



# The Spirit of '76 and '88



## Newsletter of the Lake Erie Amateur Radio Association

Editor: Bryan A. Torok, N8OOF  
Associate Editor: Mike DiTurno, KC8OWL

Publisher: Jeannie St. Marie, KC8MNW

November, 2002

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## Meeting Prizes

**Dual-Band Mobile**

**\$100 Gift Certificate**

**2 ARRL Memberships**

**Plus other prizes, see Meeting Announcements, page 3.**

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*November 26, 2002*

## *LEARA Holiday Social Meeting*

*The Trustees of the Lake Erie Amateur Radio Association cordially invite you, and your family and friends, to join us on Tuesday, November 26, 2002 at 6:30 PM at Dimitri's Restaurant in the Mid-Town Shopping Center, Snow & Broadview Rd. in Parma.*

*Details are on page 3.*

## LEARA's November Feature

### *Learning The Code The New, Old Way*

*By Bill Chaikin, KA8VIT*

Have you tried learning the Morse Code and failed? Have you learned the code only to be unable to make it past the 10 wpm barrier? Are you a total newbie who wants to learn the code? If so, then this article may help you.



sent at 15-20 wpm and more time is placed between each character. The Farnsworth Method<sup>1</sup> is an example of this.) Other methods use memory aids such as charts, mnemonics, rhymes, or little musical ditties.

Most methods of learning the Morse Code involve sending the Morse characters at a slow speed or a slow overall speed, (where the characters are

All of these are examples of how NOT to learn the code. They are counter-productive and as Dave

*(Continued on page 6)*

**Have you renewed?**

**See page 6.**

## OFFICERS

<b>Eric Jessen</b> President	<b>N8AUC</b> 440-734-3146
<b>Mike DiTurno</b> Vice President	<b>KC8OWL</b> 216-898-1891
<b>Sara Cechner</b> Vice President	<b>KC8KSU</b> 440-942-8787
<b>Bill Chaikin</b> Secretary	<b>KA8VIT</b> 216-691-1038
<b>Dave Foran</b> Treasurer	<b>WB8APD</b> 440-942-0618
<b>Eric Jessen</b> License Trustee	<b>N8AUC</b> 440-734-3146

## TRUSTEES

<b>Cliff Bade</b>	<b>W8CJB</b> 440-235-1122
<b>Ray Bayun</b>	<b>N8NAP</b> 146.760/R
<b>Stephen Bellamy</b>	<b>AA8MX</b> 216-932-1970
<b>Jeff Garvas</b>	<b>N8YNR</b> 216-552-4368
<b>Marv Grossman</b>	<b>W8AZO</b> 440-248-0031
<b>Tom Long</b>	<b>N8QXA</b> 440-356-0741
<b>Jim MacMillan</b>	<b>WA8ZHN</b> 440-333-2235
<b>Jim Ozello</b>	<b>N8XDO</b> 216-475-7218
<b>Bryan Torok</b>	<b>N8OOF</b> 440-871-5456
<b>Bob Winston</b>	<b>W2THU</b> 216-771-3314

## TRUSTEES EMERITUS

<b>Al Amster</b>	<b>W8HYG</b>
<b>Fred Collins</b>	<b>W8ADW</b>
<b>Pat Shreve</b>	<b>W8GRG (SK)</b>
<b>Al Severson</b>	<b>AB8P (SK)</b>

## POINTS OF CONTACT

<b>Don Raith</b> "Sunshine"	<b>N8DJG</b> 216-921-7546
<b>Ray Bayun</b> Radio Officer	<b>N8NAP</b> 146.76/R
<b>Bryan Torok</b> Radio Officer	<b>N8OOF</b> 146.88/R

The *Spirit of '76 & '88* is published monthly except in December. Contributions must be received by the 1<sup>st</sup> of the month.

**Editor:**

Bryan A. Torok, N8OOF

**Associate Editor:**

Mike DiTurno, KC8OWL

E-mail: editor@leara.org

*de N8AUC . . .*

First of all, congratulations to the election winners. We have two new trustees as of election night. Please welcome Mike, KC8OWL, and Sara, KC8KSU, to the board of trustees. Both Mike and Sara have been very involved in LEARA activities, and should make excellent trustees. Incumbents who were reelected are Steve AA8MX, Cliff W8CJB and yours truly, Eric N8AUC. The election of officers happens at the Trustees' meeting on November 9<sup>th</sup>. That's when we decide who gets to fill this space in the newsletter next year. By the time you read this it will already have been decided, but right now the jury is still out. **[Editor's Note: See "Election Results" on page 4.]**



I just did something over the past weekend that I've never done before. I worked the November ARRL CW Sweepstakes. All I can say about that is, WOW! The SSB portion of Sweepstakes is the third weekend of November. Not sure if my HF rig is quite up to that. But it did pretty well for the CW portion. I've never

heard the bands so crowded. I thought Field Day produced crowded bands, but let me tell you, CW SS made Field Day seem like a walk in the park. It was a lot of fun, and highly recommended. I know that this is going on the calendar for next year. What a blast! Remember, you don't quit playing when you get old, you get old when you quit playing.

Public service season is done for the year, now that Pumpkin Patrol is done. So there's not much to report in that department right now. I think the next event is probably the SCCA Winter Rally which is around the first weekend in February. If that event sounds like fun to you (and it is), hunt down Tom, KA8BZB, for details. If he's not coordinating the event, he probably knows who is.

The next meeting is our Holiday Social. It will be at Dimitri's as usual, but the menu is somewhat enhanced for the event. The entrees are a bit more expensive than the usual club dinners, but the club picks up the difference so the cost to you is still \$14.50 per person. See you all at the Holiday Social!!!

73 de N8AUC

**LEARA** is a not-for-profit organization dedicated to Amateur Radio and to Public Service. Club information packets and applications for membership are available from **Marv Grossman, W8AZO, 440-248-0031**, via voice mail at **440-942-0154**, or may be downloaded from our web site at **www.leara.org**. Annual membership is \$18.00. **LEARA's address** is: LEARA, PO Box 22823, Beachwood, OH 44122-0823.

**Membership Meetings** are held the last Tuesday of each month except December at Dimitri's Restaurant, 1830 Snow Rd., Parma, OH (in the Mid-Town Shopping Center, just west of Broadview Road). Dinner is served at 6:30 PM. The regular meeting begins at 7:30 PM. Meetings are open to all interested persons. You may attend without eating, but **reservations are required** if you do wish to eat. Call **Marv Grossman, W8AZO at 440-248-0031** or leave a message on the LEARA voice mail line at **440-942-0154**.

**Trustees' Meetings** are held on the second Saturday of odd numbered months at 9:00 AM at the Parma-Snow Branch of the Cuyahoga County Public Library, 2121 Snow Rd., Parma, OH (opposite the Mid-Town Shopping Center). Meetings are open to all current members of LEARA.

## Association News

### The Editor's Rant

*de Bryan A. Torok, N8OOF*

Here we are approaching the end of another year. Where has the time gone? It sure seems to have flown by. While I really wanted to continue my rant about spam, this is the month I traditionally recognize those who have contributed to the newsletter.

In looking through this year's newsletters, and the list of people who contributed, I feel that I must be truly lucky. It is quite a list. Many of you have contributed — in fact, many more than last year. Some have done an article on a regular or semi-regular basis, others wrote to advertise or recap the many public service events LEARA is involved with. Still others have written to share a few ideas or to provoke thought or discussion. Some members have sent pictures, which really add interest to the newsletter. And, some have contributed by advertising goods or services. All contributions are appreciated.

Below is a list (in no particular order) of those who have contributed this year.

Eric Jessen, N8AUC  
 Bill Chaikin, KA8VIT  
 Dave Foran, WB8APD  
 Jeff Garvas, N8YNR  
 Fred Collins, W8ADW  
 George Hinds, N8CIX/Ø  
 Joe Swartz, N8IPC  
 T.J. Powell, N8UIR  
 Joe Phillips, K8QOE  
 Gary Mikitin, AF8A  
 Ray Suing, N8EQT  
 Gary Dewey, NI8Z  
 Patt McClain, N8RKP  
 Steve Bellamy, AA8MX  
 Steve Hnatiak, KC8IVD  
 Dale Reed, W8ABZ  
 Bill Hess, K8SGX  
 Don Byrer, KJ5KB  
 Jim Nipper, K4PYT

Mike DiTurno, KC8OWL  
 Marv Grossman, W8AZO  
 Steve Isenberg, N8TUA  
 Tom Kimball, KA8BZB  
 Jim MacMillan, WA8ZHN  
 Sara Cechner, KC8KSU  
 Steve Kinosh, KB8UTA  
 Marc Flanagan, KC8SIE  
 Gary Johnston, KI4LA  
 Robert Vance, N8THN  
 Jeff Covelli, WA8SAJ  
 John C. Gibbons, N8OBJ  
 Robert Glaron, W6CPU  
 Cliff Bade, W8CJB  
 John Baddour, KC8KI  
 Jovan Peric, KB9K  
 Bob Winston, W2THU  
 Joe Curtis, N8ZCB

I want to thank all of you for your help in making the newsletter more informative and interesting. I couldn't have done it without you.

I also want to thank all those who have helped in the production and distribution of the newsletter including **Marv Grossman, W8AZO; Jeannie St. Marie, KC8MNW; Dave Foran, WB8APD; Bob Winston, W2THU; Tom Kimball, KA8BZB; plus many others** who helped at the monthly folding, spindling, and mutilating get-togethers.

To those who have helped, I say a hearty "Thank you." To those who have not yet gotten involved, now it's your turn. Next issue I'll present a few ideas for those who might like to contribute but don't know where to get started.

### Holiday Meeting (cont'd)

This is a splendid way to start the holiday season, by spending an evening with friends.

A special menu of **Roast Prime Rib of Beef, Chicken Callendini** (sour cream & swiss cheese sauce), **Barbecued Ribs & Chicken Combo**, or **Broiled Alaskan Salmon**. There will be a **vegetarian option** available.

Dinner includes a **tossed salad**. The appetizer will be **minestrone soup**, with dessert being **German chocolate cake**. Coffee and tea will be served. Dinner is \$14.50 per person.

Please **RSVP** to Marv Grossman at 440-248-0031 or 440-942-0154 by **8:00 PM on Monday, November 25<sup>th</sup>**.

### Door Prizes

The Trustees have again decided to provide some very special door prizes, no doors and no lemons!

**First Place** will be a **NEW RADIO**, a Yaesu FT-7100 **dual-band mobile radio**. This radio features 50W of power (35W on UHF), has a remote mountable face plate (cable and kit not included), CTCSS encode/decode, 262 memory channels, a multi-function backlit remote control microphone, and a more. Wow! No cash substitution allowed.



**Second Place** will be a **\$100 GIFT CERTIFICATE** redeemable at Amateur Electronic Supply.

**Third and Fourth Place** prizes will be **one-year memberships in the ARRL** valued at **\$39**.

**Please Note:** One must be a member of LEARA to be eligible to win one of the above prizes. As always, there will be a **FREE DINNER** awarded and a **number of lesser prizes**.

This year's Holiday Social Meeting should be very special and a good time for all who attend.

## Association News

### Election Results

#### Trustees

A total of 133 ballots were cast in this year's election. The following five candidates (in alphabetical order by name) received the most votes and, since they received votes on at least half of the ballots cast, were declared elected by the teller committee:

**Cliff Bade, W8CJB**  
**Steve Bellamy, AA8MX**  
**Sara Cechner, KC8KSU**  
**Mike DiTurno, KC8OWL**  
**Eric Jessen, N8AUC**

#### Officers

The following were elected as officers of the Association at the November Trustees' meeting.

President: **Eric Jessen, N8AUC**  
 Vice President: **Mike DiTurno, KC8OWL**  
**Sara Cechner, KC8KSU**  
 Secretary: **Bill Chaikin, KA8VIT**  
 Treasurer: **Dave Foran, WB8APD**  
 License Trustee: **Eric Jessen, N8AUC**  
 Radio Officer: **Ray Bayun, N8NAP**  
**Bryan Torok, N8OOF**

**Bill Chaikin, KA8VIT**, who was our Program Chair for the last two years, stepped down. Bill did a wonderful job this past year and leaves some big shoes to fill. Thanks, Bill. Newly elected Trustee, **Mike DiTurno, KC8OWL**, offered to take on duties of Program Chair. Please contact Mike with suggestions for meeting topics.

**Marv Grossman, W8AZO**, continues as the Membership Chair. Those having any membership questions should contact Marv.

Congratulations to all those elected and especially to our newest office holders, **Sara Cechner, KC8KSU** and **Mike DiTurno, KC8OWL**. Again, congratulations.

I want to thank my fellow Election Committee members Marv Grossman, W8AZO and Bill Chaikin, KA8VIT. In addition to Marv and Bill, the following members served on the Teller Committee: Patt McClain, N8RKP and Jeff Garvas, N8YNR. Thanks to all. Your willingness to get involved and hard work made the election a success.

de Bryan, N8OOF

### The October Meeting Report

#### Pirate Radio by George Zeller

by Mike DiTurno, KC8OWL

On behalf of the Lake Erie Amateur Radio Association we would like to again thank George Zeller for his very interesting and entertaining presentation on pirate and clandestine radio at the October meeting of the Lake Erie Amateur Radio Association.



Guest speaker, George Zeller

Though George is not a licensed amateur radio operator, he is certainly no stranger to the world below 30 MHz. George spends most of his quality radio time monitoring the HF frequencies in search of pirate, clandestine, and other unlicensed

radio stations. To his credit, George is probably the only person to have ever received a confirmation letter from an FCC official regarding the monitoring of a pirate radio station.

Anyone interested in trying to catch a pirate station on the air should keep the following information in mind.

Where to find them:

- 49 meters – 6240, 6270, and 6295 kHz +/- 40 kHz
- 43 meters – 6955 kHz +/- 5 kHz (90% of all activity is here)
- 41 meters – 7375, 7465, and 7470 kHz +/- 60 kHz

When to find them:

- Weekends – Local Fridays, Saturdays, and Sundays.
- Holidays – Always see increased activity
- 1430 UTC Sunday and 1330 UTC during daylight.

Interesting fact: Approximately 75% of pirate radio stations shut down by the FCC have belonged to licensed amateur radio operators!

George is currently an editor with Monitoring Times, The Association of Clandestine Radio Enthusiasts (The ACE), and Passport to World Band Radio. For equipment

(Continued on page 5)

## Association News

### October Meeting Report (cont'd)

*(Continued from page 4)*

George relies primarily on his Ten-Tec 340 receiver with Digital Signal Processing (DSP) and a commercially available multi-band antenna.

For more information on George, pirate and clandestine radio, and to see a copy of his pirate radio confirmation letter from the FCC, please see his web site at <http://www.nacs.net/~georgez/>

### Costumes

by Bryan Torok, N8OOF

Since LEARA's October meeting generally falls within a few days of Halloween, for the past several years I've been encouraging those attending the meeting to come in costume. After all, it is the one day of the year when we can let our fantasies out and have some fun. This year three attendees came in some terrific costumes as shown below.



Photos by Mike DiTurno, KC8OWL

Just who are these strange people? For the answer see "What's Up?" on page 7.

### October Door Prize Winners

Free Dinner: **Larry Mittman, N8MGU**



Needle Nose Pliers:  
**Mark Flanagan, KC8SIE**

Channel Lock Pliers:  
**John Stumpf, AB8TT**



Wire Cutters:  
**Lori Garvas, KC8MYE**

Screwdriver Set:  
**Flossie Collins**

Miniature Screwdrivers:  
**Bob Winston, W2THU**



### Looking Forward

**November 9** — Trustees' Meeting  
See page two for details.

**November 26** — Holiday Social

**Anyone with program ideas or suggestions is urged to contact Mike DiTurno, KC8OWL, at 216-898-1891 or by e-mail to [kc8owl@yahoo.com](mailto:kc8owl@yahoo.com).**

### The LEARA Net

The Lake Erie Amateur Radio Association's weekly net is held every Thursday evening at 8:00 PM on the 146.760 (- offset, 110.9 PL) repeater. This is an open and informal net intended to provide the opportunity to test radio equipment, promote fellowship among local amateur radio operators, and develop radio traffic handling skills.

Any member of the Lake Erie Amateur Radio Association interested in trying their hand at directing the weekly net is encouraged to contact Mike DiTurno, KC8OWL by phone (216-898-1891) or e-mail ([kc8owl@yahoo.com](mailto:kc8owl@yahoo.com)) for more information.

PHONE: (330) 225-7373

FAX: (330) 225-4333

ORDERS 877-964-5566

RETAIL STORE HOURS [1]

MON, WED & FRI: 11AM-7PM

CLOSED TUES & THURS

SAT: 10AM-6PM

SUN: 1PM-4PM

[www.noard.com](http://www.noard.com)

**Northern Ohio  
Amateur Radio Depot**

Rick Wells - K8SCI

NOARD Inc

[1] Check phone message machine for any changes in hours 11/2000.

821 Pearl Road  
Brunswick, OH 44212

## Public Service

### *Northeast Ohio Public Service Volunteers Website*

We have established the Northeast Ohio Public Service Volunteers Website located at <http://www.neopsv.org/>.

This website is designed to be a location for individuals interested in volunteering their services for Disasters and at Public Service Events throughout Northeast Ohio to obtain information pertaining to upcoming and past events. In addition, this will also be a location to solicit for volunteers by the event sponsors and/or volunteers who require assistance at an event. This website will help to match Amateur Radio and EMS Volunteers to opportunities available in the Northeast Ohio Area.

In addition, two mailing lists (NEOPSV-Talk & NEOPSV-Events) have been established for volunteers to discuss upcoming events and be notified when an event sponsor requests volunteers. Information on subscribing can be found on the website.

Please do not hesitate to contact me with any questions and/or comments at [tjpowell@neopsv.org](mailto:tjpowell@neopsv.org) or [tjp@tjp.com](mailto:tjp@tjp.com).

-----  
T.J. Powell, PE, EMT-B, N8UIR  
<http://www.tjp.com/>



## Time to Renew

Please check the printed message above your name on this month's mailing label. It will indicate your dues status as recorded in the LEARA Database. If it's incorrect, please contact Marv Grossman, W8AZO at 440-248-0031 or e-mail at [MarvG@apk.net](mailto:MarvG@apk.net).

Those of you who receive your newsletter via e-mail can contact Marv in one of the above ways to verify your dues status. After the March 2003 issue, reminders will be mailed to members, including those who get newsletters electronically, whose dues are not paid by that time. Those whose dues are not paid by the April issue will no longer receive a newsletter.

Check out the newsletter in color at  
**[www.leara.org](http://www.leara.org)**  
Follow the Newsletters link on the side of the page

## LEARA's November Feature

### *Learning The Code The New, Old Way (Continued from page 1)*

Finley, N1IRZ likes to say, should be illegal.

When using these methods you will reach a plateau or hump around 10 wpm or so. Those who do manage to make it past this hump do so because by constant practice



they have begun to copy the code by reflex instead of thought. It is at this 10 wpm hump where most folks give up due to frustration. Copying code *should* be a reflex. It should go from your ear to your copy, by-passing the brain entirely. This is the key to code proficiency and this is where the Koch Method of learning the Morse Code excels.

Invented by the German psychologist Ludwig Koch in the 1930's, the Koch Method is a simple and direct method of developing these reflexes. In the Koch Method, you start learning the code at 15-20 wpm, but you only start with two characters. You practice these two characters until you can copy them at 90 percent accuracy for five minutes. Once you have learned to copy the first two characters, you add a third character and then practice those three. When you can copy those three characters with 90 percent accuracy for five minutes you add another character and so on until you have mastered all 43 of the required Morse Code characters, numbers and pro-signs.

Why haven't you heard of the Koch Method before if it has been around for some 60 years? Before the availability of personal computers there was no easy way to implement the Koch method. But now there is! Ray Goff, G4FON has written a program for the PC that implements the Koch Method of learning the Morse Code. You can find it on his web site at <http://www.qsl.net/g4fon/CW%20Trainer.htm>. Also, Dave Finley, N1IRZ, goes into more detail about the Koch Method and Morse Code training on his web site at <http://www.sdc.org/~finley/finley.morse.html>. I highly recommend you visit his site.

Learning the code will still take practice and determination. But you can do it if you really want to.

Why learn the code at 5 wpm when you can learn it at 20 wpm with less effort and frustration. With the Koch Method, you'll immediately be able to copy at 15-20 wpm, starting with those first two characters.

73 de KA8VIT

<sup>1</sup> *The Farnsworth Method is a way of sending Morse Code, not learning it.*

## Hamfest Listing

To update or add to this list, please contact Mike DiTurno, KC8OWL, at 216-898-1891 or kc8owl@yahoo.com

### November

16-17 Fort Wayne, IN  
**Allen County AR Technical Society**  
 www.fortwaynehamfest.com  
 260-484-1314  
 jboyer@aol.com

### February

23 Cuyahoga Falls ARC  
 www.cfarc.org  
 330-688-2013  
 w8tts@arrl.net

## Volunteer Exam Dates and Locations

To update or add to this list, please contact Mike DiTurno, KC8OWL, at 216-898-1891 or kc8owl@yahoo.com

Date	Location	Contact	Phone
11/9	Akron Red Cr	Bruce Ferry	330-929-2766
11/10	Independence	Gary Dewey	216-642-1399
11/17	Elyria	Charles S. Hall	440-327-3832
11/19	Sandusky	David Troike	440-986-2929
11/24	Newton Falls	William Showers	330-872-1929
11/30	Stark Co EOC	Gary Kline	330-837-2927
12/7	Wickliffe	Scott Farnham	440-256-0320
12/10	Akron Red Cr	Steve Greathouse	330-724-2247
12/15	Elyria	Charles S. Hall	440-327-3832
12/17	Sandusky	David Troike	440-986-2929

## What's Up?

### Hamming It Up

So, just who are those costumed people (picture on page 5) who were having way too much fun at the October meeting? Well, from left to right, the wizard is Bryan Torok, N8OOF; Cruella DeVille is Ray Bayun, N8NAP; and the cat, the wizard's familiar, is Sara Cechner, KC8KSU.

### Unabashed Advertisement

I have just somewhat noticed that APK.NET, host for www.leara.org, has announced a "serious" price reduction for dial-up access in NE Ohio.

Dialup access is now \$14.95 monthly.  
 Take that, AOHell!!

de Dave Foran, WB8APD  
 Cruise Missile Coordinates 41.36.46N 81.25.53W

### Strange but...

It's official... I'm no longer known as N8YHV as of Saturday, 10-26-02. My new call is now K9ZOE, affectionately named after my Canine, Zoe. :)

Have I lost my mind...? Probably, but I figure what the hell.

de Ryan Wilkins, K9ZOE

**Elyria** - Red Cross Building, 2929 West River Rd., Elyria, OH. Tests are given at 1:00 PM Park in the rear of the building and enter through the back door.

**Independence** - Independence Town Hall, 6652 Brecks-ville Rd. Doors open at 9:00 AM. Pre-registration is appreciated one week prior to test date, although walk-ins are welcome.

**Bentleville** - Bentleyville Town Hall. Testing begins at 9:00 AM.

**Wickliffe** - Amateur Electronic Supply (AES), 28940 Euclid Avenue. For reservations by mail, write to Scott Farnham, 10418 Briar Hill Drive, Kirtland OH 44094-9464. Include a 610 form, a copy of current license, and a check for \$10.00 written out to "ARRL/VEC". Walk-ins are welcome. Exams begin at 12:00 PM. Do NOT call the store for information on VE testing.

\*\***HAMFESTS** - Many hamfests provide VE testing.

### INSTRUCTIONS FOR TEST CANDIDATES

To qualify for VE testing you must bring the original and copies of your current license and CSCE forms (if applicable), proof of identity, i.e., photo ID, or two other forms of identification, and the examination fee. ARRL VEC's exam fees have increased to \$10.00. Check with the contact person in advance for specific testing site requirements.

All VECs have agreed to adopt the policy requiring CSCE forms to be signed by any applicant receiving CSCE credit. Make sure you sign your CSCE before your copy is removed from the carbon copies that are used for processing your license or upgrade.

Those requiring special consideration, such as Braille exams or special hearing equipment for CW testing, should contact the testing organizers at least two weeks before the test session.

**LEARA**  
PO Box 22823  
Beachwood OH 44122-0823

**FIRST CLASS MAIL**  
**U.S. POSTAGE PAID**  
CLEVELAND, OHIO  
Permit No. 4340

# **FIRST CLASS MAIL**

## **LEARA — The Lake Erie Amateur Radio Association**

### **VOICE REPEATERS:**

**53.230/R-**  
**146.76/R-**  
**146.88/R-**  
**224.90/R-**  
**444.40/R+**  
**444.70/R+**

- Highland Hills (136.5 Hz tone)
  - Highland Hills (Use 110.9 Hz tone for remote inputs in Lakewood, Newbury & Willoughby)
  - Lakewood (May require 110.9 Hz tone)
  - Lakewood (141.3 Hz tone)
  - Highland Hills (131.8 Hz tone)
  - Lakewood (131.8 Hz tone)
- (.76, .88, .90 and .70 offer emergency and member-only autopatch lines.)

**PACKET NODES: CLE1** 145.01 MHz: **CLE5** 145.05 MHz: **CLEV220** 223.70 MHz

These nodes are part of the Cleveland Net Cluster in K8EIW's backbone system.

**GENERAL: NBRY**  
**NBRYX**  
**LEARA**

- 145.07 MHz & 223.70 MHz (KA-NODE)
- 145.07 MHz ⇔ 223.70 MHz Gateway
- 145.07 MHz & 223.70 MHz PBBS

### **INTERNET:**

[www.leara.org](http://www.leara.org)

To subscribe via e-mail, send a message to: **spirit76-request@leara.org**  
Put subscribe in the subject area and your name and callsign in the body.

Those who subscribe via e-mail will not receive a paper copy.

**Affiliated**



**Club**

**Northern Ohio**



**Affiliate**