Editor, The CORC Repeater Newsletter
Joe Hahn (W8NBA)
P.O. Box 166
Sunbury, OH 43074-0166

The Central Ohio Radio Club
May 2022 Newsletter

Over 50 Years of Service to the Amateur community!

ARRL Special Services Club

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

Place Label Here

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: Joe Hahn (W8NBA), P.O. Box 166, Sunbury, Ohio 43074-0166. Items can also be e-mailed to newsletter@corc.us.

Central Ohio Radio Club, Inc.

Central Ohio Radio Club, Inc. (CORC)

Operating Amateur Repeaters Since 1970

Membership application

***CORC* operates repeaters with outputs of 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 Central Ohio Traffic Net.
Multiple receiver sites located in Franklin, Licking, Delaware, Pickaway and Logan Counties
To ensure you 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)

See Other side for dues schedule 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 mailing cost) ____

Please make check payable to *CORC* and mail application and 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

Thank You for your Membership and Support!

Rev 1-20

CORC DUES 2022 SCHEDULE

THIS TABLE SHOWS DUES FOR MEMBERSHIP BASED ON MONTH YOU JOIN

Month you Join	Selecting $18 One Year Plan		Selecting $32 Two Year Plan		Selecting $45 Three Year Plan	
	Pay	Expires on Dec 31	Pay	Expires on Dec 31	Pay	Expires on Dec 31
JAN FEB MAR	$18.00	2022	$32.00	2023	$45.00	2024
APR MAY JUN	$14.00		$28.00		$41.00	
JUL AUG SEP	$9.00		$24.00		$37.00	
OCT NOV DEC	$18.00	2023	$32.00	2024	$45.00	2025

Since 1970 CORC Membership still is only $18.00 for 1 yr - $32.00 for 2 years - $45.00 for 3 years

If you have difficulty understanding this chart please contact John / W8RXX

THANKS for becoming a member!

Apr-22

The Central Ohio Radio Club Newsletter

May 2022

President
Laura Perone
KA8IWB

Vice-Pres.
Warren Hull
W8WJH

Secretary
Tony Fabro
N8RRB

Treasurer
Steve Robeano
WD8JKX

Newsletter Editor
Joe Hahn
W8NBA

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

Greetings from the CORC President….

As you can tell from the photo, I've finally been able to travel without a mask. The Panama Canal is in the background.

Now the BIG news! The 50 + 2 Celebration of the Central Ohio Radio Club will be held on Sunday, June 5th at the Genoa Township Hall beginning at 6PM. At this event we will celebrate 52 years since the first 2-meter repeater went on the air in Columbus, 146.76.

We are not having our usual potluck dinner at this event. You are however invited to CORC's BYOB Dinner. That is, "Bring your own BAG!" The club will provide bottled water, individual soft drinks in cold cans, chips in small bags, and individually wrapped cookies. You bring whatever else you want…fried chicken, Wendy's, lasagna, tacos, egg foo young [White Castles? … and your own utensils, paper goods, etc. Think indoor picnic without the ants. We want everyone to feel safe and remain healthy.

We are giving away a NEW (hard to find today) Kenwood TM-281A Two-Meter Mobile Radio. As in our previous radio raffles, any dues paid up MEMBER present, receives one ticket per family. Non-members and additional tickets may be purchased at the door for $5. Don't be surprised if other items are also given away… Oh yes, don't forget about the 50-50 drawing…

Plan to attend to hear how the original two gentlemen that began the repeater tell their story. Thanks John, W8RRJ and Gary, W8FJP for your imagination and work so many years ago. I hope to see you June 5th.
73,

Laura

KA8IWB President

TM-281A Two Meter Mobile

May 15th meeting Notes

We had some lucky winners of prizes.

Weather Radios were won by N8DRZ, Joe and K8RAP, Randy.

Gift cards were won by N8RRB, Tony and KB8UVF, Tom.

The 50-50 was won by N8DRZ, Joe.

The CORC famous “ROCK BOUND” rig was won by N8FES, Linda.
Note to Linda: Remember you must return next year… Ha!

From your CORC Membership chairman…

John / W8RXX

We would like to thank everyone that have either joined or paid their dues since our last newsletter. We realize last year some became unemployed and may not have had extra money to spend on hobbies. Please let me know if you are unable to pay your dues at this time & CORC will extend your membership thru 2022.

New Members…

The following have joined CORC since the last newsletter was printed. Please thank them for joining the club when you hear them on the air. Members and donations all help keep the club financially sound!

N8VWQ – Robert	K8AMC – Craig	KE8TTH – James	KE8TTJ – Ron
N8RFY – Calvin	KA8CLX – Mark	KB8UVF – Tom	KD8YYK - Lynne

Many thanks to those who have donated their time, talent, money, printing, etc. since the last newsletter. They all help keep CORC financially sound.

W8RRJ	W8NBA	N8RRB	WA3UOO	KB8YBW	KD8UNT	KD8UTU
W8III	KE8TTJ	KB8CIQ	WD8JKX	W8REH	W8WJH	WA8KKN
KA8IWB	W8RXX	N8SQ	AC8VM	WD8CZG	KB8KKW	KA8CLX
KB8UVF	KD8YYK					

HELP WANTED:

Are you willing to help the club with membership?

CORC is looking for a new membership chairman. W8RXX, John is retiring from the position SOON after 20 years. We are looking for a people person with computer skills. Currently we are using a DOS program that works great but being now the 21st century it may need replaced. (You decide) We will train on the current program if want to continue using, it's easy!

Contact W8RXX, John if interested, MANY THANKS! w8rxx@arrl.net

Lithium-Ion Batteries and Handheld Radios

Rick Tressler - WA3UOO

History

When handheld radios started becoming a "thing" for the ham community back in the 1970's, the default battery was the nickel cadmium (NiCd) type. In these early days, the nickel metal hydride battery (NiMH) was still in development. NiCads, as we called them, offered poor energy density but it was all we had. Extra packs had to be carried, or at least readily available and fully charged. Drop-in style chargers were common whereby the radio could be placed into the charger. Unfortunately, some batteries had to be charged while in the radio as the charger was not designed to charge the battery pack alone. This resulted in an unusable radio while the slow-poke charger did its thing for hours on end. Then came the introduction of rapid charge capable nicads and chargers equally capable of performing advanced charging schemes without destroying the battery. This helped turn the battery around faster, but additional packs were still required for extended periods of use. Aftermarket suppliers like W&W Manufacturing and Mr. Nicad, (now Batteries America) started offering chargers that could not only charge the radios but could also charge the packs *outside* the radio. This was a welcomed improvement for the ham market.

1970's Era Motorola HT200 (left) and Newer HT220 "Handy Talkies" with Newer Radio

When the NiMH battery was commercialized, the amateur market took advantage and offered them as the standard battery for their hand-held radios. For a while, both nicad and NiMH types were available. The primary advantage of the NiMH battery was higher energy density (more milliampere-hours in the same pack size) along with the fact that they did not suffer from memory like most nicads. The downside was that they suffered from a higher rate of self-discharge while sitting on the shelf. Initially, NiMH was also a bit higher priced but that was expected.

Enter the Lithium Ion Era

Let's now fast forward to where we are today. With the commercialization of rechargeable lithium ion (LiIon) batteries, energy density, charge retention and pesky memory issues are a thing of the past. Just about all handheld two-way amateur radios today come with this type of battery. Radios come with a charger that is intended to be used with the supplied battery only. Unapproved brands should never be used, or you'll risk a battery fire. This isn't your dad's nicad. This is a technology of battery where perhaps sticking with the OEM for batteries may not be a bad idea. That said, there are good aftermarket lithium packs out there for amateur users and the price won't break the bank. Radio manufacturers frequently offer a couple pack capacities that can extend run time.

I bought my Kenwood TH-F6 tri-band handheld around 2007. It came standard with a PB-42, 7.4 volt, 2000 mah pack. The optional 7.4 volt PB-42XL *doubles* capacity to 4000 mah; unheard of in the nickel battery days unless you strapped a gel cell battery on your belt! It is noteworthy that with larger capacity packs can come disadvantages. In the case of the TH-F6, the PB-42XL adds 3/8" to the thickness of the rig. I needed a new aftermarket case. Forget using the factory supplied belt clip because that only works with the standard size battery.

Kenwood TH-F6 (left) with standard lithium-ion battery installed.
PB-42XL high-capacity battery pictured right adds 3/8".

The charger for this radio is a simple wall-wart style unit that easily charges the standard pack overnight from a full discharge. Recharging the PB-42XL with that charger is another matter that translates to a much longer recharge time dues to its 4000 mah capacity. I bought the EMS-42K drop-in charger for this application.

EMS-42K charger from Batteries America charges the TH-F6 batteries

Safety

I'd be remiss if I did not mention safety in a battery article. Lithium batteries are much more of a concern when it comes to storage and charging. Don't charge these or any other rechargeable chemistry battery in a hot environment. The potential for battery failure, fire, etc. is higher for lithium batteries than any other chemistry of battery. Follow the instructions that come with the radio, battery pack and charger. If there's something you do not understand, contact the seller.

When it comes to buying aftermarket, ask your fellow ham friends what they use and if they've had any problems with them. I recommend sticking with well-known, reputable vendors that can offer good support. The two mentioned in this article are good in my book as I have been buying from both for many years with no problems – batteries and chargers. Keep this in mind, when most of the merchants out there are selling a battery for about the same price but there's one selling for $25 less, there's a good reason for it. Stay away. Be *very* careful on Amazon. It's a jungle out there.

D-STAR Your Window to the World

By: Mark Noble, KE8BZW and Wm. Trigg Tabor, K8NIO

Imagine a clear static and noise free amateur radio contact. It can be done and is an advantage of digital modes such as D-STAR, DMR, System Fusion, and Wires X. Even when connected to remote reflectors (groups or rooms on other systems) that allow you to bridge between those digital modes or other systems around the world. With a D-STAR equipped ICOM or Kenwood rig you can have access to the other side of the world from your base station, mobile, or HT. Our D-STAR repeater offers this and other capabilities on the 2-meter or 70-cm band.

The CORC W8CMH D-STAR gateway system operates on 145.49 MHz and 444.000 MHz and can provide clear noise-free digital communications with a compatible rig. If you are used to the club's wide area analog repeaters, please remember that D-STAR systems are single site systems. They only have one high profile receiver, so coverage is more limited than repeaters that have multiple receive sites. Due to digital error checking capabilities, you may be able to communicate more effectively over D-STAR than with analog.

Instead of noise and static, poor digital signals will experience packet loss that some describe as sounding like R2-D2 or some other robot. If you live a great distance from the repeater system located in downtown Columbus or if you live where you cannot have outdoor antennas, you can use a D-STAR hot-spot or DV computer dongle as an affordable way to set-up a personal (and often portable) personal receive site. Free software such as Doozy and Peanut (both created by David PA7LIM) can allow existing PCs, smartphones, and tablets to fill the same remote personal receive site role, without having to buy or configure any additional hardware.

Even if you are already D-STAR user we have some tips and answers to frequently asked questions that may help you enjoy this digital mode:

1. To improve the chance of contacts, on D-STAR or any of the CORC FM repeaters, stick around after marking on frequency. Waiting two minutes or more will give someone wanting to reply time to do so.
2. When you register to become a D-STAR user only register on one system. That approved registration will give you all the high-level features offered. You will have access to the world via that single account.
3. You can check your registration status online and the D-STAR page of the CORC Website will soon be updated to supply a link for you to do so. Checking your registration is the first thing to do if you are having trouble using the system.
4. On D-STAR you must program in your call-sign on your rig before you can use the D-STAR system. This call-sign is automatically sent as metadata with every transmission; however, it's still a good operating practice to voice identify your station regardless just in case other users are unable to see your call on their radio's display.

5. The C node is for 2-meter, and the B node is for 70-cm – characteristics of these bands may affect your ability to get into the repeater. If you set W8CMH C as the "From" (RPT1) and W8CMH B as the “To” (UR), you can hear and be heard on both “sides” of the repeater – so you could communicate cross band.
6. Have fun with both your local and long-distance contacts.

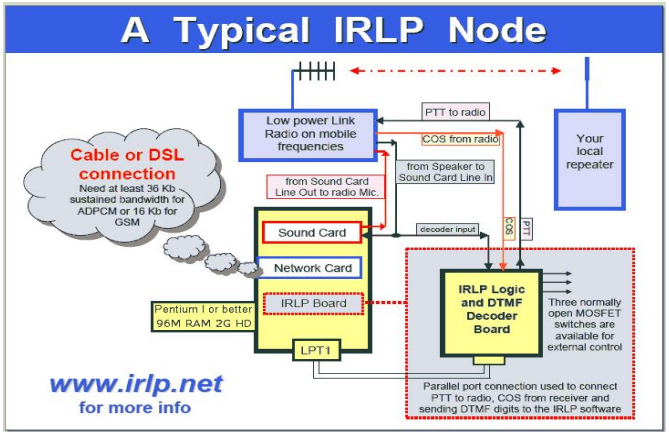
IRLP on 147.33 Node 8094

By Joe Hahn W8NBA

Sad news! The IRLP unit has passed away after many years of service. It died during a thunderstorm and after an autopsy, it was determined to have had a catastrophic failure. The unit would not boot, or startup and the hard drive was fried. “May in rest in peace in the recycle bin”.

A new “state of the art” PiRLP unit was ordered and being constructed as we speak by IRLP

System Designer, Dave Cameron, VE7LTD. It is based on the Raspberry Pi4 B computer and contains a complete, low-power IRLP system in the palm of your hand. It now includes integrated BlueTooth 5.0 and 802.11AC WiFi (2.4 and 5.8Ghz), and a new software load based on Debian 10 (Buster). It greatly surpasses the old 1998 Desktop we were using. If you haven’t tried IRLP, now is the time to do so! Just read some of the do’s and don’ts on our website and if you really want to get into it, check out the IRLP site at www.irlp.net .



Technical Committee Report

By Chuck Wood WA8KKN

It seems when it rains it pours. The technical committee has a few items that will be of interest to the users. We are going to be quite busy.
These items concern the following:

1. IRLP
2. DSTAR
3. Roof repair downtown

IRLP

It is believed that the IRLP controller – PC was hit by a power hit a few weeks ago. This controller has been in service for many years. The PC is circa 1998. CORC is in the process of replacing the equipment with the latest Linux Raspberry Pi hardware. Obtaining this equipment is difficult during the parts shortages. Hopefully, within a few weeks this can be completed. The 147.330 MHz repeater is on the air in the non-IRLP mode.

DSTAR

DSTAR is operational but sporadic due to some of the network equipment. New equipment is on order with a due date of early July. Let's hope our supplier can meet the quoted ship date. Until then, the system is operating but without all the network functionalities. Expected repairs should hopefully be completed by August.

Roof Repair

The building roof where the 146.760 MHz, 444.200 MHz, and 52.700 MHz transmitters are located is being repaired. New coax, connectors, and other items are on hand to perform the required installation. Hopefully, the landlord and other tenants will not throw some unknowns issues at us.

Presently, we do not know when the repairs will take place. Currently, the process is expected to be completed by August 1st, 2022. The landlord has not notified us of a timetable.

There may be some outages with these systems during the construction.

Other CORC systems:

The 146.970 MHz and the 147.330 MHz repeaters are not affected by this roof construction.

CORC Tech Net Tech Net Season 11 Wrap-Up

By: Tony Fabro N8RRB

Season 11 of the revived CORC Tech Net is in the books! The Tech Net Team would like to thank everyone who checked-in during the year, as well as our Subject Matter Experts (SMEs) who prepared material for the sessions. This season we had 13 sessions with 154 check-ins and five different SMEs. The schedule got revised several times this year so the net thanks everyone for their patience and for sticking with us!

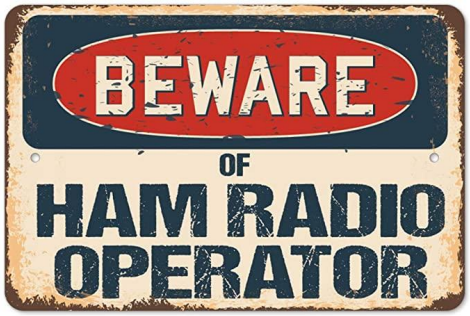
Again, this year we encouraged our Subject Matter Experts (SMEs) to create presentation slides to enhance the presentation. The slides were posted on the CORC webpage at www.corc.us and then reviewed during the net. Many of these presentations are still available on the CORC web page under the Tech Net link.

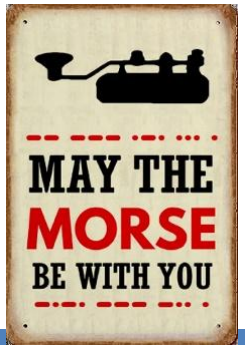
A special thanks to our SMEs who presented during the net. In addition to presentations by the Tech Net team of Chuck WA8KKN, Rick WA3UOO, and yours truly, Mark Erbaugh N8ME gave an encore presentation of his popular talk on Raspberry Pi, and Ohio Section Emergency Coordinator Stan Broadway N8BHL discussed NVIS (Near-Vertical Incidence Skywave) antennas and NVIS Day in Ohio. Anyone interested in emergency communications should learn about NVIS.

While we have amassed a significant number of topics over the years, we are always looking for new ideas. In addition, we are also looking for SMEs to present a topic. You do not have to be a know-it-all about a topic but do need to be comfortable enough to present what amounts to about 20 minutes of material. Anyone interested should send an e-mail to the Tech Net Team at technet@corc.us .

While the net is on summer break, we are still available to answer your ham radio or computers questions! Please send your questions or comments to technet@corc.us and one of us will get back to you.

The net will be back in the fall for Season 12. We hope to hear you on the net!





CORC 50+ Aniversary BYOB Party

Sunday June 5, 2022 6PM
Genoa Township Hall (see map on back)

You "Bring Your Own Bag" of whatever you want and CORC will Provide: Bottled Water, Individual Soft Drinks in Cold Cans, Chips in small bags, and Individually wrapped cookies.

But Wait, There's Even More!

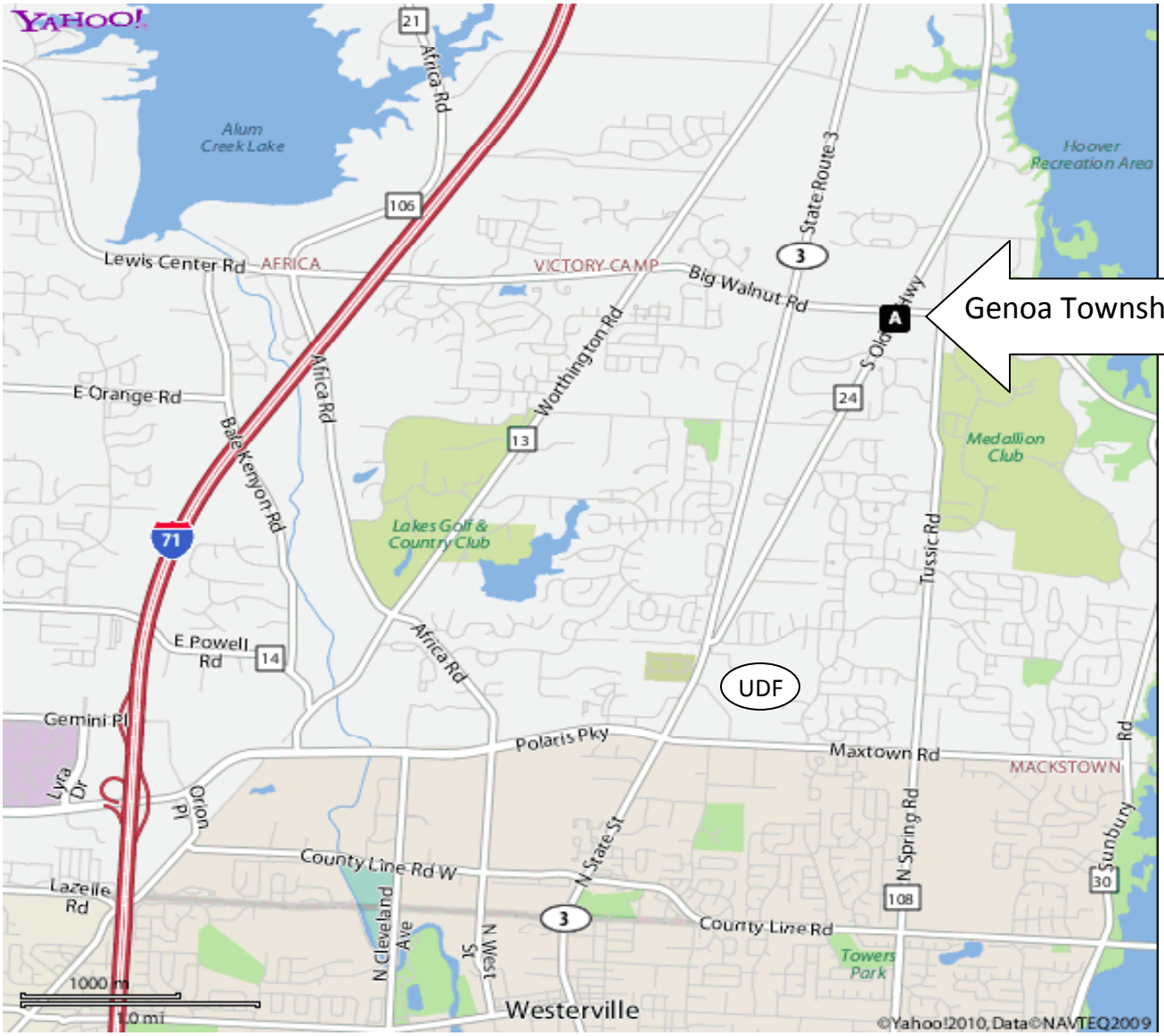
Traditional 50-50 Drawing
Drawings for Several Door Prizes
And gift cards…
Raffle for a New Kenwood TM281A 2 Meter Mobile Transceiver see newsletter for rules!

Plan to attend to hear how the original two gentlemen that began the repeater tell their story. Thanks John, W8RRJ and Gary, W8FJP for your imagination and work so many years ago.

Put this notice on your refrigerator as a reminder!!

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

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