Volume 41, Number 4, December 2020

THE TUNED CIRCUIT

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

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Club Nets

January TC
Deadline:
Monday
December 28th

Next Meeting - 7:00 PM

December 2nd 2020 on the ECHO

repeater, NOT at the Tucker

Senior Center (see last page for map and address).

Meeting Program - The program for our meeting will be as reported on page 5!

The NEXT board meeting might be on Wednesday, January 13th, 2021.

THE PREZ SEZ

This year is quickly drawing to a close – hard to believe it is December already!

Unfortunately, due to the rising numbers of COVID cases, there will **not** be an in-person meeting for December.

That being said, Gregg/N8GEO, will net control a meeting on the ECHO 2 meter (147.08MHz, 100Hz PL, +600Khz offset) repeater at our scheduled date and time.

It is time for our annual elections and we still need a volunteer for the position of President Elect and Activities Manager. They are not difficult jobs, but we need people to fill those positions.

I am hoping you and your families are all doing well, and have a safe, healthy holiday season!

73!

Scott/W8CQD

The December LCARC meeting will be conducted on the 2M ECHO repeater on Wednesday, December 2nd, 2020 at 7:00 PM.

Report of the Secretary

by Marty / K8HVI

Meeting Call to Order:

The LCARC Past President (Ken/KD8RJN) called the November 4th, 2020 LCARC general membership meeting to order at 7:04PM at our normal meeting location, the Tucker Senior Center.

Roll Call was taken and we had 12 members present:

KD8RJN, N8GEO, K8HVI, K8PLY, N8FYL, W8VO, W8ROI, N8HAR, WC8C, W8KD, N8PYN, N6WY

Motion was made to approve the prior month's meeting minutes by Russ/N8HAR. Seconded by Keith/W8KD. Motion passed

Treasurer's Report: by Gregg/N8GEO:

Total amount in the account is	\$6260.05
The Youth Fund has	\$352.00
The Repeater Fund has	\$161.54
Total available is	\$5746.51

Amount spent on repeater project to date, \$2146.06. This leaves \$1,352.94 remaining approved funds. Reminder, club dues are due.

Where's Doug:: by Doug/N8PYN:

Doug will be going to the Livonia Amateur Radio Group's trunk swap in Livonia on Nov. 8th.

Membership and Tuned Circuit Report: by John/N8FYL:

70 members (includes 9 Life members & 3 free). 39 have renewed and 21 have yet to renew. The December *Tuned Circuit* deadline is Nov. 23rd, 2020.

Name	Points	Name	Points	Name	Points
Wayne WG8U	6450	Tom WU8C	5050	Clem W8V0	3650
Gregg N8GEO	1850	John N8FYL	1700	Mike AC8ER	1150
Ralph W8ROI	1150	Dale K8RO	450	Marty K8HVI	450
Dave K8GTV	600	Mike N5WCS	350	Russ N8HAR	300
Chris K8NVH	100	Fritz KE8BFW	100	Fred WB8ITB	50
Lito K8AJJ	50	Rich N8FGB	50	Joe KE4ZYQ	50

Net Points; Clem/W8V0

(Continued from page 2)

Clem will send the final certificate for WG8U to Wayne's son.

Old Business:

Repeater work update; by Gregg/N8GEO

Gregg and Mark/N8REZ completed the roof re-coating work. Put on 5 gallons of roof coating for the project. Looks really good and we should be set for a few years. They also purchased \$92 of wood (approved by the board) and made multiple shelving units to get items organized and up off from the floor. Installed the 6ft long power strip. Took out the old tall table and put in a kitchen table (with 2 leaves) and 6 chairs. They also cleaned up the trash and rubbish on the south side of the building. We now have a clear walking path around the building.

Marty/K8HVI cut down multiple bush/trees along the walkway and cleared all the leaves and organic debris off and away from around the building.

Ken/KD8RJN is working on a second thermometer controller for inside the other repeater cabinet to use during the winter. This allows us to just heat the repeater and not the whole room.

Marty/K8HVI stated that the engineering company came out for its second site visit on Oct. 24th. We learned that 2 of our existing coax hard lines are bad. This will be a new cost to our project. We will get an estimate from them on the additional cost to put in new ½" coax hard lines.

Marty/K8HVI stated that we got the internet connection now with multiple port switch/router. So, internet is now working and available for other uses.

Doug/N8PYN stated that the packet station is moving forward with the Raspberry Pi setup and a pink Pi TNC controller. Completed the configuration. Needs to adjust the cabling still.

New Business:

Nominations for Officers:

Open spots are for VP/President-Elect, Activities Manager, and ARRL Liaison. No one was nominated. Please consider running for one of these 3 positions.

Marty/K8HVI re-upped for Secretary. Gregg/N8GEO re-upped for Treasurer. Doug/N8PYN re-upped for Technical Officer.

Miscellaneous items:

Gregg/N8GEO read the letter from Art/W8PBO and Millie/N8GLB who also sent a \$50 donation to the Youth Forum in honor of our recent silent key, Wayne, WG8U.

The next LCARC Board Meeting will probably be performed over Zoom.

Gregg/N8GEO stated that he completed getting all of 2021 dates that needed to be reserved for all our club activities at the Tucker Senior Center. FYI, Winter Field Day is set for January 30th & 31st

Gregg/N8GEO said we will be able to have a meeting next month at our normal meeting location, Tucker Senior Center. Some discussion was had about whether we should have food and drink due to Covid. It was concluded that we won't be doing food or drinks.

(Continued on page 4)

(Continued from page 3)

John/N8FYL stated that his calendar was in error and Gregg's date for Winter Field Day given earlier was correct. Marty/K8HVI promised to engrave this once in a lifetime event by ensuring it gets added to the meeting minutes. Completed. LOL.

Dennis/WC8C stated that he worked the Minnesota QSO Party and got first place for the Michigan QRP category. Much applause was had.

Close Meeting:

Ken/KD8RJN closed the meeting at 7:42pm.

Presentation:

Dave/N6WY gave a presentation on "Forward Error Correction & Pictures from Mars"



Meeting Call to Order:

The LCARC President (Scott/W8CQD) called the November 11th, 2020 LCARC board meeting to order at 7:05 PM. Meeting was held via ZOOM.

Present were Scott/W8CQD, Gregg/N8GEO, Doug/N8PYN, Marty/K8HVI.

We talked about the repeater second visit by the engineering company. We learned that we will need to run new coax hard line to replace the two bad ones and the jumper runs. We will need to analyze the new quote and then have a follow up meeting with him to determine what is the new amount of funds required to complete the new work (labor and to be purchased items we now need). Also, the club will need to get a 9 foot Schedule 40 aluminum pipe to be the mast for the 440 antenna.

Talked about nominations for board members. We will need to get a person for VP/President-Elect, Activities Manager, and ARRL Liaison.

Gregg/N8GEO stated that he reserved all the dates for 2021 at the Tucker Senior Center. If things [pandemic wise—Editor] get worse, we might have to cancel some in person dates. TBD

Gregg/N8GEO stated that VE Testing is planned for the 2nd Monday in March [March 8th on my calendar. Editor]. He hopes it will be allowed to occur.

It was agreed by everyone that the November Club Meeting presentation given by Dave/W6WY, "Forward Error Correction & Pictures from Mars", was a big hit. It was discussed that we should have him give the presentation again when we have a normal full club meeting in the future. That way, more people could enjoy the very interesting presentation.

Doug/N8PYN brought up that he needs a monitor that has an HDMI port for the packet station. Could also get an HDMI to VGA adaptor. Will follow up with Doug if anyone has either.

Meeting adjourned at 7:38pm

DECEMBER 2ND MEETING WILL BE ON THE AIR!!!

The December in person meeting is canceled due to the COVID-19 pandemic restrictions that are in place. Among topics that will be discussed in the **on-the-air meeting** will be the annual election of officers. The meeting will be on the 2M Echo/N8LC 147.08 MHz, 100Hz PL, +600KHz offset.

PLEASE make every effort to participate so that we meet the required quorum count to be able to conduct business.



Meeting time is 7:00 PM



Membership Report

The L'Anse Creuse membership renewal forms have been arriving at N8GEO's QTH all month. 45 members have renewed for 2020-2021. 16 more renewals and we will have a 100% rate.

Paying for your membership just got easier. See the article below.

The few attendees at the October meeting had the pleasure of meeting our newest member, Patrick/K8PLY.



We are at 70 members. 9 are life members, and 61 are regular members, of which 3 are enjoying the final months of the first year free experience.

John / N8FYL - 11/24/2020

A New Way to Pay your dues

We all have been in a spot when we were at the club meeting and wanted to pay our dues, but NO CASH in the wallet and no check. So, we would need to wait for another club meeting to get our dues paid up.

Well no more waiting for a month or more because the club now has a PayPal account!

To pay via PayPal go to your PayPal account (obviously, right?), log in and send a payment to Treasurer@N8LC.org. It's pretty easy. In the "Add a note" section you should include your name and callsign (if you have one) so it will be clear who the money is coming from. The treasurer will receive an email letting them know that you have paid. I'm still working through the process on my end and there might be a few more tweaks (on my end) but it does work. Tom/WU8C tried it out today (11/23/2020) and the cash came through. Give it a try and let me know what you think.

Thanks to Tom for his help and his \$20.00. LOL

73

Gregg / N8GEO





Submitted by Gregg/N8GEO

Last year, 2019, about this time the club treasury started to incur a money drain on the club finances. This was due to the winter months coming and the need for heat in the repeater shack. Since the club is paying for the electricity used at the shack, we needed some creative thinking fast.

A little history:

In 2018 we saw the same thing happen and decided to get some electric cube heaters and place them inside the repeater cabinets. These heaters had the safety switches to turn off the heaters in case they were tipped over. They also had a knob that you could turn to set the heater to turn on/off by temperature. These worked well but the on/off temperature settings were hit and miss since the knob was not marked and you had to guess what the high and low were. We did notice a drop in electric charges from prior years.

Now back to 2019:

We noticed that the electric bills were on the increase. So, we started talking about ways to save on the electric bill. There was quite a bit of discussion over a few meetings. Finally, a collaborated effort headed by Ken (KD8RJN) came up with an idea. Ken was going to buy a few parts and build a switch that would be controlled by a digital thermometer. It would turn the heaters on and off by controlling the AC going to the heating units. He put it together and made a few tweaks and finally placed them in the repeater cabinets. All seemed to be well.

We got some data from DTE and did some calculations. We received 4 years' worth of data (2017 – 2020). I averaged the data from 01/2017 through 11/2019, and then compared it to 12/2019 through 10/2020. The data from the summer months did not change much at all due to not needing the heaters. But the colder months saw the much larger changes. See below.

Month->	December	January	February	March	April
Average 2017—>2019	\$53.50	\$78.24	\$63.04	\$57.28	\$54.25
December 2019- <u>April 2020</u>	\$34.18	\$29.35	\$43.69	\$53.13	\$40.17
Savings	\$19.32	\$48.89	\$19.35	\$ 4.15	\$14.08

OK this is not real scientific, but you get the idea. I just worked with the plain raw numbers. There are a ton of circumstances that influence these numbers (people in the shack working and turning on the actual furnace, colder or warmer temperatures outside, blah blah blah). The overall numbers show a **saving of \$105.79** (that isn't chump change).

Thanks to all that participated in making these changes. This club has a great group of folks with different back grounds. We all work together well, and this just proves that. Great job everyone.

73

Gregg (N8GEO)

Another Calendar Year of Editing Wraps Up

As 2020 winds down, I realized that I have now edited my 82nd issue of *The Tuned Circuit*. I wonder if I hold the record for the most issues by one editor? Perhaps Art/W8PBOI has that record since I think he was putting out the newsletter when I joined the club in 1985, and had probably been doing so since the club began.

I volunteered to take on this position for the club just after I retired on August 31, 2012. I felt this would be a good use of some of all that free time I would now have, and the club needed a editor, and I felt confident I had the skills to "get 'er done". The first issue I published was for November, 2012. Along with *The Tuned Circuit* I have created at least 19 of the *Night Out Updates* too, and a couple of special extra editions for important items along the way.

While reading the above, some of you may have thought "uh oh, John's going to retire as the editor". Exhale and relax, I am not retiring. Why would I give up all those "nice job" comments I keep receiving?



73, John / N8FYL

Reminder! (to those 16 who haven't already renewed)

2020/2021 LCARC club dues are due NOW

You can use either the pre-filled Membership Renewal form that was emailed to you OR a Membership request form on page 15.

MAIL the form to our Treasurer Gregg, N8GEO, at the address on the form AND include your check OR let Gregg know you have paid via PayPal (see item elsewhere in this issue)

Have YOU renewed yet?

Below is a list of all those who HAVE renewed as of 11/26/2020. If your call is **not** in the list, and your check is **NOT** in the mail, then you are one of the 16 we are waiting to hear from. If you are certain you have renewed, and you are not in the list, please let me know and Gregg and I will investigate.

John / N8FYL Membership Chairman n8fyl@arrl.net

AC8ER	K8VFR	N5WCS	N8REZ	W8V0
K8AJJ	KA8JJN	N6WY	N8TTT	W8WZ
K8CJ	KA8VSI	N8AT	NW8W	W8YNZ
K8E0	KB8QYJ	N8FYL	W8CQD	WA8BIJ
K8GTV	KB8WCA	N8GEO	W8ITC	WB8ILI
K8HVI	KC8BW	N8HAR	W8KD	WB8LWS
K8LRM	KD8RJN	N8GLB	W8LDB	WC8C
K8NVH	KE8BFW	N8KC	W80WL	WN8IZV
K8PLY	KE8HHA	N8KNS	W8PB0	WU8C
K8R0	KE8IYB	N8NXW	W8R0I	
K8RWM	N4LZ	N8NLK	W8TRW	

Universal Radio shutting down in retirement.



Dear Friends Of Universal Radio,

Time waits for no one, and that includes Barbara and myself. We have decided to retire and our current location in Worthington will close on November 30, 2020. Even though the store is closing we will fulfill all existing customer orders and have a large amount of inventory to close-out. The Universal Radio website will be maintained for the foreseeable future to sell this remaining stock, publications and some select products. Unfortunately the lack of a store front showroom will preclude us from carrying some manufacturers' products.

I am very fortunate to have been in the radio business for over 50 years, 13 at Radio Shack and 37 at Universal Radio. We have met many wonderful people along the journey who have supported me personally as well as Universal Radio. It has been a privilege to have a continuous career in the fascinating field of radio since 1969.

Please accept our sincere "Thank You" for your support of Universal Radio for these many years, and for the months to come.

Our new address for correspondence and mail order is below. This is not a store front.

Universal Radio Inc. 752 N. State St. Unit 222 Westerville, OH 43082 Phone: 614 866-4267

Thank you.

73,

Fred Osterman N8EKU
Barbara Osterman KC8VWI

The Gathering

November 24, 2020

The <u>theme of the 2021 Dayton Hamvention is The Gathering</u>, not to be confused with <u>the annual Insane Clown Posse event</u> of the same name. Out of an abundance of caution, Insane Clown Posse cancelled their 2020 event, prompting several folks to call them *Reasonable Clown Posse*.

This article originally appeared on Radio Artisan.



Explore at Your Own Risk!

Beware that if you decide to view any of the [what I thought were very interesting—Editor] YouTube videos links below that you are likely to want to spent more time than you may have available examining additional interesting looking ham radio centric YouTube items!



Sights and Sounds

From the ARRL Contest Update-November 25, 2020

Paul, W6PNG, went mobile (as K7E) to combine radio contesting and camping during the California QSO Party in May. His expedition to Mineral County, Nevada, is documented in a <u>travelogue-style post on Paul's website</u>. Paul's takeaways from the experience include bringing a cooler with better food, an amplifier, and a directional antenna to take advantage of the terrain.

Steve, VE6WZ, <u>provides a tour of the control side of his successful remote station</u>, which includes extensive receive arrays. His quick 15-minute video discusses the rationale behind some of his station building decisions.

Tim, K3LR, provided a <u>virtual station tour of his multi-multi station to the Bay Area DXers Contest Club</u>. You, too, can use YouTube to see some of the hard work that enables those stellar contest scores.

Future Programs & Activities

Scott Hernalsteen, W8CQD — Activities Manager

December 2, 2020 Regular meeting night—but ON THE 2 Meter ECHO Repeater

January 30, 2021 Winter Field Day

January 6, 2021 Regular meeting night

February 3, 2021 Regular meeting night

March 3, 2021 Regular meeting night

April 7, 2021 Regular meeting night

April 17, 2021 Michigan QSO Party—NOT Easter weekend!

L'Anse Creuse ARC Board Members — 2020

President

Scott Hernalsteen, W8CQD 40202 Vincenzia Dr Clinton Twp, MI 48038-4084 586-201-5713 w8cqd@arrl.net

VP and President-Elect

John Slobodnik, N8NXW 79165 Omo Rd / PO Box 383 Armada, MI 48005 (586) 337-0045 jrslobodnik@hotmail.com

Secretary

Marty Folz, K8HVI 40360 Ryan Rd Sterling Heights, MI 48310-1756 586-268-0544 k8hvi@arrl.net

Treasurer

Gregg Crump, N8GEO 29729 South River Rd Harrison Twp, MI 48045-3030 (586) 477-0364 n8geo@arrl.net

ARRL Liaison

Gregg Crump, N8GEO 29729 South River Rd Harrison Twp, MI 48045-3030 (586) 477-0364 n8geo@arrl.net

Activities Manager

Scott Hernalsteen, W8CQD 40202 Vincenzia Dr Clinton Twp, MI 48038-4084 586-201-5713 w8cqd@arrl.net

Past President

Ken Janicki, KD8RJN 55775 Nile Way Macomb, MI 48042-6188 (586) 786-1408 kenjanicki@comcast.net

Technical Officer

Doug Chauvin, N8PYN 29112 Elmwood St. St Clair Shores, MI 48082 (586) 775-1891 n8pyn@yahoo.com

Analog FM



LC Echo 2 Meter Repeater Yaesu DR-1X 147.080 MHz 100 HZ PL N₈LC

Fusion Digital Only



LC Echo 70 cm 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 for January 2021 is to be determined. 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	Little Bay Awards	Dale McGorman	K8R0
ARRL HF Awards Assistant	Vince Cuker	WA8BIJ	Meeting Refreshments	Russ John	N8HAR N8NXW
ARRL VHF/UHF Awards Manager	Allan Koch	KA8JJN	Membership Chairman TC email distribution	John Huber	N8FYL
Call Sign ID Tags	Gregg Crump	N8GEO	Net Points Manager	Tom Mathison	WU8C
Christmas Party	Cathy Chauvin	KC8WNK	Net Points Upgrade Awards	Clem Duval	W8V0
Club Apparel & Patches	Scott Hernalsteen	W8CQD	TC Postal Distribution	John Huber	N8FYL
Club Call Trustee - N8LC	Marty Folz	K8HVI	Outgoing QSL Manager	Dale McGorman	K8R0
Code Proficiency Awards	Vince Cuker	WA8BIJ	QSL Cards	Dale McGorman	K8R0
Dayton Trip	Gregg Crump	N8GE0	Swap Chairman	Russ Price	N8HAR
Door Prizes—Buyer	Doug Chauvin	N8PYN	Tuned Circuit Editor	John Huber	N8FYL
Door Prizes—Tickets	TBD		Volunteer Exams	Gregg Crump	N8GEO
Echo Repeater Trustee	Marty Folz	K8HVI	Webpage (<u>n8lc.org</u>)	Doug Chauvin	N8PYN
Field Day	Gregg Crump	N8GE0	Webpage Assistant	Marty Folz	K8HVI
Health & Welfare			Youth Forum (50/50) [Alternate]	Ralph Irish John Slobodnik	W8ROI N8NXW
Licensing Classes	TBD				

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 <u>Editor</u>:

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.

Learn More

VE Testing Locations

The current COVID-19 pandemic situation has disrupted many of the regular VE testing sessions. There ARE some testing opportunities available in our area according to the ARRL web site.

Go to http://www.arrl.org/find-an-amateur-radio-license-exam-session.

Enter your Zip Code and the "within" distance, and click SEARCH. When I did it with Zip 48045 (the zip code for the Tucker Senior Center), and a "within 50 miles", it reported 13 sessions spanning the time until a year from now. I have included the blurb about then two in December to the right in the space normally filled with Upcoming Swap information.

Online Practice Exams:

https://www.eham.net/exams

https://www.grz.com/hamtest/

http://www.ah0a.org/AH0A.html

Morse Code Resources:

Learn CW Online https://lcwo.net/

http://www.g4fon.net

http://www.pdarrl.org/k6rau/

http://www.ac6v.com/morseaids.htm

http://morsecodemasters.com/train

er/Examples/hct.html

Upcoming Swaps

12/06/2020 - CANCELED - LCARC Amateur Radio

SwapHamfest

Location: Madison Heights, MI

Type: ARRL Hamfest

Sponsor: L'Anse Creuse Amateur Radio Club

Website: http://www.n8lc.org

There are NO other ARRL hamfests in our area to list here.

Upcoming VE Exam Sessions

• 12/12/2020 | Smiths Creek MI 48074-4409

Sponsor: Eastern Michigan ARC

Date: Dec 12 2020

Time: 10:00 AM (Walk-ins allowed)
Contact: Edward A Tony. Banner
Email: ke8bit15@gmail.com

VEC: ARRL/VEC

Location: St. Clair County International Airport Parking Lot

295 Airport Dr

Smiths Creek MI 48074-4409

12/13/2020 | Shelby Township MI 48317-1307

Sponsor: U.S.E.C.A ARC Date: Dec 13 2020

Time: 12:00 PM (Walk-ins allowed)

Contact:

(586) 758-0764 **VEC: W5YI VEC**

Location: Packard Proving Grounds

49965 Van Dyke Ave

Shelby Township MI 48317-1307

It appears that the U.S.E.C.A. sessions are EVERY second Sunday of the month. Currently showing through 03/14/2021 on the ARRL list.

There are some others, but they are farther away (Livonia and Wyandotte) so check online to get details about them.

	L'Anse Creuse Amateur Radio Club Nets					
Day	Local Time	Band	Mode	Frequency	Net Control	Calendar
Monday	2000	15 M	CW	21.165 MHz	Clem, W8VO	Every Monday
Monday	2030	15 M	USB	21.395 MHz	Clem, W8VO	Every Monday
Monday	2100	6 M	USB	50.160 MHz	Gregg, N8GEO	Every Monday
Tuesday	2000	2 M	Packet	144.93 MHz	RF Net is QRT	Every Tuesday
		Internet	telnet	ve2har.dyndns.org	Ralph, W8ROI	(Connect to detqso)
Tuesday	2100	2 M	FM	147.08+ MHz	Sterling Heights CERT	2nd Tuesday of the month
				A LCARC sanctione	d net run by the Ster	ling Heights CERT
Thursday	1930	10 M	USB	28.435 MHz	Clem, W8VO	Every Thursday
					Clem, W8VO	1st Thursday
					Mike, AC8ER	2nd Thursday
Thursday	2030	2 M	FM	147.08+ MHz	Gregg, N8GEO	3rd Thursday
					Mike, AC8ER	4th Thursday
					Fritz, KE8BFW	5th Thursday

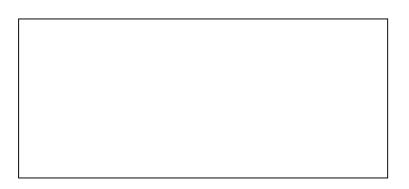
Membership Request

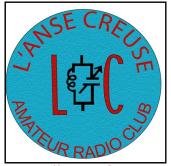
Date: / /	L'Anse Creuse Amateur Radio Clu	b Treasurers Box	
Date/	Gregg Crump, N8GEO	Date Paid:	
Request For:	29729 South River Rd	Amount:	
104,4301 011	Harrison Twp MI 48045-3030	Initials:	
\$20.00 LCARC Individual Membership Are you a New Member? (Y / N)	Only membership applications to go this adduse the full 9 digit zip code when mailing in		
\$30.00 LCARC Family Membership			
\$10.00 Print and Mail me <i>The Tuned Circu</i>	it via US Mail	Note: LCARC dues are from Nov 1st to Oct 31st Class License (Circle One)	
\$2.00 LCARC Student Membership (Under	Novice Technician Tech+ General Advanced Extra		
\$10.00 Club Badge created with my Name a	and Call sign		
Please update my membership information	because it has changed.	I am an ARRL Member: (Y / N / Life)	
Call sign:Old Call Sign:	Street:		
Name:	City:	State:	
Spouse:	Zip:	6 Character Grid Square (optional):	
Phone: (I		money and can mark that you've paid in our records)	

The Tuned Circuit

Monthly Bulletin of the
L'Anse Creuse Amateur Radio Club
29729 South River Rd
Harrison Twp, MI 48045-3030

First Class
Postage
+ Extra
Ounce





http://www.n8lc.org E-mail: info@n8lc.org





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.