

# CQ Chatter

**MARCH 2019**

**VOLUME B19 • ISSUE 1**

## **WOOD COUNTY AMATEUR RADIO CLUB**

<b>President</b>	<b>WB8NQW</b>	<b>Bob Willman</b>
<b>Vice President</b>	<b>KD8VWU</b>	<b>Doug Perez</b>
<b>Secretary</b>	<b>N1RB</b>	<b>Bob Boughton</b>
<b>Treasurer</b>	<b>KD8NJW</b>	<b>Jim Barnhouse</b>

### **Minutes** **WCARC Meeting** February 11, 2019

**Bob-W8NQW, presiding**

**Present:** Bob-N1RB, Bob-WB8NQW, Bill-WD8JWJ, Lynn-KD8RNO, Steve-K8BBK, Terry-KE8CVA, Eric-WD8LEI, Rex-KC8PFP

**Meeting called to order:** at 19:30 with Pledge of Allegiance.

**Minutes** of December business meeting as published in January CQ Chatter were approved (JU/LEI).

**Treasurer's Report** no report submitted.

#### **Old Business:**

- Bob entertained comments on the operation of the repeaters since last business meeting. The 147.18/444.475

MHz machines have been operating steadily with no more power outage alarms. The Fusion machine, however was reported by N1RB to have experienced several power faults. Operation was quickly restored by using the restart process embedded in the main repeater controller. Users are asked to keep an eye on the repeater however.

- Bob, Terry (CVA) and Terry's cousin, Jim Barnes (with BGSU), visited the Administration Bldg. roof to survey what is needed to remove the repeater transmitter antennas once the transmitters are moved to the Offenhauer site. There are two antennas, a large commercial-style multi-bay for 440 MHz and an amateur-grade 2 meter antenna. The former presents a problem in that it is fairly high up on the tower and is heavy. The latter is fairly easily accessible and should present no removal problems. Bob would like to salvage them and suggested that

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## Net Check Ins

**Feb 5**      **Traffic: 0**

**N1RB (NCS)**  
**KE8CVA**  
**KG8FH**  
**K8JU**  
**WB8NQW**  
**KD8NJW**  
**KD8RNO**  
**KE8DSE-Dan (8)**

**Feb 12**      **Traffic: 0**

**WB8NQW (NCS)**  
**NM8W**  
**N8VNT**  
**KD8RNO**  
**K8BBK**  
**KC8EKT**  
**KG8FH**  
**WD8ICP**  
**KE8CVA**  
**KB8QEW**  
**KD8ZKE**  
**K8LL**  
**K8JU**  
**KA8VNG (14)**

## BRAIN TEASERS

1. What value capacitor would be required to tune a 20  $\mu\text{H}$  inductor to resonate in the 80 meter band?
  - a.) 150  $\text{pF}$
  - b.) 100  $\text{pF}$
  - c.) 200  $\text{pF}$
  - d.) 100  $\mu\text{F}$
2. If an RMS reading AC voltmeter reads 65  $V_{\text{rms}}$  on a sinusoidal waveform, what is the peak-to-peak voltage?
  - a.) 46  $V$
  - b.) 92  $V$
  - c.) 130  $V$
  - d.) 184  $V$
3. Why don't electromagnetic waves penetrate a good conductor for more than a fraction of a wavelength?
  - a.) electromagnetic waves are reflected by the surface of a good conductor
  - b.) oxide on the conductor surface acts as a magnetic shield
  - c.) the electromagnetic waves are dissipated as eddy currents in the conductor
  - d.) the bulk resistance of the conductor increases with frequency

# March Contests

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

<b>Mar 2-10</b>	<i>0000 to 2359 Z</i>	80 m to 10 m
<b>Novice Rig Roundup</b>		<b>CW</b>
<b>Mar 2-3</b>	<i>0000 to 2359 Z</i>	160 m on up
<b>ARRL Int'l DX 'test</b>		<b>SSB</b>
<b>Mar 9</b>	<i>0000 to 2359 Z</i>	80 m to 10 m
<b>YB (Indonesia) RTTY 'test</b>		<b>RTTY</b>
<b>Mar 9-10</b>	<i>1500 to 2100 Z</i>	80 m to 10 m
<b>Oklahoma QSO Party</b>		<b>all modes</b>
<b>Mar 9-10</b>	<i>1900 to 1900 Z</i>	160 m to 10 m
<b>Idaho QSO Party</b>		<b>all modes</b>
<b>Mar 9-10</b>	<i>1600 to 1600 Z</i>	80 m to 10 m
<b>EA (Spain) PSK63 Party</b>		<b>PSK</b>
<b>Mar 10-11</b>	<i>1800 to 0100 Z</i>	160 m to 10 m
<b>Wisconsin QSO Party</b>		<b>all modes</b>
<b>Mar 16-17</b>	<i>1200 to 1200 Z</i>	160 m to 10 m
<b>Russian DX 'test</b>		<b>CW/SSB</b>
<b>Mar 16-17</b>	<i>1400 to 0200 Z</i>	160 m to 10 m
<b>Louisiana QSO Party</b>		<b>all modes</b>
<b>Mar 16-17</b>	<i>1400 to 2359 Z</i>	160 m to 10 m
<b>Virginia QSO Party</b>		<b>all modes</b>
<b>Mar 23-24</b>	<i>1200 to 1200 Z</i>	80 m to 10 m
<b>UK/EI DX 'test</b>		<b>CW</b>
<b>Mar 30-31</b>	<i>0000 to 2359 Z</i>	160 m to 10 m
<b>CQ WW WPX 'test</b>		<b>SSB</b>

**minutes— from p. 1**

- perhaps we could “piggyback” on somebody who is required to climb the tower, say, to change a light bulb.
- Bob will convene a meeting of the Technical Committee some time in March to make plans for the “move” of the transmitting equipment to Offenhauer, where the receivers are located. Duplexers are tuned and already in place at the Offenhauer site, so once the physical move takes place the rest should be “easy” (famous last words).
  - Terry (CVA) moved, (RB second), to authorize a climber to take our antennas down if the cost is reasonable. After some discussion, the motion passed unanimously.
  - Eric (LEI) reported that repair of the (ARES) VHF and HF antennas on the Sheriff Dept. roof is waiting for warmer weather. Amplex is scheduled to climb the tower, so the J-pole can be retrieved at that time.
  - Bob asked if there were any comments about the disposition of the Club’s assets as published in last month’s CQ Chatter. There was some discussion but no definite conclusions.

**New Business:**

- Bob mentioned the availability of a Club table (gratis) at the TMRA hamfest on March 17th at Owens Community College. He suggested that the brochures that were printed for Field Day last year should be made available, and is open to suggestions about any other Club

promotional materials that should be present.

- Bob reminded all present that, due to the demolition of the Holiday Inn French Quarter, a new venue for the kick-off brunch needs to be designated. He mentioned that we need not restrict our choice to a buffet-style meal.
- Eric stated that GOBA (Great Ohio Bicycle Adventure) will be using Bowling Green as its anchor points this year. The riders will be in town on June 15 and presumably head up toward the Sandusky area before returning on June 22. Eric has not yet been given the details, but will call an ARES meeting when they are known.
- Bob reminded everybody that Field Day is June 22/23 this year and we only have two more business meetings in April and June to make plans. Needed are volunteers to head up crews for antennas, equipment and food. Also, do we want to stay over again this year and have breakfast served on Sunday morning?
- Hamvention this year will be held on May 17-18-19.
- Bob asked if there were any suggestions for holding another foxhunt—if so, what type: vehicular on 2m or pedestrian on 440 MHz.

**Adjournment:**

Meeting was adjourned at 20:20. A video on everything you wanted to know about coaxial cable was presented by WB8N-QW. ■

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## **WCARC Weekly Net**

**Tuesdays at 2100 all year**

**147.18 MHz 67 Hz PL**

**Net Control Roster**

<i>Mar 5</i>	<i>K8OVO</i>
<i>Mar 12</i>	<i>WB8NQW</i>
<i>Mar 19</i>	<i>N1RB</i>
<i>Mar 26</i>	<i>KD8VWU</i>
<i>Apr 2</i>	<i>KD8NJW</i>
<i>Apr 9</i>	<i>K8OVO</i>

## **NEXT MEETING**

### ***Breakfast Meeting***

**Saturday**

**March 2**

**TIME: 9:00 AM**

**PLACE:**

**Frisch's Big Boy  
N. Main St. and  
E. Poe 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***

***discussion of all***

***things digital***

## Net Check Ins

Feb 19

Traffic: 0

N1RB (NCS)  
WD8ICP  
KC8EKT  
KE8CVA  
KE8LFO-Dave  
KD8NJW  
KB9PFY-Pat  
WB8NQW  
WD8LEI  
KD8RNO  
N8VNT  
KA8VNG  
N8NWC  
K8BBK (V)  
KG8FH  
K8JU  
NM8W (17)

Feb 26

Traffic: 0

KD8NJW (NCS)  
KE8CVA  
KG8FH  
WD8LEI/M  
WB8NQW/M  
N1RB  
KA8VNG  
KC8EKT/P  
WD8JWJ  
N8HMK-Dennis (10)

# History of the Ham Radio Callsign IV

by [Mike Ritz \(W7VO\)](#)

The Post-War Years, 1945-1975

“The Glory Years of Amateur Radio”

The *Atlantic City International Telecommunications Union (ITU) Conference of 1947* (the ITU had changed its name in 1932), re-allocated some call sign blocks, and granted a few developing island nations their own prefixes. Meanwhile in the US, the call sign districts were moved around to equalize ham populations.

During the war, the Midwest, and West coast industrial centers had greatly increased the amateur radio populations in those areas. As a result, a new 10th call district formed for the central Midwest, allowing Wisconsin, Illinois and Indiana to have the 9th district to themselves. The 6th district was changed to encompass California only. The remaining states that used to be part of the 6th district (Nevada, Arizona and Utah), were moved into the lesser populated 7th district. As licenses were renewed, the new call sign districts were mandated, and often entire call signs changed as a result. A new call was assigned to denote the new district, but one “might” keep their old suffix if it was currently unassigned in the new district. If the suffix was already assigned to somebody in the new district, a new suffix was assigned as well. For example, pioneer Charles Newcombe, **6UO**, in Yerington, Nevada, became **W6UO** in 1928, but had to change to **W7VO** when the state became part of the 7th district in 1947, as **W7UO** was already in use. The rule allowing special call sign suffix dispensation lasted until 1978, when the systematic call signs program began. (more on that later.)

Also at this time, US Possessions had their own unique prefixes assigned, ie: **KP4** for Puerto Rico, **KH6** for Hawaii, and **KL7** for Alaska. In 1951, there was a big push to create an “entry level” amateur li-

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# March Hamfests

**Mar 17 Toledo Mobile RA Hamfest.** Owens Community College, Perrysburg, OH. web: <http://tmrahamradio.org>

*calls—from p. 6*

cense, so in response, the FCC created a new *Novice* amateur radio license class, originally as a one year, non-renewable, low power, and CW-only license. These new “novices” were assigned either a **WN** or a **KN** prefix, but the “**N**” would be dropped from the call sign once the licensee upgraded. (For example, new novice **WN7XYZ** would get a new call sign of **W7XYZ** once he upgraded). When the FCC ran out of “**KN**” and “**WN**” call signs, they began issuing “**WV**” prefixes for novices, which became “**WA**” or “**WB**” prefix calls when upgraded. US Possessions used “**W**” for the first letter of the novice prefix, (ie: **WH6ABC** denoted a novice call sign, which changed to **KH6ABC** when upgraded).

Another interesting thing happened at the same time. Another new class of license was created, called the *Technician* class. It was a new VHF/UHF/microwave (220 MHz and higher) license designed to encourage experimental exploration of these frequencies, (but not intended as a communicators license!) The call sign assignments for the Technician class license followed the same rules as all of the other amateur classes, except Novice. Since Novice and Technician privileges didn’t overlap, it was possible to hold two different call signs at the

same time. There was also another rule that if an amateur had homes, (such as a “snowbird”), in two different FCC districts, he or she could hold call signs that reflected the numbers of both districts. So, technically, one amateur could potentially hold four amateur call signs simultaneously! It is unknown whether anybody ever took advantage of this loophole, but it was technically possible. When the Novice license was upgraded, the Technician license was forfeited, as the General class already included all Technician privileges. This system was in force until sometime in the 1960s.

As the number of licensed amateur operators greatly increased in the boom years following the war, “**W**” prefix call signs started to run out, so starting in 1947, the first “**K**” prefix calls began to appear in the continental US. By 1953, most districts were issuing them, and some still were until 1964. (The 9th call district area was first to implement the new “**K**” prefix).

By the late 50’s/early 60’s, all of the possible combinations of 1X3 format “**K**” calls were all assigned in some districts, so “**WA**” and “**WB**” (2X3 format) call signs started appearing. “**WB**” call signs were issued from 1965 to 1975, but in the mid 1970’s, some districts

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### ***calls—from p. 7***

were also running out of “**WB**” calls, so the FCC began recycling old “**WA**” calls that were expired or otherwise unused in the system. (The author’s first call sign was one of these, **WA6HKP**). The amateur ranks were filling up fast!

However, the recycling of old call signs was not new when they began reissuing unused “**WA**” call signs. Starting in 1966, and up until 1977, Extra Class licensees, licensed for 25 years or more, could apply for unused 1X2 call signs.

### **The Modern Era, 1975 to Present “Things get complicated”**

The issuance of the recycled call signs was a lot of extra work for the FCC, so it began issuing new “**WD**” prefix call signs in the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> area call districts, starting around 1976. (In 1978 the “**WD**” prefix was replaced with the “**KA**” prefix, as systematic licensing was put into place). But what happened to the “**WC**” prefix, which logically should have come after “**WB**”? The answer is that those prefixes were reserved for Radio Amateur Civil Emergency Service (RACES) stations at the time. VHF and UHF club owned repeaters also had their own 2X3 format call signs issued, starting with the “**WR**” prefix. At least one “**WT**” (**WT6AAA**) call sign is known to have been issued in the 1970’s, as a “temporary” call after a FCC mixup denied a prospective amateur’s new license. He had the same first and last names as somebody who previously had their license revoked, and once it was cleared up, a temporary license was is-

sued until the standard license could be processed.

In 1975, the FCC released special 1x1 call signs for special event stations, choice 1x2, and “**AA-AL**” and “**N**” prefix call signs. Starting in 1977 the 25 year licensing requirement was dropped for Extra Class upgrades to unused 1X2 call signs, and in addition, the 1X2 “**N**” (ie: **N1AA**) prefix call signs were added to the mix. Also, the new 2X2 “**AA-AL**” prefixes (ie: **AA7CR**) became available for Extra class licensees. There were certainly a lot of new “Extra Class only” call signs to choose from, and many licensees took advantage of the opportunity!

However, just as things seemed to be running smoothly for the issuance of call signs, in early 1977, an FCC employee at the 3<sup>rd</sup> District office in Gettysburg, PA was indicted for taking bribes offered by amateurs wanting special call signs, but who did not have the license class to be awarded the change, among other issues. This unfortunate event resulted in the termination of all informal FCC processes for issuing call signs. The new rules implemented on February 23, 1978, required that all amateur call signs must be issued only by the “systematic” process as specified in the rules. No specific call signs could be assigned; call signs were instead assigned consecutively, via a computer database. There were a few other sweeping changes:

- Amateurs were no longer required to change their call sign when moving to a new district.

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**calls—from p. 8**

- Secondary, Repeater, Control, and Auxiliary Station licenses were discontinued

- Call signs were now going to be assigned by Groups, and by license class

The Groups were defined as:

**Group A -- Amateur Extra Class**

Contains all “K”, “N” and “W” 1x2, most 2x1, and most “AA-AK” prefixed 2x2 call signs

**Group B -- Advanced Class**

Contains most “K”, “N”, and “W” prefixed 2x2 call signs

**Group C -- Technician & General Class, (and later, the Technician Plus Class)**

Contains all “N” 1x3 call signs. Unassigned “W” and “K” prefixed 1x3 call signs are not issued under the sequential call sign system, but are available under the later Vanity call sign system

**Group D -- Novice Class**

Contains most “K” and “W” prefixed 2x3 call signs. The letter “X” may not be the first digit of the suffix.

Note that no provision had been made for the issuance of AA-AL and NA-NZ prefixed 2x3 call signs, and these call signs are not currently issued to anyone.

In 1995 the Vanity “for a price” program opened, consisting of four “gates”:

**Gate 1:** 5/31/96, for those amateurs that had held a call before, or that were eligible for “*in memoriam*” calls

7/22/96, for Club station trustees that were eligible for “*in memoriam*” calls

**Gate 2:** 9/23/96, Amateur Extra requests

**Gate 3:** 8/6/97, Advanced Class requests

**Gate 4:** 12/2/97, Everybody else

So now we have the full history of the ham radio call sign, from the infancy days of amateur radio, up to the present day. What does the future hold for our call signs? Who knows? Eventually, the “N” and “A” 2X3 call sign formats will have to come into play as the “K” and “W” prefixes run out. There also have been other ideas floated out there that include authorizing a mixture of letters and numbers for Extra class call signs, similar to what is in use in Europe. (ie: **W71VO**), or even the “sale” of 1X1 call signs to Extras, now reserved for special event stations.

In conclusion, please take the time to appreciate the past efforts and tenacity that our forefathers, and especially the gallant early efforts of the ARRL, had to ensure that the hobby we all enjoy as radio amateurs even exists today. Our unique call signs define who we are as amateurs, and have from the start. Please remember to take good care of our special call sign heritage for future generations of amateurs.

**Bibliography:**

<http://legisworks.org/sal/37/stats/STATUTE-37-Pg302b.pdf>

<http://www.americanradiohistory.com/Archive-FCC/Federal%20Radio%20Act%201927.pdf>

[http://www.rollanet.org/~n0klu/Ham\\_Radio/History%20of%20Ham%20Radio.pdf](http://www.rollanet.org/~n0klu/Ham_Radio/History%20of%20Ham%20Radio.pdf)

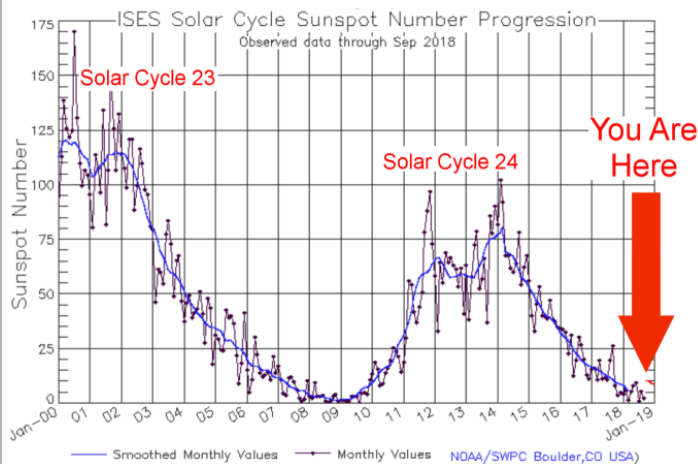
[https://en.wikipedia.org/wiki/Amateur\\_radio\\_licensing\\_in\\_the\\_United\\_States](https://en.wikipedia.org/wiki/Amateur_radio_licensing_in_the_United_States)

# Cosmic Rays Increasing

by Dr. Tony Phillips in *Spaceweatherarchive*

Cosmic rays in the stratosphere are intensifying for the 4th year in a row. This finding comes from a campaign of almost weekly high-altitude balloon launches conducted by the students of Earth to Sky Calculus. Since March 2015, there has been a ~13% increase in X-rays and gamma-rays over central California, where the students have launched hundreds of balloons.

Why are cosmic rays increasing? The short answer is “Solar Minimum.” Right now, the 11-year solar cycle is plunging into one of the deepest minima of the Space Age. The sun’s weakening magnetic field and flagging solar wind are not protecting us as usual from deep-space



radiation. Earth to Sky balloon launches in [multiple countries](#) and [US states](#) show that this is a widespread phenomenon. Cosmic rays are of interest to anyone who flies on airplanes. The International Commission on Radiological Protection has classified pilots as occupational radiation workers because of cosmic ray doses they receive while flying. ■

## Recipe Corner

*editor's note—in keeping with the long tradition started by Hoot-WB8VUL, a previous editor of CQ Chatter, we are reinstating the recipe column. If you have any favorites that you would like to share, drop me a line at: [boughton@bgsu.edu](mailto:boughton@bgsu.edu).*

### Salmon Supper Loaf (Scandinavian style)

- 2 15 1/2 oz. cans salmon
- 1 cup chopped celery
- 1 cup chopped onions
- 1/4 cup melted butter, oil or oleo
- 2 cups soft bread crumbs or crushed crackers
- 1/2 tsp salt
- 1/4 tsp pepper
- 2 tbsp chopped parsley
- grated rind and juice of two lemons
- 2 eggs, beaten
- 1/2 cup milk

Flake salmon, reserving liquid. Sauté celery and onion in butter for 10 minutes, or until vegetables are tender. In mixing bowl, combine vegetables with bread crumbs, salmon, reserved liquid, seasonings, parsley, and grated rind and juice of lemon. Add eggs and milk and mix well.

Grease a 9" X 5" X 3" loaf pan or line bottom with oiled wax paper. Pack salmon mixture into pan. Bake in preheated oven at 375° for 45 to 50 minutes. Serve with mashed potatoes and peas. ■

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