



The Spirit of '76 and '88



February Newsletter of the Lake Erie Amateur Radio Association 2021
Carsten Lohrmann, KD8WBB, Editor



A transfer switch is an electrical switch that switches a load between two sources. Some transfer switches are manual, in that an operator effects the transfer by throwing a switch, while others are automatic and trigger when they sense one of the sources has lost or gained power.

An Automatic Transfer Switch (ATS) is often installed where a backup generator is located, so that the generator may provide temporary electrical power if the utility source fails.



LEARA February 23. Meeting **Virtual Meeting - Online**

**Lithium-powered
Generator/Inverters
Transfer-Switch
Project**

Jeff Covelli, WA8SAJ

**February 23.
7:30 p.m.**



Click or
scan to join

The Prez Says by Bryan Torok, N8OOF



Leara Dues Renewal: It is that time of year. If you have not paid your dues, your membership has expired. We allow a grace period until the end of March, but then we cut you off. You can renew online at <https://www.leara.org/club-information/membership-renewal> and you don't even need a stamp.

The January Meeting featured a presentation on digitally controlled Christmas lights animated

... continue on page 2

Prez cont.

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NEWSLETTER	
<p>The Spirit of '76 & '88 is published monthly except in December. Contributions must be received by the 2nd Sunday of the month except on months with 5 Sundays and 5 Tuesdays when the 3rd Sunday will be sufficient.</p> <p>Editor: Carsten Lohrmann, KD8WBB E-mail: editor@leara.org</p> <p>Proofreading: TNX to W8AZO, N8YNR</p>	

v04/2020-11-16

to music by our own **Jeff Garvas, N8YNR**. Jeff's house won the 2020 Macedonia Deck the House Holiday Light Contest in the motion category. See last month's newsletter for links to the videos showing the lights. Jeff explained that each individual LED light is like the pixels on your computer monitor. Each light can be individually turned on or off, adjusted for intensity and color. Jeff also showed how he used custom-designed, 3-D printed parts to mount the lights to his house along with an overview of the software used to control the lights and sync them to the music.

The February Meeting will feature a presentation by our own **Jeff Covelli, WA8SAJ**, on a modern and clean alternative for home backup power or power while camping. Jeff will share his research and journey from gasoline generators to **lithium powered generator/inverters**. He will also show how this is integrated via a manual transfer switch into his house wiring to be able keep his family comfortable in the event of mains power outage. He can provide power for his furnace, microwave, coffee pot, lighting, and yes, even his ham radios. The presentation will include PowerPoint but also include live video demonstrations of the system via Zoom. See the front page or leara.org for the link.

Please share the meeting info on any nets you might be on, with other Ham Radio clubs, and with anyone who you think might be interested in this presentation. Attendees **DO NOT** need to be members of LEARA or even Hams. And, plan to join us early for chat time prior to the meeting. Thanks to **Hamfest Association of Cleveland (HAC.org)** for the use of the Zoom video conferencing. All meetings are planned to be via Zoom through May of 2021.

FCC to Require Email Address: Effective on June 29, 2021, amateur radio licensees and candidates must provide the FCC with

The Lake Erie Amateur Radio Assn., Inc., **LEARA**, is a not-for-profit [501(c)(3)] organization dedicated to Amateur Radio and Public Service. Club information packets and applications for membership are available from **Marv Grossman, W8AZO, 440-248-0031**, or may be downloaded from our web site at www.leara.org. Annual membership is \$25.00.

LEARA's address is: LEARA, P.O. Box 22823, Beachwood, OH 44122-0823.

LEARA is an **ARRL**-affiliated club. When you **join** or **renew** the **ARRL**, **LEARA** benefits monetarily if you do so through the club. Send **ARRL** Applications/renewals to LEARA, P.O. Box 22823, Beachwood, OH 44122-0823. Make the check payable to **LEARA**, not the **ARRL**.

Membership Meetings are held the last Tuesday of each month (except December and June) at a Cleveland-area restaurant to be announced each month in the newsletter or, if situation requires, in a virtual conference meeting online. The LEARA newsletter usually arrives near the middle of the month. Locations for dinner may vary and often require a reservation. Those interested in dinner should arrive around 6 p.m. The meeting begins at 7:30 p.m. Meetings are open to all interested persons. You may attend without eating.

Trustees' Meetings are on the second Saturday of odd numbered months. Meetings are open to all current members of LEARA. **Locations are subject to change**. Trustees meet at one of the Cuyahoga County Public Library branches or in a virtual conference room online.

Contact a trustee or check the website at www.leara.org for details.

Prez cont.

an email address on all applications. If no email address is included, the FCC may dismiss the application as "defective." Once an email address is provided, the FCC will email a link to an official electronic copy of the license grant. More complete details are available at:

<http://www.arrl.org/news/fcc-to-require-email-address-on-applications-starting-on-june-29-2021>

Ohio ARES D10 2021 Messaging Exercise - by Jon Anhold, KM8V

District 10 will be running some lightweight, easy-to-follow activities throughout 2021 to help you keep those messaging and digital muscles that are needed for the Simulated Emergency Test (SET) in-shape. As any potential activation may have different requirements, the objective is to keep a variety of messaging modalities fresh in people's minds, ensuring we have as many tools in the toolbox as possible when needed. For more info visit:

<https://www.km8v.com/hamradio/ohio-ares-d10-2021-messaging-exercise/>

BRRO Monday Packet Net - by Doug Dever, AB8M

Burning River Radio Ops are beginning a new net on Monday's to facilitate more packet traffic in the region, give amateurs the ability to test their gear, and to identify opportunities for over-the-air links throughout the region or to other regions. This isn't a conventional net where all participants meet simultaneously. Instead, the concept is that amateurs send a message anytime between 0600 and 2100 on Monday. All messages will be acknowledged and you will receive a response on Tuesday. For complete details go to: <http://www.nw8s.com/news/brro-monday-packet-net/>

Ham Expo: The Dayton Hamvention has been cancelled for 2021. One viable option is to sign up for the online **QSO Today Virtual Ham Expo** being held March 12th, 2021 1800 PST for 48

Hours and "on-demand" until April 12, 2021. From what I've seen online and read, the creators have gone to great lengths to re-create the Ham Radio convention experience in a virtual setting.

They plan to have more than 60 internationally recognized ham radio experts. In addition there will be live virtual kit building workshops (order the kit in advance) and a virtual exhibit hall with many popular amateur radio suppliers participating. Attendees will be able to watch new product demos and interact with the booth staff.

Full details and registration is at:

<https://www.qsotodayhamexpo.com/>

Until next month, stay home, talk on the radio, and use the repeaters more. Join us at a virtual meeting. Avoid close contact with other people, wash your hands frequently, use a mask in public, and stay healthy. Get your vaccine shots (and a flu shot) when they are available. We really want to see you when this health crisis is over with and we get back to in-person meetings.

We are in the most dangerous part of this pandemic.

We are all tired of physical isolation.

-- The virus is not tired.



Membership renewals!

Please be aware that membership renewals are due!

If you are still missing out, you can find renewal information or pay directly on our website:

<https://www.leara.org/club-information/membership-renewal>



LEARA "On the Air"

Club Net Information by Carl Gedeon, KB8VXE

The **Thursday Club Net** is held 8PM on our 146.760 (or 146.880 backup) MHz (-600 kHz offset, PL 110.9) repeater.

Checkins for January					
AB8M	Doug	KC8FQV	Mark	N8QMK	Mike
AB8UM	Mike	KD8FTS	Eddie	N8UPZ	Bill
K2WJS	BILL	KD8ZJP	Dan	N8YNR	JEFF
K8ADS	Allen	KE8ADV	Tony	W8IXY	Ted
K8EHP	Mike	KE8BIY	James	W8PKT	William
K8RJH	Ron	KE8NNC	Brian	W8TAB	Tom
K8SAS	Steve	KG8DN	Ken	WA8ZHN	Jim
KB8VXE	Carl	N8AGM	Tom	WB8ROK	Ed

Remember if you missed a net, check out the web page for a recap of the trivia and discussion questions.

For March and April, the tentative scheduled NCOs are:

Please check the website for current assignments.

--- click ---

Net Control Schedule			
02/25/21	Ed	W8IE	
03/04/21	Carl	KB8VXE	
03/11/21	Eric	N8AUC	
03/18/21	Ken	KG8DN	
03/25/21	Steve	K8SAS	
04/01/21	Jon	KM8V	
04/08/21	Mike	AB8UM	
04/15/21	Ed	W8IE	
04/22/21	Carl	KB8VXE	
04/29/21	Eric	N8AUC	

NCOs	AB8UM	MIKE	KG8DN	KEN
	K8SAS	STEVE	KM8V	JON
	KB8VXE	CARL	N8AUC	ERIC
	KD8ACO**	DAVID	W8IE	Ed

*Short time leave **Long term leave

The Wednesday Night Skywarn Practice Net

Skywarn is currently on Hiatus. Skywarn season runs from April through September. Skywarn nets are held on LEARA's 146.760 repeater every Wednesday at 8:30 p.m. with a simplex net that follows on 146.475. Nets are activated any time the National Weather Service issues a severe thunderstorm or tornado warning for Cuyahoga county. Visit www.ccskywarn.org for more information.

ARES

ARES nets are held every Tuesday at 8 p.m. on 145.410 +110.9. A simplex net will be held afterwards. Ares Meetings will still be held via Zoom. The next meeting is March 7, 2021 at 2 p.m. Please monitor the ARES website at www.n8esg.org/ares for information on nets and events. Please note that as of now the Cleveland Marathon is still scheduled on May 15 & 16. Feel free to sign up. You do not have to be an ARES member to participate.

Thursday Net NCOs

Do you know K2??? How about ??UPZ? Do you recognize the voice. Have you met them in person? What about N8OOF? A great way to learn who these voices belong to is to be a net controller! Consider being a net controller.

HELP! We have several people who are on temporary leave of duty. We can always use more LEARA Members to be-come Net Control Operators (NCOs). It's an easy to learn job that is very important in emergencies.

We look forward to your participation!

Carl, KB8VXE, E-Mail: kb8vxe@arrl.net

Sunshine

• Congratulations to Tom Cramer, N8AGM and Tom Bishop, W8TAB who have finished their treatments and have been given a positive outlook. HOORAY GUYS!

Volunteer Exam Dates and Locations

from www.arrl.org



Due to the Coronavirus outbreak, please verify with your VE team that the exam session is being held.

02/23/2021 | [Westlake OH 44 145-5115](#)

Sponsor: AD0VR

Location: Dover Masonic Temple

Time: 7:00 PM (Walk-ins allowed)

[Learn More](#)

03/14/2021 | [Independence OH 44 101](#)

Sponsor: CARS Cuyahoga ARS

Location: To Be Determined

Time: 9:00 AM

(No Walk-ins / Register or Call ahead)

[Learn More](#)

04/27/2021 | [Westlake OH 44 145-5115](#)

Sponsor: AD0VR

Location: Dover Masonic Temple

Time: 7:00 PM (Walk-ins allowed)

[Learn More](#)

Upcoming Hamfests and Conventions

from www.arrl.org



Due to the Coronavirus outbreak, please verify the websites of the hamfests and conventions if the event is being held.

03/07/2021 - [WINTERHAMFEST](#)

Location: Elyria, OH

Type: ARRL Hamfest

Sponsor: Northern Ohio

Amateur Radio Society

[Learn More](#)



**Dayton Hamvention
2021**

CANCELED

COVID-19 (Coronavirus) Cancellations

David Andrzejewski is maintaining a list that's as comprehensive as possible of ham radio-related events that are canceled due to COVID-19. You can check it out here:

<https://geaugaara.org/coronavirus/>

You are also encouraged to submit new data, so the list keeps getting better; keeping us all up-to-date on all cancellations.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
21 February	22	23 7:15 p.m. ARES 80m OSSB 7:30p.m. LEARA Virtual meeting 8 p.m. OHDN	24	25 8 p.m. LEARA VOICE 146.76/R	26	27
28	1	2 7:15 p.m. ARES 80m OSSB 8 p.m. OHDN	3 March	4 8 p.m. LEARA VOICE 146.76/R	5	6
7	8	9 7:15 p.m. ARES 80m OSSB 8 p.m. OHDN	10	11 8 p.m. LEARA VOICE 146.76/R	12	13 9 a.m. Trustee Meeting
14	15	16 7:15 p.m. ARES 80m OSSB 8 p.m. OHDN	17	18 8 p.m. LEARA VOICE 146.76/R	19	20
21	22	23 7:15 p.m. ARES 80m OSSB 8 p.m. OHDN	24	25 8 p.m. LEARA VOICE 146.76/R	26	27
28	29	30 7:15 p.m. ARES 80m OSSB 7:30p.m. LEARA Virtual meeting 8 p.m. OHDN	31	1 8 p.m. LEARA VOICE 146.76/R	2 April	3

Puzzle 1 (Medium, difficulty rating 0.60)

8		7		6				2
		3		1		8		
			9				7	
4	3				8	1	2	
			1		6			
	1	6	2				4	8
	5				9			
		2		5		3		
9				2		5		4

Why We Use an Audio Equalizer on 146.76

by David Andrzejewski

First, Some Background

LEARA's 146.76 repeater is a complicated machine, and necessarily so. We want to provide a wide coverage area that's easily accessible to mobile users. We accomplish this by having a powerful transmitter (180 watts). The transmitter is connected to a high-gain antenna that's high up on a tall tower. The tower is located on a moderately-high hill. That's why users can hear the repeater from mobile and fixed stations in several counties. But that's only part of the picture.

comparator ("voter"). The voter selects the remote input with the best signal (more on how voters work in a future article). That audio is then passed to the equalizer. The equalizer is connected to the repeater controller, which processes it and then passes it to the transmitter.

Making it Sound Great

Our goal is to make the repeater sound as close to simplex as we possibly can. So what does all this voting and remote input stuff have to do with the audio equalizer? It's simple: The audio changes slightly and loses fidelity as it goes through each of the steps above (remote receiver, remote link transmitter, link receiver, voting comparator, controller). Each of those devices does some audio processing. The resulting audio



Big Mouth, No Ears?

A repeater is not useful if far away users can hear it but can't get in. The question becomes: How do we ensure the repeater isn't an "alligator" – with a big mouth and small ears? We enhance the receive coverage by using several receivers spread out over the repeater's coverage area. These receivers are basically cross-band repeaters: They receive signals on 146.16 and re-transmit them on individual UHF link frequencies. At the main site, we have receivers for each of these link frequencies. Those receivers feed into a voting

tends to be lacking in the sub-1000 Hz frequency range, which makes it sound "empty." We compensate for this by amplifying the 250-1000 Hz range (we do also amplify the higher range, but to a lesser extent). This tends to "bring back" the lower frequency range and makes the audio more satisfactory.



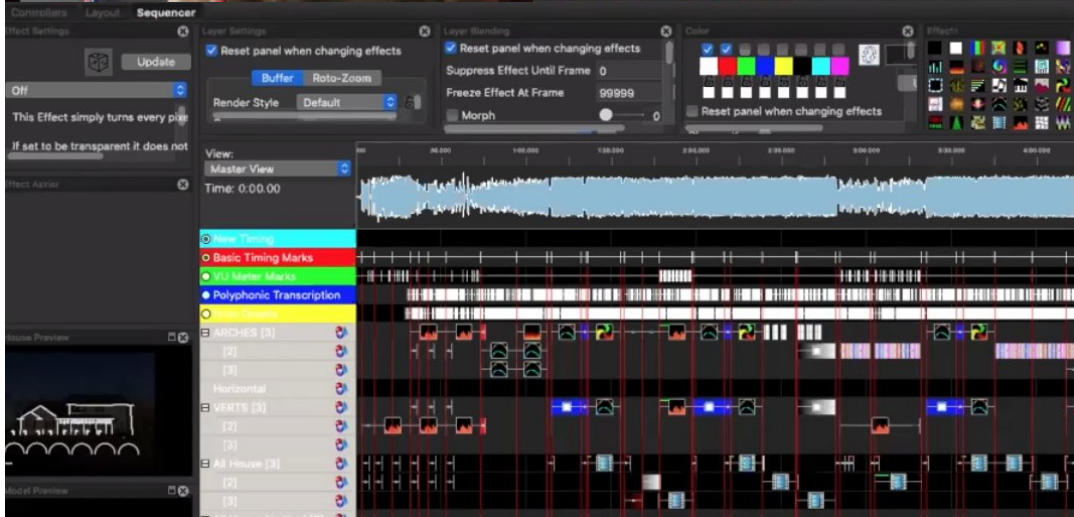
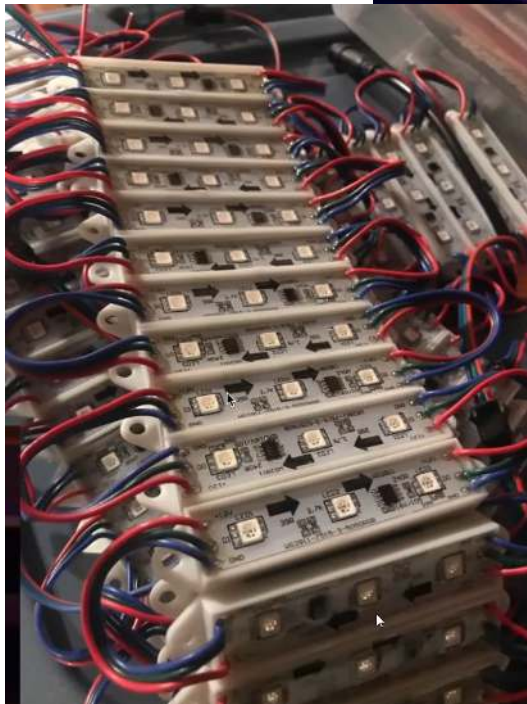
Digitally controlled Christmas lights

Jeff Garvas, N8YNR

26th January 2021



Zoom Video Conference
Room
sponsored by
**Hamfest Association of
Cleveland.**
We say **THANK YOU.**



ARISS and Partners Are Investigating Space Station Ham Radio Failure

01/29/2021

from: <http://www.arrl.org/news/view/ariss-and-partners-are-investigating-space-station-ham-radio-failure>

Amateur Radio on the International Space Station (ARISS) and its partners are troubleshooting a failure within the on-board NA1SS amateur station in the ISS Columbus module. The problem does not appear to be with the radio equipment in Columbus, however. ARISS realized the problem when a contact with a school in Wyoming, between ON4ISS on Earth and astronaut Mike Hopkins, KF5LJG, at NA1SS, had to abort when no downlink signal was heard.

"Today was a tough one for ARISS," ARISS-International Chair Frank Bauer, KA3HDO, began in a message on January 28 to the ARISS team. Bauer explained that during a January 27 spacewalk to install exterior cabling on the ISS Columbus module, the current coax feed line installed 11 years ago was replaced with another built by the European Space Agency (ESA) and Airbus.

...

"On January 26, prior to the EVA [extravehicular activity], our Columbus next-generation radio system was shut off and the ISS-internal coaxial cable to the antenna was disconnected from the ARISS radio as a safety precaution for the EVA," Bauer said. During the spacewalk, an external four-connector coax feed line replaced one with two RF connections.

...

With the spacewalk completed, the ISS crew restarted the ISS ham radio station on January 28, but no voice repeater or automatic packet repeater system (APRS) downlink reports were heard. During a scheduled school contact at 1746 UTC, no downlink signal was heard either, and the attempted contact had to be terminated.

"Clearly, there is an issue," Bauer continued. "More troubleshooting will be required."

...

Bauer said ARISS has asked its Russian team lead Sergey Samburov, RV3DR, if ARISS could temporarily use the RS0ISS radio in the ISS Service Module for school contacts that are already scheduled until ARISS can resolve the issue.

(this article was shortened for editorial reasons)

LEARA — The Lake Erie Amateur Radio Association

More than **50 YEARS** of Serving Greater Cleveland Since 1969

VOICE REPEATERS:

146.76/R-	• Highland Hills	(Requires 110.9 Hz tone, CTCSS)
146.88/R-	• Lakewood	(Requires 110.9 Hz tone, CTCSS)
224.90/R-	• Lakewood	(141.3 Hz tone, CTCSS)
444.40/R+	• Macedonia	(Requires 131.8 Hz tone, CTCSS)
444.70/R+	• Lakewood	System Fusion Digital Repeater (temp. out of order)

INTERNET:

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Put "**subscribe**" in the subject area and your name and call sign in the body.
Those who subscribe via e-mail will not receive a paper copy of the newsletter.