soon after, some commercial devices appeared in the market. These early systems were cumbersome and expensive. They required a video or CCD camera, a transducer to convert the images into radio signals, and a monitor to project the images.

The protocol for operation is that the two stations make voice contact first and agree on a frequency for the image transmission. Then the stations proceed to send their respective images in a pre-arranged sequence. If reception is poor due to interference or signal fading, after reestablishing voice contact, the images are sent again. There are a variety of modes for SSTV and the two communicating stations must use the same mode for accurate reproduction of the signal. With the advent of computers and the internet, SSTV has become more practical and universally available. Modern computers and cell phones can capture digital images that can easily be transmitted using the sound card of the computer. In the internet there are freely available apps that allow the transmission and reception of SSTV signals from a radio. Although the original SSTV systems were exclusively black and white, the modern computer apps allow for color re-

ception and transmission. Yet, in spite of all the facilities and advancements in SSTV, with time, it seems that fewer and fewer hams are using this mode of communication.

The recommended frequencies for SSTV are as follow:

Band  
Frequency  
Sideband  
80 meters  
3.845 MHz (3.73 in Europe)  
LSB  
40 meters  
7.171 MHz (7.165 in Europe)  
LSB  
40 meters  
7.18 MHz (New suggested frequency to include General Class licensees)  
LSB  
40 meters  
7.214 MHz Australian digital SSTV frequency (Easypal and DIGTRX)  
LSB  
20 meters  
14.23 MHz Frequency 1 analog  
USB  
20 meters  
14.233 MHz Frequency 2 analog to alleviate crowding on  
14.23  
USB  
15 meters  
21.34 MHz  
USB  
10 meters  
28.68 MHz  
USB  
ISS 145.8 MHz FM Mode PD-120

Some apps for SSTV:  
[MMSSTV](#) for [Microsoft Windows](#)  
[Ham Radio Deluxe](#) for [Microsoft Windows](#)  
[RX-SSTV Archived](#) 2015-02-07 at the [Wayback Machine](#) for [Microsoft Windows](#)  
[QSSTV Archived](#) 2014-12-27 at the [Wayback Machine](#) for [Linux](#)  
[MultiMode Cocoa](#) for [Mac OS X](#)  
[MultiScan](#) for [Mac OS X](#)  
[SSTV Encoder/Decoder](#) for [iPhone/iPad](#)



### 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](mailto: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	STONE/CC	CALL	LOCATION	OWNER	NOTES
<b>WBFM</b>							
145.130	130 VB	-600	107.2	AB4AZ	VERO BEACH, INDIAN RIVER	AB4AZ	
145.350	350 SC	-600	103.5	K4QSC	St. CLOUD, OSCEOLA	K1XC	Radio Science Club, FI Club
145.370	<b>370 CO</b>	-600	156.7	W2SDB	COCOA-BROADCAST CT.	IRARC	Yaesu Repeater replaced with Bridgecom FM
145.470	<b>470 ME</b>	-600	107.2	K4HRS	MELBOURNE- RIALTO PL.	HIRAC	
145.490	<b>490 TI</b>	-600	100.0	WN3DHI	TITUSVILLE SR405 & Fox 1k rd.	WN3DHI	
146.610	<b>610 ME</b>	-600	None/107.2	W4MLB	MELBOURNE- HOLMES HOSP	PCARS	Tone Downlink only
146.625	<b>625 MM</b>	-600	100.0	KE4NUZ	NW of MIMS NEAR HARRISON RD.	KE4NUZ	Limited coverage
146.775	<b>775 MM</b>	-600	100.0	K4KSC	NW of MIMS Hog Valley , W of I95	K4KSC	
146.850	<b>850 ME</b>	-600	None/107.2	W4MLB	PALM BAY- Port Malabar Rd.	PCARS	Tone Downlink Only
146.880	<b>880 RO</b>	-600	107.2	W4NLX	ROCKLEDGE- WUESTHOFF HOSP.	IRARC	FUSION Repeater replaced with Bridgecom FM
146.895	<b>895 PB</b>	-600	107.2/107.2	<b>K4EOC</b>	PALM BAY- DeGroot Library	EOC	TSQl as of 5/2018
146.910	<b>910 TI</b>	-600	107.2	K4KSC	TITUSVILLE Water Tower on south st.	TARC	
146.940	<b>940 RO</b>	-600	None	K4GCC	ROCKLEDGE Carver Rd. WLRQ Tower	LISATS	
146.970	<b>970 TI</b>	-600	107.2	K4KSC	TITUSVILLE-T'VILLE TOWERS	TARC	
147.075	<b>075 SC</b>	+600	107.2/107.2	<b>K4EOC</b>	SCOTTSMOOR Near US1-Aurantia Rd	EOC	TSQl as of 5/2018 Relocated 4/2019
147.135	<b>135 RO</b>	+600	107.2/107.2	<b>K4EOC</b>	ROCKLEDGE-EOC	EOC	TSqI as of 5/2018
147.240	240 DE	+600	123.0	KV4EOC	DELAND	VARES	
147.255	<b>255 PB</b>	+600	107.2	K4DCS	Near Babcock & Palm City S City limit	PBARC	
147.330	<b>330 TI</b>	+600	107.2	K4NBR	TITUSVILLE-PARRISH HOSP.	NBARC	
147.360	<b>360 TI</b>	+600	107.2	N4TDX	TITUSVILLE-PARRISH HOSP.	NBARC	DSTAR Gateway in work
442.850	<b>850TI4</b>	+5000	107.2/107/2	N4TDX	TITUSVILLE-PARRISH HOSP.	NBARC	TSqI;FUSION/WBFM/WIRES-X
444.325	<b>325ME4</b>	+5000	107.2	K4DCS	MELBOURNE-TRINITY TWRS-E	PBARC	
444.375	<b>CNLBRE</b>	+5000	107.2		I95 FDT Twr 1/2 Mile N of County Line	SARNET	"SARNet Sebastian Repeater"
444.425	<b>425ME4</b>	+5000	107.2	W4MLB	MELBOURNE- RIALTO PL.	PCARS	
444.525	<b>525RO4</b>	+5000	103.5/103.5	<b>K4EOC</b>	ROCKLEDGE-EOC	EOC	TSqI; VOICE/NBEMS
444.650	<b>CNMBRE</b>	+5000	107.2	W4NLX	COCOA- FHP SR520	IRARC	"SARNet Cocoa Repeater"
444.750	<b>750TI4</b>	+5000	156.7/156.7	N4TDX	TITUSVILLE- TGO WATERTOER 230 ft.	NBARC	TSqI
444.875	<b>875MI4</b>	+5000	107.2	KC2UFO	MERRITT IS. COURTNEY SPRS.	K4UZM	
444.925	<b>925KS4</b>	+5000	131.8/131.8	N1KSC	KENNEDY SP. CTR.-VAB	KSCARC	FM TSqI ; P25 capable
224.120	<b>120CO2</b>	-1600	123.0	AA4CD	COCOA Broadcast Ct.	AA4CD	
<b>DMR</b>							
444.150	<b>150TI4</b>	+5000	CC1	K2JO	TITUSVILLE-PARRISH HOSP.	KC2CWT	DMR FL
444.575	<b>575CO4</b>	+5000	CC3	K4DJN	COCOA BROADCAST CT.	AA4CD	DMR Brandmeister
444.675	<b>675TI4</b>	+5000	CC3	K4DJN	TITUSVILLE-T'VILLE TOWERS	AA4CD	DMR Brandmeister
<b>ATV</b>							
427.250	<b>250CO4</b>			K4ATV	COCOA BROADCAST CT.	LISATS	NTSC INPUT 439.25 See www.lisats.org
<b>PACKET STATIONS:</b>							
145.090	<b>WL2KPB</b>	WINLINK		W2PH-10	PALM BAY-W2PH QTH	PBARC	WINLINK GATEWAY
145.090	<b>090 ME</b>	PCARS		W4MLB-2	MELBOURNE-TRINITY TWRS-EAST	PCARS-K1YON	BBS W4MLB-4 EASTNET
145.770	<b>770 PB</b>	SEDAN		K4EOC-7	PALM BAY	N2DB	http://www.fla-sedan.com
145.770	<b>770 TI</b>	SEDAN		KD4MWO-4	TITUSVILLE	N2DB	INACTIVE NODE
<b>BREVARD RACES/ARES SIMPLEX</b>							
146.480	<b>CENTX</b>	SIMPLEX		N/A	CENTRAL REG	IRARC	CENTRAL NET SIMPLEX BACKUP
146.550	<b>SOUTHX</b>	SIMPLEX		N/A	SOUTH REGION	PBARC	SOUTH NET SIMPLEX BACKUP
146.580	<b>MLBX</b>	SIMPLEX		N/A	MELBOURNE REGION	PCARS	MELBOURNE REGION NET SIMPLEX BACKUP
146.595	<b>NORTHX</b>	SIMPLEX		N/A	NORTH REGION	TARC	NORTH NET SIMPLEX BACKUP
147.540	<b>EOCROX</b>	SIMPLEX		N/A	RACES Bay	EOC	EOC VOICE/NBEMS
<b>SIMPLEX</b>							
146.520	<b>CALL52</b>	SIMPLEX		N/A	Station to station, anywhere		VHF national simplex calling freq
146.490	<b>TAC A</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
146.560	<b>NBRX</b>	SIMPLEX		N/A	NBARC -Club/Parrish Hosptial Activities		
146.580	<b>TAC B</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
147.420	<b>TAC C</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
147.420	<b>IRARCX</b>	SIMPLEX		N/A	IRARC "FUN NET" and CLUB ACTIVIES		
147.450	<b>TAC D</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
147.570	<b>TAC E</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
446.000	<b>CALL46</b>	SIMPLEX		N/A	Station to station, anywhere		UHF national simplex calling freq
446.500	<b>TAC A4</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
446.600	<b>TAC B4</b>	SIMPLEX		N/A	Station to station, anywhere		Standardized tactical option since 2006
446.700	<b>TAC C4</b>	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 and Rx)							
Repeater Call Signs in bold are owned by Brevard Emergency Management and are maintained by the county. Repeater Trustee: Ron K2RJ							
	<b>NOT ON AIR</b>						
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							