VOLUME XLVII, NUMBER 12

SPURIOUS EMISSIONS

DECEMBER, 2025

INDIAN RIVER ARC

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

OFFICERS

PRESIDENT
STEVEN LUCHUK
N4UTQ

VICE-PRESIDENT
SAM THORPE
KJ4VGR

SECRETARY
ARMANDO DELGADO
KN4JN

TREASURER
DAVID LERRET
KU0R

DIRECTOR
ROBERT SCORAH
W0AGE

PAST PRESIDENT
VIRON PAYNE
N4VEP

HAPPENINGS

Radiogram Changes
Participants in National Traffic System® (NTS®) message nets will soon be noticing two changes in ARRL Radiograms. For the first time in 45 years, a new message "precedence," or priority level, is being introduced, and the list of numbered "ARL" radiogram texts has been updated and expanded. The new "C," or "CERTIFIED," precedence joins the long-standing list of E (EMERGENCY), P (PRIORITY), W (WELFARE), and R (ROUTINE) message categories. It is to be used for unique messages to specific individuals with known contact information and must be delivered within 48 hours of origination. The "C" precedence may not be used for bulk messages, such as those sent to welcome new amateurs to the hobby. It is the first new precedence established since the WELFARE (W) category was introduced in 1980.

From the NTS Letter of November 4: Updating the ARL Numbered Radiograms
For many years, ARRL has promulgated a list of "ARL Numbered Radiogram Texts" through which a lengthy phrase or message text could be transmitted as a numerical code. For example, "ARL FORTY SIX" would be delivered as "Greetings on your birthday and best wishes for many more to come," or "ARL ONE" would be delivered as "Everyone safe here, please don't worry." These numerical codes preserve circuit capacity and contribute to overall network efficiency.
Radio Relay International and the NTS2.0 Committee have now released a more extensive, updated list of ARL Numbered

HAPPENINGS

Radiogram Texts. The latest approved list can be found under the "Publications" heading on the Radio Relay International website at https://radiorelay.org/files/reference/ARL_Numbered_Radiogram_Texts.pdf and on the NTS2 website at: https://nts2.arrl.org/numbered-texts/.

While on the topic of traffic nets, a **net directory** can be found in the Radio Relay International website. Go to https://radiorelay.org/publications/ and look for the Publications tab..

During the entire month of December, many young hams around the world will be active with YOTA — Youth on the Air — as the suffix in their call signs. In the US, look for 1x1 special event calls and regular call signs. Many of these young hams are encouraging other youth to be active on the amateur radio bands. Some will give demonstrations at their schools, introducing ham radio to friends while making QSOs or enjoying a great pile-up. Licensed and unlicensed youth (with the help of a licensed operator) will be making QSOs. Everyone is reminded that this could be the first radio contact ever for some newcomers. Help fill their logbooks! Use this direct link to the DX cluster (already filtered) to spot active stations during December YOTA Month: DYM Stations 2025 hosted by DXSummit.fi.

Get ready for Santa Net 2025! For the 16th consecutive year, The 3916 Nets will be presenting The Santa Net on 3.916 MHz. Girls and boys can talk to Santa Claus, via amateur radio, nightly at 7:00 PM Central starting Friday, November 28, the day after Thanksgiving, through Christmas Eve, December 24. Youngsters can talk to "Santa at the North Pole" via strategically-placed operators who relay the voice of Santa. Prior to each night's Santa Net, pre-net check-ins can be made at www.cqsanta.com. Third party rules and regulations apply. The Santa Nets are presented annually by The 3916 Nets, which include The Rag Chew Crew, The Tailgaters, and The Freewheelers. For more information on The 3916 Nets, go to www.3916nets.com. For more information on The Santa Net, email KE5GGY at Gmail dot com.

The QNI Newsletter, December 2025 edition, has been published and is available at https://radiorelay.org/qni/. This very informative newsletter is edited by James Wades, WB8SIW, and is "dedicated to promoting genuine emergency communications preparedness. It is independently published and distributed free of charge to the amateur radio and emergency management community. The mission is to provide a forum for EmComm volunteers throughout North America. It operates on the premise that amateur radio public service volunteers should be, first and foremost, communicators and technicians."

The Ham Radio Science Citizen Investigation (HamSCI) is seeking operators and monitors to participate in a series of upcoming meteor scatter (MS) experiments. Operations will take place on **December 12 - 13, 2025,** over a 48-hour period — during the Geminids meteor shower. This is a combination 'special event' and a contest to generate contact data during meteor scatter events using 10 meters (28.145 MHz) and 6 meters (50.260 MHz). Suggested operating procedures can be found at www.hamsci.org/msqp. No special station equipment is required but the experiment uses the MSK144 operating mode as part of the WSJTX suite. The functionality is much like using FT8 and is easy to use. For more information on the operating guidelines for the activity, visit www.hamsci.org/msqp-rules.

ON THE AIR

20th Annual Straight Key Month. Jan 2-Jan 31, 0000Z-2359Z, K3Y, Ellicot City. 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, Smiths Creek, MI 48074. www.skccgroup.com/k3y

January VHF Contest
Dates: The third or fourth full weekend in January as announced. **(January 17-19, 2026)**
Contest Period: Begins 1900 UTC Saturday, ends 0359 UTC Monday.
Notice: Participants in the FM Only category can now count contacts made on 902 MHz and 1.2 GHz toward their scores. Previously, only contacts on the four lowest VHF bands (50, 144, 222 and 432 MHz) counted toward participants' scores in this category.
Click Here for Complete ARRL January VHF Contest Rules (PDF)

VU7R Team will be active from **Agatti Island,** Lakshadweep Islands, IOTA AS - 011, 10 - 22 January 2026. Team - VU2RS, VU24DX, VU3DXA, VU3GDS, VU29AR, EY8MM, DL6KVA, YT1AD, R7KW, DJ5IW, VU2DWA. They will operate on 160 - 10m Bands. QSL via M0OXO, OQRS.

C5YK **Gambia**
Andre, ON7YK will be active as C5YK from Bijilo, Gambia, until 25 January 2026. He will operate on 20 - 10m Bands, Digital modes, CW, SSB. QSL via home call direct, Andre Bourbon, Route de Xhoffraix 30, 4970, Hockai-Stavelot, Belgium. Also LOTW, eQSL.

Winter Field Day is held the last full weekend in January. For 2026, it will be held on January 24th and 25th. The 30-hour operational period starts at 1600 UTC on Saturday (11 am EST), the 24th, and ends at 21:59 UTC on Sunday, the 25th (4:59 pm EST). Stations may begin setting up no earlier than 16:00 UTC (11 pm EST) on the Friday before. However, cumulative set-up time shall not exceed 12 hours.
For more information go to the Winter Field Day website.

75-Meter Interstate Sideband Net (ISBN) serves the US and Canada. The net has been operating continuously since 1952 and can be found at 3985 kHz daily at 0100 UTC, 365 days per year, and welcomes all licensed amateurs to participate. The net is co-managed by Dennis Carlson, K9ZMI; Mike Leger, W8PQ, and Dave Sheppard, W2PAX. First-time check-ins will receive a PDF welcome card to the net. A unique part of the ISBN is its birthday radiogram program. All check-ins have the option of providing their birth month & day to a net manager, and each year will receive a birthday radiogram. It's a great way to generate traffic across the country for the net. The ISBN website can be found at https://www.qsl.net/75misbn/.

Maxwell's Equations by Armando Delgado, KN4JN

If one were to query a random person on the street about the name Albert Einstein, most likely they will recognize the name; they may know him as a very smart person, a genius, perhaps; they might even know of his contribution to science with his theory of relativity, and they may even recognize his famous energy equation and be able to understand it. Yet, if the same person were asked about James Clerk Maxwell, most likely they would not recognize the name or his contribution to science, even less be able to recognize his famous equations and much less understand them. In spite of the fact that Maxwell's work was the foundation of Einstein's work and the foundation of electromagnetic theory and modern electronics, particularly in communications, he remains relatively unknown to the general public.

Maxwell's initial work was on light and its behavior. He studied the work of Faraday on magnetism and Ampere and Gauss on electricity and the electron. From his research, he theorized that light shared characteristics with electrical currents. He conceived that light consists of alternating and interacting electric and magnetic fields perpendicular to each other that reciprocate constantly allowing light to move continuously due to this interaction, since the magnetic and electric fields induce each other. He also surmised that light had a constant speed and formulated an equation to show that the speed of light was the result of two universal constants, the permeability and the permittivity of free space, which are established constants, and therefore a constant itself. This theoretical speed of light was later corroborated by multiple experiments throughout the 20th Century, confirming the result which now stands at 299 792 458 meters / second.

In 1862, Maxwell published his now famous equations that demonstrate that light consists of interacting electric and magnetic fields in motion, thus confirming what we now understand as the electromagnetic theory. Unfortunately, his equations deal with complex concepts of vectors and intensity fields that require mathematical analysis beyond the knowledge range of the average person. Unlike Einstein's simple energy formula that anyone with basic high school algebra knowledge can understand, Maxwell's equations require higher mathematical knowledge to be appreciated. Yet, we can accept the word of the experts on this matter and recognize Maxwell's contribution to modern science.

When Maxwell published his original work, no other electromagnetic radiation was known. In the ensuing years radio, X-rays, and other forms of radiation were discovered. Upon applying Maxwell's concepts to these new signals, it became obvious that they all shared the same characteristics. Soon, the electromagnetic spectrum became recognized as a range of waves sharing the same physical characters but whose manifestations were determined by their respective frequencies. Interestingly, we became aware of the electromagnetic spectrum by the serendipitous coincidence that our human eye retina's cone and rod components will respond to the narrow wavelengths of what we call visible light, which comprises just a small part of the entire complex that is the electromagnetic spectrum of signals we now recognize.

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