CQ CHATTER

FEBRUARY 2016 VOLUME B15 •ISSUE 12

WOOD COUNTY AMATEUR RADIO CLUB

President	WB8NQW	Bob Willman
Vice President	vacant	
Secretary	N1RB	Bob Boughton
Treasurer	KD8NJW	Jim Barnhouse

http://wcarc.bgsu.edu

Kick-off Banquet

The annual kick-off banquet was held on Sunday, January 10, at the Holiday Inn French Quarter in Perrysburg. Although it was not a perfect day for road travel because of recent snowfall, a group estimated at over 20 persons attended. The food provided on the J. Patrick's buffet line was excellent with a good variety.

The only order of business was the announcement of the new Officer slate. The serving President (WB8NQW), Secretary (N1RB) and Treasurer (KD8NJW), all agreed to serve for one more year. The vacant Vice President position was filled by the Winter/Summer team of Steve McEwen (K8BBK) and Loren Phillips (W8PSK). The slate was unanimously approved. The Treasurer also reminded members to submit their dues for 2016. The rates are: Senior/Student-$10; Regular Member-$15, and Family-$20. The next meeting is a business meeting and will be held on February 8th. ■

Ramsey Kits Calls it Quits

from ARRL Letter

After more than 40 years as a purveyor of inexpensive electronics kits for hobbyists, the Ramsey Hobby Kits group has thrown in the towel, effective on January 1. The Ramsey RF Test Equipment Group is unaffected by this change. "We end our heritage with a smile, not a frown, and say thank you, to all our customers and fellow hobbyists," Ramsey's **announcement** said.

The Victor, New York, company sold a wide array of hobby kits over the years, starting with its LED Blinky kit in the 1970s and eventually including simple ham radio transmitters and receivers, aircraft band receivers, and other devices. Ramsey kits were frequently available at hamfests. The company indicated that it will continue to provide technical and warranty support for hobby kits purchased through the end of 2015. Ramsey said its remaining hobby kit inventory has been relocated to **Amazon**.

NET CHECK INS

Dec 29 Traffic: 0

K8OVO (NCS)
K3RC
NM8W
K8JU
KD8WZK
KD8RNO
WD8JWJ
KD8NJW
K8VNT
KC8EKT
KE8CUZ
K8BBK (12)

Jan 5 Traffic: 0

N1RB (NCS)
KE8CVA
KD8RNO
NM8W
K8BBK
K8OVO
KE8CUZ
WD8JWJ
AA8HS
KD8NJW
WB8NQW
K8JU
WD8LEI
N8WAC (14)

Jan 12 Traffic: 0

WB8NQW (NCS)
K8OVO
KD8WZK
KD8NJW
WD8JWJ
KE8CUZ
KE8CVA
WD8LEI
N1RB
KD8VWU
W8MSW
N8YAE
K8JU (13)

BRAIN TEASERS

1. What is the mean maximum power permitted for any spurious emission from a transmitter or external rf amplifier below 30 MHz?

a.) 50 mW

b.) 100 mW

c.) 10 mW

d.) 10 W

2. How long does it take for an initial voltage of 20 V to decrease to 7.36 V in a 0.01 micro□ farad capacitor when a 2 Megohm resistor is connected across it?

a.) 0.02 s

b.) 0.08 s

c.) 450 s

d.) 1350 s

3. What is the principal characteristic of a tunnel diode?

a.) a high forward resistance

b.) a very high peak inverse voltage

c.) a negative resistance region

d.) a high forward current rating

February Contests

The contest lineup for the month of February is given below. Please note that the WARC bands (60, 30, 17 and 12 m) are never open to contesting.

Feb 6-7	*0000 to 2359 Z*	160 m to 10 m
Vermont QSO Party		**all modes**
Feb 6	*1400 to 2359 Z*	160 m to 10 m
Minnesota QSO Party		**all modes**
Feb 6-7	*1600 to 0400 Z*	160 m to 10 m
British Columbia QSO Party		**all modes**
Feb 8-12	*1300 to 2359 Z*	160 m to 10 m
ARRL School Club Roundup		**all modes**
Feb 13-14	*0000 to 2359 Z*	80 m to 10 m
CQ WW RTTY WPX 'test		**RTTY**
Feb 13-14	*1200 to 1200 Z*	160 m to 10 m
PACC (Dutch) DX 'test		**all modes**
Feb 13-14	*1600 to 2200 Z*	160 m to 10 m
New Hampshire QSO Party		**all modes**
Feb 20-21	*0000 to 2359 Z*	160 m to 10 m
ARRL Int'l DX 'test		**CW**
Feb 27-28	*0600 to 1800 Z*	80 m to 10 m
REF (France) DX 'test		**SSB**
Feb 27-28	*1300 to 1300 Z*	80 m to 10 m
UBA (Belgium) DX 'test		**CW**
Feb 27-28	*1400 to 0059 Z*	160 m to 6 m
South Carolina QSO Party		**all modes**
Feb 28-29	*1500 to 0059 Z*	80 m to 6 m
North Carolina QSO Party		**all modes**

NET CHECK INS

Jan 19 Traffic: 0

KD8NJW (NCS)
KE8CUZ
K8OVO
K8BBK
KD8WZK
WB8NQW
WD8JWJ
KE8CVA
KD8VWU
WD8ICP
KD8RNO (11)

Jan 26 Traffic: 0

KD8VWU (NCS)
KD8WZK
WD8LEI
N1RB
WB8NQW
WD8JWJ
KE8CUZ
KE8CVA
K8OVO
K8BBK (10)

Feb 2 Traffic: 0

N1RB (NCS)
N8VNT
K8OVO
KD8RNO
WD8LEI
WD8JWJ
KC8EKT
KE8CVA
WB8NQW
KE8CUZ
KD8VWU
KD8NJW (12)

Digital Communications in Amateur Radio

by Jeff Kopcak, K8JTK

This is the first installment of a multipart series on digital modes that are used in amateur operation. Jeff is a long-time member of WCARC, dating back to his days at BGSU. He has always had an interest in computers and computing, and is currently employed as an IT specialist in Cleveland. Jeff also serves as the webmaster for the WCARC web page (see masthead for address)---Ed.

When I was planning my HF station a few years ago, I knew I wanted to learn more about digital modes. I was familiar with some like Slow Scan TV and Craig – NM8W told me about JT65 a couple of years ago. I didn't understand HF - let alone HF digital. I was lost and had a lot to learn.

Since I've been on the HF bands, the large majority of my contacts have been with some form of digital, and I'm always exploring new ones. JT65 is my current mode of choice. The perception from many hams is that digital modes are foreign and complicated to set up. It just takes a little understanding.

In this series of articles, I will be discussing getting on the air with digital from your station. This article will give a general overview of digital communications. Future ones will discuss setting up your station, diving into operating specific modes, and using specific applications. Much of the information will be related to HF and sideband operation. Technicians - fear not, these modes can also be operated on VHF/UHF sideband, or even FM simplex with HTs. I'll get into important distinctions between sideband and FM next time.

continued---on p.6

WCARC Weekly Net

Tuesdays at

2100 EDST/EST

147.18 MHz 67 Hz PL

Net Control Roster

Feb 2	N1RB
Feb 9	K8OVO
Feb 16	WB8NQW
Feb 23	KD8NJW
Mar 1	KD8VWU
Mar 8	N1RB

NEXT MEETING

Business Meeting

Monday, February 8

TIME: 7:30pm/7:00EB

PLACE: Wood County Sheriff's Training Room

S. Dunbridge &

E. Gypsy Lane Rds.

Bowling Green, OH

DON'T FORGET!

10 meter informal net meets Sunday @ 2030 EST/EDST on 28.335 MHz

It's time to renew-

dues for 2016 payable to:

WCARC, P.O. Box 534

Bowling Green, OH 43402

see wcarc.bgsu.edu for membership rates

digital-from p. 4

I've been using computers from an early age. I learned applications and started programming in middle school and continued through high school. I received my undergraduate degree in Information Systems. Through most of college, I was a Technician class licensee and didn't know much about sideband. I didn't use computers all that much in ham radio. Most of my activities were related to other things I knew how to do, like building websites. I wasn't logging or controlling my radio since I was using HTs most of the time.

There were a couple of FM digital nets on repeaters in Cleveland that got the ball rolling for me. Slow Scan TV was the first of these modes. It was really cool seeing still pictures come across my screen using only a couple of audio cables. Later, a digital net for NBEMS training was formed to practice passing messages and forms for emergency communications. That net exposed me to one of the most versatile programs for operating digital modes. After college, I got into D-STAR. That integrated IP (Internet Protocol) technology, which I studied in college, and continued my interest.

Let's start by taking about digital communications. At a basic level, digital communications is a binary representation and transfer of data (1's and 0's). Data is encoded into some structure (protocol, format, rate) before it is transmitted. Digital communications is a very broad term and takes many forms.

Morse Code is the most basic form of digital communications. The signal is either on or off (1 or 0). The on/off keying creates a series of dots and dashes to make up letters, numbers, and symbols.

continued---on p.7

February Hamfests

Feb 21 Livonia ARC. Annual Hamfest. Livonia Civic Park Senior Center, Livonia, MI.
web: http://www.livoniaarc.com/index.php?page=swapshop

Feb 21 InterCity ARC. Annual Hamfest. Richland County Fairgrounds Mansfield, OH.
web: http://www.w8we.org

Mar 6 Northern Ohio ARS. Annual Hamfest. Elyria VFW Post 1079 Elyria, OH.
web: http://www.noars.net

Brain Teaser answers: (E) 1-a, 2-a, 3-c

digital-from p. 6

Digital voice (often referred to as "DV") is a method of taking audio from a source (microphone) and digitizing (or encoding) it into a data stream. When decoded at the receiving end, the data stream is converted back into audio and played through a speaker. Voice formats include P25, D-STAR, DMR, FreeDV, and System Fusion. Many voice formats include the ability to transmit a small amount of text at the same time. This text stream is not very fast because voice takes higher priority and the majority of the bandwidth. Text is relegated to call sign, a banner message, or GPS coordinates; things that don't take a lot of bandwidth.

Data formats exist to transmit text or binary data. Most text based formats are keyboard-to-keyboard or chat style exchanges. Binary exchanges can be files, pictures, or documents. Data format examples are D-STAR, MT-63, MFSFK, JT65/9, Olivia, Packet/APRS, PSK31, RTTY, and System Fusion. Some formats can carry voice (mentioned earlier) but most cannot (i.e. PSK31, RTTY).

Why digital communications? The widespread ownership of personal computing devices allows amateurs to develop and use these modes for communications purposes. Many digital modes are referred to as "sound card modes" because to operate many of them requires little more than a computer, sound card, and radio. In recent years, the term 'personal computing devices' has grown to include smartphones, tablets, and microcomputers because programs have been written to use these modes on those devices.

Digital transmissions can be faster and more reliable. Faster: more words per minute can be transmitted over digital modes. They can be more reliable over greater distances, poorer conditions, and contain error correction.

Error correction is the encoding of redundant data into the transmission. When errors are encountered, the redundant information can help reconstruct lost data without retransmission. Error correction helps when noise or other undesirable characteristics are introduced to a receiver. If the signal is completely lost, interrupted, or falls into the noise, no level of error correction will decode the signal. Like most things in technology, each digital mode has its intended use, advantages, and disadvantages. Not all modes fit into all categories and may not be mutually exclusive to a single category.

Next time, I will discuss considerations for setting up your station and the interfaces that go between your computer and radio. Please contact me at **K8JTK@arrl.net** with questions and ideas. It will let me know what readers are interested in and modes to cover. ■

Livonia Amateur Radio Club

Talk-in
145.35 with 100 PL
or 146.52 Simplex

45th ANNUAL

GREAT VENDOR ACCESS

SWAP-N-SHOP

Buy and Sell Amateur Radio
Gear, Computers, or
Electronic Test Equipment

Civic Park Senior Center
15218 Farmington Rd.
Livonia, MI
(SE corner of Farmington
Rd. and 5 Mile Rd.)

*Lots of Tables
(8' tables for $16 each
or $17 pay pal
if paid in advance or
$20.00 if available and
paid at the door)
*Door Prizes
*Food Concession
*Tickets $5.00 or $6
pal pal

Livonia ARC
P.O. Box 51532
Livonia, MI 48151-0532
Now take care of EVERYTHING
via the LARC Online Store!! (pay pal)
http://www.livoniaarc.com/larcstore

Call (734) 941-5043
or e-mail us at k8uns@arrl.net

Sunday, February 21, 2016 8:00am - 12:00pm

2016 NOARS

Winter Hamfest & Electronics Show

March 6, 2016

@ VFW Post 1079

500 South Abbe Road, Elyria, OH 44035

Donation Only $6.00

Including:

Pancake & Sausage Breakfast

(While they last, come early)

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9 AM until 1 PM

Tables $10/6 ft.

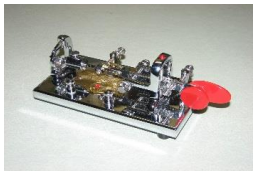
Vendor Setup @ 7 AM

HOURLY DOOR PRIZES

MAIN PRIZES AT NOON

Tables Reservations: **Tom Porter, W8KYZ (440) 930-9115 -or-**
Darlene Ohman, KA8VTS (216) 398-8858
Call before 11 pm Local
Email: winterhamfest(at)noars(dot)net.
10 or more tables? Call for special pricing
Talk-in on 146.70 PL 110.9

Vibroplex Clinic by Chet Roberts K8KIZ
9:30-11:30AM
Bring your Vibroplex for a FREE tune-up.
Also offering conversions from semi-automatic to iambic
(for electronic keyers)



(Map on other side)

WOOD COUNTY ARC
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BOWLING GREEN, OH
43402