



INDIAN RIVER ARC

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

VOLUME XLII, NUMBER 1

SPURIOUS EMISSIONS

JUNE, 2021

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ARMANDO DELGADO

KN4JN

CLUB MINUTES

President Viron, N4VEP called the meeting to order at 7:15 PM

Following the Pledge of Allegiance Viron called for approval of the May meeting minutes. A motion was made, seconded and the minutes were approved.

The Treasurer's Report followed. Checking Initial Balance, \$1578.18; expenses last month: Insurance \$323.20, Field Day \$500.00. Income: dues, \$20.00, donations, \$150.00. Final balance, \$924.98. The Equipment Fund remains at \$1836.62. The Treasurer's Report was approved for audit.

The training nets remain active: Wednesdays on 145.37 MHz at 7:15 PM followed by the simplex ragchew at 147.42 MHz. The simplex exercise every third Saturday of the month on 147.42 MHz beginning at 9:00 AM. The Sunday NBEM training will now move to Tuesdays at 7:00 PM.

Technical Committee Report: the PA in the 146.88 MHz repeater was replaced. Now all repeaters are operating in order.

New Business: Field Day will be next weekend, June 26-27. We will have 4 radios to use: a Flex 6400, an Icom 7600, and two Icom 746 Pro. There will be 3 stations active, each with an amplifier: two ALS 600 watt units and one 1500 watt amplifier. The complement of antennas will be raised on Friday afternoon and Saturday morning. There will be a 160-10 m off-center-fed-dipole, a 40-6 m off-center-fed dipole, and one 40 meter dipole and another 20 meter dipole. The plan is to operate two phone stations and one CW/digital station. We may try also 2m contacts.

Viron presented future plans for a full wave horizontal loop antenna for 80m, but may consider one for 160m since we have space for one. Also, planned is to leave the 20m

dipole up after Field Day for club members to operate at later times.

Following the business meeting, Viron showed a YouTube presentation analyzing and describing the directivity and gain of full wave horizontal loops at different resonant frequencies. The meeting adjourned at 8:09 PM.

Respectfully submitted for the Secretary by Armando Delgado, KN4JN

HAPPENINGS

Field Day is June 26-27 at the River of Life Church at 1890 N. Courtenay Pkwy, Merritt Island. Planned start time will be around 9:00 AM to begin antenna raising and installing radios. Transmission operations start at 2:00 PM EDT and will last until Sunday at 2:00PM. Some fast food will be prepared on site.

The World Wide Antarctic Pro-

gram (WAP) is going to launch the 60 years of the Antarctic Treaty System's celebration. The Antarctic Treaty System is the whole complex of arrangements made for the purpose of regulating relations among states in the Antarctic. At its heart is the Antarctic Treaty itself. The original Parties to the Treaty were the 12 nations active in the Antarctic during the International Geophysical Year of 1957-58. The Antarctic

Treaty System (ATS) was entered into force in 1961. So this year is the 60th Anniversary. The event will be open worldwide to hams who would like to join. Proposed time is June 1st 2021, through December 31st 2021. For more information visit <http://www.waponline.it/wap-is-going-to-launch-the-60-years-of-the-antarctic-treaty-systems-celebration/>

Starting on June 29, all applications filed with the FCC must include an email address for FCC correspondence. The FCC will use the email address supplied by amateurs to correspond with applicants, including to send a link to the official electronic copy of the license when an application is granted. The FCC is transitioning to fully electronic correspondence and no longer mails hard-copy li-

HAPPENINGS

censes. Amateurs are able to view, download, and print their official license grant, using the ULS. When a license is first granted, each applicant will receive an email with a direct link to the license. Although the link expires in 30 days, the license itself will remain available in the ULS and may be downloaded at any time by signing into the licensee's account using their FCC Registration Number (FRN) and password. Applicants lacking an email address should consider using the email address of a friend or family member on their [FCC applications](#).

On May 22 club members led by President Viron, N4VEP installed eye bolts and halyards on all the wooden posts at the church during the Antenna Party. The club is ready now to hoist as many antennas as we may need or want. Perilously perched on a lift basket, Viron singlehandedly installed the

parts.



Clayton J. Paus, K4CJP, of New Port Richey, Florida is the recipient of the 2021 IRARC Memorial, Joseph P. Rubino, WA4MMD, Scholarship, \$750

ON THE AIR

The Russian Robinson Club (RRC) has resumed its plans to activate rare **Kiska Island** (IOTA NA-070) and **Adak Island** (IOTA NA-039) in Alaska's Aleutian Islands chain in July for Islands on the Air (IOTA) enthusiasts. The KL7RRC team plans to have a minimum of two stations on the air on 40 – 6 meters, SSB, CW, and FT8. Team members will activate Adak Island on June 30 – July 3. Then, they hope to arrive at Kiska and be on the air as KL7RCC on July 7 – 12, before the return sail to Adak and flights home. Additional KL7RRC activity may take place from Adak July 14 – 16. Updates will be posted on the [Russian Robinson Club website](#).

JAPAN, JA. Special event stations 8N10LP, 8N20LP, 8N30LP, 8N40LP, 8N50LP, 8N60LP, 8N70LP, 8N80LP, 8N90LP and 8N00LP are QRV until September 5 for the World

Olympic and Paralympic Games. QSL via bureau.

FEDERAL REPUBLIC OF GERMANY, DA. Special call sign DL65ESSEN is QRV until December 31 to celebrate the 65th anniversary of the DARC's Ortsverband Essen. QSL via bureau.

During July 24-26, look for team **MSOINT** to be active from **Horse Island** (Summer Isles) EU-092. Participation in the IOTA contest as GM5DX. QRV on various bands / modes before and after the contest. Operators: MMONDX & MM00KG – others likely to join.

International Museums Weekends 2021 - Cincinnati Art Museum Jun 19-Jun 27, 0000Z-2359Z, W8M, Cincinnati, OH. OH-KY-IN ARS. 7.250 14.250. QSL. Robert Frey WA6EZV, 7895 Jessies Way, Apt 301, Hamilton, OH 45011. Operating only Saturday and Sunday as per International Museums Weekends recommendations. [ohkyin.org](#)

WSJT-X version 2.4.0, which includes the new digital mode Q65. Q65 is designed for two-way QSOs over especially difficult propagation paths, including ionospheric scatter, troposcatter, rain scatter, TEP, EME, and other types of fast-fading signals. Details and recommendations concerning the Q65 sub-modes are provided in the "Quick-Start Guide to Q65", available [here](#)." For the complete announcement, see the [WSJT-X website](#)

Managing Interstation Interference by former INRAD owner George Cutsogeorge, W2VJN, is now available as a free PDF [download](#), courtesy of the author.

Thanks to Rich, K4END who sent the following link. Watch an in-

teresting video presentation on the history of radio [here](#). He also sent a link to the [Virtual Ham Expo](#) that has many video presentations on multiple topics

With 6m beginning to have more regular openings, this activity offers a great opportunity for some DX contacts on 6m: **GUADELOUPE, FG.** Michel, F6GWW and Gildas, F6HMQ will be QRV as TO11A from June 12 to July 5. Activity will be holiday style with a focus on 6 meters. This includes being an entry in the IARU Region1 50 MHz Contest (June 19, starts at 1400Z). QSL via F6HMQ.

The Canada Day Contest begins on July 1, 0000 UTC (the evening of Wednesday, June 30, in North American time zones) and continues through 2359 UTC. Bands include 160, 80, 40, 20, 15, 10, 6, and 2 meters, CW and phone (SSB, FM, AM, etc.). Stations in Canada send signal report plus province or territory. VEOs and stations outside Canada send a signal report and a serial number. Details at the [RAC website](#)

TONGA, A3. Masa, JA0RQV will be QRV as A35JP from Tongatapu Island, IOTA OC-049, from May 30 to the end of October. Activity will be on 80 to 6 meters using CW, SSB and FT8. He also plans to visit other islands in IOTA groups OC-191, OC-123, OC-064, and OC-169 during this time. QSL to home call.

PANAMA, HP. Special event station HP2001 will be QRV from June 1 to November 30 to celebrate the 200th anniversary of

Panama's independence. Activity will be on 80 to 10 meters using SSB and various digital modes. QSL via HP1DAV.

Radio Club Argentino (RCA), **Argentina's** IARU member-society, is celebrating its 100th anniversary. The RCA Awards Committee says special call sign L21RCA will be on the air throughout the year, operating from various provinces. Various downloadable certificates are available. Visit the [RCA centennial website](#) for more information.

There is a new activation platform similar to those of IOTA (Islands on the Air), SOTA (Summits on the Air) and POTA (Parks on the Air). It is called **BOTA** (Boats on the Air). Their website lists the proposed activations.

USI Special Event Week US Islands (USI) Special Event week, June 12-20, 2021. Details [here](#)

RF EXPOSSURE RULES REVISITED. by Armando Delgado, KN4JN

On May 3, 2021 the FCC implemented a new version of their RF exposure rules. The exposure standards remain unchanged, but, what the FCC changed were the exceptions that previously existed for certain licensed services. Under the new rules, a licensed transmitter must determine if it qualifies for an exception to the requirement to perform a thorough emission levels evaluation. In the public notice, the FCC clarifies:

Under the new rules, every applicant for equipment authorization and every licensee prior to deployment or commencement of operations seeking to be exempt will use the calculations in our rules to determine whether the device or transmitter falls under one of the three classes of exemptions. If the applicant or licensee does not fall under one of the exemptions, it must perform a routine evaluation to determine compliance with our RF exposure rules.

The FCC bulletin explaining the new rules can be found in the following link: <https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>

The technical data for the emission standards appear in the **OET 65** report in the following link: https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf

The ARRL produced a supplement to the OET 65 to clarify amateur compliance procedures. OET 65 Supplement B : <https://transition.fcc.gov/bureaus/oet/info/documents/bulletins/oet65/oet65b.pdf>

In the QST January, 1998 issue Volume 82, Number 1, pp50-55 Ed Hare, W1RFI from the ARRL Laboratory explained how hams can comply with the rules. Also for the current cycle, the ARRL put out an article summarizing the FCC <http://www.arrl.org/files/file/Technology/RFsafetyCommittee/28RFSafety.pdf> and a supple-

mental article clarifying the new rules at <http://www.arrl.org/files/file/Technology/RFsafetyCommittee/RFXFAQ.pdf>.

Basically, the FCC created a formula to determine the threshold ERP of an antenna. If the power exceeds the threshold, then the station is not exempted and must do a thorough evaluation. For most amateur operations the frequencies of interest and their formulas follow: ($R \geq \lambda / 2\pi$ where R =distance from near field of antenna, λ =wavelength, $\pi=3.14159$.)

Transmitter Freq	ERP (in watts)
1.34-30 MHz	3450 R^2/f^2
30-300 MHz	3.83 R^2
300-1500 MHz	0.0128 R^2

The values resulting from these calculations apply to distances beyond the near-field of the antenna. The near-field distance can be calculated with the formula

Near-field boundary (in feet)
 $=156.8/\text{frequency(MHz)}$.

One other possibility is to do a station evaluation using a free on-line RF safety calculator. The following link offers a simple one: <http://www.lakewashingtonhamclub.org/resources/rf-exposure-calculator/>

Although it is unlikely the FCC will go around checking stations for compliance with the rules, it might be wise to keep a statement next to the station license indicating that the operator is aware of the rules and that his particular station is exempt from the regulations and how that determination was made. If there is a particular band that could be outside of the exempt

power requirements, a note indicating how the operator handles the issue would also go a long way to satisfy any nosy inspector.



Robert Cummings, KM4AAB (Porter Cummings, WA4WW's son) makes a nice illuminated device showing individual call signs to place in one's radio shack. The colors can be changed according to pre-programmed patterns. It can be operated with 3 AA batteries or by a provided power supply and cord.

He can be contacted at robert@zmanytoyz.com



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



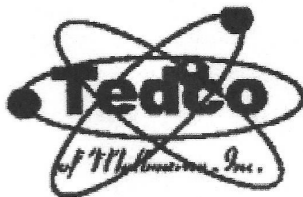
Editor's Note:

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	W4NLX	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	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.	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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CALRAD
CORNELL DUBILIER
CELLPHONE AMPS
CHICAGO MINIATURE
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JSC WIRE
JW DAVIS SOUND
JVC PARTS

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KOSS
KESTER

LITTELFUSE
LOWELL

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MALLORY
MACOM
MAXON
MIDLAND
MOTOROLA

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