CQ Chatter

JUNE 2020 **VOLUME B20 •ISSUE 4**

WOOD COUNTY AMATEUR RADIO CLUB

President	**WB8NQW**	**Bob Willman**
Vice President	**KD8VWU**	**Doug Perez**
Secretary	**N1RB**	**Bob Boughton**
Treasurer	**KD8NJW**	**Jim Barnhouse**
Board Member	**KE8CVA**	**Terry Halliwill**

June Business Meeting to be Held On-air

As before, with the April business meeting, the June meeting will be held over the air. The meeting date and time is as earlier planned—June 8th at 7:30 pm. The meeting will be held on the 147.18/444.475 MHz repeater, but in case of a problem, the Wood County ARES machine at 146.79- MHz (PL 103.5 Hz) will be used.

The procedure that will be followed is similar to the operation of the Tuesday evening net. The President, WB8NQW, will call the meeting to order as net control. He will then take check-ins as usual. The difference is that there is no round table discussion; instead the discussion will be directed by Bob from a written agenda.

If you want to put an item on the agenda, please let Bob know before the meeting day and you will be recognized in turn. If a member wishes to make a motion or have the "floor", he needs only to break in. When feasible, Bob will recognize the person to state his business. If a motion is presented and seconded, the vote will be taken by roll call and tallied. As is always the case, people wishing to break in or second a motion, for example, should allow ample turn-around time. This is only the second time that WCARC has used the repeater to hold a business meeting, so hopefully this event will work as well as it did for the April meeting. ■

Net Check Ins

May 5 *Traffic: 0*

N1RB (NCS)
K8BBK
KE8CVA
KC8EKT
KG8FH
WD8LEI
WB8NQW
KD8NJW
W8PSK
WE8TOM
KD8RNO
NF8T
KB8QEW (15)

May 12 *Traffic: 0*

KD8VNJW (NCS)
K8BBK
KE8CVA
KG8FH
KB8QEW
WB8NQW
W8PSK
WE8TOM
KD8RNO
N1RB
NF8T
WD8ICP
NM8W
WD8LEI (14)

May 19 *Traffic: 0*

WB8NQW (NCS)
K8BBK
KE8CVA
KC8EKT

Brain Teasers

1. What is the radiation pattern of two 1/4-wavelength vertical antennas spaced 1/2-wavelength apart and fed in phase?

a.) omnidirectional

b.) cardioid unidirectional

c.) figure-8 broadside to the antennas

d.) figure-8 in line with the antennas

2. What would the physical length of a typical coaxial transmission line that is electrically one-quarter wavelength long at 14.1 MHz (velocity factor is 0.66)?

a.) 20 m

b.) 2.33 m

c.) 3.51 m

d.) 0.25 m

3. Where does almost all RF current flow in a conductor?

a.) along the surface of the conductor

b.) in the center of the conductor

c.) in the magnetic field around the conductor

d.) in the magnetic field at the center of the conductor

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 6-7	*0000 to 2359 Z*	10 m
10-10 Int'l PSK 'test		**PSK**
Jun 6-7	*1400 to 0200 Z*	160 m to 10 m
Kentucky QSO Party		**all modes**
Jun 13-14	*1200 to 1200 Z*	80 m to 10 m
Portugal Day 'test		**CW/SSB**
Jun 13-15	*1800 to 0259 Z*	6 m and up
ARRL June VHF 'test		**all modes**
Jun 20-21	*0000 to 2359 Z*	160 m to 10 m
All Asian DX 'test		**CW**
Jun 20-21	*1600 to 0400 Z*	80 m to 10 m
West Virginia QSO Party		**all modes**
Jun 20	*1800 to 2359 Z*	80 m to10 m, 2m raptors
ARRL Kids Day		**phone**
Jun 27-28	*1200 to 1200 Z*	160 m to10 m
King of Spain 'test		**SSB**
Jun 27-28	*1800 to 2100 Z*	160 m to10 m +
ARRL Field Day		**all modes**

June Hamfests

June 21 Monroe County RCA Hamfest. Monroe County Fairgrounds, Monroe, MI.
web: www.mcrca.org **CHECK WEBSITE FOR LATEST INFO**

Why Do Resistors Have a Color Code?

from Hackaday

One of the first things you learn in electronics is how to identify a resistor's value. Through-hole resistors have color codes, and that's generally where beginners begin. But why are they marked like this? Like red stop signs and yellow lines down the middle of the road, it just seems like it has always been that way when, in fact, it hasn't.

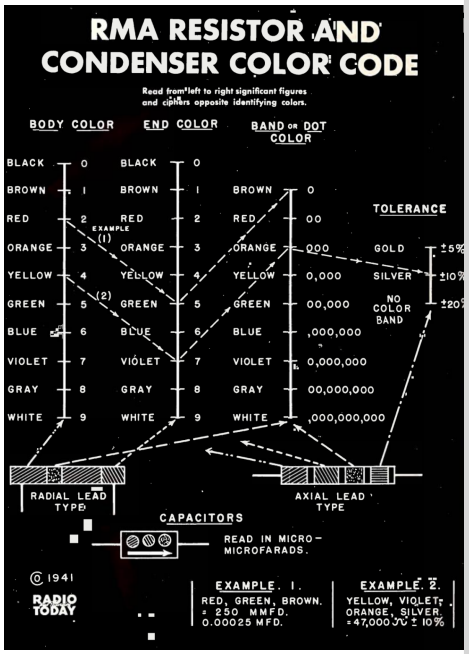
Before the 1920s, components were marked any old way the manufacturer felt like marking them. Then in 1924, 50 radio manufacturers in Chicago formed a trade group. The idea was to share patents among the members. Almost immediately the name changed from "Associated Radio Manufacturers" to the "Radio Manufacturer's Association" or RMA. There would be several more name changes over the years until finally, it became the EIA or the Electronic Industries Alliance. The EIA doesn't actually exist anymore. It exploded into several specific divisions, but that's another story.

This is the tale of how color bands made their way onto every through-hole resistor from every manufacturer in the world.

Dots Then Bands

By the late 1920s, the RMA was setting standards and one of them was the RMA standard for color-coding. The problem was that marking small components is difficult, especially back in the 1920s.

The solution was color bands, but not quite as we know them today. The standard for colors was the same, but the body of the resistor acted as the first band. Then there would be two or three other bands to show the rest of the value. In some cases, the third band was actually a dot. So the bulk of the resistor would be the first band color. The "tip" of the resistor would be the 2nd band and a dot would be the multiplier. Radios using this scheme started to



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WCARC Weekly Net

Tuesdays at *2100* all year

147.18 MHz 67 Hz PL

Net Control Roster

Jun 2	***N1RB***
Jun 9	***KD8VWU***
Jun 16	***KD8NJW***
Jun 23	***WB8NQW***
Jun 30	***N1RB***
Jul 7	***KD8VWU***

NEXT MEETING

Business Meeting

Monday-June 8

ON 147.18/444.475 RPTR

TIME: 7:30 PM

PLACE

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

Informal net

Net Check Ins

May 19 *cont.*

KG8FH
KD8RNO
WD8LEI
KD8NJW
W8PSK
N1RB
NF8T
WE8TOM
N8VNT
KE8CUZ
N1LB
K8JU
KC8NKC (17)

May 26 *Traffic: 0*

KD8NJW (NCS)
N8VNT
K8BBK
KE8CVA
KC8EKT
KG8FH
WB8NQW
WD8LEI
W8PSK
WE8TOM
KD8RNO
KA8VNG
N1RB
KB8QEW
WD8ICP
WD8PIC
W4LAT (15)

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

resistor—from p. 4

appear in 1930. Above is the color code chart from the 1941 *Radio Today Yearbook*:

Ads in that magazine promoting resistors were careful to note that they were RMA color-coded. The code soon extended to capacitors (condensers, in the contemporary parlance).

The dot, as with printed text on the cylindrical body, might be hidden from view depending on the position of the resistor. So eventually, everyone switched to bands.

The colors are meant to follow the visible spectrum (remember ROY G BIV?). However, the RMA omitted indigo because apparently many people don't distinguish blue, indigo, and violet as three different colors; indigo is really a tertiary color anyway. That leaves four slots, so dark colors represent the low end (black and brown) and bright colors the high end (gray and white).

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We Need Volunteers

The ranks of our net controller roster are getting thin. If you can write down calls and keep them in order as they come in, and you can manage that PTT button on the mic, we need you to volunteer as a member of the net control roster. Average cycle is a little over a month and a protocol script is provided. You also get to make wise cracks as desired. If interested, contact **N1RB**. ■

Foxhunt Fun

On Saturday, May 2, the date that is usually designated for the WCARC Breakfast meeting, the new reality came home. Because restaurants were still closed, the Club nevertheless decided to hold an event that would allow a get-together at-a-distance. As would be usual this time of year, it was decided to have a fox hunt.

At 10 am, the fox, Jim-KD8NJW, rounded up everybody on the 147.18 repeater, and then moved to simplex on 146.55 MHz. Participating were: Terry-KE8CVA, Rex-KC8PFP, Phil-W8PSK, Bob-N1RB, Bob-WB8NQW and Linda-N1LB.

Jim made a transmission on a schedule of every 5 minutes, usually with some very educational clues about where the fox lair was located. Although some remarked that the first few clues were somewhat redundant, the fox was finally located. Order of discovery was: N1RB/N1LB, then WB8NQW, W8PSK and KE8CVA. All hounds agreed it was a lot of fun and that we should do it again ■

Foxhunt participants: Phil-W8PSK, Linda-N1LB, Bob-N1RB, Bob-WB8NQW, (not shown: Terry-KE8CVA) and Jim-KD8NJW (fox) with Terry's antenna —photo: KE8CVA

What about Field Day?

On account of the Coronavirus outbreak, the status of the traditional WCARC Field Day operations is currently in limbo. Bob, WB8NQW, has assured everyone that a full discussion of the matter will take place at the June (on the air) business meeting on June 8th at 7:30 pm.

If you want to put your two cents' worth in the discussion as well as to hear other viewpoints, make sure that you show up on the 147.18 repeater at that time. The April meeting was conducted in this manner, and all agreed the format was successful. Please participate—the Club needs your input! ■

resistors—from p. 6

Of course, none of this was funny if you were color blind. Reading a resistor with a meter or a bridge out of the circuit was certainly an answer. Reading one in a circuit, though, was another matter.

The Origin of E-Series Values

In 1952 the International Electrotechnical Commission (IEC, another standards group) defined the E-series which dictates what values resistors come in so that you get equal spacing on a log scale for resistors. If that sounds confusing, consider an example. The E12 series is for 10% resistors and the values on it give you 12 values per decade. The base values are:

1, 1.2, 1.5, 1.8, 2.2, 2.7, 3.3., 3.9, 4.7, 5.6, 6.8, 8.2

That's why you can get, say a 4.7 K or 47 K resistor but not a 40K resistor. However, consider the tolerance. A 10% 39 K resistor could be off by 3.9 K. If the error pushed the resistance up that would be 42.9K, making a 40 K resistor unnecessary. That is, a 39 K resistor might well be a 40 K resistor, anyway. A low 47K resistor, on the other hand, could be 42.3 K, which is less than a high-value 39 K unit.

As you might expect, the number of values goes up as the tolerance goes down. At 2%, for example, you'll use E48 which has 48 values per decade (if you'd guess E96 — the standard used for 1% has 96 values, you'd be right). Using E48, the values near 40 K are 38.3 K and 40.2 K. That's 39.06 on the high side and 39.2 on the low side.

Next Time

Next time you pick up a resistor and read the code from it, you can recall the history behind it all. The legacy of color bands carries over into the surface mount realm, not as color but as three digits

representing the first two numbers and multiplier for the resistor's value. These days many electronics like wireless modules and lithium batteries include a data-matrix (something like a QR code) on them. Honestly, I'm surprised that all components — through hole and surface mount — don't have some form of micro data matrix on it that lets you point your phone at them and see their complete data-sheet. Maybe one day.

Read more – via blog – Hackaday **https://hackaday.com/2020/01/13/why-do-resistors-have-a-color-code/**. ■

Recipe Corner

Mac's Stuffed Peppers

Contributed by K8BBK —-note: Steve recommends setting aside at least 3+ hrs to prepare this dish

Ingredients: (Makes 8+)

8-Medium/Large green (or red or mix) bell peppers

1/2-C pearled barley----*takes at least 45 minutes to cook this hard stuff!*

1-C rice (white or brown minute rice)

1-1/4 lb (+/-) lean ground beef

1-Can tomato sauce (14.5 Oz)

1-Can diced tomatoes with onions and green peppers (14.5 Oz)

1-Can tomato paste (8 Oz)

1-Pkg dry onion/mushroom soup mix

1-Pkg dry "Old El Paso" taco seasoning mix

1-Tbs lemon juice

1-Tbs Worcestershire sauce

1/2-C ketchup

1/2-C red wine vinegar

Cook rice and barley separately (cook rice in 2-C water and cook barley in 2-C water also---barley soaks up lots of water, takes 45 minutes---start cooking barley first---it must be cooked slowly and stirred often--be careful, it boils over easily)

Brown the ground beef thoroughly and separate into small "chunks" in a 6 Qt. container (use some olive oil and a small amount of water to speed up frying)

Stir and blend in tomato sauce, diced tomatoes and tomato paste into the browned ground beef.

Stir in packages of soup mix and taco seasoning.

Stir in ketchup, lemon juice, Worcestershire sauce, and vinegar.

Add and stir in thoroughly cooked rice and barley.

Cut tops from peppers and scoop out seeds and loose flesh. Break off flesh from around stems of removed pepper tops, dice and stir into cooking mix.

Simmer the mix until consistency is suitable for spooning into the peppers (approx. 30 minutes).

Peppers should be par boiled until tender to a paring knife blade.

Place peppers in "large" cake pan(s) and fill peppers with mix. Peppers may be cooled and frozen individually for later consumption.

If consuming after filling, bake in foil covered cake pan for 45 minutes at 350 degrees---see option below for adding cheese topping.

Baking frozen peppers:

Thoroughly thaw peppers, cover with foil in individual ovenproof dishes and bake for 45-60 minutes at 375-400 degrees. Five minutes before finished baking, remove foil and optionally sprinkle shredded cheese on top.

Note: Any leftover mix can be frozen in individual oven proof containers for later quick meals---makes a great Sloppy Joe sandwich. *Disclaimer: Cooking terms may not be those used by professional chefs.* ■

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