

CQ Chatter

JANUARY 2020

VOLUME B19 • ISSUE 11

WOOD COUNTY AMATEUR RADIO CLUB

President	WB8NQW	Bob Willman
Vice President	KD8VWU	Doug Perez
Secretary	N1RB	Bob Boughton
Treasurer	KD8NJW	Jim Barnhouse

Minutes

WCARC Meeting

December 9, 2019

Bob-W8NQW, presiding

Present: Bob-N1RB, Bob-WB8NQW, Eric-WD8LEI, Terry-KE8CVA, Chuck-WD8ICP, Rex-KC8PFP, Jim-KD8NJW, Orville-KC8NKC, Jeff-KG8FH

Meeting called to order: at 7:30 with Pledge of Allegiance.

Minutes of October business meeting as published in November CQ Chatter were approved (FH/NJW).

Treasurer's Report: was presented and approved unanimously (CVA/FH).

Old Business:

- Jim (NJW) reported that he does not have the space to erect the Club's NVIS antenna, so it is available to anybody else who wants to give it a try. Please contact Jim to arrange pick-up.

- Bob reported on the noise problem with the repeaters and that so far the problem has eluded solution. There was discussion about moving the Tuesday night net to the Wood County ARES machine (146.79- MHz; PL 103.5 Hz), and it was decided to attempt check-ins on the 147.18 MHz machine and then move to the ARES machine if necessary to avoid missing those operators who might not have gotten the word about the change.
- Eric (LEI) reported on his meeting with Jeff Klein about the status of the feed-line installation to the roof of the Courthouse Annex—it is still in progress.

New Business:

- Bob reminded everybody about the kick-off Banquet and the change of venue this year. It will be held at the Country Farmhouse restaurant in Wayne, and the date is Monday, January 13, at 6:00pm. Please tell Bob by the 6th if you will attend so he can get a head count.

continued—on p.4

Net Check Ins

Dec 3

Traffic: 0

KD8NJW (NCS)
KC8EKT
K8JU
KE8CVA
KG8FH
WD8LEI
WB8NQW
KE8NEC
N1RB
KD8RNO
N8VNT
K8BBK (12)

Dec 10

Traffic: 0

K8OVO (NCS)
KD8RNO
N1RB
WD8LEI
KG8FH
WB8NQW
KD8NJW
KE8CVA
WD8ICP
KA8VNG
KE8NEC
KE8NDF
WD8JWJ
KE8CUZ
K8JU (15)

BRAIN TEASERS

1. Which type of filter would be the best to use in a 2-meter repeater duplexer?
 - a.) crystal filter
 - b.) cavity filter
 - c.) a DSP filter
 - d.) an L-C filter
2. What material property determines the inductance of a toroidal inductor with a 10-turn winding?
 - a.) core load current
 - b.) core resistance
 - c.) core reactivity
 - d.) core permeability
3. What is the effective radiated power of a repeater station with 50 W transmitter output, 5 dB feed line loss, 3 dB duplexer loss, 1 dB circulator loss and 7 dBd antenna gain?
 - a.) 79.2 W
 - b.) 315 W
 - c.) 31.5 W
 - d.) 40.5 W

January Contests

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

Jan 4	1800 to 2359	80 m to 2 m
ARRL Kids Day		Phone
Jan 5	1800 to 2359 Z	80 m to 10 m
ARRL RTTY Roundup		RTTY
Jan 18-19	1800 to 0559 Z	160 m to 10 m
Hungarian DX 'test		CW/Phone
Jan 18-19	1400 to 1400 Z	160 m to 10 m
North American QSO Party		SSB
Jan 25-26	0600 to 1800 Z	80 m to 10 m
REF (France) DX 'test		CW
Jan 25-26	1300 to 1300 Z	80 m to 10 m
UBA (Belgium) DX 'test		SSB

January Hamfests

Jan 19 Hazel Park ARC Hamfest. UFCW Hall, Madison Hts., MI.
web: <http://hparc.org>

IT'S TIME TO RENEW YOUR MEMBERSHIP

Dues Payable to: WCARC

P. O. Box 534

Bowling Green, OH 43402

Sen/Stu: \$10 — Reg: \$15 — Fam: \$20

minutes – from p. 1

- Bob pointed out that 2020 marks the bicentennial of the founding of Wood County. He suggested that the Club set up a special event station in coordination with any County observance if possible. He sent letters to several Commissioners and to the Bicentennial Observance Committee and will report on any correspondence. Discussion followed, including the need for signage, the possibilities for station set-up inside the Courthouse and the necessary lead time for obtaining a special event call.
- Bob then asked the membership what are some of the goals they would like to pursue in 2020. He listed as possibilities license classes, fox hunts, ways of assisting newly licensed hams to get operating. After some discussion, all of the above were by consensus positively regarded.

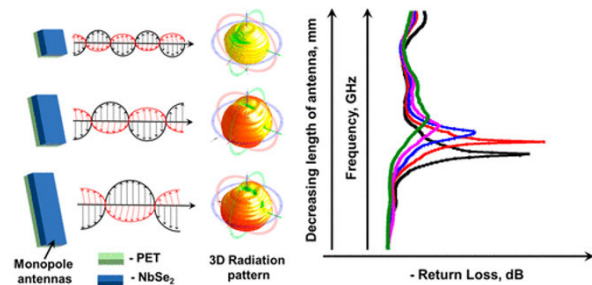
Adjournment: moved and approved at 8:15 (LEI/FH). ■

Incredibly Tiny RF Antennas For Practical Nanotech Radios

Sharon Lin in hackaday.com

Researchers may have created the smallest-ever radio-frequency antennas, a development that should be of interest to all rf enthusiasts. A group of scientists from Korea published a paper in *ACS Nano* that details the fabrication of a [two-dimensional radio-frequency antenna](#)

for wearable applications. Most antennas made from metallic materials like aluminum, copper, or steel which are too



radiation patterns and return loss

thick to use for nanotechnology applications, even with wearables. The newly created antenna instead uses metallic niobium diselenide (NbSe_2) to create a monopole patch RF antenna. Even with its sub-micrometer thickness (less than 1/100 the width of a strand of human hair), it functions effectively.

The metallic niobium atoms are sandwiched between two layers of selenium atoms to create the incredibly thin 2D composition. This was accomplished by spray-coating layers of the NbSe_2 nano sheets onto a plastic substrate. A 10 mm x 10 mm patch of the material was able to perform with 70.6% radiation efficiency, propagating RF signals in all directions. Changing the length of the antenna allowed its frequency to be tuned from 2.01-2.80 GHz, which includes the range required for Bluetooth and WiFi connectivity.

Within the ever-shrinking size of sensors for wearable technologies, there is sure to be a place for tiny antennas as well. ■

WCARC Weekly Net

Tuesdays at 2100 all year

147.18 MHz 67 Hz PL

Net Control Roster

<i>Jan 7</i>	<i>KD8NJW</i>
<i>Jan 14</i>	<i>K8OVO</i>
<i>Jan 21</i>	<i>WB8NQW</i>
<i>Jan 28</i>	<i>N1RB</i>
<i>Feb 4</i>	<i>KD8VWU</i>
<i>Feb 11</i>	<i>KD8NJW</i>
<i>Feb 18</i>	<i>K8OVO</i>

NEXT MEETING

Kick-off Banquet Election

Monday January 13

TIME: 6:00PM

PLACE:

**Country Farmhouse
117 E. Main St.
Wayne, OH**

10 meter Net

***informal group
meets***

Sunday

@ 20:30

on 28.335 MHz

Fusion Net

Thursday

@ 19:30

on 442.125 MHz

67 Hz PL on FM

discussion of all

things digital

Net Check Ins

Dec 17

Traffic: 0

WB8NQW (NCS)
N8VNT
KC8EKT
WD8LEI
KD8RNO
KD8NJW
N1RB
K8BBK
KE8CVA
WD8ICP
WD8JWJ (11)

Dec 24

Traffic: 0

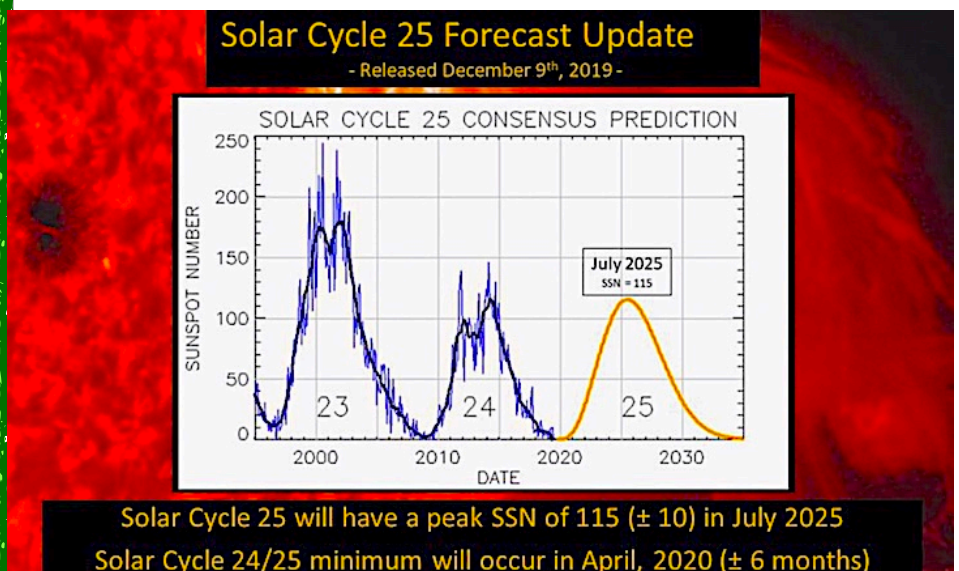
WB8NQW (NCS)
KE8CVA
KC8EKT
WD8LEI
WD8JWJ
W8TER
KD8RNO (7)

Solar Cycle 25 Forecast Update

published: Monday, December 09, 2019 22:30 UTC

The NOAA/NASA co-chaired, international panel to forecast Solar Cycle 25 released their latest forecast for Solar Cycle 25.

The forecast consensus: a peak in July, 2025 (+/- 8 months), with a smoothed sunspot number (SSN) of 115. The panel agreed that Cycle 25 will be average in intensity and similar to Cycle 24.



Additionally, the panel concurred that solar minimum between Cycles 24 and 25 will occur in April, 2020 (+/- 6 months). If the solar minimum prediction is correct, this would make Solar Cycle 24 the 7th longest on record (11.4 years). ■

Hacking Transmitters 1920s Style

by Sharon Lin in hackaday.com

The origin of the term “breadboard” comes from an amusing past when wooden bread boards were swiped from kitchens and used as a canvas for radio hobbyists to roll homemade capacitors, inductors, and switches.

hacking— from p. 6

At a period when commercial electronic components were limited, anything within reach was fair game.

Andy Flowers, K0SM, [recently recreated some early transmitters](#) using the same resources and techniques from the 1920s for the Bruce Kelley 1929 QSO Party. The style of the transmitters are based on [Ralph Hartley]'s oscillator circuit built for Bell Telephone in 1915. Most of the components he uses are from the time period, and one of the tubes he uses is even one of four tubes from the first Transatlantic contact in 1923.

Apart from vacuum tubes ([which could be purchased](#)) and meters (which could be scrounged from automobiles) Flowers recreated his own ferrite plate and outlet condensers for tuning the antennas. The spiderweb coils may not be as common today, but can be found in older Crosley receivers and use less wire than comparable cylindrical coils.

A number of other features of the transmitters also evoke period nostalgia. The coupling to the antenna can be changed using movable glass rods, although without shielding there are quite a number of factors to account for. A vertical panel in the 1920s style also shows measurements from the filament, plate current, and antenna coupling.

While amateur radio has [become increasingly high-tech over the last few years](#), it's always good to see dedicated individuals keeping the old ways alive; no matter what kind of [technology they're interested in](#). ■

Reminder

Kick-off to Be Held in Wayne This Year

The annual Kick-off banquet will be held in Wayne, OH, on Monday, January 13, at 6:00 pm.

The location is the Country Farmhouse restaurant, at 117 E. Main St. The cost is \$13.00 per person (gratuity not included), and the meal will be served buffet style.

The menu choices made at the last business meeting are as follows:

Entree: Roast Beef or Chicken Breast

Starch: Redskin Potatoes

Vegetable: Green Beans

Greens: Tossed Salad

rolls/butter included

As you probably know, the previous venue, Holiday Inn French Quarter in Perysburg is no longer in business, necessitating the change. In keeping with our practice prior to our use of the French Quarter, the event will be held on the date of the January business meeting (second Monday of the month).

Please let WB8NQW (blcksmth@wc-net.org) know if you plan to attend by January 6th at the latest. First hand reports about the food quality of this restaurant are all four star.

There will be a short business meeting to elect the Officer slate for 2020. It's always an enjoyable get-together for the Club and to meet the folks (eyeball QSO) you contact on the air. ■

WOOD COUNTY ARC
P.O.BOX 534
BOWLING GREEN, OH
43402

