

THE TUNED CIRCUIT

Club Website: <http://www.n8lc.org>

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**January TC
Deadline:
NOON on
Wednesday
December 26th**

Next Meeting - 7:00 PM Decem-
ber 5th 2018 at the Tucker Senior
Center (see [last page](#) for map and
address).

Meeting Program - The program for
our December meeting will be as
reported on [page 1!](#)

The NEXT board meeting will be
on Wednesday, January 9th, 2019.

DECEMBER 5TH MEETING PROGRAM

The December program will be
Election of Officers, swap report, and other unspecified merriment.



MEETING time is 7:00 PM



L'Anse Creuse Amateur Radio Club

46th Annual Swap & Shop

SUNDAY, SUNDAY, SUNDAY!

DECEMBER 2, 2018

Vendor Setup Saturday 6 -> 10 PM

Sunday 6:30 AM

L'Anse Creuse members: Our swap will be held on December 2nd. I hope all of our members will be available to help. Ken/KD8RJN and Fritz/KE8BFW have volunteered to sell tickets at the door. We have Mark/N8REZ and his crew handling the food concessions. John/N8FYL has volunteered to be the cashier. Marty/K8HVI, Dale/K8RO and I will be handling the incoming vendors.

I will need a person to stay with Ken and Fritz in case they need a hand handling the money. I will need a security person to police the vendor area so that no one pre sells stuff. Gregg/N8GEO and Scott/W8CQD will be handling the VE testing.

We have the vendor setup starting at 6 PM on Saturday evening. Sunday morning at 6 AM we will have the coffee brewing. Vendor setup is at 6:30 AM

Let's hope we have great weather and a successful swap.

Thank you all for your help with our Swap.

73 Russ N8HAR

Report of the Secretary

Submitted by Dave, N6WY

Meeting Called to Order:

The LCARC President (John, N8NXW) called the meeting to order around 7:05 PM.

Roll Call: I counted 19 members responding to roll call.

Meeting Minutes Approval: Motion made by John, N8FYL and seconded by Debbie, KC8WHN, to approve the last month's meeting minutes.

Treasurer's Report by Gregg, N8GEO:

Total amount in the account is \$4342.58.

The Youth Fund has \$37.24.

The Repeater Fund has \$599.42.

Total Available is \$3705.92.

Where's Doug, N8PYN: The next swap is LCARC on Sunday 2 December.

Repeaters Status by Doug, N8PYN:

Doug could not set up the link to the fire station internet because of wrong password. Doug has the correct password now. The internet link should be working next month.

Ken, KD8RJN, will contact the ARRL Michigan Section staff to verify that the LCARC is still listed as an active ARRL affiliated club and ask if anyone on the staff has a recommendation for a person that can do tower work at the LCARC repeater site.

Club QSL Report by Dale, K8RO:

QSL's. 2017 Field Day = 4; 2018 Field Day = 0; 2018 Michigan QSO Party = 2; 2018 Winter Field Day = 2; other = 20. Total = 28.

ARRL Liaison by Gregg, N8GEO:

The new Michigan Section Affiliated Club Coordinator is trying to clean up the list of clubs that are ARRL affiliated. As mentioned in the Repeater Status Report, Ken, KD8RJN, will contact the Michigan Section Affiliated Club Coordinator and verify that LCARC is listed as an active ARRL affiliated club. John, N8FYL, said that LCARC is not an ARRL contesting club.

Net Points Award by Clem, W8VO:

6150 points for Wayne, WG8U; 4700 points for Tom, WU8C; 1550 points for Gregg, N8GEO.

Membership Chairman and Tuned Circuit Editor Report by John, N8FYL:

The deadline for the next Tuned Circuit Newsletter is 26 November.

Santa Claus became a member of LCARC tonight. Santa Claus made a guest appearance at the LCARC Field Day site and tonight he completed the application for LCARC. KR1NGL is his call sign and Dan is his name. KR1NGL preferred nick name is Mr. Claus.

Old Business:

Christmas Party.

Cathy, KC8WNL, reported that the Christmas Party is set. Twenty tickets are sold and we need twenty-five to reserve the room. You can tell Cathy that you are attending and pay at the night of the party. You can also select one of four dinner entrees at the party. The club provides the dessert. The main prize at

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the party is the 50/50 drawing. The Christmas party is on 12 December and replaces the "Night Out" activities for November and December.

LCARC Swap.

The Swap Chairman (Russ, N8HAR) reported that 28 tables are sold and expects to sell more tables. DEBCO and Webster are two well known vendors that have purchased tables. Russ sent a mass emailing of about 2300 announcing the swap. Russ also sent flyers to other clubs. LCARC Facebook page has swap flier.

Dale, K8RO, will get the swap signs out of the repeater shack and bring them to the swap.

Mark, N8REZ, is running the food operation with four others.

Tom, WU8C, will do the talk-in.

The swap building is available for set-up on Saturday night from 6 to 10 PM.

Russ needs the members that are helping with the swap on location at 6 AM Sunday.

Using the Union Hall Projector at the Swap.

The hall projector can be used to show winners of the drawings. John, N8FYL, will bring a PC to connect to the projector. The projector can also be used to show pictures of various club activities.

VE Testing at the Swap.

Cliff, AB8XQ, will administrate the VE tests. Gregg, N8GEO, will be assisting with giving the tests during the swap and administrate future tests for the club.

Radio Raffle Ticket Selling.

Gregg, N8GEO, requested help with selling the radio raffle tickets, especially during the time when Gregg is doing the VE exams. John, N8FYL, said that he could sell raffle tickets at the end of the food line.

Ken, KD8RJN, and John, N8NXW, can sell raffle tickets up front. People that buy tickets up front or at the end of the food line are responsible for entering their information on the raffle ticket stub and dropping the stub in the raffle ticket drawing barrel. Pens and places to write on the ticket stub are located near the raffle ticket drawing barrel. Gregg, N8GEO, has the barrel and will set it up for the swap.

Club Banner.

Cathy, KC8WNL, has the club banner. We need a stand/hanger to display the banner at the swap and other locations throughout the year. If anyone wants to build a hanger for the club banner see Gregg, N8GEO.

Winter Field Day (WFD).

For 2019, the WFD dates are January 26th and 27th. The WFD runs for 24 hours from 1900 UTC (2pm EST) Saturday to 1900 UTC (2pm EST) Sunday. The LCARC has use of the Tucker Center for WFD from 9 AM on Saturday until 5 PM on Sunday. Gregg, N8GEO, has a generator for 1500 bonus points. A satellite contact will be made for bonus points. Dale, K8RO, has a self supporting antenna pole. The Tucker Center should support 4 or 5 stations. Only 6 [Michigan Ed] clubs did WFD last winter. Based on last the WFD performance, LCARC could take 2019 WFD first place for its category. The food for WFD is potluck.

Hamvention Hotel Reservation.

Gregg, N8GEO, said to call the Dayton Holiday Inn Express Reservations for a room being held for LCARC members. If you call the Dayton Holiday Inn Express Reservations, you may be connected or transferred to the national reservation center for Holiday Inn Express. The national reservation center does not know about any rooms being held for LCARC members. You need to try calling again for the Dayton Holiday Inn Express Reservations.

Board Meeting.

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John, N8NXW, announced the next board meeting is 14 November. The start is 7:00 PM and the eat is whenever you want. The start time is a change from previous board meetings. The meeting location is Roseann's (15 Mile and Gratiot).

New Business:

White Elephant Exchange Rule Change.

The program for January is the white elephant exchange. The new rule is that when you select a white elephant from the stack of wrapped white elephant items, do not unwrap the white elephant. After everyone has a wrapped white elephant, someone may take your wrapped white elephant and give you their wrapped white elephant. After the trading (taking) of white elephants is over, all of the white elephants are unwrapped.

Programs for the next 2 General Meetings.

Scott, W8CQD, said that the December program is a presentation and election of board members. January program is the white elephant exchange.

N8LC 2 Meter Thursday Night Net.

The N8LC 2 meter net needs two net control operators; one for 4th Thursday of the month and one for the 5th Thursday of the month. Fritz, KE8BFW, volunteered for the 5th Thursday of the month. The 4th Thursday of the month is still open.

Drawings:

Only two door prizes this month. Each door prize was a box that contained two 440 FM Handy Talkies. Mr Claus, KR1NGL, won the first box and Marty, K8HVI, won the second box. Gregg, N8GEO, won the \$13.00 prize for the 50/50 drawing.

Nominations for Board Members:

Treasurer – Gregg, N8GEO

VP and President-Elect – Scott, W8CQD

President – Ken, KD8RJN

Technical Officer – Doug, N8PYN

Scott, W8CQD, will continue as Activities Manager for next year.

Other nominations and voting during December General Meeting.

Meeting Adjourned:

John, N8NXW, adjourned the meeting at 8:20 PM.

Membership Report

11 members have not yet renewed for the 2018-2019 club year. Our dues year begins November 1st. As of today 47 members have renewed. At the November meeting Dan, KR1NGL (aka Santa) has joined the club. This bumps us to 67 members: 58 regular members (2 who are enjoying the the “first year free” experience), and 9 life members.

To renew please submit your dues and membership form to our Treasurer Gregg/ N8GEO so the dues money is deposited in the club’s account. Gregg then gets the forms to me for the membership database.

John / N8FYL – 11/26/18



Board Meeting Minutes

Submitted by Dave, N6WY

Meeting Called to Order:

The LCARC Board Meeting was called to order at 7:00 PM on Wednesday 14 November by the LCARC President. Present at the Board Meeting were:

President, John – N8NXW
Treasurer, Gregg – N8GEO
Secretary, Dave – N6WY
Past President, Debbie – KC8WHN
Technical Officer, Doug – N8PYN
Cathy – KC8WNL
Jenny

Macomb Community College (MCC):

John, N8NXW, is uncertain if LCARC can have any more Tech Nights at MCC. He is still trying for more MCC Tech Nights.

LCARC Swap:

The Swap Chairman (Russ, N8HAR) has everything under control. Russ has close to 40 tables sold for the swap. Free tables are available for clubs.

Gregg, N8GEO, and Doug, N8PYN, has some LCARC activity pictures for showing at the swap.

Cathy, KC8WNL, has the kitchen signs and the LCARC Banner. Marty, K8HVI, has a stand for the banner that can be used at the swap.

Gregg, N8GEO, will be spending most of his time doing VE exams at the swap. Cliff, AB8XQ, will administer the exams using W5YI-VEC. Gregg plans to give the future exams using ARRL-VEC.

Christmas Party:

Cathy, KC8WNL, reported that 21 tickets are sold for the party. We need 25 people to reserve the room. Cathy is ordering the cake next week. Cathy is also doing the table decorations.

Winter Field Day (WFD):

Gregg, N8GEO, has confirmed that LCARC has access to the Tucker Center for WFD. Gregg said that LCARC is going for the bonus points for this WFD.

Scott, W8CQD, wants to do digital modes for WFD.

AT&T Downtown Building:

Doug, N8PYN, has a repeater in the AT&T downtown building and is storing some of LCARC items in the repeater room. LCARC no longer has access to the repeater room and we were asked to remove the LCARC equipment out of the building. Doug, will ask if the equipment removal can wait for warmer weather.

Meeting Adjournment:

John, N8NXW, adjourned the meeting at 8:05 PM.

WINTER FIELD DAY 2019 Reminder!

Submitted by Gregg / N8GEO



There was more news about January's Winter Field Day event at the November meeting. We are definitely good to go for operating this event at the Tucker Senior Center.

Here are the particulars:

- Tucker Senior Center
- Harrison Township
- 2019 Winter Field Day
- January 26 2019, 9 AM - Sunday the 27, 2019, 5 PM. (Contest time is from 2 PM Sat until 2 PM Sun).

Winter Field Day Link: www.winterfieldday.com

Come on out and operate for 30 minutes or stay all day and enjoy the friendship, drink some coffee and bring a pot luck to share. It's looking to be a great time. Keep the weekend open (LOL what else do you have to do in the middle of the winter) and come on out and play and visit for a bit. Hey we have flush toilets and heat (what a deal).

See ya there. 73

Gregg



The Hazel Park Amateur Radio Club

53rd SWAP & SHOP

January 27th, 2019 **8AM to 12PM**

Vendor load-in Saturday the 26th 11-3PM

\$5 Entry, \$15 table

Join us in January for a the annual HPARC Swap. Come socialize with old friends and make some new ones.

Come enjoy a Southeast Michignan swap as it should be, with good food and good friends.

Talk-in on W8HP

146.640 (100Hz PL) DART Repeater

HPARC.org facebook.com/HPARCclub

VENDORS

DOOR PRIZES

RAFFLE



SANCTIONED
HAMFEST

The image above is a clickable link to the complete flyer,
(<http://hparc.org/wp-content/uploads/2018/08/53rd-SWAP.pdf>),
which was also published in the November issue of *The Tuned Circuit*.

Using RTL-SDR and a Raspberry Pi 3B To Receive and Decode Police and Fire Calls

By Geoff Gariepy KD8VAX

24-NOV-2018

With the holiday season upon us, I've recently gotten a break from 80-hour work weeks and had a chance to sit down with my new NooElec NESDR SMART and my Raspberry Pi 3B and take a swing at implementing OP25, a decoder for Phase 1 and Phase 2 P25 800MHz trunked emergency services communications. I am happy to report success with this project, but setting it up took some effort.

The Move to Digitally Trunked Emergency Communications

As many of you are no doubt aware, quite some time ago Police and Fire communications migrated away from UHF analog two-way radio and moved onto 800MHz digitally trunked radio communications. Generally called 'P25', short for '[APCO Project 25](http://wiki.radioreference.com/index.php/Project_25)' (http://wiki.radioreference.com/index.php/Project_25), these systems have gained wide acceptance in North American, Australian and European emergency services organizations due to their interoperability between agencies, greatly enhanced range, and efficient bandwidth usage. However, as these systems were implemented across the country, many police and fire scanner hobbyists found their equipment rendered obsolete. The only choice to continue with the hobby was to purchase a \$400+ digital trunking scanner and learn the obscure new language that went with P25: stuff like 'talkgroups', 'whitelists' and the like. It wasn't as simple as tuning a frequency on an analog radio anymore and listening to whatever came in: it became much more technically complex.

For people interested in getting into the police/fire scanning hobby, this raised the price of entry well beyond what many considered affordable. True, it became possible to listen in on web services such as the ones provided by Broadcastify.com, but for those of us in the radio hobbies this would never suffice.

What if you wanted to listen to more than one Police agency at a time? You'd have to have two open tabs in your web browser competing for your attention. What if you wanted to listen in on the local hospital or fast food drive-through? It depended heavily on local hobbyists seeing fit to upload those streams from their receivers, and if nobody was uploading the one *you* wanted to listen to, you were out of luck!

The advent of cheap Software Defined Radio (SDR) USB 'dongles' has changed all of this. Derived from a device that was originally intended as a receiver for European digital television based on the RTL2832U chipset, manufacturers North America have picked up on the demand for high quality SDR devices such as the [NESDR SMART by NooElec](http://www.nooelec.com/store/nedr-smart.html) (<http://www.nooelec.com/store/nedr-smart.html>), a \$29.95(MSRP) device that has been optimized somewhat for hobbyist use. Sporting an aluminum case that doubles as a heat sink for the chipset, it has much better frequency stability than less expensive devices of Chinese manufacture. It also is in a slim form factor that is designed to avoid the problem other dongles frequently have of obscuring the other USB ports on the host machine, and it features an SMA antenna input, familiar to hams everywhere.

My goal was a police/fire scanner on the cheap, and that meant not dedicating a \$400+ laptop computer to the task. I was pleased to read that the last two revisions of the Raspberry Pi (both 3B and 3B+) [available online from multiple sources or at MicroCenter in Madison Heights] have more than adequate processing power to demodulate the RF using an open source software package called [OP25](https://github.com/boatbod/op25) (<https://github.com/boatbod/op25>). Earlier software packages such as the freeware [Unitrunker](http://www.unitrunker.com) (<http://www.unitrunker.com>) have been available for quite some time to perform this task, but they came at the price of needing **two** RTL-SDR dongles: one to track the control channel frequency, and one to be

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switched to the frequency carrying the voice data. OP25 eliminates the need for the second dongle, making it the obvious choice for the enthusiast on a budget. Dusting off my \$35 Pi bought for an abandoned project and my 25-year-old Unix skills, I decided to have a go.



1: NooElec NESDR SMART and Raspberry Pi 3B

The Basic Installation Experience

Pioneers, as they say, catch all the arrows, and I am no pioneer. Searching the web eventually brought me to John Hagensieker's blog post series entitled "[OP25 for Dummies](https://www.hagensieker.com/wordpress/2018/07/17/op25-for-dummies/)" (<https://www.hagensieker.com/wordpress/2018/07/17/op25-for-dummies/>) – and I'm not too proud to admit it! He delivers an excellent walk-through on the installation and configuration of OP25 on Raspberry PI's (Linux-based) Raspbian OS and uses configuration data from his home base in New Bern, North Carolina in his examples; a choice that ended up having some unintended consequences for me.

I dutifully followed the instructions in the blog, using the Linux *git-clone* and Debian *apt-get* commands to download the appropriate software. For those of you who are only familiar with the Microsoft Windows computing environments, you may be unaware that it is very typical for Linux users to have to build their software packages from the source code, and OP25 is no exception. (Due to the different distributions of Linux, binary distributions of ready-to-run code are somewhat rarer than what you will find running on the average Windows 10 machine.)

Fortunately, there is a scripted installation routine that makes it as simple as entering some keypresses into a command-line interface, but for the completely uninitiated this will prove to be a challenge. If you are completely new to Linux, and especially if the old MS-DOS prompt days of personal computing were before your time, you will probably want the phone number and/or email address of a helpful 'Linux Elmer' handy as you work your way through this process.

Configuration

As you might suppose, the configuration process is where the project really begins. First, you have to know what system(s) you want to listen to, and how to discover what frequencies they operate on. Next, you'll need to configure OP25 with the control channel frequency, and *optionally* configure what

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“talkgroups” you want to monitor.

I say *optionally* in italics due to the fact that Mr. Hagensieker’s excellent installation instructions don’t really emphasize how important the step of configuring talkgroups is. I suspect the reason why is due more to his particular location in small-town New Bern, and how it compares in terms of population density and number of municipalities to southeastern Michigan. But I’m getting a little bit ahead of myself, first let’s talk about discovering the frequencies in the first place.

You can get started on your configuration journey by visiting RadioReference.com as suggested in the instructions. In Michigan, most, but not all public service agencies participate in the statewide ‘[Michigan Public Safety Communications System \(MPSCS\)](https://www.radioreference.com/apps/db/?sid=100)’ (<https://www.radioreference.com/apps/db/?sid=100>). Oakland County, unfortunately, opted out of the statewide system, having chosen instead to implement a non-monitorable system called CLEMIS OakWin Public Safety Communications. Entering that term into RadioReference’s search will bring you to a page which describes the system overall, including which counties participate, and also news about the system. Below that information will be a section headed ‘System Frequencies’, and within that block of information you will be able to find a site called “Macomb County Simulcast Site Details” which provides broadcast coverage over all of Macomb County, as well as most of Wayne, Oakland and a large swath of St. Clair counties.

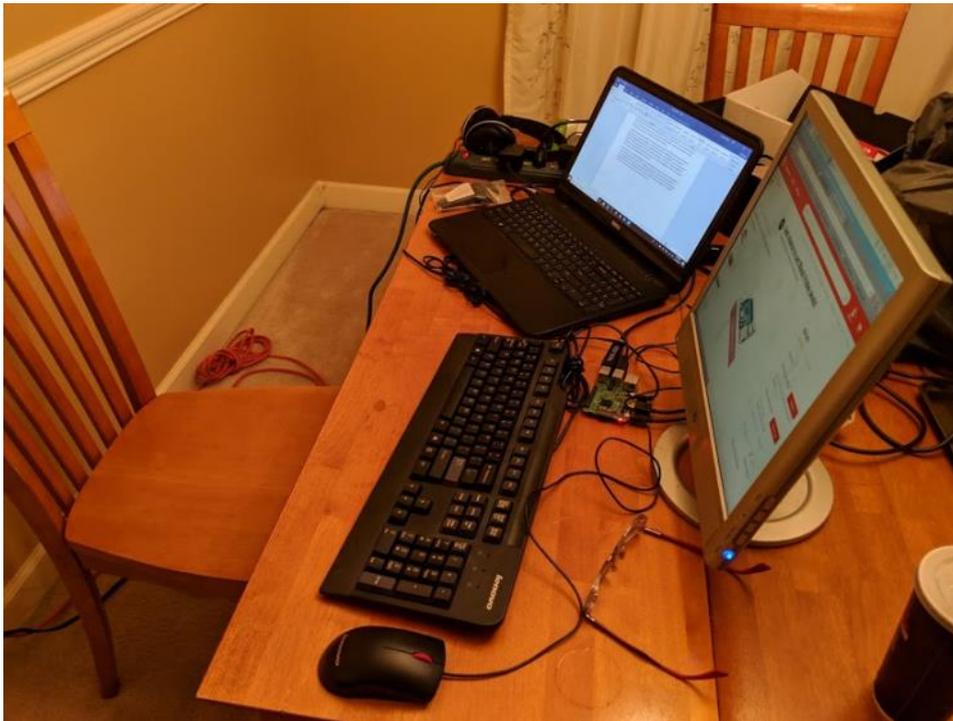
Here is where the tutorial I was following led me astray: Mr. Hagensieker states that the best way to find the control channel you are looking for is to install an application called [GQRX](https://github.com/csete/gqrx) (GQRX is available at <https://github.com/csete/gqrx>), monitor a chunk of the system’s frequencies to find the frequency that appears to be persistently broadcasting in the application’s panadapter display. Now, to be fair, part of the reason for installing GQRX is to get some of the software prerequisites for OP25, so if you’re following the tutorial I did, it’s a necessary step. The problem lies within the idea of manually tuning through the frequency range of the system to locate the control channel. At best, this is an idea that serves to confirm the data already available at RadioReference.com; at worst, it will confuse you and lead you to plug frequencies into OP25’s configuration file (trunk.tsv) that are incorrect. My suggestion? Use the data at RadioReference.com, and incidentally, ignore the data for the site located in Mt. Clemens, MI (the information is either incorrect or the site is down)– go for the countywide simulcast site, it’s a sure bet.

As an aside, GQRX sent me down a rabbit hole of its very own: in an attempt to confirm my RTL-SDR dongle was properly working on my Pi hardware, I attempted to tune an FM broadcast station such as WRIF-FM. Those stations broadcast with huge amounts of power, have well-known frequencies, and show up clearly in GQRX’s panadapter. So why couldn’t I get any audio out of the headphone jack? Well, there were two reasons: first, the Pi defaults to piping its audio out via the HDMI video interface, and I was downconverting that to use an old VGA monitor and discarding the audio signal in the process. Once I figured that out, I *still* didn’t have audio. Puzzled, I hacked away for hours trying to figure out the vagaries of Linux audio implementations; my Unix experience involved silent, obedient character terminals, not fancy multimedia PCs! When I finally thought to try playing a YouTube video in the web browser and the sound worked perfectly, I knew something was up with GQRX. Yep, you guessed it: by **default**, GQRX just displays the panadapter and the waterfall – it doesn’t demodulate the signal *unless you configure it to do so*. Yeah, realizing that was a bittersweet moment.

On top of this, I kept seeing a curious lightning bolt symbol appearing onscreen, superimposed over the display. It turns out that a Raspberry PI, working hard running a couple of applications simultaneously, calculating Fast Fourier Transforms in one of them, does not work well using a 1 amp power adapter. Fortunately I was able to procure a 2.5A adapter out of my hoard pretty quickly once I realized what it meant. Then I got the joy of discovering what the CPU temperature warning icon looked like, and I realized I needed to back down the GQRX configs on FFT calculations/second.

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2: The author's makeshift RTL-SDR 'shack'

Success! ...sorta

Having followed all of the steps in the blog tutorial, figuring out the hard way that the Mt. Clemens site was non-functional, learning more than I wanted or needed to know about Linux audio, and discovering the odd bit about GQRX and demodulation, I finally entered the correct configs into the trunk.tsv file that pointed OP25 towards the goal: listening to the local emergency service broadcasts! When those first dispatch calls crackled into my headphones I was elated! Then, after about 10 minutes, less so: I came to realize that I was listening to police, fire and ambulance calls from virtually every municipality in southeastern Michigan, and man, it got confusing fast.

This is how I learned what a *talkgroup* is, and why they're important. (I suspect some of you DMR fans are laughing at me right now!)

Remember how I mentioned that the author of the tutorial was from New Bern, North Carolina? It's a small berg about 140 miles southeast of the Raleigh/Durham area. Population of the entire area is well under 100,000 people. There are maybe half a dozen different talkgroups on that system, and well, if you listen to all of them you're not going to have too much trouble figuring out what you're hearing. Sterling Heights *alone* has 14 talkgroups. The entire Detroit area? Hundreds. Another trip to Google, and a few stops back at RadioReference.com again clued me in to the fact that I wasn't done configuring stuff yet. There are whitelists, and there are blacklists that can and should be programmed into the trunk.tsv file: whitelists for the talkgroups you are interested in, and blacklists for the ones you absolutely, never want to hear. In addition, there is also a third configuration file: the TGID (talkgroup ID) Tags

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File, wherein you list the talkgroup decimal identifier numbers, and then associate them with the talkgroup's English name.

So, to recap, you need a minimum of three files properly configured in OP25's apps directory:

1. trunk.tsv: a tab-delimited file containing the hexadecimal identifier of the system you wish to listen to , its control channel frequency, modulation type, tags file and whitelist/blacklist files
2. A tab-delimited TGID file. Name it however you wish, the name just has to match the name you indicate in trunk.tsv. This associates the talkgroups with their names: e.g. 2880 is the Sterling Heights Police's Dispatch. I named my TGID file michigan.tsv.
3. A whitelist.txt file, with a listing of talkgroup IDs you want to hear, one per line, separated by a standard carriage return/linefeed.

What I Learned

I love experiences like this where I not only achieve my objective but also learn a lot of stuff along the way; I'm sure most hams are the same. In this case I:

- Learned a LOT about digitally trunked radio systems and how they operate
- Learned that for under a hundred bucks you get not only something that can operate as a police/fire scanner, but also as a monitor for such things as 433MHz devices, smart meters, and a plethora of other radio communications too long to list
- Found out that after 21 years, I still know how to use vi(m) and can Yank and Put with the best of them
- Raspberry Pis are seriously capable little devices that I'm going to be spending a lot more time with
- That I need to explore the fine art of antenna design and construction.



LCARC Christmas Party

Submitted by Keith / W8KD



It's almost too late to get a ticket to attend this year's Christmas Party. Check with Cathy KC8WNL (pinch hitting for Keith W8KD). She has a limited number of unclaimed tickets available. They are \$20 each. The Christmas Party is December 12th at [Sajo's](#) located at 36470 on Moravian Drive just west of Garfield Rd. You can have either Pecan Chicken, Steak Portobello, Sesame Bourbon Glazed Salmon or Chicken Alfredo. The menu includes house salad, soft drinks, coffee or tea and cake for desert. Alcoholic beverages are available for purchase. Looking forward to seeing you there.

Future Programs & Activities

Scott Hernalsteen, W8CQD — Activities Manager

- | | |
|-------------------|--|
| December 2, 2018 | L'Anse Creuse Swap |
| December 5, 2018 | Regular Meeting— Annual elections and Swap review. |
| December 12, 2018 | Annual club Christmas Party / Dinner |
| January 2, 2019 | Regular Meeting—White Elephant Gift Exchange |
| January 26, 2019 | LCARC Winter Field Day at Tucker Senior Center |
| February 6, 2019 | Regular Meeting |

L'Anse Creuse ARC Board Members – 2018

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LC Echo 2 Meter Repeater
 Yaesu DR-1X 147.080 MHz
 100 HZ PL



LC Echo 440 Repeater
 Yaesu DR-1X 442.925 MHz
 100 HZ PL

Board Meeting Time and Location

Board Meetings are held at 7 pm on the Wednesday after the regular membership meeting in September, November, January, March, and May. The location is [Roseann's Kitchen, 21400 15 Mile Road](#), Clinton Charter Township, MI. All club members are welcome to attend and have dinner. Talk-in through the LCARC ECHO 2 Meter repeater (147.080 MHz, +600 KHZ, 100 Hz PL tone). Should a board meeting have a planned cancellation, this cancellation will be announced in the newsletter.

Club Founder - Art Ellis W8PBO

Club Committee Chairmen

ARRL HF Awards Manager	Tom Mathison	WU8C	Licensing Classes	TBD	
ARRL HF Awards Assistant	Vince Cuker	WA8BIJ	Little Bay Awards	Vince Cuker	WA8BIJ
ARRL VHF/UHF Awards Manager	Allan Koch	KA8JJN	Meeting Refreshments	Debbie John	KC8WHN N8NXW
Call Sign ID Tags	Gregg Crump	N8GEO	Membership Chairman TC email distribution	John Huber	N8FYL
Christmas Party	Keith Harris	W8KD	Net Points Manager	Tom Mathison	WU8C
Club Apparel & Patches	Scott Hernalsteen	W8CQD	Net Points Upgrade Awards	Clem Duval	W8VO
Club Call Trustee - K8AYZ	Ted Bak	K8EO	TC Postal Distribution	John Huber	N8FYL
Club Call Trustee - N8LC	Marty Folz	K8HVI	Outgoing QSL Manager	Dale McGorman	K8RO
Code Proficiency Awards	Vince Cuker	WA8BIJ	QSL Cards	Dale McGorman	K8RO
Dayton Trip	Gregg Crump	N8GEO	Swap Chairman	Russ Price	N8HAR
Door Prizes—Buyer	Doug Chauvin	N8PYN	<i>Tuned Circuit</i> Editor	John Huber	N8FYL
Door Prizes—Tickets	Wayne Hearn	WG8U	Volunteer Exams	Gregg Crump	N8GEO
Echo Repeater Trustee	Marty Folz	K8HVI	Webpage (n8lc.org)	Doug Chauvin	N8PYN
Field Day			Webpage Assistant	Marty Folz	K8HVI
Health & Welfare			Youth Forum (50/50) [Alternate]	Ralph Irish John Slobodnik	W8ROI N8NXW

The Tuned Circuit

This publication of the L'Anse Creuse Amateur Radio Club is issued for the months of September through June of each year. *The Tuned Circuit* has been formatted to be read easily with any reader programs for our visually impaired readers; however, an audio tape or a larger print version of its contents will be made available, upon request to the editor. We welcome any comments, concerns, corrections, congratulations, or complaints. Please submit such communications to the [Editor](#):

John H. Huber N8FYL

Email: n8fyl@arrl.net or editor@n8lc.org

Phone: (248) 740-2693

Submissions will be accepted in any of the standard PC formats. Microsoft Office, Open Office, plain text, rich text, PDFs, and any type of image format. Unfortunately audio files and movies cannot be accepted, as they cannot be reproduced on paper, but links can be reproduced to these types of media if you'd like to provide a link.

VE Testing Locations

Ann Arbor (ARROW)): Mark Goodwin,
W8FSA, w8fsa@arrl.net, 734-930-6564.
Second Saturday of each month.

Hazel Park—Jerry Begel, W9NPI,
w9npi@arrl.net 248-543-2284

First Tuesdays of Even Months.

Howell ([Livingston Amateur Radio Klub](#))
Second Tuesday of each month, 7PM, at
the Livingston County EMS Facility, 1911
Tooley Road, Howell, MI. ALL AMATEUR
EXAMS AT THESE SESSIONS ARE FREE.

LCARC

December 2, 2018 at our swap and Feb-
ruary 18 (Monday), May 20 (Monday),
and August 19(Monday), 2019 at the
Tucker Senior Center.

Motor City 313-676-6284

USECA <http://usecaarc.com/test/>

3rd Monday Monthly except during the
months of July and August at the Mt.
Clemens Elk's Lodge at 7 pm

Online Practice Exams and Morse Resources

Online Practice Exams

<https://www.eham.net/exams>

<https://www.qrz.com/hamtest/>

<http://www.ah0a.org/AHOA.html>

Morse Code

Learn CW Online <https://lcwo.net/>

<http://www.g4fon.net>

<http://www.pdarrrl.org/k6rau/>

Upcoming Swaps

12/02/2018 | [LCARC Amateur Radio Swap/Hamfest](#)

Location: Madison Heights, MI

Type: ARRL Hamfest

Sponsor: L'Anse Creuse Amateur Radio Club

Website: <http://www.n8lc.org>

[Learn More](#)

01/27/2019 | [Hazel Park ARC's 53rd Annual Swap
and Shop](#)

Location: Madison Heights, MI

Type: ARRL Hamfest

Sponsor: Hazel Park Amateur Radio Club

Website: <http://hparc.org>

[Learn More](#)

02/17/2019 | [Livonia ARC's 49th Annual Swap &
Shop](#)

Location: Livonia, MI

Type: ARRL Hamfest

Sponsor: Livonia Amateur Radio Club

Website: <http://www.livoniaarc.com/index.php?page=swapshop>

[Learn More](#)

03/16/2019 | [2019 Michigan Crossroads Hamfest &
Radio Swap](#)

Location: Kalamazoo, MI

Type: ARRL Hamfest

Sponsor: Southern Michigan Amateur Radio Society

Website: <http://www.w8df.com/index.php?content=hamfest>

[Learn More](#)

05/17/2019 | 2019 Dayton Hamvention

Location: Xenia, OH

Type: non-ARRL Hamfest

Sponsor: Dayton Amateur Radio Association

Website: <http://www.hamvention.org>

[Learn More](#)



L'Anse Creuse Amateur Radio Club Nets

Day	Time		Band	Mode	Frequency	Net Control	Calendar
	UTC	EST					
Monday	0030	1930	15 M	CW	21.165 MHz	Clem, W8VO	Every Monday
Monday	0130	2030	15 M	USB	21.395 MHz	Wayne, WG8U	Every Monday
Monday	0200	2100	6 M	USB	50.160 MHz	Gregg, N8GEO	Every Monday
Tuesday	0100	2000	2 M	Packet	144.93 MHz	TBD	Every Tuesday (Connect to detqso)
Thursday	0030	1930	10 M	USB	28.435 MHz	Clem, W8VO	Every Thursday
						Clem, W8VO	1st Thursday
						Wayne, WG8U	2nd Thursday
Thursday	0130	2030	2 M	FM	147.08+ MHz	Gregg, N8GEO	3rd Thursday
						TBD	4th Thursday
						Fritz, KE8BFW	5th Thursday

Membership Request

Date: ___/___/_____

Request For:

\$20.00 LCARC Individual Membership
Are you a New Member? (Y / N)

\$30.00 LCARC Family Membership

\$10.00 Print and Mail me *The Tuned Circuit* via US Mail

\$2.00 LCARC Student Membership (Under 18 years of age)

\$5.00 Club Badge created with my Name and Call sign

Please update my membership information because it has changed.

Call sign: _____ Old Call Sign: _____ Street: _____

Name: _____ City: _____ State: _____

Spouse: _____ Zip: _____ - _____ 6 Character Grid Square (optional): _____

Phone: (_____) _____ - _____ Email Address: _____

(Please indicate your name above even if it hasn't changed, so we know who's giving us money and can mark that you've paid in our records.)

L'Anse Creuse Amateur Radio Club
Gregg Crump, N8GEO
29729 South River Rd
Harrison Twp MI 48045-3030

Only membership applications to go this address, all other mail should go to the club's main PO Box. Make sure you use the full 9 digit zip code when mailing in your application.

Treasurers Box
Date Paid: _____
Amount: _____
Initials: _____

Note: LCARC dues are from Nov **1st to Oct 31st**

Class License (Circle One)

Novice Technician Tech+
General Advanced Extra

I am an ARRL Member: (Y / N / Life)

The Tuned Circuit

Monthly Bulletin of the L'Anse Creuse Amateur Radio Club

L'Anse Creuse Amateur Radio Club

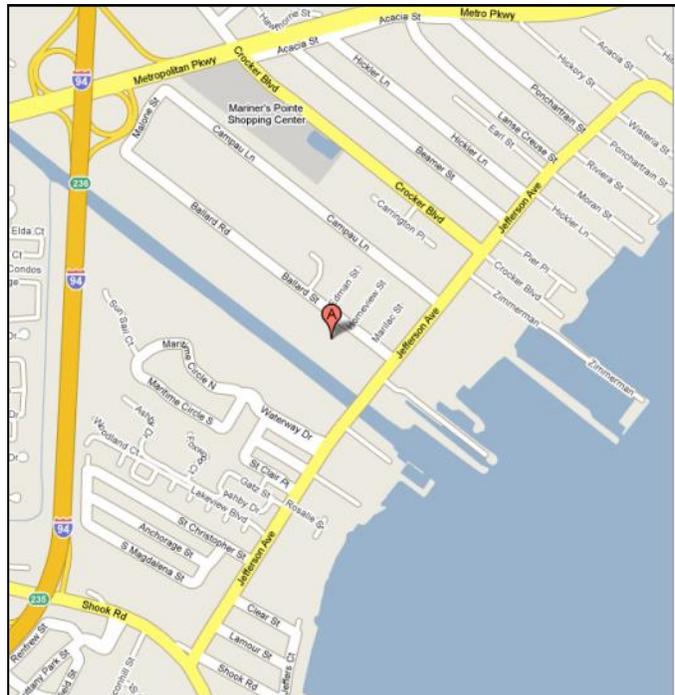
P.O. Box 180072

Utica, MI 48318

LCARC Web Site: <http://www.n8lc.org>

E-mail: info@n8lc.org

First Class
Postage
+ Extra
Ounce



The L'Anse Creuse Amateur Radio Club meets at 7:00 pm the first Wednesday of each month, except during July and August. Meetings are held at Tucker Senior Center located at [26980 Ballard St, Harrison Township, MI 48045](#) unless indicated otherwise in the most current issue of the Tuned Circuit. Call-in on the Echo Repeater (N8LC) on 147.08 MHz (+ 600 KHz, 100 Hz PL tone) for any meeting information, or to ask a member for the location of the meeting.