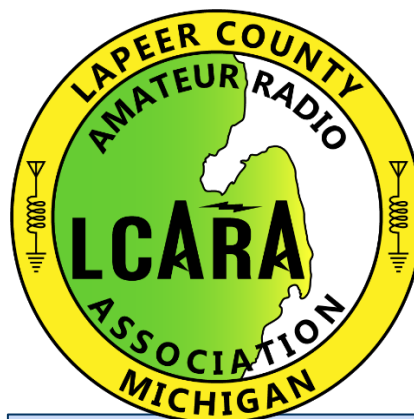


The Waveguide

Lapeer County Amateur Radio Association

PO Box 12, Hadley, MI 48440-0012

www.w8lap.com | qso@w8lap.com



August 2018

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W8LAP Repeaters

2 Meter: 146.620 MHz

-600 kHz offset / Analog FM - 100 Hz PL Tone

Scheduled Net:

Tuesday Night ARES Net – 8:00 pm

70 cm: 442.750 MHz

+5.00 MHz offset / Digital FM - D-STAR module B

Scheduled Net:

Thursday Night D-STAR Net – 8:00 pm

All amateur operators are welcome to check in and participate with W8LAP scheduled nets. Controlled nets, two-rounds. No net on club meeting nights.

LCARA Club Meetings

Second Tuesday of each month

**Lapeer EOC Conference Room
(Basement of Dispatch Center)**

**2332 West Genesee Street
Lapeer, MI 48446**

ARES Team Meetings

Third Wednesday of each month

**Lapeer EOC Conference Room
(Basement of Dispatch Center)**

**2332 West Genesee Street
Lapeer, MI 48446**

Support W8LAP and LCARA!

<http://w8lap.com/donate>

Thank you for your continued support of Amateur Radio in our community!



The latest edition of the Waveguide each month - delivered directly to your inbox!

Visit <http://www.w8lap.com/subscribe>

Reports & Editorials

President's Report

Greetings LCARA supporters! Summer is heading on; the days are long and the weather mostly dry. We have a fully-operational D-STAR repeater on the UHF frequency pair (see the sidebar for specifics), and a variety of activities coming up for the club.

Speaking of the club, membership is on the rise, at nearly 50 active members (and we may have surpassed 50 at the next meeting.) It's a 100% increase over this time last year, due in large part (modest speculation here) to the strong public communication efforts on the Facebook page, Website, and of course a new repeater. To those leading the charge to get the word out about amateur radio in Lapeer County, I applaud you. To those new (or returning) to the club, welcome, we're glad to have you!

Reminder - August is the club's annual **Picnic in the Park**, held at Cramton Park in Lapeer. The pavilion is on the south side of the park (south of the river), accessible from a dirt drive across from Byers Towing. Set your GPS to 130 South Monroe Street, Lapeer MI 48446 and turn east. (*The pavilion is at 17 T 311458 m Easting by 4768881 m Northing for you navigator types*).

- Begins: 6 pm
- Bring a dish to pass
- Bring your own preferred beverage.
- There is electricity/commercial power on site
- Bring any radio tech you're working on and would like to share; in the past few years we've had fox-hunting, portable HF, mesh networks with real-time video, and cross-band car repeaters.
- D-STAR hands-on is anticipated, so if you have a D-STAR radio, bring it along!

Reminder 2 - Officer nominations are due for officer elections to be held at the September meeting. Email your nominations to QSO@w8lap.com. Officers for election are President, Vice President, Treasurer, Secretary, and Repeater Trustee. Current officers are:

- President - Gerret Peters, KD8YUK
- Vice President - Kevin Boxey, KB8TAR
- Treasurer - Paul Zuhlke, AB8XL
- Secretary - Lee Dziekan, N8LJ
- Repeater Trustee - Mike Zedan, KN8Z

Treasurer's Report

2018	Date	Lapeer County Amateur Radio Association July 2018 Financial Report Lakestone Bank		
		cash on hand - carry over	\$70.61	
Received	7/10/2018	50/50 Raffle - 30 Tickets sold	\$15.00	\$85.61
	7/10/2018	Total Cash on Hand Balance:		\$85.61
		Checking Account balance July 2018		\$1,059.40
Received	7/2/2018	Donations via PayPal	\$23.97	\$1,083.37
Received	7/8/2018	Membership dues via PayPal	\$11.35	\$1,094.72
Received	7/10/2018	D-STAR Donation	\$100.00	\$1,194.72
		Checking Account Balance:		\$1,194.72
		Lakestone Bank Certificate of Deposit		
	7/17/2018	balance - July 2018		\$5,858.68
		This is a 2 year certificate started in January 2017, changes quarterly with earned interest		
Balance of all funds:				\$7,053.40
Respectfully Submitted by: PAUL ZUHLKE, AB8XL				

Notes From the Desk of the Secretary

Lapeer County Amateur Radio Association- Meeting Minutes - June 12, 2018

OLD BUSINESS

- KB8YGA conducted a wifi communication trial from the repeater site to Cyprus Engineering located west of the repeater on M-21. The trial was successful but the signal was weak. Expecting an improved connection with commercial equipment that is planned for the new DSTAR repeater. 2.4 GHz HSMM was used for this exercise.
- N8XP is working on adding Paypal to the club website by the end of July. This can be used for dues payment by club members.
- KD8YUK reported that the club previously voted to approve a maximum expenditure of \$2500 for conversion of the UHF repeater to DSTAR. A few days after this vote Icom announced a rebate offer for repeater equipment that would reduce the cost to the club to a total of \$500. Therefore, a decision was made by the board members to submit an application to Icom for entry into this program. To date the controller and software have been received. The repeater itself is on backorder until the end of June. N8XP is to take the software for configuration. The controller box was opened at the meeting to allow all club members present to participate. This rebate program requires that 10 new DSTAR users register through W8LAP and that the repeater is operational within 90 days.
- The club has been presented an opportunity to utilize a commercial tower at M-53 / Burnside for a VHF repeater. It was decided to re-evaluate this offer later after our new DSTAR repeater is up and running. A comment was made concerning the need to re-coordinate the frequency pair if the repeater site is moved more than 5 miles.
- KD8ZXV reported that Genesee County MSCG is considering DSTAR repeaters in Millington and Flint.
- KD8YUK reported that the club was previously incorporated for 15 years. LCARA stopped incorporation several years ago but we may need to have 501c3 status for future financial opportunities. 501c3 fees are \$20 per year. The State of Michigan will collect funds for each year the club skipped being incorporated. Garret will contact the ARRL for legal advice.
- N8XP will post the club by-laws on the website.
- KD8YUK reported that Jeff Pender is starting an "Elmer" night in July. Garret is proposing a joint effort and is sending a help signup sheet around the meeting attendees.

NEW BUSINESS

- Field Day is at KD8YUK's QTH again this year.

Submitted by
Kevin Boxey
KB8TAR

Lapeer County Amateur Radio Association- Meeting Minutes - July 10, 2018

The meeting was called to order at 7:30 pm by President Gerret, KD8YUK. There were 16 members in attendance.

Hospital Report: No one reported to be ill

Announcements:

- Our August meeting will be held at Cramton Park starting at 6:00 pm. Look for us at the south pavilion.

- Nominations for the 2018-2019 leadership positions will be accepted at the picnic meeting.

- September meeting will be election night.

- Presentations are needed for meeting nights. Please consider creating one of your favorite radio subjects and share it with your fellow members.

Secretary's Report for June and July will be published in the August Waveguide.

Treasurer's Report:

- It was presented by our Treasure Paul AB8XL. It was accepted as read by unanimous acclamation of the membership present.

- Gerret, KD8YUK, will be responsible for contacting ICOM to receive our D-Star repeater rebate as since it was installed and operational within the required 90-day window.

- LCARA has almost 40 paid members.

General Discussion:

- The new webpage is improving our outreach to the ham community.

- There are over 100 followers on LCARA Facebook page.

- Kevin KB8TAR asked if we could query people to see why they joined or didn't join LCARA.

Repeater Trustee Report:

- Repeater systems are working fine.

- D-Star repeater is fully functional which replaced our 440 analog system.

- Special thanks to Chance KE8EXY for climbing the repeater tower and installing the microwave internet link antenna.

- Special thanks to the teams who helped with the equipment and link installation
- Currently we have 16 local registered D-Star users.
- CPU temperature is running a bit high. We may need some additional system cooling.
- The October presentation will be a D-Star primer to help the membership understand the capabilities of D-Star and help to get their radios programmed.
- Mike KN8Z will inquire if LCARA can get a discount price on the ICOM ID-51A plus 2 D-Star handheld. He needs to know who is interested in purchasing one so he has a quantity number to negotiate with. Contact Mike directly.

EC Report: There will be no ARES meeting in July.

Field Day Report:

- The LCARA field had a few firsts this year. They successfully used an antenna analyzer to measure antenna SWR and impedance.
- A new donated Butternut HF6 worked well especially after 12 radials were added.
- Gerret's new dual band (80/40) NVIS worked well.
- Signals were so strong they blew out the generator and had to revert to commercial power.
- Genesee group and the Kalkaska group also reported successful Field Day operations.
- Ideas were solicited for next year's field day. FD operation in conjunction with Parks on the Air? FD operation at a public park?
- Greg N8FVZ need communication volunteers to support the Atwood Stadium Run and the upcoming KRIM. See the www.w8lap.com website for further information.

50/50 was won by Will, KB8YGA

Meeting adjourned 9:05 pm

Respectfully submitted

Lee
N8LJ

Web, Media, & D-Star Admin Report

Many have successfully registered for D-Star using the new W8LAP D-Star Gateway! Now you need to get your radio programmed to access the D-Star network of repeaters and reflectors around the world! There are several online tools that help explain what needs to be programmed into your radio in order to perform different activities and functions from your radio.



D-STAR Calculator

<http://www.dstarinfo.com/dstar-web-calculator.aspx>

This useful tool allows you to select what source repeater you're connecting to, the module, the destination repeater, and destination module. You can also select other special functions such as linking to another repeater or reflector.

The D-Star 'Magic 4 Fields'

- MYCALL:** **W8ACD**
Normally the operator using the rig
- URCALL:** **CQCQCQ**
The most volatile field, used to direct what you want to do
- RPT1:** **W8LAP••B**
Normally, the repeater node your calling in from.
It's what repeater node you're talking into.
- RPT2:** **W8LAP••G**
Normally that repeater's Gateway, usually the call sign
with a G in the 8th character position.

• - represents a space

Radio programming software, such as RT Systems, has a similar calculator built-in and may also automatically calculate these fields for you when programming your radio. This website may also help you understand how these fields are generated and the purpose they have when using your D-Star radio.

The online D-Star Calculator provided by the dstarinfo.com website is very easy to use and provides a graphical explanation of your D-Star calculation and radio connection.

Source Repeater	United States, Michigan Lapeer W8LAP Gateway
Source Module	DV B 442.7500 5.000
Function	Local Repeater with Gateway
Destination Module	DV B 442.7500 5.000

Programming for talking on W8LAP (port DV B) to (port DV B)

YOUR:: CQCQCQ

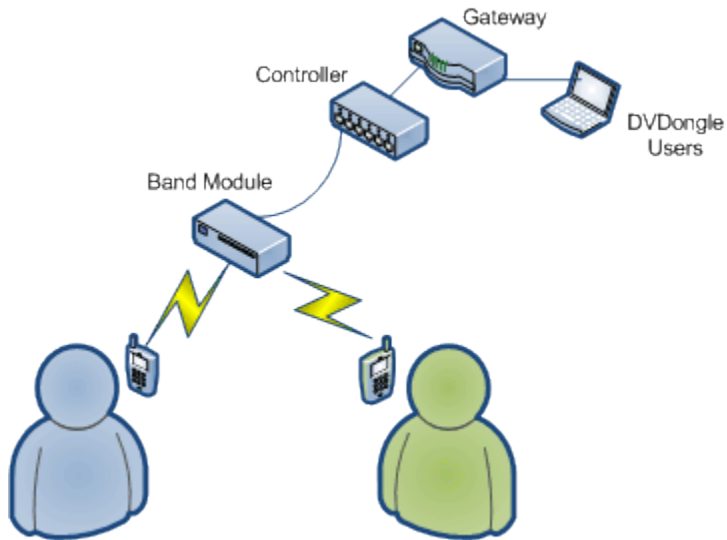
RPT1: W8LAP ■ ■ B

RPT2: W8LAP ■ ■ G

Set Radio To: 442.7500 MHz Offset 5.000 MHz

"■" represents a space

I'm near Lapeer MI USA. I'm talking on W8LAP (port DV B) and my radio is set to 442.7500 5.000 and I am routing through the gateway to allow DV Dongle users to hear me.



I'm also near the same repeater and listening on the same port

Experiment with the D-Star Calculator and you'll quickly learn the importance of each of the "Magic 4 Fields" used by your D-Star radio. If you have any problems registering with the W8LAP D-Star Gateway or programming your radio – please send me an e-mail anytime. I'll always be happy to help you get on the air!

73,
Scott
N8XP

scott.n8xp@gmail.com

Club Items

Call for Presentations

Club meeting night is more interesting with presentations! If you have a topic you'd like to learn more about, or present, please contact any member of the board. The audience is easy to work with, and we can provide a projector. If you know someone who would be willing to present, put us in touch with them.

Heard on the Wire

Random articles of interest found around the internet! If you find an interesting article you would like to share with the club – send an e-mail to newsletter@w8lap.com – thank you!

Get your free copy of *A Field Guide to Simple HF Dipoles*

by Dan Romanchik, KB6NU

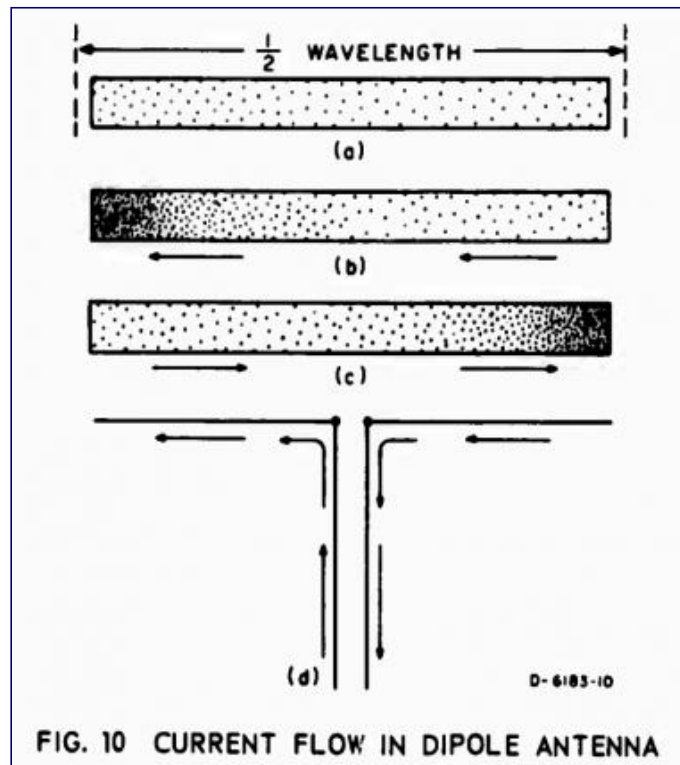
A link to *A Field Guide to Simple HF Dipoles* (<http://www.dtic.mil/dtic/tr/fulltext/u2/684938.pdf>) was posted to reddit recently, and I liked this document so much that I thought I would share it with you. It was originally written for the military, but is now available for free from the Defense Technical Information Center.

The preface to this document reads:

“Under project Agile, Stanford Research Institute has supplied several teams to assist operating personnel in improving the performance of field radio networks. In this work, it has been observed that U.S. military and civilian antenna manuals often contain misleading information regarding the operation of field antennas and tend to be overly complex. Consequently, this guide has been prepared to assist in training personnel concerned with the construction of simple HF antennas in the field.”

I must say that *A Field Guide to Simple HF Dipoles* does this very well. It not only explains how dipole antennas work, it also does a very good job of describing the basics of radio waves and propagation. And it does this without getting overly technical.

For example, below is Figure 10. It's used to describe current flow in a dipole antenna.



The *Field Guide* reads:

“Electric current in a conductor consists of the flow of small particles called electrons. Figure 10(a) represents a dipole with electrons in it. When the transmitter is turned off, the electrons distribute themselves evenly throughout the dipole, as shown. All electrons repel each other and try to get as far from each other as possible; that is how they achieve the uniform distribution show in Figure 10(a). When the transmitter is turned on, the electrons flow back and forth from end to end as shown in Figures 10(b) and 10(c). First the electrons flow to the left and crowded at one end as shown in Figure 10(b). Second, since the electrons repel each other, the push off to the right and get crowded together at the other end, as in Figure 10(c).”

It then uses this description to talk about voltage and current distribution along a dipole antenna:

“The difference between voltage (volts) and current (amperes) in a dipole is also illustrated by Figs. 10(b) and 10(c). You can see that the maximum flow of current is going to be in the middle of the dipole. An observer at the center of the dipole would see the electrons rush past, first one way and then the other. The center is the maximum current point. Very little current flows near the end of the dipole; in fact, at the extreme ends there is no current at all for there is no place for it to go. However, at the ends of the dipole, there is a great change of voltage; when the electrons are densely packed, this represents a negative voltage, and when there is a scarcity of electrons, it represents a positive voltage. Thus, you can see that the voltage at each end swings alternately positive and negative. An end of the dipole is a maximum voltage point.”

A Field Guide to Simple HF Dipoles is packed with all kinds of goodies like this. Download it (<http://www.dtic.mil/dtic/tr/fulltext/u2/684938.pdf>) right now.

When he's not building dipoles or teaching ham radio classes, Dan blogs about amateur radio, writes exam study guides (www.kb6nu.com/study-guides), and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him about your experiences with simple HF dipoles at cwgeek@kb6nu.com.

BECOME A HAM RADIO OPERATOR or ADVANCE YOUR LICENSE CLASS!

The Hazel Park Amateur Radio Club is offering:

A 10-week Course for THE TECHNICIAN AMATEUR RADIO LICENSE EXAMINATION

WHEN: Every Monday, from September 10, 2018 to November 12, 2018 — 7pm to 9pm
WHERE: FOP Lodge 130, 2233 Burdette Street, Ferndale, MI
COST: INSTRUCTION IS FREE; LICENSE MANUAL IS \$25, AVAILABLE AT THE FIRST SESSION.

FCC License EXAM WILL TAKE PLACE AT THE LAST SESSION (November 12th) FEE: \$15

A 12-week Course for THE AMATEUR GENERAL CLASS LICENSE EXAMINATION

WHEN: Every Monday, from September 10, 2018 to November 26, 2018 — 7pm to 9pm
WHERE: i3Detroit DIY Space, 1481A Wordsworth Street, Ferndale, MI
COST: INSTRUCTION IS FREE; LICENSE MANUAL IS \$25, AVAILABLE AT THE FIRST SESSION.

FCC License EXAM WILL TAKE PLACE AT THE LAST SESSION (November 26th) FEE: \$15

A 14-week Course for THE AMATEUR EXTRA CLASS LICENSE EXAMINATION

WHEN: Every Monday, from September 10, 2018 TO December 10, 2018 — 6pm to 9pm
WHERE: Hazel Park Historical Museum, 45 E. Pearl Avenue, Hazel Park, MI
COST: INSTRUCTION IS FREE; LICENSE MANUAL IS \$25 AVAILABLE AT THE FIRST SESSION.

FCC License EXAM WILL TAKE PLACE AT THE LAST SESSION (December 10th) FEE: \$15

***** PRE-REGISTRATION IS NECESSARY FOR ALL CLASSES *****

QUESTIONS AND REGISTRATION:

Please contact Jerry, W9NPI@ARRL.NET

SPONSORED BY THE HAZEL PARK AMATEUR RADIO CLUB, HPARC.ORG



Calendar of Events

August 2018

- 08/14, 6:00pm - Picnic in the Park
 - Officer Nominations Due for 2018-2019
- 08/15, 7:00pm - ARES Training @ EOC
- 08/25, Early Morning, Crim Festival of Races Amateur Radio Support

September 2018

- 09/11, 7:30pm - Club Meeting
 - 2019 Officer Elections
- 09/19, 7:00pm - ARES Training @ EOC

October 2018

- 10/09, 7:30pm - Club Meeting
- 10/17, 7:00pm - ARES Training @ EOC

November 2018

- 11/04, 2:00am - Daylight Savings Time
- 11/13, 7:30pm - Club Meeting
- 11/17, 9:00am - ARES Exercise, 145.010, use home station

December 2018

- 12/11, 6:30pm - Club Holiday Dinner
- 12/19, 7:00pm - ARES Training @ EOC

Upcoming Michigan Section Hamfests and Swaps

ARRL hamfests in the Great Lakes Division through the end of the year.

For more information – visit <http://www.arrl.org/hamfests-and-conventions-calendar>

Central Kentucky Hamfest	8/11/2018	Lexington	KY
Cuyahoga Falls ARC's 10th Annual Tailgate Hamfest	8/12/2018	Stow	OH
Seaway Trunk Swap	8/12/2018	Port Huron	MI
GRAHamfest	9/8/2018	Wyoming	MI
Kentucky State Convention (Greater Louisville Hamfest 2018)	9/8/2018	Shepherdsville	KY
Findlay Hamfest	9/9/2018	Findlay	OH
Central KY HamFest	9/15/2018	Richmond	KY
Adrian Hamfest	9/16/2018	Adrian	MI
OH-KY-IN ARS Hamfest	9/22/2018	Cincinnati	OH
Cleveland Hamfest and Computer Show	9/23/2018	Berea	OH
Amateur Radio Community Service Club Hamfest	9/29/2018	Paintsville	KY
7th Annual Vette City Hamfest	10/6/2018	Bowling Green	KY
Michigan State Convention (Great Lakes HamCon) - CANCELLED	10/6/2018	Brooklyn	MI
Microwave Update 2018 Convention	10/11/2018	Fairborn	OH
Cave Run Hamfest	10/13/2018	Morehead	KY
Northwest Ohio ARC Hamfest	10/13/2018	Lima	OH
Muskegon Color Tour Hamfest	10/20/2018	Muskegon	MI
36th Annual Kalamazoo Hamfest & Amateur Radio Show	10/21/2018	Kalamazoo	MI
Hazard Hamfest	10/27/2018	Hazard	KY
Massillon Hamfest	10/28/2018	Massillon	OH
USECA Hamfest & Swap	10/28/2018	Madison Heights	MI
GARC HAMFEST	11/3/2018	Georgetown	OH
FCARC WinterFest	12/1/2018	Delta	OH
LCARC Amateur Radio Swap/Hamfest	12/2/2018	Madison Heights	MI

Officers & Committees

LCARA Officers (2017-2018)

President	Gerrett Peters, KD8YUK
Vice-President	Kevin Boxey, KB8TAR
Treasurer	Paul Zuhlke, AB8XL
Secretary	Lee Dziekan, N8LJ

Amateur Radio Emergency Services

Lapeer County Emergency Coordinator	Kevin Boxey, KB8TAR
Assistant EC – Skywarn	Tom Oliver, KD8EBY
Assistant EC – Skywarn	Paul Zuhlke, AB8XL
Assistant EC – FLDIGI	Scott Nicholes, N8XP

Repeater Technical Team

Repeater Trustee	Mike Zedan, KN8Z
	Lee Dziekan, N8LJ
	Will Stanton, KB8YGA

Media

Waveguide Editor, Webmaster, Social Media	Scott Nicholes, N8XP
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LCARA Membership Application

Lapeer County Amateur Radio Association


Call Sign:	Name:
License Class: <input type="checkbox"/> Technician <input type="checkbox"/> General <input type="checkbox"/> Extra Other:	
Address:	
City:	
State + Postal Code:	Phone Number:
Email Address:	
ARRL Member (Y/N):	ARES Member (Y/N):
RACES Member (Y/N) and Card #:	SKYWARN Member (Y/N) and Number:

L.C.A.R.A. Memberships are due annually on October 1st.

- **\$12** - Individual Membership
- **\$20** - Family Membership
- **\$4** - Associate Membership

Membership forms may be turned in to the Treasurer at a monthly meeting, or mailed to the club address:

**Join or Renew
your membership online**
<http://w8lap.com/join>




Lapeer County Amateur Radio Association
P.O. Box 12
Hadley, MI 48440-0012