



The Spirit of '76 and '88

Number ONE in Ohio!



Newsletter of the Lake Erie Amateur Radio Association

Editor: Alex Manuk, WD8JMM

Publisher: Jeannie St. Marie, KC8MNW

January Meeting – Tuesday January 25th, 2005

“What’s a Nice Ham Radio Buff Like You Doing Working in a Place Like Dominion East Ohio Gas?”

Long-time ham and LEARA member Jeff Covelli, WA8SAJ, is one of those lucky folks who enjoys what he does for a living. That’s because he’s a ham working hard (or hardly working, depending on how you look at it) in the telecommunications department at Dominion (East Ohio Gas Co., or EOG).



To kick off the Lake Erie Amateur Radio Association’s 2005 season, he’ll be talking about how EOG’s telecommunications infrastructure helps keep our homes warm through the winter. It’s quite a set-up, involving a broad spectrum of radio and telephony, all of which is managed in-house. In other words they don’t wait for any of the “baby Bells” to come maintain or fix their communications equipment when it goes bad—they do it themselves, with the help of folks like Jeff. Come join us to hear how it all gets done.

Dinner is served at approximately 6:30 PM, with the meeting and program beginning at 7:30. Dinner choices (Chicken Parmigiana, Steak, or Broiled Scrod) are 15.00 per person, and reservations are required if you wish to eat. Those wishing to make dinner reservations may call Marv Grossman at 440-248-0031, or make your reservations online at <http://www.leara.org>.

January, 2005

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Holiday Party Highlights

If you missed the November social meeting at Dimitri’s you missed a Really Good Time™. Rainforest Station Committee Member John, KC8FOC, was there, wearing his lampshade antenna on his head. Program Chair Sara, KC8KSU, was table-dancing on the VIP table, singing "Big Spender" at the top of her lungs, with VPs Bryan, N8OOF and Eric, N8AUC, along with yours truly (Editor Alex, WD8JMM) singing back-up. Meanwhile, at the back of the room, President Bob, W2THU, donned a visor and set up an illegal gambling ring using a Bingo cage and stolen door prizes for barter. Then Sara fell off the table and knocked the divider wall off its tracks and it fell with a deafening crash. What a hoot. You just had to be there to appreciate it all!



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OFFICERS	
President Bob Winston, W2THU	W2THU@leara.org 216-771-3314
Vice President Eric Jessen, N8AUC	N8AUC@leara.org 440-734-3146
Vice President Bryan Torok, N8OOF	N8OOF@leara.org 440-871-5456
Secretary Jeff Garvas, N8YNR	N8YNR@leara.org 216-552-4368
Treasurer Dave Foran, WB8APD	WB8APD@leara.org 440-942-0618
License Trustee Eric Jessen, N8AUC	N8AUC@leara.org 440-734-3146
TRUSTEES	
Cliff Bade, W8CJB	W8CJB@leara.org 440-235-1122
Raye Bayun, N8NAP	N8NAP@leara.org 146.760/R
Alex Manuk, WD8JMM	WD8JMM@leara.org 216-459-8523
Marv Grossman, W8AZO	W8AZO@leara.org 440-248-0031
Tom Long N8QXA	N8QXA@leara.org 440-356-0741
Sara Cechner, KC8KSU	KC8KSU@leara.org 440-942-8787
Jim Ozello, N8XDO	N8XDO@leara.org 216-475-7218
John Radney, KC8FOC	KC8FOC@leara.org 216-751-7067
Grant Hedrick, KV0T	KV0T@leara.org 440-944-2184
Tom Bishop, W8TAB	W8TAB@leara.org 440-331-9374
TRUSTEES EMERITUS	
Al Amster, W8HYG	Al Severson, AB8P (SK)
Fred Collins, W8ADW	Pat Shreve, W8GRG (SK)
POINTS OF CONTACT	
"Sunshine" Don Raith, N8DJG	216-921-7546
Radio Officer Raye Bayun N8NAP	146.76/R
Radio Officer Bryan Torok, N8OOF	146.88/R
<p>The <i>Spirit of '76 & '88</i> is published monthly except in December. Contributions must be received by the 1st of the month.</p> <p>Editor: Alex Manuk, WD8JMM</p> <p>E-mail: editor@leara.org</p>	

de W2THU...

Welcome to 2005. I hope you all had a wonderful holiday season. We had a terrific November social meeting, reported elsewhere in this Newsletter. Many of you took home some great door prizes, including the Icom 208H dual band transceiver!



Now that the New Year has begun I am continuing my resolution of making no New Year's resolutions. That's right, you know how hard it is to change one's behavior when you reach my age. So, let's be honest about this and go quietly into 2005 not bragging about how we are going to do things differently, like getting this column to Alex on the first of each and every month.

RAINFOREST STATION VOLUNTEERS

We have had several club members, including John, KC8FOC, Tom, W8TAB, Alex, WD8JMM and myself, volunteer to keep K8ZOO/K8CRF on the air. We will be meeting this month with the previous crew to learn the idiosyncrasies of the zoo station. If you would like to join us, please contact me at w2thu@arrl.net. We are looking forward, as a club, to keep this valuable amateur radio resource on the air.

LEARA NET

(Continued on page 6)

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** 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.

LEARA is an **ARRL**-affiliated club. When you join **ARRL** or renew your membership, **LEARA** benefits monetarily if you do so through the Club. Send **ARRL** applications/renewals to the club treasurer (Dave Foran/WB8APD, 5439 Nan Linn Dr, Willoughby OH 44094-4365). Payment (check or money order) must be made out to **LEARA (NOT ARRL)**.

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 make your reservation online at www.leara.org.

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.

Holiday Party Highlights

(Continued from page 1)

But seriously folks, President Bob did show up with a Bingo cage and cards which were used in a novel approach to distributing door prizes. Instead of distributing tickets to each meeting attendee as is normally done, Bob handed out Bingo cards. Those who made reservations and had dinner received two cards, doubling the chance to win. All others received one card. The cards had a unique feature in that each number had a prepunched semicircle around it. That way it didn't require a marker to indicate a called number. One would simply fold the number back when it was called.

The use of Bingo to distribute the prizes created a fun atmosphere and heightened the suspense. If there is enough positive response, this may become a staple of the holiday social meeting. Also, I don't know if the Bingo had anything to do with it, but I noticed that more people than usual hung around after the close of the formal meeting and, well, socialized.

So, if you missed this one, mark it on your calendar 2005. Heck, while you're at, mark your calendar for they all of the LEARA meetings for 2005. We've got some great programs planned for this year. That way you will be sure to set aside the date and make all of them.

Holiday Door Prize Winners

Icom IC-208H Dual Band Mobile—

Joe Prokop, KC8RAN

Soldering Kit, courtesy of Fred Doob, K8PP and Solder-It —

Bob Mervis, W8RLM

AES Gift Certificate —

Vera Cox, XYL of W8PJM

Cleveland Barons Hockey Tickets, courtesy of Tom Kimball, KA8BZB —

Sharon Andrisin, KC8ZBP
Ed Corcoran, KC8ONS

Free Dinner —

Inez Hvizdos, XYL of W8ACQ



Great Turnout, as always!



Grand Prize Winner Joe, KC8RAN, with his ICOM 208H

Welcome to the Club

LEARA proudly welcomes the following hams who recently joined (or rejoined) LEARA and who have been formally approved by the LEARA Trustees.

New Members

Andrew Juchnowski, AB8MO

Craig Spada, WA2TWF

They will be fine additions to our Association. If you hear them on the air, say hello and make them welcome.

Space and Ham Radio

de Joe Prokop, KC8RAN

Satellites offer an alternative to the "normal" VHF and UHF FM activity. Any licensed ham having Tech privileges or better is able to work long distance contacts via a satellite. It takes a different skill set, but it really isn't at the "rocket science" level. In fact, it's something that can be done "low tech" with the proper equipment.

Think of the satellite as 2 HT's linked together. One is on the 70cm band to transmit down and one is on 2m to receive up from earth-based stations. The radios are powered by batteries, assisted and charged by solar cells, all contained in a box about the size a basketball would come in. The transmitter runs at a low power level (from 1/4 watt to 5 watts). The antenna may have minimal gain, if any, on the "bird".

Even though the power is low, remember that a line of sight over a longer path exists. Satellites, while having a low signal level, have better coverage than your local repeater, despite the repeater's power advantage. If you were at the September LEARA meeting, you heard Eric N8AUC note that height cures lots of sins. The FM satellites range from about 700 to 1200 km up, depending on the orbit.

Hearing a satellite has a few challenges that need to be met. The Low-Earth-Orbiting (LEO) satellites are not stationary, but have polar orbits. They are constantly moving, traveling rapidly in a south-to-north or north-to-south path. This leads to doppler shifts in the frequency seen at the receiver on Earth.

As the bird approaches, the frequency that the radio receives starts higher than the actual transmit signal. As the bird approaches the station's latitude (about 41.4 degrees North for the Cleveland area), the receive frequency is at or near the actual transmit frequency. Finally as the bird flies away from the station, the frequency appears lower at the Earth station. The higher the frequency, the greater the doppler effect on the frequency seen at the station's receiver.

Another problem is the coverage area (footprint) is in constant motion, moving across the entire globe during a local day. The LEO birds may cover nearly the entire US during a pass, but because it is moving, you need to know when and how long you will be in the coverage area.

There are some websites that can give you pass times, maximum altitude, and the compass points where the signal will be first heard (acquisition of signal, or AOS) and when the signal will be lost (loss of signal, or LOS). Check out

the AMSAT website (www.amsat.org) and Heavens Above (www.heavens-above.com) to get the pass information. Tracking software is also available on the web. Drop me an email if you have trouble getting pass times and other satellite information.

Most dual band HT's and FM base stations are capable of hearing the most popular LEO birds AO-27, SO-50, the newest member of the fleet Echo (AO-51) and the ISS. Rubber duck (a.k.a. rubber dummy loads) and vertical antennas in general, however, are not made for hearing the birds.

For portable or limited fixed reception, a good antenna that has a little gain and is reasonably priced is the Arrow type of antenna. Remember that the satellite is moving and with a beam you need to either track the bird or fix the position of the antenna in a direction the bird will pass through. The second option does shorten the time you can hear the bird. Check the Antenna Handbook from the ARRL and the AMSAT website for other antenna ideas.

If you want to explore a new operating mode, consider trying satellites. The AMSAT website has all of the information you need as well as links to other related sites. In the next installment, I'll cover some specific methods on working AO-27, SO-50 and AO-51. Feel free to contact me at kc8ran@aol.com if you want a head start..



Repeater ABC's—part 3 of a series

de Eric Jessen, N8AUC

How does a repeater work? - part 2 of 2

Last time, we talked about what makes up a repeater. This month, we'll look into how the repeater actually works. We'll use the 88 repeater as an example, since it is a relatively simple, single site repeater. Things get a lot more complicated when multiple inputs and a voter is involved, like on the 76 repeater.

The 146.28/146.88 repeater is located in Lakewood, Ohio, very close to Lakewood Hospital. There is a single receiver which listens on your transmit frequency, 146.28 MHz. When you transmit, the receiver hears your signal, and examines it to see if it has the required subaudible (PL) tone of 110.9Hz. If the signal has the necessary PL tone, the receiver squelch is opened, and your transmitted audio is passed to the repeater controller. The controller senses the opening of the squelch at its COR (Carrier Operated Relay) input and starts the timeout timer, and then turns on (or "keys") the repeater transmitter. When the transmitted audio makes it through the audio delay line, it is routed to the input of the transmitter, where it is then heard on the repeater output frequency of 146.88 MHz. This continues until one of the following things happen:

- 1) If you continue to transmit after the timeout timer counts down to zero, the repeater stops retransmitting your audio, the controller makes a sound effect that sounds like a car crash, and the voice synthesizer announces to the rest of us that you have "timed out" the repeater. The repeater then turns off its transmitter, and waits until you stop transmitting. Then the repeater controller turns the transmitter back on, and the voice synthesizer tells the rest of us how long-winded you were by announcing how long the repeater was "timed out". During normal hours, the timeout timer is set at the maximum value allowed by FCC rule, which is 3 minutes. After midnight, the timer is reduced to 90 seconds. Or..
- 2) When you stop transmitting, the receiver no longer hears your signal, notices that there is no PL present anymore, and closes its squelch. This deactivates the COR signal to the controller. A short time later, the courtesy tone sounds, the controller resets the timeout timer, and about a second later, the transmitter is turned off. The "courtesy tone" is used to let others know that the full 3 minute period is available for the next user. The courtesy tone is the "boop" tone you hear. When you are in a conversation with another station and the other party stops talking, wait until

you hear the "boop" before you begin transmitting. If you don't "wait for the boop", you could timeout the repeater yourself. So remember to wait for the boop!



The current state of the repeater can also be determined by listening to the courtesy tone. For instance, if Skywarn is active but in standby mode, the courtesy tone will actually be a morse code letter S. If Skywarn is active and in warning mode, the courtesy tone will be a morse code letter W. If a net is in progress, like the club net on thursday night, the courtesy tone will be a morse code letter N. If there is no courtesy tone, and the transmitter drops immediately, then the repeater is in "bozo mode". More on that in a later installment.

In the case of the 88 repeater, the transmitter sends PL all the time while it is transmitting. This is done so you can use the PL decoder on your receiver to help you cut down on the amount of intermodulation interference received by your radio. This is what is referred to as "intermod", and is commonly caused by VHF paging transmitters. Very thoughtful of us, isn't it?

Why do we require that you transmit a subaudible, or PL tone in order to use the repeater? Contrary to the opinion that some folks have, it is not to have a "closed repeater", or to keep people out. We actually want you to use our repeaters. That is why they are there. The reason why we require PL is to prevent spurious signals from OUTSIDE the ham bands from getting into the repeater. It is also done to make sure YOU can use the repeater during times when the band is "up", and we are experiencing good DX conditions on the 2 meter band. Signals from out of the local area probably will have a different PL tone (if any) on them.

So, there you have it. Now you know how the repeater works "its magic". Next month, we'll look at what you can expect in terms of performance from the fine repeaters of LEARA!

de W2THU (cont'd)*(Continued from page 2)*

Now, that I have finally broken down and agreed to join the net control rotation, my first observation is that we are not getting the number of check-ins that we used to. I know that there are a lot of nets out there, and that you can't always be around on Thursday evenings at 8:00 p.m. However, with over 300 members, we would be delighted to hear you on 146.76. In addition to newsworthy items, we do have a trivia question and sometimes we ask you to comment on an interesting topic related to amateur radio, such as why did you decide to become a ham radio operator. Please join us this coming Thursday for more ham radio fun.

TSUNAMI DISASTER AND AMATEUR RADIO

It was heartening, and not unexpected, to read that ham radio operators in the affected countries were indeed communicating both on HF and 2 meters. According to the ARRL website, Indian Prime Minister Singh praised the amateur radio operators in his and other countries for assisting with emergency traffic and health and welfare issues. Sri Lanka's Prime Minister had no contact with the outside world until a ham radio station was set up in his official residence. It takes a calamity of this extraordinary nature to prove that amateur radio provides worldwide assistance on the ham bands. Let's hope that the world never again experiences such an enormous loss of life from a natural disaster.

GREAT LAKES DIVISION CONVENTION

It is not too soon to remind everybody that our own ARRL Great Lakes Division Convention will be hosted in Ohio this year by the Toledo Mobile Radio Association (TMRA). The guest speaker will be the ever popular Riley Hollingsworth, K4ZDH. The Convention is Saturday, 19 March 2005 followed by the Toledo Hamfest on Sunday. Toledo is one of Ohio's great hamfests and the only major one that I still need to visit. To learn more about this go to http://greatlakes.arrl.org/division_convention.htm.

I look forward to seeing you at our first club meeting of 2005 at Dimitri's. Please join us for a great evening of camaraderie, food and an interesting program.

73, Bob Winston W2THU

The Call of the Fox*Submitted by Mike Cegelski, K8EHP*

Hark the forest's beckon call;
its source is unbeknownst to all.
Concealed by hills, and limbs of pine,
it beseeches softly: come and find.

Too briefly did the signal tarry;
reflections do the treetops carry;
westward it did point me last,
but will the forest let me pass?

With map and aerial I seek a course:
the quickest passage to the source.
From north and west I now opine,
wafts the missive: come and find.

Silent now, the caller rests.
No hint betrays its secret nest.
None can know how far or near,
save those who seek and persevere.

Through pleasant meadow, past sullen stream;
I note the bearings, hoist my beam.
The trail extends before, behind;
how strong it shouts: come and find.

Again the caller leaves the air,
up the hillock I rush to snare,
an utterance from a lofty perch:
a decisive bearing to end my search.

The minutes pass, and still I seek,
to gain the unobstructed peak.
When silent seconds at last unwind,
it nearly deafens: come and find!

Before it ends its deafening cry,
beneath a tree the flag I spy.
There lies the source of siren's sound,
and I proclaim: I went! I found!

-NZØI

***Remember...* Check your expiration date on the mailing label. If it shows your membership as expired, send in your renewal...**

Today!! (and check your ARRL status while you are at it.)

Hamfest Listing

February

6 NOARS Winterfest
 Northern Ohio Amateur Radio Society
<http://www.geocities.com/k8krq/winterfe.htm>
 Talk-In: 146.700/R-
 Contact: Tom Porter, W8KYZ
 161 Herrmann Drive
 Avon Lake, OH 44012
 Phone: 440-930-9115

13 Mid*Winter Hamfest and Computer Show
 InterCity ARC
<http://www.iarc.ws>
 Talk-In: 146.94 (PL 71.9)
 Contact: Deane Wrasse, KB8MG
 1094 Beal Road
 Mansfield, OH 44905
 Phone: 419-522-9893
 Email: deanwrasse@yahoo.com

March

**19 Great Lakes Division Convention
 Toledo Mobile Radio Association**
 Toledo, Ohio
 Contact: Brenda Krukowski, KB8IUP
 9408 Salisbury Road
 Monclova, OH 43542-9700
 Phone: 419-260-4310
 Email: kb8iup@arrl.net

**20 TMRA Hamfest
 Toledo Mobile Radio Association**
<http://tmrahamradio.org>
 Contact: Brian Harrington, WD8MXR
 4463 Holly Hill Drive
 Toledo, OH 43614
 Phone: 419-385-5624
 Email: bharrington@mco.edu

April

3 Lake County ARA
<http://www.lcara.org>
 Contact: Rocky, KB8WFD
 7480 Fern Drive
 Mentor-on-the-Lake, OH 44060
 Phone: 440-209-8953
 Email: kb8wfd@adelphia.net

Volunteer Exam Dates and Locations

<u>Date</u>	<u>Location</u>	<u>Date</u>	<u>Location</u>
1/28	Bentleyville	4/9	Akron ARC
		4/30	Bentleyville
2/1	Akron, Pioneer		
2/5	Kirtland	5/1	Independence
		5/3	Akron, Pioneer
3/1	Cuyahoga Falls		
3/13	Independence		

Akron, Pioneer AR Fellowship - 2324 Manchester Rd., Akron, OH, 44314. Pre-registration preferred, check-in 6:30 PM, test at 7:00 PM, walk-ins allowed. **Contact:** Ronald D. Lieving, 330-724-5981.

Akron, Summit Co. American Red Cross - 501 W. Market St., Akron, OH, 44303. Testing at 3:00 PM, walk-ins allowed. **Contact:** Bruce M. Ferry, 330-929-2766, ak8b@arrl.net

Bentleyville - Bentleyville Town Hall, 6253 Chagrin River Rd., (corner of Solon Rd & River Rd) Bentleyville, OH 44022. Testing begins at 9:00 AM, walk-ins allowed. **Contact:** Robert Gauss, N8ZB, 330-563-3328, n8zb@yahoo.com

Cuyahoga Falls - 3512 Darrow Rd., Stow, OH 44224. Test at 7:00 PM, walk-ins allowed. **Contact:** Bruce M. Ferry, 330-929-2766.

Elyria - American Red Cross, 2929 West River Rd., Elyria, OH, 44035. Testing at 1:00 PM, park in rear and enter through back door, walk-ins allowed. **Contact:** Charles S. Hall, 216-433-3036, ve@w8hf.com, www.w8hf.com

Independence - Independence Town Hall, 6652 Brecks-ville Rd., Independence OH, 44131. Doors open 9:00 AM. Pre-registration is appreciated, walk-ins are welcome. **Contact:** Gary S. Dewey, 216-642-9705, gdewey@en.com

Kirtland - Kirtland Library, 9267 Chillicothe Road, Kirtland, OH 44094. Testing at 12:00 PM, Walk-ins are welcome. **Contact:** Scott Farnham, 440-256-0320.

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

INSTRUCTIONS FOR TEST CANDIDATES

For VE testing one must bring the original and copies of the current license and CSCE forms (if applicable), identification, and the exam fee. ARRL VEC's exam fees are \$12.00. Check with the contact person in advance for specific testing site requirements and any special test accommodations needed.