



INDIAN RIVER ARC

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

SPURIOUS EMISSIONS

MAY, 2024

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ARMANDO DELGADO

KN4JN

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

Following the Pledge of Allegiance Steve called for visitors. There were two returning members, Jack and Don, and Julia, a prospective ham.

Next Steve mentioned that this coming Saturday, May 25, we will have a Simplex Net on 147.42 MHz starting at 9:00 AM. Steve also mentioned that on Field Day, Saturday June 22, we will operate three high power stations, a 20 meter CW station and two phone stations on 15 meters and 40 meters respectively. Set up will begin on Saturday morning and, as usual, Steve will handle the food.

Vice-President Report: Sam, KJ4VGR, reviewed the issue of the SARnet club repeater that was disconnected due to interference. That stoppage was temporary and the repeater is again connected to the SARnet system. Sam went on to explain that the SARnet is a chain of linked UHF repeaters that cover the entire state of Florida from Pensacola to the Keys. Keying a local repeater will activate all the repeaters in the system, allowing contacts across the entire state. Its main goal is for emergency communications, but it is open to all li-

censed amateurs.

Treasurer's Report: The checking account is unchanged at \$1962.25 and the Equipment Fund stands at \$2013.65. The Treasurer's Report was approved for audit.

Next, the minutes of the April meeting were approved.

Past President Report: Viron, N4VEP, said that the ARRL had changed insurance carriers and our previous company dropped the club. Steve will contact the ARRL to arrange for new insurance, both equipment and liability. He also mentioned that last Saturday, May 18, a good QRP Event was held at Kelly Park.

Following the business meeting, Greg, AB4GO, gave a presentation demonstrating the effect of radials on the impedance of a vertical antenna. Greg has a multiband trap vertical in his backyard and recently the lawn workers accidentally cut the radials at the base of the antenna, so he decided to run a comparison analysis using a nanoVNA meter to assess the antenna input impedance changes with no radials, a few radials, and more radials. Greg used 1/4λ radials for different bands.

The base impedance of a vertical

without radials is about 37 ohms. Greg then went on to show the results of his analysis in each band. On 10 meters the no radials reading was 75 ohms, a value that decreased significantly once radials were added. On 15 meters the no radial reading was 72 ohms that dropped to 50 ohms with the radials. Likewise, 20 meters started at 70 ohms that dropped to 50 ohms with the radials, and so did the 40 meters analysis. On 80 meters things were a little different with a starting impedance of 95 ohms and an SWR of 3.8 with four radials.

In summary, Greg said that his experiment confirmed the established knowledge that radials enhance the performance of a vertical antenna but that they are not absolutely essential since he made many contacts while his antenna had no radials. He also extolled the VNA meters available today for just over \$100 that perform as well or better than equipment he used professionally in his career that cost thousands of dollars.

Following the presentation and a brief question and answer period the meeting adjourned at 8:04 PM

Respectfully submitted,

Armando Delgado, KN4JN

HAPPENINGS

Hurricane Season Forecast -- Colorado State University hurricane researchers are predicting an extremely active Atlantic hurricane season in their initial 2024 forecast. The team cites record warm tropical and eastern subtropical Atlantic sea surface temperatures as a primary factor for their prediction of 11 hurricanes this year and 5 that will reach major hurricane strength. The

report also includes the probability of major hurricanes making landfall, including a 62% probability for the entire US coastline. As amateurs we like to monitor radio frequencies that may provide broader awareness of the events associated with emergencies, like hurricanes, that particularly affect us so much here in Florida. The following web site lists many frequencies associated with hurricanes. The list is old and

many frequencies may be inactive, but they are worth keeping. <https://www.qsl.net/w2vtm/hurricanefreqs.html> handy. And don't forget the National Hurricane Watch Net frequency of 14.325 MHz during the day and on 7.268 kHz at night during active storms.

ARRL Field Day ARRL Field Day is the most popular on-the-air event held annually in the US

and Canada. On the fourth weekend of June, this year being June 22-23, more than 35,000 radio amateurs gather with their clubs or groups to contact as many stations as possible on the 160-, 80-, 40-, 20-, 15- and 10-meter HF bands, as well as all bands 50 MHz and above, and to learn to operate in abnormal situations in less than optimal conditions.

HAPPENINGS

Where as Field Day occurs during the last weekend in June, the ARRL introduced a few years ago a new contest: The ARRL International Digital Contest to occur on the first weekend of June. In this contest amateurs worldwide contact and exchange QSO information with other amateurs using any digital mode (excluding RTTY) that supports the 4-digit Grid Square exchange – attended operation only – on the 160, 80, 40, 20, 15, 10 and 6 meter bands (Technicians are limited per FCC Rules to the 10 and 6 meter bands). Any station may work any other station. Stations may only be worked once per band, regardless of mode. Automated operation is not permitted – each claimed contact must include contemporaneous direct initiation by the operator on both sides of the contact.

Dates: First full weekend of June (June 1-2, 2024). Contest Period: Begins 1800 UTC Satur-

day, ends 2359 UTC Sunday, Contest rules can be found [here](#).

ARRL has released two new courses to train emergency communications (EmComm) operators for volunteering within the Amateur Radio Emergency Service® (ARES®). Both courses are within the ARRL Learning Center. The ARRL Learning Center at learn.arrl.org is a member benefit and features many ways to get the most out of your amateur radio license. The Basic and Intermediate EmComm courses are available to anyone with a free www.arrl.org account. Users must log in to the ARRL Learning Center with this account, and functionality of the site relies on cookies being enabled.

International Museums Weekends (IMW) 2024 will take place June 15 - 16 and 22 - 23. The purpose of this event is to activate an amateur radio special event station in as many museums around the world as possible. Frequencies,

bands, and modes are at the discretion of the operators, as is the museum selection. For this event, the definition of museum can be loosely interpreted. It could be a collection of old cars or one of a kind paintings from a neighborhood artist. Through this event, organizers hope to present amateur radio to the public to garner support and understanding of the hobby. The first IMW was held in 2002 with over 80 museums, featuring small, local venues and large prestigious operations. The event was especially popular among amateur radio operators in the United Kingdom. For information about registration and event awards, visit [International Museums Weekends 2024](#).

Queens of the Mountains will be held June 1 - 3. The goal of this woman-ham (YL) Summits on the Air (SOTA) event is to encourage and inspire YLs to get on the air and on a mountain for SOTA. There will be multiple special event stations across the US on

the air for a fun weekend of sisterhood on the summits. Special certificates will be available for YLs activating and chasing. Look for the special event calls WOQ, W1Q, W3Q, W4Q, W5Q, W6Q, W7Q, W8Q, and W9Q, as well as #QOM and #YLSOTA on SO-TAWATCH3. To learn more, visit the [Young Ladies Radio League](#).

ON THE AIR

Red Cross Founders Day May 21, 1500Z-1800Z, WE4NC, Heathsville, VA. Northumberland County VA Communicators. 7.078 JS8CALL; 7.074 FT-8; 14.250 SSB. QSL. WE4NC SPECIAL EVENT, 2705 Northumberland Hwy, Lottsburg, VA 22511. ALL DIGITAL FROM 15:30 UTC -19:30 UTC SSB ON 20 METERS 1930 UTC 2030 UTC

Museum Ships Weekend - Nuclear Ship Savannah Jun 1-Jun 2, 1300Z-2100Z, K3SAV, Baltimore, MD. Nuclear Ship Savannah ARC. 7.1 14.1 21.1 28.1. QSL. K3LU, 980 PATUXENT ROAD, Odenton, MD 21113. Single transmitter SSB and CW aboard N/S Savannah. Please check spotting networks for

frequencies. Info on QRZ.com www.qrz.com/db/k3sav

W2D D-Day Commemoration Jun 1-Jun 14, 1300Z-2200Z, W2D, Hunt Valley, MD. Amateur Radio Club of the National Electronics Museum (ARCNEM). 14.244 14.044 7.244 7.044. Certificate & QSL. K3NY, 108 Brent, Arnold, MD 21012. Amateur Radio Club of the National Electronics Museum (ARCNEM) will operate W2D in commemoration of the anniversary of D-Day and the role of electronics in WWII. Primary operation will be June 1-June 6 with additional operation possible during June 7-14 as operator availability permits. Operation on 80M (3.544, 3.844), additional bands and digital modes possible during

event. Frequencies +/- according to QRM. QSL and Certificate available via SASE; details at ww-2.us

Mid-Atlantic Air Museum's WWII Weekend Jun 7-Jun 9, 1300Z-1900Z, W3R, Reading, PA. Historical Military Impressions. 3.885 7.270. QSL. Garret Scott - W3R, 10236 Birch Hill Lane, Knoxville, TN 37932. AM or CW modes only. Frequencies may change - see <http://w8bug.com/w3r/> for updates. Equipment will be WWII equipment, SCR-499 and SCR-284 <https://readingairport.org/maam-wwii-weekend> for additional event details w8bug.com/w3r

9M4IOTA Team will be active from **Pulau Kapas, Terengganu**, IOTA AS - 073, Malaysia, 31 May - 2 June 2024. They will operate on 80 - 10m CW, SSB, Digital modes. Team - 9M2000, 9M2V DX, 9M2ZDX, 9M2ODX, 9M2MDX, 9M2ROL, 9M2UDE, 9M2JEP, 9W2NMX, 9W2FEL, 9W2NYO. QSL via 9M2000. Direct QSL: Khairul Afendy, P.O Box 85, Batu 9 Cheras, Selangor 43207, West Malaysia.

National EMS Week May 19-May 25, 0000Z-0000Z, N4E, Gainesville, FL. W.T. Loften High School Amateur Radio Club. 14.335. QSL. W.T. Loften High School ARC, 3000 East University Avenue, Gainesville, FL 32641. www.qrz.com/db/k4wtl

SWL by Armando Delgado, KN4JN

Many hams born prior to 1960 cut their radio teeth listening to short wave radio transmissions, and many, if not most, continued the practice long after obtaining their amateur radio license.

Short wave listening (SWL) is as old as radio itself. When radio came into the world scene, it fascinated people. Many individuals obtained receivers and learned the Morse code, the only mode of transmission in those days, so they could listen on what was happening on the air. By the time voice broadcasting began in the 1920's amateurs had established through experimentation that the best wavelengths for long distance radio transmission were much shorter than the ones thought to be best for radio at the time. Many commercial broadcasters capitalized on this concept and began short wave broadcasts catering to distant audiences, including those across the sea.

By the time of WW2, radio receivers were a common household appliance and most homes in the USA had a radio. The war gave a big boost to the practice of SWL as most Americans, anxious about war news, turned to foreign broadcasts to get information.

The decades after the war were the heyday of SWL. At the end of the war, many countries, particularly European countries devastated by the war, introduced powerful short wave broadcast stations to connect with the rest of the world. Stations like the BBC, Radio Netherlands, Radio Paris, Radio Berlin, and Radio Madrid broadcast in multiple languages in multiple HF bands, night and day., catering to an international audience.

After the war, the Soviet Union and the Eastern European countries they occupied during the war isolated themselves behind what Winston Churchill so aptly called the Iron Curtain in 1946. By the following year, the Voice of America came on the air to relay information to the isolated countries.

The Soviets countered with Radio Moscow that provided their version of events.

The Cold War also saw the appearance of a number of radio stations in the HF bands that came to be known as "number stations". These consisted of transmissions of sequences of number groups sent by voice or CW. These coded messages were thought to originate from government agencies sending encrypted information to their operatives. One interesting variant of these coded messages consisted of groups of random, unconnected sentences.

The post-war years also saw an increase in HF transmissions by many international organizations and agencies. The maritime communication systems were the initial users of radio. Following the sinking of the HMS *Titanic* in 1912, the international maritime agencies created an emergency watch frequency at 500 KHz that every ocean-going ship had to monitor for distress signals. This frequency remained active for many years, but in 1929 a voice frequency was introduced at 2182 KHz.

The HF bands also accommodated international communication companies like ATT that transmitted telegrams, initially in CW and in later years in RTTY. Likewise, the aeronautical companies had HF frequencies to communicate with their international flights. The military also used HF for many of their contacts, primarily using CW. Many of those American stations still use HF in their annual cross-band event celebrating Armed Forces Day to contact amateur stations. Actually, in those days a listener did not have to move his radio dial very far in any band before he would pick up some kind of radion transmission.

But then progress caught up with radio. After satellite communications became available, many systems dropped the HF frequencies opting for satellite channels that were more reliable and offered more dependable signals. For example, the maritime watch frequency now is 406 MHz which is used for emergency transmissions and emergency beacons. It is the only frequency the Coast Gard monitors now.

Then the Internet also appeared. Gradually, most major HF broadcasters discontinued their international transmissions and went exclusively to the Internet for their programming. Now, the only broadcast stations heard on the HF bands are mostly regional broadcasters transmitting to local or regional audiences using mostly low power transmitters. Now it is possible to scan an entire HF band without hearing a single radio signal.

The SWL listeners have also changed. While once upon a time people listened for news, information and entertainment, now most short wave listeners hunt for rare broadcast stations much as amateurs search for rare DX.

It is lamentable that the mystery and information once available in the HF bands is gone, but most amateur HF transceivers still include a general coverage receiver as a legacy of those old days.



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, 18.0975, 21.0675,
28.0675, 50.350, 147.555



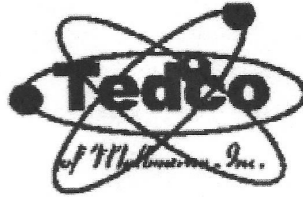
Editor's Note:

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, FI 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	W4NXL	ROCKLEDGE- WUESTHOFF HOSP.	IRARC	FUSION Repeater replaced with Bridgecom F
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		195 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	W4NXL	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.	K4UJZM	
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 and user Rx)							
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							

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KESTER

LITTELFUSE
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MALLORY
MACOM
MAXON
MIDLAND
MOTOROLA

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