



SHORT SKIP

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REPEATERS

Freq	Location
147.000	Merrillville
147.240	St. John
442.075	Merrillville

All Lake County ARC Repeaters are open to all amateurs. All repeaters must have a PL of 131.8 set in order to access.

From The Parade Stand

by Tim, N9CA, LCARC President



Hi everybody. Though winter isn't quite over, The Farmer's Almanac and Punxsutawney Phil just may have gotten our Midwest Winter weather prediction wrong. I think we can all live with their error.

My thanks go to Bill Leaming N4GIX for chairing the February 2017 meeting and his presentation "Programming A DMR Radio".

It's a funny thing about memory; I was so sure I had paid my 2017 LCARC dues. When I helped audit the 2016 LCARC books I discovered

I had not. I will rectify this at the March 10th meeting. Dues are still only \$20.00 per year. Quite a bargain for; 12 Club programs per year, the Club repeater network, ARRL events, the comradery, raffles, technical help, and more.

This month's program is "The Local SkyWarn Group" and how Ham Radio fits in. Our program presenter is Carter Garcia KC9YGU.

Another LCARC Technician License Class is in the books. We finished February 7th and I had 7 complete the class. I am hoping they will become welcome Club regulars at our meetings. Many thanks to Joe K9JJK and Dan KD9ARD who took the time to join me at the sessions. Thanks again guys.

The "Radio Parity Act" which would prevent HOAs from blocking our legal outdoor antenna has been reintroduced as a Bill in Congress. The previous bill failed by just 1 vote in the US Senate. Some upcoming semi-local hamfests:

- 03/05/2017 Sterling Rockfalls Illinois. A pretty 150 mile drive West down I-88. Talk in 146.85 pl 114.8
- 03/11/2017 The Terre Haute Hamfest in Brazil Indiana. Wabash Valley Club. This one is just west of Indianapolis. Remember, they are on EST. Talk in 146.685 pl 151.4
- 04/01/2017 Columbus Indiana Hamfest. Columbus is a very pretty City to visit in it's own right. Talk in 146.790 pl 103.5. Again, they are on EST. From Merrillville it's a little under a 3 hour drive.
- 04/22/2017 The Peru Indiana Hamfest. Peru is basically 1/2 way between us and Fort Wayne. Mapquest says 1 hour 45 minutes mostly down Rt.30. Talk in 147.345 no pl. Again they are on EST
- Dayton Ohio Hamfest – the biggest in the USA occurs May 18-21. If you're going, make your hotel reservations right away or.....

A joke. The past, the present and the future walk into a bar..... it was tense.
 73 for now. Tim McGillen/N9CA 2017 LCARC President

Tom, W8FIB sent me an interesting link to an article on the web about spy radios. The article is very informative and has several great photographs of the radios. Check it out by clicking the link below:

<http://www.qsl.net/k5bcq/RS6/rs6.html>

The Doctor Will See You Now!

"HF Loop Antennas" is the topic of the just-released episode of the "ARRL The Doctor is In" podcast. Listen...and learn!

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Meeting Minutes

February 10, 2017

Bill called to the meeting to order at 7:30PM

Introductions were made with 13 people attending meeting

Minutes were read and accepted as read.

The March program will be Carter Garcia from Skywarn.

Treasuries report was made with Jim showing the club insurance was paid. Motions was made to accept the report and made.

John has said due to size of files and limits on e-mail servers that the Short Skip will be at the club web site for members to download and sent out directly in an e-mail. Notification will be sent out to members to say the Short Skip is now at the club web site. The web site is : w9lj.org.

Net report has 8 check-ins on Jan. 19 and 10 check-ins on Feb. 2. March 2nd will be the next net check-ins.

EMA/RACES now has a new old computer which runs on XP. This is necessary due to programs needing to run on XP.

Red Cross has no report.

Motions was made to accept all reports and motion carried.

2 tickets for the Laport Hamfest were raffled off and Mark K9MQ and Joe K9JJK won the tickets for the Hamfest.

March 10 the program will be on Skywarn

Meeting adjourned at 7:48PM with the Program on DMR Code Plugs starting. Program ended at 8:30PM.



Tubular crank-up / tilt over tower and Yaesu G1000DXA rotor. Also comes with 2/3 of a 3 element 10-40 mtr beam. If you are interested contact John W9WY. A great deal

for someone who wants to get into a tower with a little work.

March Program

This month's program is "The Local SkyWarn Group" and how Ham Radio fits in. Our program presenter is Carter Garcia KC9YGU.

Chicago Area Nets

Looking for a net? This link will bring up a GOOGLE spreadsheet listing many nets in the Chicago area. It is maintained by Ben, KC9UNS and one should contact him with additions/deletions/or changes. <http://tinyurl.com/chicago-ham-nets>

You can also find this link on the club web site at: <http://lcarc.weebly.com/nets.html>

ARRL Seeks Opinions Concerning Possible New Entry Level License

from ARRL Newsletter

An Entry Level License Committee was established by the ARRL Board of Directors and appointed in September 2016. As part of its ongoing work, the committee is gathering member input and will make recommendations to the Board for possible rules changes to submit to the FCC.

The result could mean changes to the Technician license, but it could also be an additional, but simpler, license with privileges that would give a newcomer a taste of most facets of ham radio from HF to VHF and UHF.

The committee has created an [online member survey](#). Please complete and submit the survey no later than April 7, 2017. Survey results will be published.

I though we had an entry level license? — ed.

Ham Radio Q & A

from Ham Radio Hijinks <http://hamhijinks.com/>

Got ham radio questions? We've got answers of some sort! Submit your question to noiseblankers@gmail.com and our crack team of researchers* will post answers here. Click on the questions to reveal the answers.

*Researchers could mean one or any of the following: PhD students, our plumber or no-code Technicians.

What's the best frequency to operate on 40 meters? Sincerely, New Op

Dear New Op, probably a couple times a week! 73!

I want to erect a dipole with two 82 foot legs on my 100 foot lot. Any suggestions? Sincerely, Land Locked

Dear Land Locked, buy a vertical! 73!

Newly licensed Technician here! I got this sharp Yaesu VX-3R HT and it works great into the local VHF repeater. Thing is, these guys are kinda boring. Is this the best ham radio has to offer? With hope, Bored to Silence

Dear Silence, we hope we didn't mislead you. Yes, it's the best we have. You might try buying more radios, to make yourself feel better, like us. 73!

I got a Baofeng UV5R for my wife. How did I do? Thanks, Betrothed in Bedford.

Dear Betrothed, sounds like a good trade! 73!

My neighbor says my new off-center-fed dipole is ugly. What should I do? Sincerely, Sensitive Receive.

Dear Sensitive, We heard your neighbor said your hair was ugly, too. Going to the barber tonight? Of course not! Carry on, OM! 73!

I've always wanted to be a policeman. Sometimes I walk outside and yell 'UP! UP! UP!' at cars. Where do I apply? Thanks, Brainless in Seattle.

Dear Brainless, Sounds like you're already on the job! Now go to the lower end of 20m phone and get those DX chasers transmitting UP where they belong! 73!

Check out the Hoosier DMR Best Practices Guide at <http://tinyurl.com/nbvo7xh>

Why are there so many Tech?

by Dan Romanchik, KB6NU

Recently, one of my readers asked, "Why do most people have a Technician license and not a General or Extra? Is it simply not interesting enough to get more privileges?"

This is a very interesting question, one that I've written about before. I think there are several issues at play here. In no particular order:

- It's pretty easy to get a Tech license, so a lot of people get them just for the challenge, but really never intend to use the license.
- Some people get a Tech license, but then find out that amateur radio isn't what they thought it was going to be.
- Some people get a Tech license, then can't find an Elmer to help them. They lose interest and give up on ham radio.
- Some people get a Tech license, buy an HT, and think that's all there is to amateur radio. They quickly lose interest in amateur radio, because talking on the repeaters just isn't all that interesting.
- Some people get licenses to participate in local emergency communications or CERT organizations. There's no need for them to get anything more than a Tech license.
- Since it's so easy to get a Tech license, even those that aren't technically inclined get them. Getting a General Class license requires a fair amount of study, and because they don't see the benefits of putting in that kind of work, they just don't bother.

I posted this question to my blog and got several interesting replies. Perhaps the most cogent was by Kenneth, W6KWF. He wrote: "The only thing General/Extra gets you is HF, which is becoming an increasingly small fraction of the possibilities of the amateur hobby. Amateurs could easily spend their whole lives moving from FM repeaters to microwave to VHF packet to EME to CERT/event support, etc, etc, without having any interest to explore what few facets of the hobby need HF privileges."

I think this is a great point. When incentive licensing was put into place in the late 1960s, HF was where the action was. Nowadays, more of the "cool stuff" is happening on VHF, UHF and microwaves. Getting additional HF privileges is not really a big deal anymore for many hams.

Yet another new license class?

Right on the heels of this discussion, the ARRL posted a news item, "ARRL Seeks Opinions Concerning Possible New Entry Level License" (<http://www.arrl.org/news/arrl-seeks-opinions-concerning-possible-new-entry-level-license>). According to this

report, the ARRL Board of Directors set up an An Entry Level License Committee in September 2016.

The committee is gathering member input via an online member survey (<http://www.arrl.org/license-1>) and will make recommendations to the Board for possible rules changes to submit to the FCC. They note, "The result could mean changes to the Technician license, but it could also be an additional, but simpler, license with privileges that would give a newcomer a taste of most facets of ham radio from HF to VHF and UHF. The survey will be online until April 7, 2017.

According to the survey page, the committee is trying to address several issues, including:

- The declining population of new hams under the age of 30.
- A decline in the number of new licensees who actually get on the air.
- Amateur Radio's lack of appeal for those under the age of 30, compared to other technical hobbies.
- The increasing challenge of engaging and retaining Technician licensees.
- A reluctance in much of the amateur community to embrace newer technologies of interest to the younger segment of the population. Personally, I don't think that coming up with a new entry-level license class with privileges that are even more limited than the Technician Class is a bad idea, but whether or not it's successful will depend completely on the implementation. Unless the new class of license is accompanied by some kind of program that will help these new licensees really become engaged with amateur radio, then we're just creating another class of inactive licensees. I don't know exactly what this program would consist of, but without it, this effort is doomed to failure.

And, who's going to develop and run this program? The only organization that has the horsepower to make this work is the ARRL. They are going to have to step up big time. Most clubs don't have the people or resources to do it properly. If you have any thoughts on this, I urge you to contact your ARRL division director (<http://www.arrl.org/divisions>).

When he's not pondering questions about the amateur radio licensing structure, Dan blogs about amateur radio at KB6NU.Com, writes the "No Nonsense" amateur radio study guides, and teaches ham classes. You can contact him by e-mailing cwgeek@kb6nu.com.

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• • • • • Sponsored by DX Engineering, "ARRL The Doctor is In" is an informative discussion of all things technical. Listen on your computer, tablet, or smartphone -- whenever and wherever you like!

Every 2 weeks, your host, QST Editor-in-Chief Steve Ford, WB8IMY, and the Doctor himself, Joel Hallas, W1ZR, will discuss a broad range of technical topics. You can also e-mail your questions to doctor@arrl.org, and the Doctor may answer them in a future podcast.

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If you've never listened to a podcast before, download our [beginner's guide](#). Just ahead on March 2: "CTCSS and DTMF"

More on DMR Terminology

by Jerry Wanger, President Connect Systems (jerry@connectsystems.com)

I was at the Palm Springs Hamfest last weekend selling CS580 DMR radios and found that there is a significant number of Hams who do not understand the basics of DMR radios. This application note here is going to give a very brief introduction to some of the DMR terms that is necessary to understand DMR.

Device ID

The Device ID identifies who owns the radio. It is a number between 1 and 16776415 and by a defacto agreement in the HAM community, this number relates to your call sign. Because each HAM can have a unique number, it is possible to establish private calls between HAMS. In the CS580 radio sold by Connect Systems, it can be put in the enhanced monitor mode and listen to all private calls. It should be noted that this number cannot be used for purposes of FCC identification.

To get your unique ID number, you go to the website www.dmr-marc.net and follow the link at the top of the page called "Register ID". You can also use this website for a database search of various parameters of the ID Number. If you go to the website www.dmr-marc.org you get an adult website.

The CS580 allows you to easily insert the Device ID into the radio without a computer. The CS750 allows you to have a common Device ID or have a separate Device ID for each channel. Other radios such as the CS700 or MD380 have a single Device ID. The reason for a separate ID for each channel is to allow the user to share the radio with another user or use the same radio for both HAM use and business use.

Slot Number

A repeater has two slot numbers called Slot 1 and Slot 2. For conceptual purposes, the two slots can be thought of as two separate frequencies.

A DMR repeater uses a technique called Time Division Multiplex or TDM. That means part of the time the repeater is listening to slot 1 and the rest of the time the repeater is listening to slot 2. The radio switches between slot 1 and slot 2 about 30 times per second. The end result is you have two channels on a single frequency. In other systems, you have Frequency Division Multiplexing or FDM. This is having each channel on a different frequency. This is what is used in all analog transmissions and most digital transmissions.

The advantage of TDM is being able to put up two channels with a single repeater and a single antenna without any additional hardware. If you had a two-channel repeater system using FDM, you would need a combiner to combine the output of the two repeaters. This combiner might also have a 3 dBm loss.

With all the radios with the exception of the CS580, you must define the slot number you want to listen to. The CS580 in the Enhanced Monitor mode automatically picks the busy slot without having to define it in advance.

Color Code

There are 16 color codes numbered 0 through 15. If the color code of your radio does not match the color code of the repeater, the repeater will ignore your radio.

In HAM repeaters, it is necessary to space repeaters far enough apart so they do not interfere with each other. In commercial applications, you will sometimes have multiple repeaters on the same

frequency in the same area so they must have different color codes. The obvious question is why can you have commercial repeaters in the same area on the same frequency but cannot do it with HAM repeaters. The answer is because with HAM repeaters, the conversation might go on for minutes or even hours. With a commercial repeater, the conversation is usually measured in seconds. So, unless the repeater is very busy, multiple repeaters will not often interfere with each other.

To listen to a repeater with radios such as the CS700, MD380, and others, you must first assign the color code to the repeater you are listening to. With the CS580 in the Enhanced Monitor mode, the radio picks up all the conversations on that frequency regardless of the color code of the repeater.

Tx Contact

The Tx Contact is equivalent to the CTCSS transmit tone. Only people whose Rx Contact is set to the Tx Contact number can hear you. This is a number between 1 and 16776415. There are three types of Tx Contacts. The first type of Tx Contact is the private contact. This allows you to contact a single radio. When the other radio sees a private contact, it responds by transmitting using a private contact with your Device ID as the contact number. The second contact is the Group Contact. This allows you to transmit to multiple radios at one time. This is the preferred method when using the radio on HAM frequencies. The third contact is the All Call. When a radio sees an all call, the radio will pass audio irrespective of what was programmed in the Rx Contact.

When communicating with the Brandmeister or DMR-MARC network, you will find that each repeater has many different standard Tx Contact numbers. First number might be for Worldwide, second number might be for North America, a third number might be for Southern California, and so on. It is not unreasonable to have over 100 different Tx Contact numbers on each repeater. In the conventional DMR radio you have to make a separate channel for each Tx Contact and before you know it a regional system might require over 1000 channels to fully utilize it.

The CS580 gets around that problem by having an enhanced parameter mode. In the Enhanced Parameter mode, your current channel acts as a template. You change channels to the repeater you want to communicate with, press the enhanced parameter mode key, and then only change the Tx Contact number, and then press the lock key before you start talking. The CS580 can store up to 1024 channels using the free CPS and each of those channels can represent a different repeater. This allows you to store and easily use the entire set of worldwide DMR-MARC repeaters, something no other radio can currently do.

Rx Contact

Rx Contact is equivalent to a CTCSS receive tone. If your radio Rx Contact number is not set to the transmitting radio's Tx Contact, you will not hear who is speaking on that channel. In most radios, you have the ability to stick about 16 Rx Contacts in each channel. That means you can be setting on a particular repeater, and you can set your repeater to hear possibly worldwide, North America, Local, and England. However, if you press the PTT, your radio will transmit its Tx Contact and not necessarily what you are currently listening to. That means the person at the other end

might not hear you.

We get around that problem in the enhanced monitor mode of the CS580. In the enhanced monitor mode, we listen to everything on that repeater. When you hear someone you want to answer back to, you press the lock key while they are speaking. The radio automatically reconfigures itself to set the Rx Contact and the Tx Contact to the person you are listening to.

Rx Frequency

This is set to the Tx Frequency of the Repeater you are using.

Tx Frequency

This is set to the Rx Frequency of the repeater you are using.

Radio Handbook Gets Back To The Basics

by K5KVN, on the scene

NEWINGSTEAD, VT – The National Radio Retransmission Legion (NRRL) will release next week an updated version of its popular “Ham Radio Operator’s Manual of Operating.” This edition will be a departure from its usually highly technical subject matter. Instead, the NRRL says the authors decided to “get back to the basics.”

“We need to stop being overly presumptuous about what the average amateur radio operator knows about using a radio,” said NRRL spokesman Johnson Longfellow.

The operating manual begins with a simple “How To Get Started” list:

1. Obtain a radio
2. Connect a microphone to the radio*
3. Connect an antenna to the radio
4. Ensure the radio is connected to electricity
5. Find and activate the power or “on” button
6. Turn the big knob to make the numbers start changing**
7. Stop turning the big knob when you hear a signal**
8. Push the button that activates a transmission and begin to speak; release button when you want to hear their reply; repeat

* Applicable only if you want to actually talk with someone

** Not applicable if you are using a software-defined radio without knobs

“Yeah, there’s a lot more to it than that. We especially hope this helps new hams, who usually feel like they know everything after having memorized the answers of an exam,” said Longfellow.



Yeah - I'm paid up
my dues are paid for
another year.
Are yours?

Open Letter from ARRL Central Division

Director: Kermit A Carlson, W9XA, Feb 11, 2017

Dear ARRL Central Division Member,

For over 18 years Mr. Gregory Clark, K9IG, of Franklin, Indiana has served as the Central Division’s representative to the ARRL Contest Advisory Committee (CAC). Having been appointed by Mr. Ed Metzger W9PRN in 1999, K9IG has been recognized as a guiding presence on this important body. His work on this Committee has helped the decision-making process of the ARRL Board regarding HF Contesting during the term of three Central Division Directors. Greg has announced his retirement from this committee position effect today. I would like to express my sincere gratitude for his service to the League and amateur radio over the past two decades. Thank you Greg !

I am a pleased to announce that Mr. Craig Thompson, K9CT, of Trivoli, Illinois has accepted the appointment as the ARRL Central Division Representative to the ARRL Contest Advisory Committee.

Craig’s accomplishments in amateur radio contesting includes many first place contest finishes and he holds several contest records. Craig is an ARRL Life Member, a member of the NIDXA, CW ops, A-1 Operators, the Maxim Society, and he is Board member of the NCDXF. Craig also presently serves as the President of the Society of Midwest Contesters.

I look forward to working with Craig as part of the ARRL Central Division team.

— 73, Kermit Carlson W9XA

Logbook of The World to No Longer Accept Contacts Signed by TQSL Versions Earlier Than 2.0 01/03/2017

As of 1400 UTC on January 16, ARRL Logbook of The World (LoTW) no longer will accept contacts that have been digitally signed by versions of TQSL earlier than version 2.0. Users of earlier versions are encouraged to upgrade as soon as possible, as older TQSL versions contain uncorrected defects and display inaccurate error messages.

The current versions of TQSL for Windows, OS X, and Linux are available online, <https://lotw.arrl.org/lotw-help/installation/>