



# SPURIOUS EMISSIONS

**INDIAN RIVER ARC**

JULY, 2019

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

## OFFICERS

### PRESIDENT

DAVID LERRET

KU0R

### VICE-PRESIDENT

VIRON PAYNE

N4VEP

### SECRETARY

STEVE LUCHUCK

N4UTQ

### TREASURER

LARRY HENDERSIN

KK4WDD

### DIRECTOR

DAVID SLAWSON

K4UZM

### NEWSLETTER EDITOR

ARMANDO DELGADO

KN4JN

## CLUB MINUTES



## HAPPENINGS

“Stringing Up Wire Antennas” is the topic of the June 6 episode of the [ARRL The Doctor is In](#) podcast and “Listener Mailbag” is the topic of the June 20 episode.

Contest logging software *N1MM Logger+* has a [new web-site](#). Changes include fewer pages, better search capability

and bug/issue-tracking visibility and reporting, and a comprehensive, easier-to-use listing of all supported contests.

Interesting article about electrically short whip antennas found [here](#).

**Historic 2-Meter Transatlantic Contact Reported** . D41CV on Cape Verde Islands and FG80J in Guadeloupe spanned the

Atlantic Ocean on 2 meters for the first time on June 16, according to reports. The distance was 3,867 kilometers (2,397.5 miles). The historic contact was made on 144.174 MHz using FT8 mode. More details [here](#).

When Argentina was plunged into darkness by a nationwide power cut Luciano Petruccelli LU3DX made a video showing just how much RF pollution is produced by

electronic devices Watch his video showing how little interference there was during the power cut on June 16, 2019, followed by massive RF pollution when power was restored: [view here](#).

**Spectrum analyzers..** This website has a comprehensive [tutorial](#) on the use of spectrum analyzers.

## HAPPENINGS

The annual [Original 13 Colonies Special Event](#) will mark its 11th anniversary this year. The event gets under way on July 1 at 1300 UTC and runs through July 7 at 0400 UTC. Special event stations with 1 × 1 call signs will represent the original 13 US colonies, plus bonus stations K2Z, WM3PEN in Philadelphia and GB13COL in Durham, England.

**Petition for Rulemaking Asks FCC to Create a New 8-Meter Amateur Band** The FCC has put on public notice for comment a Petition for Rulemaking (RM-11843) that seeks the creation of a new 8-meter Amateur Radio allocation on a secondary basis. The Petition suggests the new band could be centered on an industrial-scientific-medical

(ISM) segment somewhere between 40.51 and 40.70 MHz. The spectrum between 40 and 41 MHz is currently allocated to the Federal Government. [Details here.](#)

The Planetary Society's [LightSail 2](#) CubeSat, launched on June 25, will transmit Morse code from space. LightSail is a citizen-funded project to send a small spacecraft, propelled solely by sunlight, into Earth's orbit. The innovative satellite is due to be deployed on July 2 from Prox-1, a Georgia Tech student-built spacecraft the size of a small washing machine. Every 45 seconds, the spacecraft will transmit "LS2" on the spacecraft's frequency of 437.025 MHz, within the Amateur Radio 70-centimeter band. More details [here.](#)

A [juried research paper](#) in *Nature*, "Oscillations of the baseline of solar magnetic field and solar irradiance on a millennial timescale," suggests that a "grand solar minimum" — similar to the legendary "Maunder Minimum" — is approaching, starting as early as next year and lasting for three solar cycles.

An interesting article about the Morse Code, its origin and some interesting uses is found [here.](#)

The World Wide Radio Operators Foundation ([WWROF](#)), in collaboration with the Slovenia Contest Club ([SCC](#)), has announced the World Wide Digi DX Contest ([WW Digi](#)),

which it hopes will become an annual event. The inaugural running of the 24-hour contest will take place on August 31 – September 1. The new contest aims to tap into the enthusiasm being generated by the new digital modes pioneered by Joe Taylor, K1JT, and the WSJTX Development Group. Participants will use FT4 and FT8 on 160, 80, 40, 20, 15, and 10 meters. The WW Digi will utilize a distance-based scoring system, with participants earning points based on the distance between grid square centers of the two stations in a given contact.

## ON THE AIR

**50 Years - First Man on the Moon Jul 14-Jul 28, 1700Z-2000Z, N1A**, Milford, OH. Milford Amateur Radio Club. SSB: 28.350 14.260 7.240 3.840; CW: 14.045, 7.045, 3.545; FT8 standard frequencies. QSL. Milford Amateur Radio Club, P.O. Box 100, Milford, OH 45150-0100. Email [qsl@w8mrc.com](mailto:qsl@w8mrc.com) for QSL requests. [www.w8mrc.com](http://www.w8mrc.com)

**Apollo 11 50th anniversary** Jul 16-Jul 25, 1400Z-0000Z, N4A, Huntsville, AL. NASA Marshall Space Flight Center ARC. 14.273. QSL. MSFC Amateur Radio Club, NASA/MSFC c/o Don Hediger, ES35, Huntsville, AL 35812. Various bands and modes will be used. Check spotting cluster or @NASARadioClubs for details. Numerous other NASA radio clubs will be on the air during this period. SASE is required for QSL card. [nn4sa.wordpress.com](http://nn4sa.wordpress.com)

**Apollo Moon Landing 50th Anniversary at Space & Rocket Center** Jul 19-Jul 21, 2000Z-2000Z, W4A, Huntsville, AL. Huntsville Amateur

Radio Club HARC. 14.290 7.225 7.044 3.945; SSB CW FT8. QSL. M.D. Smith, WA4DXP, 307 Clinton Ave. W., Suite 100, Huntsville, AL 35801. No overnight. Celebrating Man's first steps on the moon 50 years ago. SASE for QSL. [www.qrz.com/db/W4A](http://www.qrz.com/db/W4A)

**EAA AirVenture 2019** Jul 22-Jul 28, 1400Z-2300Z, W9W, Oshkosh, WI. EAA Warbirds of America. 28.425 21.235 14.250 7.225. QSL. Ed Finnegan, K9ECF, 69 Mohawk Street, Cary, IL 60013. 1400Z - 2300Z daily. Operations from the Warbird area next to aircraft such as the T-6, T-28, T-34, Aero Vodochody L-39, MiG 17, Spitfire, Grumman F6F Hellcat, and P-51 Mustang. [www.warbirds-aaa.org](http://www.warbirds-aaa.org)

**US Coast Guard 229th Birthday** Aug 4-Aug 5, 1400Z-0400Z, K1CG, Port Angeles, WA. USCG CW Operators Association. 21.052 14.052 7.052 3.552. QSL. QSL to operator contacted. [fgoodwin@olympen.com](mailto:fgoodwin@olympen.com) or [www.qrz.com/db/k1cg](http://www.qrz.com/db/k1cg)

Janusz, E44WE will be active again from **Palestine**, 6 July - 6 August 2019. He will operate on 80, 30, 20, 6m, SSB, RTTY, FT8. QSL via ClubLog OQRS.

MM3T op GMOELP will be active again from **Bute Island**, IOTA EU - 123 in RSGB IOTA Island, 27 - 28 July 2019. He will operate in Single Operator Low Power CW 12 hour Category. QSL via eQSL.

Saty, 9M6NA will be active again from **Labuan Island**, IOTA OC - 133, 11 - 16 July 2019. He will operate on HF Bands and 6m Band. QSL via JE1JKL, LOTW, ClubLog OQRS.

This year, many veteran DXpeditioners will return to **Market Reef**. The activity, which got under way on June 8, may even extend into the winter in order to catch the best low-band openings. OJOA and OJOZ will be on the air starting on July. **Market Reef** will also be active as

OJOB during the IARU HF World Championship Contest over the July 13 - 14 weekend. Youth Week will follow, with OJOC on the air starting on July 15, followed by an Islands on the Air operation as OJODX, starting on July 27. For International Light-house/Lightship weekend, August 17 - 18, the call sign OJOO will be active.

**CANADA, VE.** Special event station XN1M is QRV until July 21 to commemorate the 1969 Apollo 11 mission. QSL via VO1IDX.

**SPAIN, EA.** Members of the Asociacion de Radioaficionados de Padron are QRV with special event call AO50MOON during July to commemorate the first manned landing on the Moon. QSL via EA1RCI.

**GIBRALTAR, ZB.** Members of the Gibraltar Amateur Radio Society will be QRV as ZB2IG19 from July 5 to 31 for the XVIII NatWest International Island Games. QSL via bureau.

How effective is your station? By Onno VK6FLAB

We tend to spend most of our energy looking at antennas and power to evaluate how well our station works. Based on a better antenna or more power, you're likely to make more contacts is the general gist of the process.

Being a QRP operator, power rarely comes into the conversation, 5 Watts is what you get, leaving antennas as the prime method of discovering how effective we can be.

Recently I received an email from Layne AE1N, pointing me at an article he wrote on the Nashua Area Radio Society website titled: It's all about the decibels - factors in enhancing station effectiveness. The article, goes into great detail in looking at an alternative way of measuring how well you're doing and builds on the December 2013 QST article - How Much Punch Can You Get from Different Modes?

In our hobby we measure using a thing called the decibel. I've spoken about it at great length previously. The way to use it is to compare something against something else. Using the metric used in the QST article we take as a starting point a modern transceiver, using 100 Watts, CW into a half-wave dipole at 30m.

Everything we're discussing from here on in, is related to that starting point, the zero point. I should also make clear that we're talking about the ability of the receiver to decode your message, not the strength of the signal.

If you were to use the same radio and instead of using CW, used AM, you'd have a station that was 27 dB worse off. That is, your signal would effectively become harder to hear by 27 decibel. On the other hand, you if were to replace the half-wave dipole with a 4 element Yagi, your station would be just under 7 dB better off, that is, it would be easier to hear you by 7 dB.

Of course you can combine AM and the Yagi, adding the two measurements together, coming out at minus 20 dB, which means that compared to a 100 Watt transmission on CW into a half-wave dipole,

the same 100 Watt transmission on AM into a 4 element Yagi would still be harder to hear by 20 dB.

If you go from CW to SSB, you'd be 17 dB worse off, or SSB is 10 dB better than AM.

Note that when I say better and worse, it's about how much your signal can be decoded at the other end, using the same receiver, antenna, etc.

The whole article includes comparisons between CW and FM, CW and RTTY and so-on. RTTY is only 4 dB worse than CW, but most transceiver manufacturers recommend that you reduce power to a quarter power, that is, 25 Watt instead of 100 Watt when using RTTY or Digital modes, so you end up losing 14 dB for that, making RTTY slightly worse than SSB if you follow the manufacturer instructions to reduce power.

This isn't all doom and gloom however. Even though CW is very effective, we can improve things in other ways. For example, using PSK31 gives you a 7 dB head start, switching from CW to JT65 or FT8 gives you 25 dB. Even if you take into account the reduction from the loss of full power, 14 dB, you still end up in front by 11 decibel, which is more than you can get from upping power from 100 Watt to 400 Watt which only gets you 6 dB.

Adding an 11 element Yagi gives you a similar improvement as changing from CW to FT8, just over 11 dB, and using 1500 Watts is only slightly better at 12 dB.

The point I'm making is that you can use this idea to figure out how to get your signal heard. More power or a bigger antenna is only part of the conversation, picking the correct mode is just as important.

Of course, the 11 dB gain you get from moving from CW to FT8, even when reducing power, is one of the main reasons that it's so popular, much easier to change mode than to

build a new fancy antenna.

One more thing, what of the 5 Watts vs. 100 Watts we started with, 13 dB. That's significant, but if you were to use 5 Watts FT8 into a quarter-wave dipole, using 100% of the 5 Watts, you'll actually be 12 dB better off than the same station using 100 Watts CW.

Check out Layne's article for a reference to QST and a whole lot more. It's a very useful way of looking at how your station can be very effective, even if you're QRP.

I'm Onno VK6FLAB

<https://forums.grz.com/index.php?threads/how-effective-is-your-station.645684/>



JULY CONTESTS

Jul 1 [RAC Canada Day Contest](#) 0000Z-2359Z

Jul 1 [RSGB 80m Club Championship CW](#) 1900Z-2030Z Jul 6 [FISTS Summer Slow Speed Sprint](#) 0000Z-0400Z

Jul 6- Jul 7 [Marconi Memorial HF Contest](#) 1400Z to 1400Z

Jul 13-14 [IARU HF World Championship](#)

Jul 20- Jul 21 [CQ Worldwide VHF Contest](#) 1800Z to 2100Z

Jul 20- Jul 21 [North American QSO Party, RTTY](#) 1800Z to 0559Z

W1AW CODE PRACTICE

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.

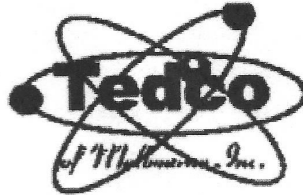
ACTIVE REPEATERS AND SIMPLEX FREQUENCIES (FM ANALOG)

REV 5/25/2018

OUTPUT FREQ.	OFFSET	TO NE	CALL	LOCATION	OWNER
145.130	-600	107.2	AB4AZ	VERO BEACH, INDIAN RIVER	AB4AZ
145.350	-600	103.5	K4OSC	St. CLOUD, OSCEOLA	K1XC
145.370	-600	156.7	W2SDC	COCOA	IRARC
145.470	-600	107.2	K4HRS	MELBOURNE	HIRAC
145.490	-600	100	WN3DHI	TITUSVILLE	NORTH NET
146.610	-600	None	W4MLB	MELBOURNE	PCARS
146.775	-600	100	K4KSC	MIMS	TARC
146.850	-600	107.2	W4MLB	PALM BAY	PCARS
146.880	-600	107.2	W4NLX	ROCKLEDGE	IRARC
146.895	-600	107.2/107.2	K4EOC	PALM BAY	EOC
146.910	-600	107.2	K4KSC	TITUSVILLE	TARC
146.940	-600	None	K4GCC	ROCKLEDGE	LISATS
146.970	-600	107.2	K4KSC	TITUSVILLE	TARC
147.075	+600	107.2/107.2	K4EOC	TITUSVILLE	EOC
147.135	+600	107.2/107.2	K4EOC	ROCKLEDGE	EOC
147.240	+600	123	KV4EOC	VOLUSIA	VARES
147.255	+600	107.2	K4DCS	PALM BAY	DCS
147.330	+600	107.2	K4NBR	TITUSVILLE	NBARC
147.360	+600	107.2	N4TDX	TITUSVILLE	NBARC
444.325	+5000	107.2	K4DCS	PALM BAY	DCS
444.375	+5000	107.2		SEBASTIAN	SARNET
444.425	+5000	107.2	W4MLB	Melbourne	PCARS
444.525	+5000	103.5/103.5	K4EOC	ROCKLEDGE	EOC
444.650	+5000	107.2	W4NLX	COCOA	IRARC
444.925	+5000	131.8	N1KSC	KENNEDY SP. CTR.	KSCARC
442.850	+5000	107.2/107.2	N4TDX	TITUSVILLE	NBARC
444.750	+5000	107.2/107.2	N4TDX	TITUSVILLE	NBARC
224.520	-1.600	107.2	N4TDX	Titusville	NBARC
PACKET STATIONS:					
145.010	WINLINK		W2PH-10	PALM BAY	DCS
145.090	PCARS		W4MLB-2	MELBOURNE	PCARS
145.770	SEDAN		K4EOC-7	PALM BAY	N2DB
145.770	SEDAN		KD4MWO-4	TITUSVILLE	N2DB
146.550	SIMPLEX		K4DCS	SOUTH REGION	DCS
147.540	SIMPLEX		K4EOC	RACES Bay	EOC
146.520	SIMPLEX			GENERAL CALL	
146.580	SIMPLEX		W4MLB	MELBOURNE	PCARS
146.480	SIMPLEX		W4NLX	CENTRAL REG	IRARC
146.595	SIMPLEX		K4KSC	NORTH REGION	TARC
146.560	SIMPLEX		NBARC	NBARC General Simplex	NBARC

Repeater in bold are owned by Brevard Emergency Management and are maintained by the county. Truste

437 S. BABCOCK ST.  
MELBOURNE, FL 32901  
Ph) 321-727-2311  
Fax) 321-727-2312



## DISCOUNT ELECTRONICS

HAM&CB EQUIPMENT  
SECURITY SYSTEMS  
BATTERIES(ALL TYPES)  
REPAIRS(ALL TYPES)  
ANTENNAS - TOWERS  
2-WAY RADIO EQUIPMENT

"SALES AND SERVICE"  
TELEPHONE SERVICE  
COMPUTER REPAIR  
STEREOEQUIPMENT  
POWER SUPPLIES  
TUBE EQUIPMENT

2013 LINE LISTINGS \*\* THE ONLY REAL PARTS STORE LEFT IN SOUTH BREVARD \*\*

AIM  
ALINCO  
ANTENNACRAFT  
ANTENNA SPECIALISTS  
ARRL  
ASTATIC  
ASTI

BEARCAT  
BECKMAN (WAVETEK)  
BUSSMAN FUSES  
BUD

C.B.RADIO  
CALRAD  
CORNELL DUBILIER  
CELLPHONE AMPS  
CHICAGO MINIATURE  
CINCH JONES  
CLOVER  
COBRA  
CUSHCRAFT

DALBANI  
DECIBEL PRODUCTS  
DENNISON  
DURACELL  
DANTONA IND.

ECG (SEE NTE)  
ELECTRONIC RESOURCES  
ELECTROVOICE  
EVEREADY

FANON-INTERCOMS  
FLUKE (WAVETEK)

GC ELECTRONIC  
GALAXY  
GOLDLINE

HAM RADIO  
HARADA  
HITACHI  
HYGAIN

### ICOM RADIO

JSC WIRE  
JW DAVIS SOUND  
JVC PARTS

KENWOOD RADIO  
KOSS  
KESTER

LITTELFUSE  
LOWELL

M & G  
MALLORY  
MACOM  
MAXON  
MIDLAND  
MOTOROLA

NTE TRANSISTORS  
NELLO TOWERS  
NTE ELECTRONICS  
NORMAN LAMPS

PANASONIC  
PANAVISE  
PHILIPS ECG (SEE NTE)  
PHILMORE  
PIONEER  
POMONA  
POWERSONIC  
PRB  
PROAM ANTENNAS

QUAM  
QUEST

RANGER RADIO  
RAYOVAC BATTERIES

RUSSELL IND.

SR COMPONENTS  
SANYO BATTERIES  
SHURE BROTHERS  
SONY PARTS

### SPECO SWITCHCRAFT

TEI  
TNR BATTERIES  
TELEX - HYGAIN  
TRIPPLITE  
TUBES - ALL TYPES  
TV ANTENNA'S

UNIDEN  
UNIDILLA  
UNION CARBIDE

VARCO  
VALOR  
VECTOR  
VIDEO EQUIPMENT

W2AU BALUNS  
WALDOM - MOLEX  
WAHL-CLIPPER  
WAVETEK (BECKMAN)  
WILSON ANTENNAS  
WILSON ELECTRONICS

YAESU

WEB PAGE:  
[www.tedcoelectronics.com](http://www.tedcoelectronics.com)

EMAIL:  
[tedco@bellsouth.net](mailto:tedco@bellsouth.net)

Hours:  
MON - FRI 9 AM - 5 PM  
SATURDAY 9AM-3PM

TED - W4LR - GENERAL MGR.

DOTTIE - OFFICE MANAGER