

# Central Ohio Radio Club, Inc.

The Central Ohio Radio Club Newsletter is the Official Journal of The Central Ohio Radio Club, Inc. and is published three (3) times a year. It is mailed or e-mailed to all Full Members. All copy or advertising must be received at least four weeks prior to publication. Articles may be reproduced for other publications as long as prior permission is obtained and source acknowledged. While the Editor makes all reasonable effort to assure the information within is correct, we do not guarantee its contents and disclaim all liability. We reserve the right to edit or reject submitted items for publication. Mail all copy to: Sandy Robeano (KB8CIQ), P.O. Box 166, Sunbury, Ohio 43074-0166. Items can also be e-mailed to [newsletter@corc.us](mailto:newsletter@corc.us).

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ARRL Special  
Services Club



The Central Ohio Radio Club  
June 2019 Newsletter

Web Page at <http://www.corc.us>



Editor, The CORC Repeater Newsletter  
Sandy Robeano (KB8CIQ)  
P.O. Box 166  
Sunbury, OH 43074-0166

# Membership application

## Central Ohio Radio Club, Inc. (CORC)

Operating Amateur Repeaters Since 1970

CORC operates repeaters with outputs on 52.70, 146.76, 146.97, 147.33, 442.800,  
444.200 145.49 D-STAR & 444.000 D-STAR

*Some of the features include:*

Worldwide linking on our IRLP & D-STAR Repeaters.  
Repeaters are used by the Central Ohio Weather Net and the Central Ohio Traffic Net.  
Multiple receiver sites located in Franklin, Licking, Delaware, Pickaway and Logan Counties  
These sites ensure excellent coverage throughout Central Ohio.

Membership allows full use of the CORC facilities, Operating Manual, subscription to the CORC Newsletter,  
and a vote at the annual meeting of the corporation.

Family member amateurs at the same address are NO additional charge, (No Vote at annual meeting)

\$18 / 1 year - \$32 / 2 years - \$45 / 3 years    Dues Enclosed \$ \_\_\_\_\_  
Optional Donation – CORC is a 501(c)(3) corporation \$ \_\_\_\_\_  
Total \$ \_\_\_\_\_

Please mark one:  New Application     Renewal Application

Call Sign \_\_\_\_\_ Name \_\_\_\_\_ e-mail \_\_\_\_\_

Call Sign \_\_\_\_\_ Name \_\_\_\_\_ e-mail \_\_\_\_\_

Call Sign \_\_\_\_\_ Name \_\_\_\_\_ e-mail \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Home Phone (    ) \_\_\_\_\_ Alternate (    ) \_\_\_\_\_

How many of above are ARRL Members \_\_\_\_\_ (CORC is an ARRL affiliated club)

Check to Request Newsletter by e-mail (this saves the club printing & mailing costs) \_\_\_\_\_

Please make check payable to CORC and mail application with check to:

Central Ohio Radio Club, PO Box 166, Sunbury, Ohio 43074-0166

For questions call membership chairman John, W8RXX @ 614-579-0522  
or visit the CORC website at [www.corc.us](http://www.corc.us)

**We Thank You for your Membership and Support!**

Rev 1/19a

# The Central Ohio Radio Club Newsletter

June 2019

**President**

Laura Perone  
KA8IWB

**Vice-Pres.**

Warren Hull  
W8WJH

**Secretary**

Tony Fabro  
N8RRB

**Treasurer**

Steve Robeano  
WD8JKX

**Newsletter**

**Editor**

Sandy Robeano  
KB8CIQ

**Membership**

**Chair**

John Perone  
W8RXX

**FM Repeaters**

53.70 /  
52.94 / 52.70  
51.70 /  
W8RRJ

146.16 / 146.76  
W8AIC

146.37 / 146.97  
W8RRJ

147.93 / 147.33  
W8NBA  
IRLP Node  
8094

449.20 / 444.20  
W8AIC

447.80 / 442.80  
K8NIO

**D-Star Repeater**  
**G3 Gateways**

144.89 / 145.49  
449.00 / 444.00  
W8CMH

## CORC Announces its Welcome Summer Meeting!

The Central Ohio Radio Club, Inc. will hold its next General Meeting and Pot Luck Dinner on Sunday, June 9th 2019 at the Genoa Township Hall. The Pot Luck Dinner starts at 6 PM.

The club provides soft drinks, coffee, paper plates and plastic-ware. Please bring a covered dish and serving utensils.

The speaker that evening will be CORC Director John, W8RXX who is also Tech Committee Chair and Membership Chair.

[Wow! Bet this guy needs a Hat-Tree by his front door! – Editor]

The subject is “Repeater Operation”. John will answer questions that CORCY has received on basic repeater operation. This should provide newer users to the hobby valuable insight and a behind the microphone view of how the repeaters operate. Seeing some of CORC’s assets should allow a better understanding of what happens when you press the push-to-talk button. A flier is enclosed in this newsletter with more details.

## From CORC President’s Desk

Laura Perone KA8IWB

Greetings,

I hope you all had a good winter. Now, we are all hoping that spring has actually sprung. It’s a busy time for everyone and the start of many amateur activities. Hamfests seem to top the list. The Dayton (or now Xenia) hamfest has just passed. Hopefully you were able to attend and find the goodies you were searching for. We are so fortunate with it being in our state. Field Day will be here SOON! This is a good opportunity to get on the bands and make contacts. If you are unable to join a field day group, get on the air and throw out your call and give them some contacts. No, these won’t be conversations, but who knows how many contacts you can make in a short time. In August, the Columbus hamfest arrives closer to home. While you are in the car traveling around, turn on your radio and give out your call. Everyone talks about how quiet the repeaters are but you really never know who is listening.

CORC is having another potluck on Sunday, June 9<sup>th</sup>. I hope you can make it as we always have a good time, great food, and wonderful conversations. Be sure to see the flier in this newsletter for more details.

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# The Central Ohio Radio Club Newsletter

## From CORC President's Desk

(Continued from Page 1)

Since the last newsletter, the CORC Technical Committee discovered that the club's VHF and UHF D-Star repeaters needed a little TLC. There was a software issue that caused the link to the internet to fail. The repeaters were operational locally but they could not communicate to the world. The club purchased a new router with additional firewall protection that will soon be installed at the repeater site. The old router was kluged (temporary fix) and is working until the new router is installed.

Whatever you do today, enjoy...

73,

Laura, KA8IWB  
President

**[Editor's Note:** A "Kluge" is a temporary unorthodox workaround. Tradition tells us that it is named after Gustavus Kluge in the late 1700's who was responsible for plugging leaks in Holland's dikes. Faced with a hole which urgently needed to be quickly plugged, he found he did not have a plug small enough for this hole and could not get a smaller one quickly. He solved the problem by making the hole larger.]

## Membership News

by CORC Membership Chair John Perone, W8RXX

**Many thanks to the following who have donated their time, talent, money, printing, etc. since the last newsletter was printed.**

**This all helps keep CORC financially sound.**

W8RRJ	W8NBA	N8RRB	KD8VRN	KD8IDJ	KA8IWB	KB8ABO
KB8CIQ	WD8JKX	W8RXX	WA8KKN	N8SQ	KROGER	W8WJH
K8TW	KD8RTP	N8DLA	AD8CM	WA3UOO	KD8FJH	

**Please welcome the following who have joined CORC since the last newsletter was printed. Thank them for joining when you hear them on the air.**

N8AJ – Lynn	KE8HXE – Brad	KD8OVD – Wayne	AD8CM – Marcel
KE8IQL – Eric	K8TSG – Jason	AC4HV- Eric	

### **Last meeting's door prize winners (February 24<sup>th</sup>, 2019)**

<b>Rock Bound Rig (1 Year):</b>	<b>John Ross KD8IDJ</b>
<b>Gift Cards (2):</b>	<b>Justin Bogar KE8EEO and Dan Merrill KE8KJX</b>
<b>Weather Radios (2):</b>	<b>Richard Wynkoop KD8PHG and Roy Hook W8REH</b>
<b>50/50:</b>	<b>Trigg Tabor K8NIO</b>

# The Central Ohio Radio Club Newsletter

Travelin' Tony's Timetables - by Anthony "Tony" Fabro N8RRB

## **“Been there... Done that... and got the Tee-Shirt to prove it!”**

I've written several articles in the CORC Newsletter intended for our newest hams. New hams are the new life in our hobby and keep it fresh. They offer new ideas and perspectives on things. They are the future Elmers for the generation that follows them.

But... this article is about veteran (been around awhile) hams. That's right, I'm talking about you, OM! (old man), who may have as many as 50 years of ham radio experience under your belt. (Full disclosure: I've been a ham for 27 years so I'll put myself in this group). You might have been around for so long that you remember when HTs were as big and heavy as a brick (literally), or when having a desktop or mobile radio with “only a few tubes” was a big advancement.



**Editor's Note:** Editor supplied stock picture shown is a military Korean war era PRC-6 13 tube 1/4 watt handheld which operates just fine in the 6M ham band.]

If you have been a ham for longer than you can remember, you've seen a lot of change. Everything from the technology in the radios to the license class structure and its requirements have changed. Each time something major changed, it stirred up a group of older hams. Some grumbled and left, some grumbled but stayed, some embraced the changes, others said, “Oh well...” and kept active.

At some point during your ham radio journey, you've likely left the hobby for a period of time. Things happened which caused you to put ham radio on the back burner, such as having kids or a job change which took up your free time. Or, maybe you just lost interest in the hobby and packed things away intending to someday, maybe, come back.

An old ham coming back to the hobby after a long absence may not be as significant as the biblical Prodigal Son story, but it is a win for the hobby. Something about the hobby still resonated inside to get them back into it. I always enjoy hearing from these hams who say they are, “trying to get active in the hobby again.” They often start where they first started in the hobby which is on the repeaters. It's like a class reunion all over again, seeing who is still around from before, who is new and who has passed.

If you are one of these old hams who has fallen away from the hobby but not come back, consider this as your invitation back into it. Even if you let your license lapse, studying for the test will likely bring back all of that knowledge you picked up years ago. Come to one of CORC's legendary potluck meetings and meet members of the club. Attend a hamfest, either our small but mighty hamfest in Columbus, or the hamfests of all hamfests in Xenia (yes that's correct – it's no longer in Dayton). You'll quickly remember why you got into the hobby in the first place. When looked at from a high level, the hobby hasn't really changed all that much.

While the new hams may be the new leaves on the ham radio tree, the old hams are the woody stems and trunk. They are the foundation of the ham radio tree which supports and sustains it. They are the Elmers who help the new hams. Share your knowledge, and learn from the new hams. And if you have fallen away from the hobby, all it takes is a willingness and a little bit of time to get back in. I hope to hear all of you, old and new, on the air!

Have a safe day.

# 2019 COLUMBUS HAMFEST

## ARRL SANCTIONED HAMFEST

**Saturday, August 3, 2019**

Sponsored by:

**The Voice of Aladdin Amateur Radio Club – W8FEZ**

8:00am -1:00pm

Talk-In 146.760 – PL 123.0

(Doors open at 6:00am for vendor set-up)

Located at:

**Aladdin Shrine Center**

**1801 Gateway Circle**

**Grove City, Ohio 43123**

(Behind Tee Jayes restaurant, off of Stringtown Road at I-71)

**FORUMS:** Covering a wide range of fun and informative Amateur Radio topics!!!

**VENDORS:** Universal Radio, and other vendors. See the website for our growing list.

**V.E. Amateur Radio License Testing**

**Ohio Single Side Band Net (OSSBN):** Annual Meeting

For MORE Hamfest Information visit our Website

<http://www.columbushamfest.com/>

### **Admission**

\$5.00 at the gate

12 and under FREE

### **Indoor Tables**

\$10.00 per Table

### **Outdoor Space**

\$10.00 per space

**NO ADVANCED TICKET, TABLE OR SPACE SALES**

# Getting More from Your VHF/UHF Base Station

## Rick Tressler - WA3UOO

Here's some useful information for hams who want to improve station performance. One way to accomplish this is with a better performing antenna system. This article gets into vertical versus Yagi and the importance of understanding cable signal losses at VHF and UHF frequencies. I hope you find it useful.

Many hams have a base station operating in the 2 meter and 70cm bands as well as perhaps 6 meters. With the dual band radios in production today, it is not surprising to see this type of radio still being offered. So, when you're operating a dual band radio, you're quite likely to be using a dual band antenna, perhaps a vertical. The radiation pattern of such antennas is omnidirectional; that is, they work well in all directions. The downside to this antenna is that it also *receives* from all directions too. There are better ways to make use of your base station antenna, especially if you want to increase transmitting *and* receiving range without buying a power amplifier. At the same time, you can reduce some unwanted signals you generally may hear with the vertical.

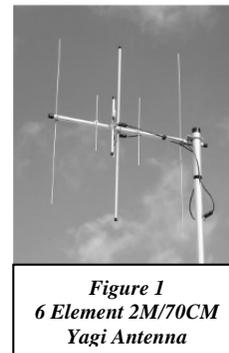
If you're looking to up your antenna game, a great way to do it is to employ a beam antenna. Also called a *Yagi*, this type of antenna can improve station performance significantly. It is designed to focus more RF energy towards the station you're working. At the same time, less RF radiates from the sides and back of the antenna. As the name implies, you're "beaming" more RF in a desired direction. Such designs result in something we call *antenna gain*. Gain is expressed in db (Decibels) and is generally referenced to a dipole (dbd), a 1/4 wave ground plane (db over a ground plane antenna) or an isotropic (all directions) radiator (dbi).

Antenna gain figures will always appear to be higher (better) when gain is referenced to the isotropic radiator. So, make sure you're comparing antenna gain figures from various manufacturers against the same reference when possible; aka apples-to-apples.

With a gain antenna, the *effective* radiated power (ERP) from your station is increased. For example, with 10 watts at the antenna with 3 dbd gain, the station ERP is now 20 watts with most of the RF being focused in the desired direction. Gain in an antenna system helps overcome RF loss in the transmission line too. Yes, you're losing some signal in that cable and more so at higher frequencies. There's no free lunch!

There's more... At VHF/UHF, the basic 3 element single band VHF or UHF antenna is small, a fraction of the size of any HF beam and can be purchased for a modest amount.

You can also *build* a simple 3 element single or multi-band antenna. There are construction articles in QST. The [ARRL Antenna Book](#) and [Antennas for VHF and Above](#) are great references. Both are available at [www.arrl.org](http://www.arrl.org). Figure 1 illustrates a 6-element dual band Yagi employing 3 elements on 70cm (shorter elements) and 3 elements on VHF. The overall boom length is only 2.8 feet. When you're operating on 2 meters, the antenna does not "see" the UHF portion of the antenna. Same for when you're working on UHF. If you don't utilize both bands, you can build or buy a single band Yagi to save a little money. Want more gain and directivity? As the element count increases, so does the gain. The front-to-back and front-to-side ratios are also improved. If an antenna has a unique maximum gain direction, the front-to-back ratio is the ratio of the gain in the maximum direction to that in the opposite direction, or the "backside" of the antenna. The same applies to the front-to-side ratio, both expressed in db.



As with most antennas, the higher they are mounted above ground level, the better. With a higher perch for your antenna however, there's a price; more RF loss in the coax. At VHF and above, RF attenuation is significant, especially in coax primarily used for HF. As to the amount of loss experienced, it's based on the transmission line you're using and operating frequency. For years, hams had but a few choices. Today the marketplace is wide ranging and so go the costs. Generally, less loss translates to more cost. Let's look at the coax losses associated with numerous feedlines at various frequencies to put this into perspective. See the table below on the next page.

Continued on page 8.

# The Central Ohio Radio Club Newsletter

Getting More from Your VHF/UHF Base Station - Continued from Page 7

	LMR-1200	LMR-900	LMR-600	1/2" Superflex	LMR-400	Belden 9913F7	9914	RG214 RG213	LMR-240	Belden RG8X	LMR-200	LMR-195	RG-58/U
Frequency/Size	1.200"	0.870"	0.590"	0.520"	0.405"	0.405"	0.400"	0.405"	0.240"	0.242"	0.195"	0.195"	0.195"
30 MHz	0.209	0.288	0.421	0.561	0.7	0.8	0.8	1.2	1.3	2.0	1.8	1.8	2.5
50 MHz	0.272	0.374	0.547	0.730	0.9	1.1	1.1	1.6	1.7	2.5	2.3	2.3	3.1
150 MHz	0.481	0.658	0.964	1.29	1.5	1.7	1.7	2.8	3.0	4.7	3.9	4.0	6.2
220 MHz	0.589	0.803	1.18	1.58	1.8	2.1	2.1	3.5	3.7	6.0	4.8	4.8	7.4
450 MHz	0.864	1.17	1.72	2.32	2.7	3.1	3.1	5.2	5.3	8.6	6.9	7.0	10.6
900 MHz	1.27	1.70	2.50	3.41	3.9	4.4	4.5	8.0	7.6	12.8	9.9	9.9	16.5
1,500 MHz	1.69	2.24	3.31	4.57	5.1	6.0			9.9		12.7	12.9	

Figure 2  
RF Loss Reference Table for Various Coaxial Transmission Lines  
Loss per 100' from 1MHz – 1Ghz

Let's put some context to the table. For every 3db of signal loss at the antenna, the RF from the transmitter is cut in half. As an example, using 100' of RG-58U at 50 MHz with 50 watts output at the transmitter results in only 25 watts input to the antenna. If you want less loss you must use a lower loss cable. Be prepared to pay more. Coaxial cable such as LMR-400 and Belden 9913 are shown in Figure 2 and compared to RG-58/U are clearly lower loss.

I hope you found this article useful and educational.

Rick Tressler  
WA3UOO

## Kroger Community Rewards Program – Sign up now! - or – Renew now!

by CORC Membership Chair John Perone, W8RXX

The Kroger Company has recently upgraded their Community Rewards system. As a result the Central Ohio Radio Club, Inc. as a Non-Profit Organization has a new account number **SU216**. Please reference this new number when signing up or re-confirming each year.

**If you are not signed up yet, now's the time!** Also, please remember that every April you **MUST** reconfirm your donation.

If you missed reconfirming this year, please do it **now!** CORC thanks you for these extra donations. It ALL helps!

How much does it help? Since we joined the program nearly 6 years ago, Kroger has given us a little over \$1,600 or about \$265 per year. Want to know more about the program? See <http://www.corc.us/page9.html>. Kroger Community Rewards will **NOT** affect your Kroger Fuel credits or other Kroger benefits in any way.

# CORC Summer Meeting & Potluck

Sunday June 9<sup>th</sup> 2019 6:00 PM EDT

Genoa Township Hall (See Map on Back)

**Northbound S OLD 3C HWY is still detouring between  
OH RT 3 & BIG WALNUT RD**

**We suggest you access Genoa TWP Hall from Big Walnut Road**

**Bring a Covered Dish (with Serving Spoon)**

## CORC will Provide

High Quality Plastic-ware, Soft Drinks, Coffee, Tea  
Cups and Plates, Napkins and Ice

(Editor's Note: The ice that will be used was harvested from the Fabro driveway in Westerville in January 2019 and stored in his home freezer.  
Just kidding)

## Program Speaker

John Perone, W8RXX CORC Director & Tech Committee Chair

**“Basic Repeater Operation”**

*John will answer questions that CORKY has received on basic repeater operation. This should provide newer users in the hobby valuable insight and a behind the microphone view of how the repeaters operate.*

## But Wait There's More!

Traditional 50-50 Drawing

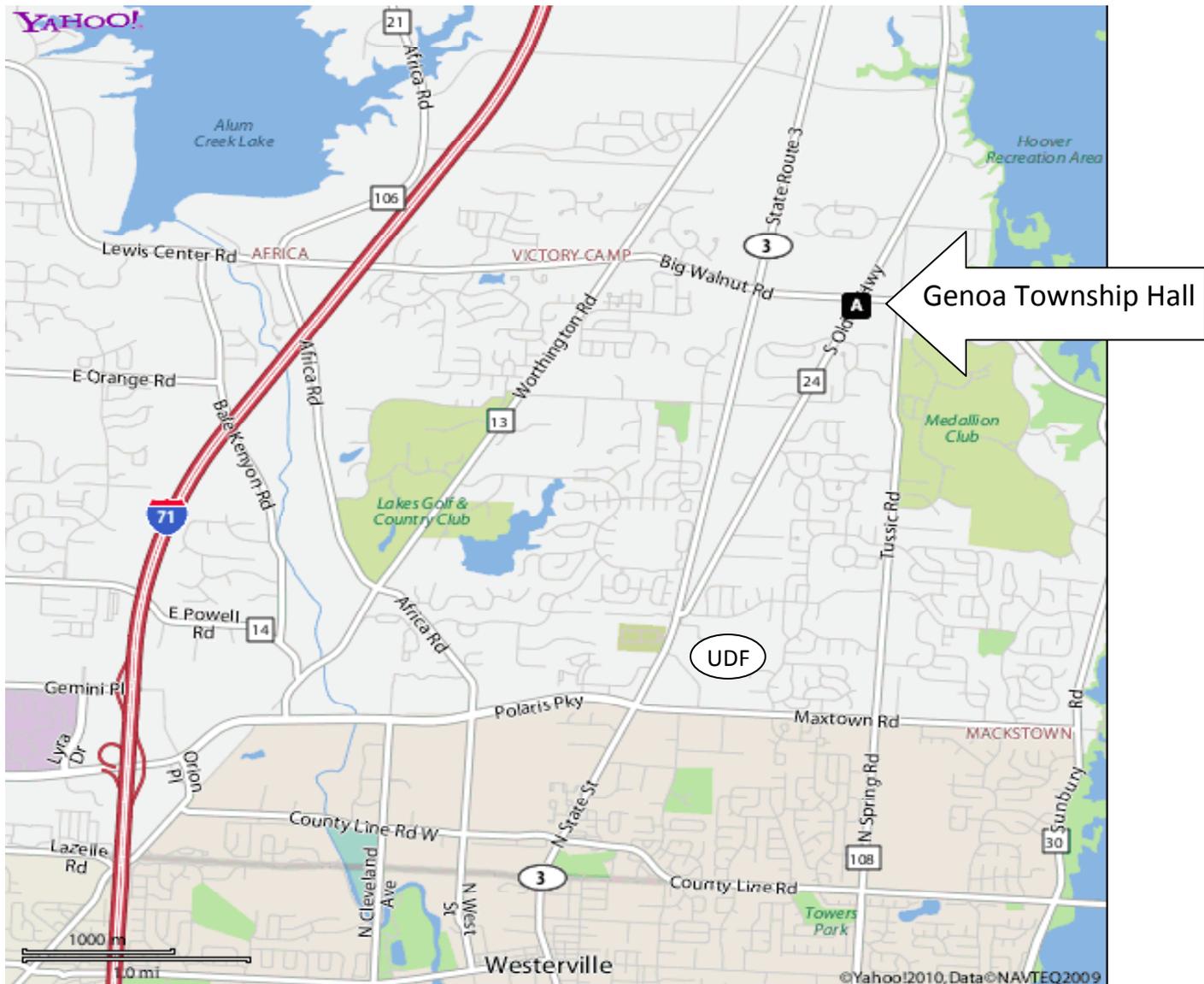
Drawings for Several Door Prizes

(No Virginia, you get to keep the door prizes, not just a drawing of it!)

Put this notice on your refrigerator as a reminder or tie some RG-8X\* around your finger

**\*Note:** WA3UOO recommends LMR-240 in lieu of RG-8X as it is less lossy and bends around your finger better.  
For more information on selecting coax for your finger, see his article in this issue of the CORC Newsletter.

And now that you know about it...  
Here is how you get there!



From 71 take Polaris Pkwy east. Turn left onto N State Route 3. Turn right onto S Old 3C Hwy.

Go north to the Genoa Township Hall on your right at Big Walnut Road.

From 270, exit at State Route 3/Westerville Road and turn right onto S Old 3C Highway.

Go north to the Genoa Township Hall on your right at Big Walnut Road.

Genoa Township Hall is on the SE corner of Big Walnut Road & S Old 3C Highway.

5111 S Old 3C Highway

Westerville, OH 43082

GPS: 40.178632, -82.902903

Revised January 2017