



## INDIAN RIVER ARC

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

VOLUME XLIII, NUMBER 2

# SPURIOUS EMISSIONS

FEBRUARY 2017

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## CLUB MINUTES

The meeting began at 7:30 PM with the pledge of allegiance. President Dave KUOR was out of town on business and Vice President Viron N4VEP ran the meeting again. Visitor Ron WB2OQB, not really a visitor, was recognized. Dave KF4TXB was recognized as new club member. Next the confusion of where Norm W1TLZ is, was explained.

A motion to approve the January Meeting Minutes, published in the newsletter, was heard, seconded and approved by acclamation.

Larry KK4WDD gave the Treasurer's report and we learned that we have \$1283.34 in checking and \$1276.99 in savings. A motion to approve the treasurer's report for audit was heard, seconded and approved by acclamation.

On the previous Saturday a work day crew restored the donated antenna and tower to the roof of the building.

Larry WD5CKN spoke to the group as President of BEARS, and has to fix the mess that we made. Larry reported that BEARS needs to be productive and self supporting and he has some ideas on how to do it. He set three committees to assist him in this task. Larry further reported that according to the BEARS bylaws, the clubs that are BEARS members must provide annually a letter indicating who their BEARS representative is. Larry pledged not to ask the clubs for monetary support. The meeting then deteriorated to a lengthy Q/A session about BEARS, what BEARS does, who is on the CAT team. Following the BEARS discussion, the BEARS discussion continued about where to store the BEARS1 vehicle.

Old Business: None  
New Business: Viron will try to beef up the presentation effort. Back to the BEARS discussion, the BEARS1 vehicle will be at the Orlando Hamcation.

There will be an MS walk and a JDRF walk is on the schedule for Community Service in March and April.

Prior to starting the Presentation the 50-50 drawing was held and the winning ticket was found to be in the hands of Larry WD5CKN who generously donated the winnings to the club.

Prior to adjournment Viron asked if the coffee was too strong or too weak and both responses were received. A motion to adjourn occurred at 8:31 pm and was moved and approved. A presentation by Steve N4UTQ about early radios followed the meeting. Steve noted that the power point slides had been used at a previous meeting three years ago.

Respectfully Submitted

Steve N4UTQ  
Secretary

## HAPPENINGS

Amateur activity, mostly using WSPR mode continues on 630 m. A second annual Midwinter 630-Meter Operating Activity Night will take place on February 4-5.

Restoring Old Radios" is the topic of the December 29 episode of the "[ARRL The Doctor is In](#)" podcast. "Long Delayed Echoes" is

the topic of the January 12 episode and "Meteor Scatter" is the topic of the latest episode

From the ARRL:

Several CubeSats carrying Amateur Radio payloads were placed into orbit on January 16 from the International Space Station (ISS).

Satellites carrying Amateur Radio payloads included ITF-2, Waseda-Sat-3, AOBA-Velox-3, and TuPOD (including Tancredo -1).

University of Tsukuba designed and built ITF-2, with a downlink of 437.525 MHz. Waseda-Sat-3, a project of Waseda University, downlinks CW and FM

telemetry on 437.29 MHz. AOBA-Velox-3 downlinks GMSK telemetry on 437.225 MHz. Tancredo-1, a Brazil middle school project, will transmit AFSK on 437.200 MHz.

## HAPPENINGS

For those interested in DMR, the following web sites have information on the subject:

[:DMR-MARC website](#)  
[K4USD website](#)  
[Amateur Radio Guide to DMR](#)  
[Digitally Speaking \(a great guide to DMR\)](#)  
[DMR Best Practice Guide](#)  
[Amateur Radio Digital Hotspot Comparison](#)

Radio amateurs in Nebraska will celebrate the state's 150th anniversary during the [Sesquicentennial Anniversary Celebration Week QSO Party](#), start-

ing on Saturday, February 25, and continuing until Sunday, March 6. That time period includes the actual anniversary date, March 1. Nebraska radio amateurs may operate from their own stations or as part of Nebraska historical site activations, appending "/NE150" to their call signs. Nebraska stations transmit name, signal report, and Nebraska county (plus historical site, if appropriate). Non-Nebraska stations transmit name, signal report, and state, Canadian province, or DXCC entity.

When good coax goes bad, it's often due to water ingress. [DX Engineering has published a technical tip](#) showing how to use a combination of rubber splicing tape and vinyl tape to make weatherproof coax connectors.

NASA just made all the scientific research it funds available for free. The database is called [PubSpace](#), and the public can access NASA-funded research articles in it by searching for whatever they're interested in, or by just brows-

ing all the NASA-funded papers.

There is a new online propagation prediction program from G4FKH via RSGB. The link to ITURHFprop is at <http://bit.ly/2jTVHFO>.

Participation appears to be growing in the monthly Federal Emergency Management Agency (FEMA) Region X HF interoperability exercises, which take place on 60 meters (center channels 5,332 and 5,348 kHz) on the third Wednesday of each month. Check-ins include state, tribal, federal, and Amateur Radio stations, to test HF interoperability in an emergency or disaster response. FEMA Region X is made up of Alaska, Idaho, Oregon, and Washington, but all stations are welcome.

## ON THE AIR

FEDERAL REPUBLIC OF GERMANY, DA. The DARC club from Herten is QRV during 2017 with special event call sign DK60HERTEN to celebrate its 60th anniversary. QSL via bureau.

HUNGARY, HA. Special event station HG17EYOF is QRV until August 31 to celebrate the European Youth Olympic Festival, an every-other-year event for youth athletes from 48 member countries, that is being held in Győr from July 23 to 29. QSL via operators' instructions

MEXICO, XE. Members of the radio club Queretaro are QRV with

special event call sign 6EOC until April 30 to commemorate the ratification of the Mexican Constitution 100 years ago. QSL via XE1EE.

FINLAND, OH. During all of 2017, in celebration of the centenary of Finland's independence, Finnish radio amateurs are allowed to use the prefix OF in place of the usual OH. In addition, jubilee call sign OF100FI/portable district number will be activated by various Amateur Radio clubs throughout Finland. QSL via operators' instructions

ANTARCTICA. Juan, LU4CJM is QRV as either LU1ZI or LU4CJM/Z from Carlini Base until the end of February. Activity is on 80, 40 and 20 meters. QSL via operator's instructions..

BULGARIA, LZ. Members from the Headquarters of the Thracian Rose Club are QRV as LZ73TRC during all of 2017. QSL via LZ1YE.

SOUTH SHETLAND ISLANDS. Members of the Peruano Radio Club of Peru are QRV as OAOMP from the Machu Pic-

chu Antarctic Base on King George Island, IOTA AN-010, until March 31. Activity is mainly on 40 and 20 meters using SSB. QSL via OA4O.

MALTA, 9H. Special event station 9H2017EU is QRV until June 2017 to mark the 2017 Maltese European Union Presidency. QSL direct to 9H1SP.

FEDERAL REPUBLIC OF GERMANY, DA. Special event station DB20ENERGY is QRV until the end of 2017 to commemorate the 20th anniversary of the German company DB Energie. QSL via bureau.

## The Baudot Code by Armando Delgado, KN4JN

The Baudôt code was an effort to make telegraphy more efficient by utilizing a keyboard to enter the characters, thus eliminating the lengthy process of learning the Morse Code and speeding the sending time. Emile Baudôt invented his original code in 1870 and patented it, along with his keyboard in 1874. It was a 5-bit code with equal on and off intervals which allowed telegraph transmission of the Roman alphabet and punctuation and control signals. The five units of this code were transmitted serially on a single line.

The Baudôt keyboard (Fig.1), however, allowed the operator to input all five units of the code at a single time. Basically (and simplifying), you pressed the keys down for the 5-unit combination and a rotating contact read the key positions and transmitted the code. It was thus a direct code entry device, with the operator's brain providing the data processing facilities for translating the characters of the message into code

combinations. The five unit code first successfully used as a telegraph code by Baudôt was allocated to the letters of the alphabet in a convenient order for easy learning. i.e., Keys 1, 2 and 3 were allotted to the vowels, while the consonants were formed in alphabetical order by the combination of keys 4 and 5 to the vowels, thus verification of a letter is always an easy matter. Unfortunately this

arrangement does not suit typewriter keyboards, hence the reallocation of the alphabet in the Western Union and Murray systems (Fig.2).

Although superior for commercial telegraphy as compared to the Morse Code system, the Baudôt system included many inefficiencies, such as the need for the operator to know the code of each character and the necessity of entering each character individually. Thus the maximum speed attainable with this system was

### The Baudot Code

about 30 wpm. It also required both sending and receiving devices to be constantly synchronized. This led to the New Zealander inventor Donald Murray to develop in 1901 a typewriter keyboard that entered the code for the letters typed. He also changed the arrangement of the Baudôt code characters to enhance the efficiency of his system. The Murray system also utilized control characters, such as "carriage return" and "line feed" that permitted automatic synchronization between the sending and receiving devices. Murray patented his device in the United States and Western Union immediately contracted with Murray to use the machine for its operations, later changing the code a little to enhance its efficiency and speed of transmission.

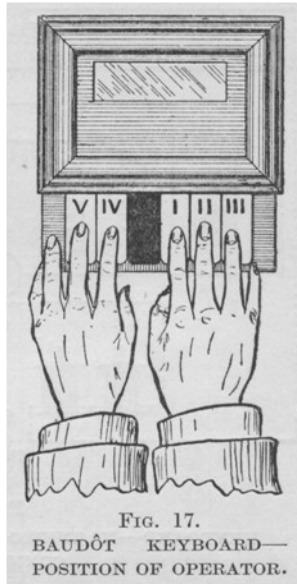


Fig. 1

The Baudot Keyboard

In 1924 the International Telegraph and Telephone Consultative Committee (CCITT, from French: Comité Consultatif International Téléphonique et Télégraphique) introduced an international standard code based on the Western Union system which became known as the International Telegraph Alphabet No. 2 (ITA2). This code was used internationally until 1963 when it was replaced by an ASCII-based standard, and it is the code currently used in amateur radio RTTY transmissions.

Some in the radio community still refer to RTTY as Baudôt code, but technically that is incorrect because there are marked differences between the actual code used, the method of transmission of the original Baudôt and the ITA2 standard in use today.

Baudôt Code				Murray Code			
		Alphabetic Presentation				Alphabetic Presentation	
		Keyboard Layout	Transmission Order			Transmission Order	
		V IV I II III	I II III IV V			1 2 3 4 5	
A	1 A 1					A &	
B	8 B 8					B /	
C	9 C 9					C (	
D	0 D 0					D -	
E	2 E 2					E 3	
F	5 F 5					F "	
G	7 G 7					G '	
H	4 H 4					H :	
I	9 I 9					I 8	
J	6 J 6					J ¼	
K	( K (					K ½	
L	= L =					L %	
M	) M )					M ?	
N	^ N ^					N £	
O	5 O 5					O 9	
P	/ P /					P 0	
Q	/ Q /					Q 1	
R	- R -					R 4	
S	7 S 7					S :	
T	2 T 2					T 5	
U	4 U 4					U 7	
V	' V '					V )	
W	? W ?					W 2	
X	¾ X ¾					X ¾	
Y	3 Y 3					Y 6	
Z	: Z :					Z !	
T	***					FIGS.	
(ERASURE)	***					CAPS.	
FIGURE	***					SPACE	
LETTER	***					LINE	

Fig. 2  
Baudot and Murray Codes Compared.



### 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,  
147.555



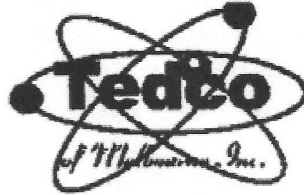
### Editor's Note:

Send comments about the Newsletter or to contribute information or articles to the Editor's email address:

[olardelga@aol.com](mailto:olardelga@aol.com).

Data from: Pandry, H. W. *The Baudôt Printing Telegraph System*. 2ed. (London: Sir Isaac Pitman & Sons, Ltd., 1919): 43-44, and Murray, Donald. "Setting Type by Telegraph," in *Journal of the Institution of Electrical Engineers*. Vol. 34 (1905): 555-608. Drawing 2010 www.CircuitousRoot.com; Public Domain

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