

CQ CHATTER

JUNE 2023

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WOOD COUNTY AMATEUR RADIO CLUB

President	KG8FH	<u>Jeff Halsey</u>
Vice President	WE8TOM	<u>Tom Leingang</u>
Secretary	N1RB	<u>Bob Boughton</u>
Treasurer	KD8NJW	<u>Jim Barnhouse</u>
Board Members	WB8NQW/KE8QGV	Bob Willman/Roger Weith

Wood County AREDN Mesh Extended

by N1RB

The Wood County AREDN mesh network was recently improved and expanded through the offices of Eric, WD8LEI. The City of Bowling Green finally agreed to the placing of a mesh transceiver atop the Municipal water tower near the intersection of Newton and Brim Rds. Several operators in the Northwest quadrant of town immediately noticed a more prolific set of nodes, including one at the Wood County Hospital, which had previously been thought to be defective. Eric also visited the Fiberglass Tower in downtown Toledo to investigate why the tunnel structure of the mesh had stopped functioning, and

discovered that a circuit breaker had opened (*a mesh tunnel is a connection between two or more nodes via a medium other than RF, such as the Internet or some other private line*).

After resolving that issue, observers in Bowling Green saw well over 100 nodes on the mesh. Bob, WB8NQW, commented that our mesh is now tunneling to such faraway places as Florida and New Jersey.

It is my observation that installation of the Newton Rd. node truly gives much of the Northern part of BG good mesh coverage, and should provide encouragement to new users to obtain some mesh equipment and join the fun. We hope to be prepared for the expected communication overloads during the upcoming eclipse activities. ■

Net Check Ins-I

May 2

Traffic: 0

WB8NQW (NCS)

KE8CVA

KC8EKT

KG8FH

KD8NJW

W8PSK

N1RB

KA8VNG

WE8TOM

KE8UJA

K8DLF

WD8LEI (12)

May 9

Traffic: 0

N1RB (NCS)

N8VNT

KE8CVA

KC8EKT

KG8FH

WD8LEI

KD8NJW

WB8NQW

W8PSK

KA8VNG

KD8RNO

WE8TOM

WD8ICP (13)

May 16

Traffic: 0

KG8FH (NCS)

KE8CVA

WD8LEI

KD8NJW

WB8NQW

W8PSK

KA8VNG

N1RB

Brain Teasers

1. What portion of the 10 m band is available for repeater use?
 - a.) entire band
 - b.) portion between 28.1 MHz and 28.2 MHz
 - c.) portion between 28.3 MHz and 28.5 MHz
 - d.) portion above 29.5 MHz
2. Why should an amateur operator normally avoid transmitting on 14.100, 18.110, 21.150, 24.930 and 28.200 MHz?
 - a.) a system of propagation beacon stations operates on those frequencies
 - b.) a system of automatic digital stations operates on those frequencies
 - c.) these frequencies are set aside for emergency operations
 - d.) these frequencies are set aside for bulletins from the FCC
3. What frequency range is occupied by a 3 kHz LSB signal when the displayed carrier frequency is set to 7.178 MHz?
 - a.) 7.178 MHz to 7.181 MHz
 - b.) 7.178 MHz to 7.184 MHz
 - c.) 7.175 MHz to 7.178 MHz
 - d.) 7.1765 MHz to 7.1795 MHz

June Contests

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

Jun 3-4	<i>1300 to 0100 Z</i>	160 m to 10 m
Kentucky QSO Party		all modes
Jun 3-4	<i>1800 to 2359 Z</i>	160 m to 10 m
ARRL Int'l Digital 'test		digital (no RTTY)
Jun 10	<i>0000 to 2359 Z</i>	160 m to 10 m
VK (Australia) Shires 'test		CW/SSB
Jun 10-11	<i>1200 to 1200 Z</i>	80 m to 10 m
Portugal Day 'test		CW/SSB
Jun 10-12	<i>1800 to 0259 Z</i>	6 m on up
ARRL VHF 'test		all modes
Jun 17-18	<i>0000 to 2359 Z</i>	160 m to 10 m
All Asian DX 'test-CW		CW
Jun 17-18	<i>1600 to 0400 Z</i>	80 m to 10 m
West Virginia QSO Party		all modes
Jun 17	<i>1800 to 2359 Z</i>	80 m to 2 m
ARRL Kids Day		phone
Jun 24-25	<i>1200 to 1200 Z</i>	160 m to 10 m
King of Spain 'test-SSB		SSB
Jun 24-25	<i>1800 to 2100 Z</i>	160 m to 2 m
ARRL Field Day		all modes

Net Check Ins-II

May 16 continued

WD8ICP
WE8TOM
N8VNT (11)

May 23 Traffic: 0
(NCS)

KD8NJW
WE8TOM
KE8CVA
KG8FH
WD8LEI
KE8PJM
WB8NQW
W8PSK
NM8W
KA8VNG
KD8RNO
N1RB
WD8ICP
KE8CUZ (14)

May 30 Traffic: 0
(NCS)

WB8NQW
KB8QEW
KD8NJW
N1RB
KE8CUZ
KE8CVA
KC8EKT
KG8FH
KA8VNG
N8VNT
WE8TOM
W8PSK
WD8LEI
KE8PJM
KD8RNO
K8DLF (16)

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

Doing Radiation Safety Calculations

As you may be aware, for amateurs, the FCC changed its rubric for evaluating RF-exposure rules, effective last month. Eliminated were service-specific *exemptions* (such as we enjoyed as amateur radio operators) from the need to do a routine RF-safety evaluation, and replacing those exemptions with a formula that applies to all radio services. See the [FAQ on the ARRL RF-Exposure page](#) and check out the ARRL 's RF Exposure Calculator.

The rules did not change the exposure limits nor the two-tiered exposure environments for controlled and uncontrolled exposure. The controlled limits generally apply to amateurs and members of their household if those people have been given instructions by the amateur about RF safety. The uncontrolled limits apply in all other circumstances, such as exposure to the general public.

On May 3, 2021, the new FCC rules regarding exposure to RF energy went into effect. Stations operating under the exemption included in the old rules had to comply with the rules changes by May 3, 2023. Below is an example to illustrate how to go about performing the calculations.

Preliminary Data Collection

Numbers You Need to Know before Starting

Procedure:

1. Determine length and type of feedline and calculate maximum power delivered to the antenna by subtracting the feedline loss – a handy line loss calculator is found at <http://>

continued on p. 6

WCARC Weekly Net

Tuesdays at 2100 all year

147.18 MHz 67 Hz PL

Net Control Roster

<i>May</i>	<i>30</i>	<i>WB8NQW</i>
<i>Jun</i>	<i>6</i>	<i>N1RB</i>
<i>Jun</i>	<i>13</i>	<i>KG8FH</i>
<i>Jun</i>	<i>20</i>	<i>KD8NJW</i>
<i>Jun</i>	<i>27</i>	<i>WB8NQW</i>
<i>Jul</i>	<i>4</i>	<i>N1RB</i>

NEXT MEETING

Business Meeting

Monday

June 12

TIME: 7:30 PM/7:00 EB

PLACE:

**Sheriff's Training Room
E. Gypsy Lane Rd. &
S. Dunbridge Rd.
Bowling Green, OH**

10 meter Nets

Informal SSB group meets

Sunday @ 20:30 local on

28.335 MHz

Informal CW group meets

Tuesday @ 20:00 local on

28.050 MHz

Fusion Net

Thursday

@ 19:30 local

on 442.125 MHz

Wires-X Operators

welcome

Informal net

arrl.org/rf-exposure-calculator at the link [view detailed instructions](#) then at: *Here is an excellent coax loss calculator.*

2. Determine the antenna **GAIN** (relative to isotropic radiator-dBi). Some antenna specifications give gain relative to a dipole (dBd); you must add the standard dipole isotropic gain (2.2 dBi) to this figure to obtain the isotropic gain for your antenna(s).
3. Determine if the **ENVIRONMENT** is *controlled* (you know about the radiation and can use caution) or *uncontrolled* (unknowing person passing by your antenna installation). The uncontrolled case is the most stringent (*minimum* safe distance is greater).
4. Determine the **MODE** duty cycle, i.e. CW, SSB, AFSK, RTTY, FM. FM, RTTY and AFSK are 100% (carrier is on all the time).
5. Determine the **TRANSMIT** duty cycle, i.e: 5 min on and 5 min off = 50% (typical for 2m FM work-different on HF since a larger fraction of the time is spent in receiving)
6. Determine **FREQUENCY** of transmission (to nearest MHz).

All this information is needed for input to the calculator. The routine will spit out a minimum distance of approach to the radiating element of the antenna.

EXAMPLE: *below is my personal calculation for N1RB for uncontrolled environment:*

Antenna Farm Description:

1. Dipoles on 40 m (400 W) and 30 m (200 W) up about 20 ft with 80 ft of RG-8 coax.
2. 3el. Yagi on 20 m, 15 m and 10 m up about 40 ft and all with 400 W and 80 ft of RG-8 coax.
3. AEA Isopole on 2 m up about 15 ft. with 20 W and 60 ft of LMR-200 coax.
4. Diamond X-30 on 2 m up about 15 ft. with 20 W and 60 ft of LMR-200 coax.
5. Diamond X-30 on 70 cm up about 15 ft with 20 W with 60 ft of LMR-200 coax .

A summary of the calculations is Shown on Page 7.

Conclusion is: station conforms*

* **Note:** most stringent direct radiation effects are at VHF and especially at UHF frequencies—this is somewhat compensated by greater coax losses if you have a long run. ■

continued on p. 7

June Hamfests

June 18 Monroe County RCA hamfest. Monroe County Fairgrounds, Monroe, MI
 web: www.mcrca.org

safety from p. 6

Summary of Radiation Safety Calculations for N1RB

Band	f (MHz)	Antenna	Pwr@ant	Antenna Gain	Minimum Distance
40 m	7	dipole	382 W	2.2 dBi	4 ft
30 m	10	dipole	189 W	2.2 dBi	4 ft
20 m	14	3 el. Yagi	375 W	10.2 dBi	21 ft
15 m	21	3 el. Yagi	369 W	10.2 dBi	32 ft
10 m	28	3 el. Yagi	365 W	10.2 dBi	42 ft
2 m	147	Isopole	18 W	5.2 dBi	5.7 ft
2 m	147	Diamond X-30	18 W	3 dBi	4.4 ft
70 cm	444	Diamond X-30	16 W	5.5 dBi	4.5 ft

FOR SALE:
**MFJ-998 Legal Limit
 Autotuner**

*NEVER Used (Hooked up
 once)*

Asking: \$500.00

Contact KG8FH at: jhalsey@woh.rr.com

FOR SALE:

**Yaesu FT-70D
 Includes 1 battery, and
 wall charger.**

*Very well taken care of and
 gently used. Works perfectly.*

Asking: \$140.00

Contact NM8W at: magrums21@gmail.com

For WCARC members: \$125

MONROE HAMFEST

and Computer Show

Only 3 weeks to go

Father's Day - June 18, 2023

7:30 am to 1 pm

Presented by:

The Monroe County Radio Comm. Assoc.

Monroe County Fairgrounds

M-50 at Raisinville Rd (2 miles west of Monroe)

Free Parking

Indoor Facilities / Trunk Sales

Computers and Equipment

Distributors / Hot Food

Overnight Camping available

Talk-in 146.72

For more information and

Table, Trunk and Ticket orders

Go to: <http://www.mcrca.org>

Click on Hamfest in the top blue ribbon

or email Fred KA8EBI at ka8ebi@yahoo.com

This is an ARRL approved Hamfest.



Yaesu FT-70D-see p.7

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