VOLUME XLVII, NUMBER 11

SPURIOUS EMISSIONS

NOVEMBER, 2025

INDIAN RIVER ARC

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

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N4UTQ

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KN4JN

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KU0R

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W0AGE

PAST PRESIDENT
VIRON PAYNE
N4VEP

CLUB MINUTES

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

Following the Pledge of Allegiance, Steve proceeded to the President's Report.

Steve announced that next Saturday, November 22, the club will hold its regular Simplex Exercise starting at 10 AM. The exercise will be open to use any band and mode that participants desire.

Next, Steve addressed the Christmas Party. The past few years we have used Red Lobster Restaurant for the dinner. Unfortunately, they require a prior head count to reserve the meeting room, since they must assign servers to the group. Last year there were many no-shows to the dinner creating an issue with potential reservations for this year. Also, the service at Red Lobster is not as good as in past years. So Steve suggested having a club meeting in December instead of a restaurant dinner, or finding a restaurant that does not require advance notice of attendance. Steve is open to suggestions from the membership.

Steve then proceeded to present the budget for 2026. Insurance is still the biggest expense for the club. Liability insurance is $743.20 and equipment insurance is $168.51. The state corporate filing is $68.29. Total fixed expenses are $980.00. The club's dues income from 49 members total $980.00.

Barring any financial disasters, the club can maintain its status quo, but Steve suggested the possibility of raising annual dues to $25.00 to provide a more solid financial base; however, he would like to poll the membership to be certain the majority agrees.

Following that discussion, a motion was made to approve the proposed budget. The motion passed unanimously.

Treasurer's Report: There were no expenses last month. The checking account remains at $1081.38 and the Equipment Fund is at $2013.65. The Treasurer Report was approved.

Next, the October meeting minutes were approved.

Technical Committee: All equipment is functional. Steve further added that the 220 MHz repeater has an excellent coverage and should be used more.

Past President Report: Viron, N4VEP mentioned that the QRP event last weekend was very good with openings to Europe and Northern Africa on 10m and 15m with many contacts and very nice weather.

After the business meeting, Steve gave a presentation on detecting ionizing radiation. Two common devices are used for this purpose: Geiger counters and spectrometers. The Geiger counter provides evidence of radioactivity intensity but does not give information on the source. A spectrometer can identify the type of isotope producing the radiation.

Background radiation is pervasive, mostly originating from space in the form of gamma, X-rays, and cosmic rays. Any detector will read about 20 counts per minute of this background radiation. However, if there were to be a spike on the radiation reading, a spectrometer can identify that new source. Steve purchased a device called a Radio Code for $355 that gives immediate radiation counts, but that also can be connected to a computer to provide a graphical representation that identifies the isotope causing the radiation. He then showed spectra of 39 different radioactive isotopes that the device can identify.

Following the presentation there was a questions, answers and comments period.

The meeting adjourned at 8:35 PM.

Respectfully submitted,

Armando Delgado, KN4JN

Secretary

HAPPENINGS

The FCC plans to delete certain rules of Part 97, which pertains to amateur radio.

From the ARRL *Letter* newsletter of October 16, 2025:

Delete § 97.27. This provision relates to the FCC's right to modify station licenses. The Commission rationale for deletion is that it duplicates Section 316 of the Communications Act. Its deletion will result in no substantive change to the right of the FCC to modify a station license.
Delete § 97.29. This provision specified the procedure to replace paper licenses. The FCC stopped producing paper licenses at the end of 2020, having implemented a system that allows any licensee to download license originals using the password-protected area of the FCC's ULS computer database system that is web-accessible. The ARRL proposed deleting this section in comments filed earlier this year.
Delete § 97.315 (b)(2). This provision grandfathered HF amplifiers purchased before April 28, 1978 by an amateur radio operator for use at that operator's station and also grandfathered those manufactured before April 28, 1978 for which a marketing waiver was issued. The applicability of this rule has long passed.
Delete § 97.521(b) and Appendix 2. This rule and appendix relate to VEC regions, which were based on the traditional amateur call sign areas. The FCC no longer limits VECs to regions and there is no reason for doing so given the nature of remote exams.

HAPPENINGS

QCWA member Brian Harrison, KN4R, has an interesting presentation in You Tube about the disappearance and search for Amelia Earhart titled "Radio and the Disappearance of Amelia Earhart and Fred Noonan." It can be viewed at www.qcwa.org/zoom.html

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The following information is redacted from an article in the ARRL Contest Update newsletter of October 22, 2025 regarding best operating techniques during contests.

Preamplifier – Off Because there are so many strong signals present during a contest, having the preamp turned on is not at all necessary and will likely lead to severe intermodulation and overload problems in your receiver. Turn it off - this will also help a non-contester operating on the bands.
Noise Blanker – Off Noise blankers work by sensing strong pulses of RF anywhere on a band and then turning off the receiver during the pulse. In a contest with lots of strong signals, the noise blanker gets confused and starts turning off the receiver in sync with the strong signals. This makes your receiver audio sound like the strong signal is splattering all across the band! The first thing you should do when operating on a busy contest-filled band is turn off the noise blanker.
The Attenuator – On The attenuator seldom gets a workout, but it can be your biggest friend when dealing with strong nearby signals. It's surprisingly easy for a strong signal to drive a receiver's RF amplifier or mixers into non-linearity known as overload. This creates spurious intermodulation products, known as "crud," up and down the band. 10 dB of attenuation cures a surprising number of ailments at the cost of just a couple of S-units of signal strength. Try cranking in some attenuation and you may find that interference drops dramatically when your receiver is no longer being overloaded. Remember that the goal is to maximize signal-to-noise ratio, not necessarily absolute signal strength. Try out your attenuator and you may be surprised at how much it cleans up a band even on a weekday!
RF Gain – Turn it Down Late breaking news - RF gain controls are not welded in the full-on position! This makes your receiver very sensitive but also leaves your IF (and sometimes the RF) amplifiers susceptible to overload. Experiment with backing off the RF gain to see if it doesn't improve your receiver's performance in a strong signal environment. Even during casual operating, backing off the RF gain can dramatically reduce background noise. Experiment with changing the AGC settings or even (gasp!) turn it OFF and use the RF gain control instead. It doesn't take much to change a QRM-clobbered QSO into a fairly manageable channel.
Special Receiver Features – Use Them Does your receiver have passband tuning, IF shift, variable bandwidth or similar controls? All those new DSP features you paid for can also clean up noise and attenuate low-frequency or high-frequency interference. There's no time like the present to find the receiver's manual and learn what these controls do. You'll find they make day-to-day operating easier and more successful, too.

The ARRL Foundation Scholarship Program has opened the application window for 2026 scholarships. Applications will be accepted through December 30, 2025, at 12 PM EST. Students are encouraged to apply for more than 170 scholarships ranging from $500 to $25,000. All applicants must be active, FCC-licensed amateur radio operators. More information and the online application are available at www.arrl.org/scholarship-program.
Note: IRARC offers a scholarship through the ARRL in honor of one of our early members, Joe Rubino, WA4MMD. It is named the IRARC Memorial Joseph P. Rubino, WA4MMD Scholarship and it has been granted to numerous Florida students over the years.

ON THE AIR

QCWA Anniversary Special Event Activity Dec 1-Dec 7, 0000Z-2359Z, W2MM, Sandpoint, ID. Quarter Century Wireless Association, Inc.. 3.540/7.035/14.040/21.050 /28.050 CW 3.810/7.244/14.262/21.365 SSB 28.325 MHz SSB Standard FT8/FT4 frequencies. Certificate. QCWA Activities Manager , 1613 Poplar St, Sandpoint, ID 83864-2081. activitiesmanager@qcwa.org

W2W Pearl Harbor Day Commemoration Dec 1-Dec 11, 1300Z-2200Z, W2W, Hunt Valley, MD. Amateur Radio Club of the National Electronics Museum (ARCNEM) . 14.241 14.041 7.241 7.041. 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 Pearl Harbor Day and the role of electronics in WWII. Primary operation will be Dec 1-Dec 7 with additional operation possible during the Dec 8-Dec 11 period as operator availability permits. Operation on 80M (3.541, 3.841) and digital modes possible during event. Frequencies +/- according to QRM. QSL and Certificate available via SASE; details at ww-2.us ww-2.us

3G0YR CE0Y Team will be active from **Easter Island,** IOTA SA - 001, 26 November - 3 December 2025.
Team - CE3CT, CE3SPR, LW6DG, LU9FVS, UA3AB, R5AA, RX3APM, RW7K, RA3AUU. They will operate on HF Bands, including activity in CQ WW DX CW Contest, 29 - 30 November 2025 as CE0Y in Multi Multi Category.

SOLOMON ISLANDS, H4. Bernhard, DL2GAC, is QRV as H44MS from Malaita Island, IOTA OC-047, until November 25. Activity is on 80 to 6 meters using SSB and FT8. QSL to home call.

MINAMI TORISHIMA, JD1. Take, JG8NQJ is QRV as JG8NQJ/JD1 until December while working at the weather station here. Activity is in his spare time on the HF bands using CW and some FT8. QSL direct to JA8CJY.

BRUNEI, V8. Special event station V84SRU is QRV until November 26 to commemorate the 100th anniversary of the International Amateur Radio Union. Activity is on the HF bands using CW, SSB, and FT8. QSL via bureau.

GUYANA, 8R. Aldir, PY1SAD is QRV as 8R1TM until December 7. Activity is on 160 to 6 meters, generally between 2300 and 0200z, using CW, SSB, and various digital modes. QSL via LoTW.

BELGIUM, ON. Special event station OT5IDPD is QRV until December 3 to call attention to the International Day for Persons with Disability. QSL via bureau.

Meteor Scatter by Armando Delgado, KN4JN

Radio signals, like all electromagnetic waves, can be refracted and reflected; which phenomenon applies depends on the density of the media they travel through and the wavelength of the signals. HF waves are refracted by the ionosphere to give us long distance propagation, while VHF signals are often reflected from objects to achieve contacts, like from the moon for EME communications or from dense ionized trails, like in meteor scatter.

The Earth is constantly bombarded by meteors. Most of these are minute dust particles floating in space, the remnants of comet trails and residual dust from asteroid collisions. Generally, most of these particles are too small to create an ionized trail big enough to permit radio wave reflection. However, larger particles also abound and, daily, many will enter the atmosphere and burn up producing dense ions and dust trails that will reflect radio signals.

Unlike ionospheric-refracted radio signals that enjoy a vast expanse of ionosphere activated by solar radiation, meteor scatter signals depend on a narrow and brief reflective cloud. Multiple factors are at play to allow for successful contacts in this setting. First, a transmitted radio signal of the right wavelength must travel and meet the ionized trail at a time when the trail is dense enough to reflect the signal, and the signal must be strong enough to be reflected. Then at the same time, there must be a receiving station listening at that frequency in an area where the signal will return to Earth. All these variables, along with the fact that normally on the average day the number of significantly large meteors entering the atmosphere is small and unpredictable, increase the odds against a successful meteor scatter contact. Fortunately, there are many meteor showers annually. These result from remnants of past comets that shed particles as they looped around the sun. The particles travel in the orbital track of the comet, yet their density and particle size are very variable. When the Earth crosses the comet's orbit, which it does at the same time annually, it encounters these particle clusters which usually enter the atmosphere from a fixed point in the sky called the radiant. By directing their directional antennas toward the meteor radiant, meteor scatter enthusiasts increase the odds of achieving a contact. Likewise, meteor showers can produce large numbers of meteors in a short period of time leaving many trails close together that enhance the probability of successful contacts, and knowing the location of the radiant in the sky gives an aiming point for all stations.

The most effective radio bands for meteor scatter contacts are 6 meters and 10 meters. These wavelengths are narrow enough to be reflected by the meteor trail and energetic enough to not require high power signals. Also, today the favored mode for meteor scatter is the digital mode MSK 144, one of the protocols in the WSJT-X program. This digital mode was designed particularly for brief signal reflections as they occur in meteor trails. It uses short-timed sequences and fast rate of transmission of up to 250 characters per second, plus the narrow band of this mode's signal permits weak signal operations. One recently added activity that helps achieve meteor scatter contacts is the HamSCI Meteor Scatter QSO Party which this year will see their second activation of the year during the Geminid meteor shower projected to occur on December 12-13, 2025. The frequencies used are the standard MSK 144 frequencies for 6 m and 10 m, 50.260 MHz and 28.145 MHz respectively. Generally, many stations get on the air for these types of events and contacts are possible even with simple dipole antennas. The Geminid will not be the last meteor shower to be used by HamSCI for their meteor scatter research. Every year they select some of the most prominent meteor showers and in 2026 they will likely hold at least a couple of Meteor Shower QSO Parties. Their website normally announces the events months before they occur.

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