



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

Skywarn Training—Tuesday, March 29, 2005

The Lake Erie Amateur Radio Association (LEARA) and Cuyahoga County Skywarn (CCSW) are co-sponsoring Skywarn training for Cuyahoga County on Tuesday March 29 promptly at 7 pm. **The training session will be held at Harry's Steakhouse located at 5664 Brecksville Road in Independence.** This session is free, open to the public and no pre-registration is required. An optional buffet-style dinner will be offered. Interested attendees who would like to purchase a dinner are encouraged to call LEARA voicemail in advance (preferably 1 week, but accepted up to the day before) at 440-248-0031. Dinner is \$18; we hope to be seated by 6:15 (but will understand rush-hour hardships!)

The Skywarn spotter program is a nationwide network of volunteers trained by the National Weather Service (NWS) to report severe weather. Skywarn volunteers are the eyes and ears of NWS, helping to provide better weather warnings to the public. Reports can be made by amateur radio, email or phone. The reports are used by NWS forecasters for use in making warning decisions and verification of weather watches and warnings, as well as for statistical purposes.

Anyone is welcome to participate in Skywarn--the only requirement is attendance at a Skywarn training session such as this. About 60% of spotters are ham radio operators; information about amateur radio will also be available at the session.

The spotter training session can be useful to public service employees such as law enforcement patrolmen, fire fighters, and radio dispatchers by helping them to identify severe weather threats that may affect their communities. It will also inform them what specific information is needed for reporting severe weather to the NWS.

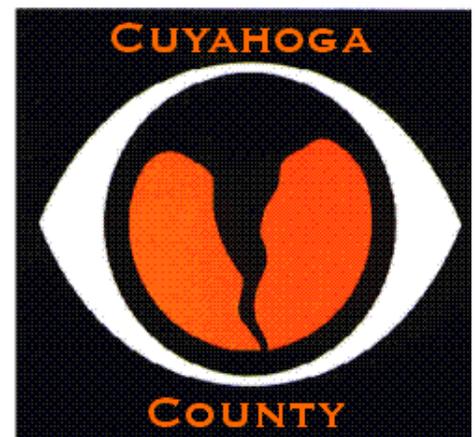
If you live or work outside Cuyahoga County, you can attend sessions in over 30 other area counties in northern Ohio and western Pennsylvania—information is posted on the web page of the NWS' Cleveland office (<http://www.erh.noaa.gov/er/cle/skywarn/training/spottran.html>).

We hope to see you at the Cuyahoga County Skywarn Training session on Tuesday March 29 at 7 pm!

March, 2005

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SKYWARN

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

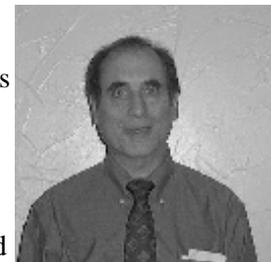
Editor:

Alex Manuk, WD8JMM

E-mail: editor@leara.org

de W2THU...

We had a wonderful February meeting at Dimitri's when our ARRL Ohio Section Manager Joe Phillips, K8QOE enlightened us on a wide range of amateur radio topics. Joe explained how 911 money has filtered down to ARES projects, predicted that BPL issues would fade away and discussed a myriad of ARRL related topics. A vibrant question and answer period following his talk continued late into the evening. Thanks Joe for coming in from Cincinnati.



I'm sure you have noticed that our 146.88 repeater is experiencing intermittent problems that appear to be weather related. Our radio gurus have concluded that a close look at the transmission line and antenna will reveal the problem. However, this isn't the kind of weather when you want to go outside on the top of a very tall building in Lakewood to make the necessary repairs. The wind and ice could kill you. A tightened squelch is a temporary fix until mother nature makes the region warm enough to venture outside at the repeater site. Please bear with us.

There has been a lot of talk lately about interference from Broadband Over Power Lines (BPL) to our amateur radio service. But, how many of you have experienced interference into your receivers from other sources, such as your computer or a leak in the cable TV coaxial connector? For example, there is always a spurious signal

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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.

February Meeting Recap

February's meeting was the perfect mix of entertainment and education, as our ARRL Section Manager, Joe Phillips, K8QOE, joined us for dinner and a question and answer session. For those of you who haven't met Joe, you don't know what you're missing. His candor and sense of humor make him an interesting speaker on many topics, and his experience as a schoolteacher helps to temper his delivery with the proper amount of understanding.

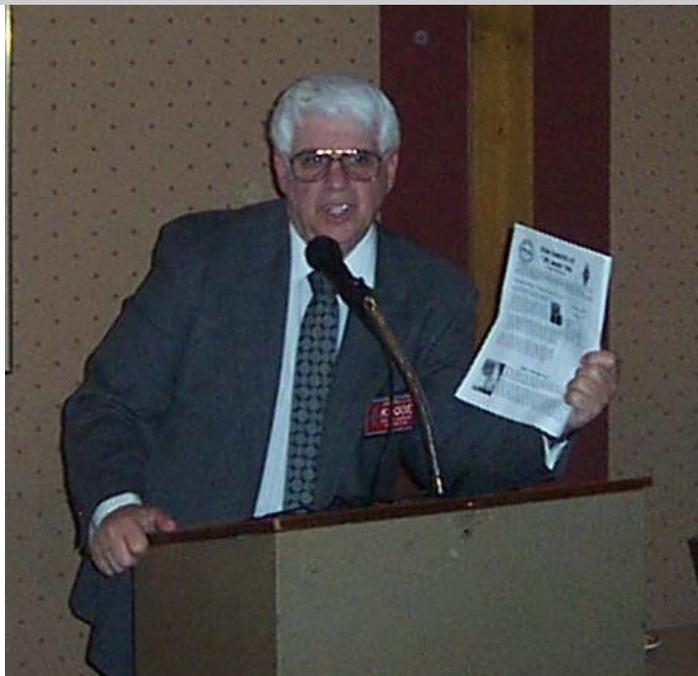
Joe discussed what's been going on with BPL in Cincinnati, and pointed out that while BPL is still a topic of concern, it appears that the threat is not quite as great as ARRL had anticipated. Joe feels that the economics of BPL are becoming prohibitive. In the light of fierce competition for your broadband dollar from the DSL and cable internet providers, BPL rollouts are entirely too expensive to make economic sense.

Nevertheless, he pointed out that in the meantime, we can take steps on our own, by establishing a 'noise floor' measurement in our neighborhoods, just in case BPL does arrive. That way, we can be assured that our complaints to the FCC will not go unnoticed, as we'll have data to back them up.

The discussion then moved to the license structure modification that's become such an item of hot debate in the amateur community. Joe's feeling on the final steps of restructuring is that we should expect to see a decision announced during the ARRL Convention, held this year at the Dayton Hamvention in May.

The evening ended with a lively question and answer session, encompassing everything from well-known interference cases to Ohio's activity regarding PRB-1.

All in all, it was a very entertaining and educational evening for everyone. LEARA thanks Joe, K8QOE, for taking the time to visit.



February Door Prizes

Free Dinner:	Tom Bishop, W8TAB
Orchestra Tickets, courtesy of Jean, KC8TJH:	Bill Gorris, N8PLV
Repeater Directory:	Mike Wolf, KD8ACG
Screwdriver Set:	Cliff Bade, W8CJB
Micro Pliers:	Jeanne St. Marie, KC8MNV
Repeater Directory:	Frank Hvizdos, W8ACQ
Precision Pliers:	Ron Jakubowski, K2RJ
Tool Belt:	Roy McClure, KD8AJX
Micro Pliers:	Dan Wright, N8QAT
Repeater Directory:	George Cox, W8PJN
Screwdriver Set:	Alex Manuk, WD8JMM
50/50 Raffle:	Mike Wolf, KD8ACG

Welcome to the Club

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

New Member

Paul Mitchell, N8QZ

Returning Members—Welcome Back!

Ron Jakubowski, K2RJ

Kathy Jakubowski, N2AGQ

Please make them welcome when you hear them on the air!

Space and Ham Radio—Part Three

de Joe Prokop, KC8RAN

The International Space Station is the most versatile space based communication platform available today for hams. The station has the capabilities for direct voice contact with the station crew, APRS style digipeating, crossband repeater operations and a minimal packet mailbox system. In addition, anyone can monitor the ISS crew transmissions when the school contacts are made as part of the ARISS program. We will not cover the mailbox system, but links below have other links that describe how that works.

The ISS has a couple advantages for ground based reception. The station is flying at an altitude generally between 300 and 400 miles, depending on the orbital decay and the corrections the crew will make to the orbit. This is about half the altitude of the FM satellites. Another advantage is the transmitter used generally runs about 4 watts. Satellites run 1 watt or less. The result is when the satellite travels above the horizon, it can generally be heard earlier and louder than the other satellites. The downside of the lower altitude is the “footprint” (the area on the ground where the ISS can be heard) is smaller.

Because of the stronger signal the ISS generates, it may be possible to hear the station with “normal” 2M equipment. One Field Day a few years back I was able to copy the Field Day contacts being made by the crew with my HT and the supplied rubber duck antenna. Both the uplink and downlink are in the 2-meter band, except when the crossband repeater is operating. While I haven't tried it, some hams have had success with a base station vertical antenna on lower elevation passes (when the satellite is 30 degrees or less above the horizon).

The downlink on all modes is 145.800 MHz FM, with the exception of some occasional linking experiments with another satellite. Because the ISS is moving rapidly, Doppler still comes into play. You will have to adjust your frequency as the signal dictates. Start off listening 5 KHz high, switching to the downlink frequency as the satellite as the satellite approaches, and finally move 5 KHz lower as the satellite moves away.

The most common mode is the APRS digipeating. The downlink is transmitting packets at 1200 baud using the AX.25 standard. If you want to get a feel for what this sounds like (as it is audible), tune into the APRS frequency of 144.39 (FM). Occasionally you will hear a packet burst that sounds like a buzzer. If you have a TNC or sound card packet program like MixW, you can copy the packets being transmitted. The worldwide uplink frequency to transmit

packets to the ISS is 145.990 FM. Be advised that if you transmit voice, it will be ignored (and you will be causing QRM to the other users). In the digipeating mode, the receiver is connected to a TNC. The data from the TNC is then transmitted after reception on the downlink frequency.

If you have the capability to copy packets, here's a sample of what you will see from a pass (I copied this on Feb 12 15:49-50Z):

```
WB9IIV>RSOISS-3*>KC8YJB:Hello de Harry
WB9IIV>RSOISS-3*>WA1KAT:Helo de crry
KB1IUL>RSOISS-3*>WIDE>TRQX5T:'c01l -/Steve in
Norood, Me
N3BZW>RSOISS-3*>FN00TM>JIM>CQ::all :hello
from altoona,pa
```

Instructions on how to digipeat would take up too much space in this article. For more information on digipeating packets using ISS, go to the AMSAT website where you will find links to the ISS and how to use the digipeater.

When the crossband repeater is running, the downlink remains at 145.800 MHz. The uplink is at 437.800 MHz FM. This is the opposite of the Easy Sats described last month. The Easy Sats have 70cm band downlinks and 2M uplinks. One problem reported on the AMSAT BB posts are illegal 2M operation of taxis, phones and other transmissions outside of the US. It's particularly a problem in Asia and Europe. ISS avoids this by maintaining the 2M downlink and uplinking on 70cm. The downside again is Doppler. At this uplink frequency, the Doppler shift is 10 kHz up and down. If the ISS is in this mode, you need to correct your transmit frequency to compensate. I use Doppler correction through a tracking program and was able to make crossband repeater contacts when the repeater was operating.

ARISS school contacts occur regularly. Information on when contacts are scheduled can be found at <http://www.amsat.org/amsat/ariss/news/arissnews.txt>. Match up the school contacts to times when the ISS will be over the horizon. Pass times can be found at <http://www.amsat.org/amsat-new/tools/predict/>. Type in EN91 for the grid square in the Cleveland area. Modifying the number of passes to 30 will yield about 1 week's worth of passes.

Since the Columbia disaster, the ISS crew size has been cut back to 2. Free time to play radio is minimal. But, on occasion, Commander Leroy Chiao, KE5BRW, may be on the air. The most opportune time for Cmdr. Chiao to make contacts is before the 2130-0600Z sleep period. If you want to get a feel for the crew schedule, it can be found at <http://>

(Continued on page 8)

Repeater ABC's—part 5 of a series

de Eric Jessen, N8AUC

Repeaters and DX

Just like everything else in life, there is "what you can do", and "what you should do". Last month we discussed what you CAN do. This month we'll look at what you SHOULD do. You've probably heard the term "good amateur practice". Good amateur practice is generally defined by what hams as a group have come to a consensus on, regarding what defines proper operating technique and behavior. You may or may not agree with it. But under the terms of your license grant, you are bound to observe and adhere to "good amateur practice". See 47CFR Part 97 section 101a if you don't believe me. What is good amateur practice? Well, according to Riley Hollingsworth, FCC Special Counsel for Enforcement, it is essentially realizing that all frequencies are shared, that your rights end where they begin to infringe on the rights of another, and conducting yourself on the air accordingly. Gee that sounds like common sense, doesn't it? Over time, if it hasn't already, it will amaze you how many people just don't grasp that concept.

So how does that relate to Repeaters and DX?

DX is a powerful and wonderful thing. DX essentially refers to communication at a great distance. It began as an old radiotelegraphers abbreviation (seems like most of our jargon did), and continues in use to this very day. DX also means different things to different people. For the person who regularly operates on the 20 meter band, DX probably means working stations across the ocean, or in some foreign country. But for the person who lives on VHF and UHF, it has an entirely different meaning. But it always refers to communication at a great distance. If your normal range is 25-35 miles, then working a station a few hundred miles away is fabulous DX. Once you've worked DX, it gets into your blood, just like driving fast cars, or flying airplanes. The quest for better and better DX has been with us since the early days, and continues today. It will probably be with us as long as there is Amateur Radio.

Remember the purpose of the repeater station. It is there to improve the range of mobile and hand held transceivers. They are used for public service, and to provide aid to travelers in distress, among other things. With that in mind, you should not work DX through a repeater. It is not in keeping with good amateur practice. Besides, working DX through a repeater is like shooting fish in a barrel. There is no sport in that. Here's why..

Any real DX'er will tell you that the reason why DX is

challenging is that it is a test of your station equipment, and your operating ability. When you work DX through a repeater, it's not YOU working the DX. You're just talking to the local repeater like you always do. The repeater is being heard by, and being accessed by the DX station. You aren't doing anything special, and you certainly aren't asking much of your station either. This is why repeater contacts are not allowed for credit in the VHF and UHF DX contests. The reason they don't count for credit with DX'ers, is because it's considered cheating. Besides, while you're tying up a repeater trying to work DX, someone with a bona fide need to use the repeater (car broken down, auto accident with injuries, etc) is being kept from using the repeater. Remember good amateur practice? This is where it comes into play. The bottom line and rule of thumb to follow, is to not work DX through a repeater.

But working DX isn't a bad thing. Oh, no, not at all. In fact it's a good thing when you do it right. It's an awful lot of fun, too!

Often times, you'll hear strange identifiers appear on your favorite repeater frequency. Once you learn to copy the code you'll be able to know what they're sending, but you will recognize that the pattern of dits and dahs are different than what you're used to hearing. This happens frequently on 146.76 around Cleveland. I routinely hear identifiers from Columbus and Detroit repeaters from my home on the west side. People who drive along the lake shore on the west side will tell you that many mornings in the late spring and early summer, they can't even hear our 76 repeater, because Detroit is stronger than we are in those areas. When you hear that happen, drop down to one of the simplex frequencies (146.52MHz is a great place to start) and see who or what you can hear. Maybe call CQ DX and see who can hear you? When you work a distant station on simplex, THAT counts. Because it's you and your station doing the work. Working DX on simplex IS good amateur practice. That's what "real hams" do, and it's what YOU should do, too! And it's a LOAD of fun, too!

Be careful though, once you start working DX, it will get in YOUR blood. Then you're going to want a beam antenna with a rotor and low loss feed line on your roof. Helix, yeah that's the stuff!

Or a tower!

Yeah - a REAL TALL tower!

Next thing you know, you'll be saying, "Honey we need a
(Continued on page 8)

Looking Ahead

de Alex Manuk, WD8JMM

I'm ready for spring, aren't you? As I look out the window at three inches of fresh, new snow, I can't help but think 'it's too EARLY for Public Service!'. It's time to start marking your calendar for the LEARA events you'll want to take part in this year.

We'll kick off the season, as always, with the Westlake Invitation Soccer Tournament. This event is the set piece of LEARA's public service work each year, and no single event needs more volunteers or is more appreciated. WIST happens in Westlake, at various soccer fields, over the Memorial Day weekend. Last year, there were teams from as far away as Kansas participating. It's a great time for anyone who enjoys the outdoors, sports, children, or just needs an excuse to work on a killer tan (right, Marv?) Interested parties can contact Eric, N8AUC to be added to the roster.

The last weekend in June (25th & 26th) is ARRL Field Day, always an enjoyable time. It's a chance to play with radios or modes you don't normally get a chance to operate, a chance to visit with other LEARA members in a casual atmosphere, and most of all, a chance to put Amateur Radio out in the public eye. LEARA's Field Day has traditionally been a very laid-back event, where having fun and representing radio to the public take priority over contesting and points. If you've joined us in the past, plan on yet another great weekend. If not, why not make plans to come out and visit? Planning meetings for Field Day will be scheduled soon. Contact me, WD8JMM for more information.

July brings the Skybank Triathlon, which takes place the 17th in and around downtown Cleveland. It's a fun event, with something for everyone. Mark your calendar and contact Tom Kimball, KA8BZB, for more information or to volunteer.

No Ham Radio planning article would be complete without mention of the HAMVENTION. May 20-22, the Amateur community gathers in Dayton, Ohio for it's annual party-to-end-all-parties. It'll be bigger than ever this year, because the ARRL Convention will be held at Dayton as well. Dayton is the Ham Radio Mecca—everybody HAS to make the pilgrimage at least once. The easy way to go is on the CARS bus, on Saturday. For more information or to reserve a spot, see <http://www.cars.org> or call Terry, KB8DTC at 330-273-1043.

73 de Alex, WD8JMM

Memorable 2-meter Contact

de Jim Ozello, N8XDO

Meeting night, February:

Because of a cold, I decided not to go to the meeting and called Bob Winston, expressed my regrets at not being able to listen to Joe Phillips' talk, and asked Bob to get someone else to sell 50/50 tickets.

At noon on Wednesday, I felt better and decided to run some errands. I was driving on I 480 and threw out my call. "N8XDO listening"

K8QOE answered and told me he had attended the LEARA meeting the night before, stayed in Solon at a friend's house and was driving back to Cincinnati.

Excellent! I was going to get a report on the meeting. Then, of course, my question was, "Are you Joe Phillips?"

Joe and I talked about the micro climate in Cincinnati, "Very little snow and 25 degrees warmer than Cleveland." He also explained that the politicians had received some incorrect advice about the advantages of BPL over power lines and were now realizing that it is not such a good thing.

But, the most fun of the conversation was when we reminisced about the finest Indians Baseball Team, The 1948 World Series winners. Joe was seven, I was thirteen and both of us were avid fans. My scorebook is stored away somewhere. Joe also mentioned the 1954 Indians who won the pennant, but lost the World Series. I had chosen to forget that.

This is an exciting hobby. Remember to use the repeater whenever you can. You never know who will answer.

Jim Ozello N8XDO

Vintage Rigs Website

Great Lakes Division Convention

de John Joseph, W8NRA

Check out the New Site on the Block

<http://www.vintagerigs.info>

Our goal is to provide the Amateur Radio Community and Radio Enthusiasts with the largest photo gallery on the Internet.

The purpose of this site is to provide a vast visual reference library of all types of communications equipment ranging from Vintage to Late Model Ham Gear, Vintage C.B. Radios, FRS Radios, Scanners, Military Radios, GMRS Radios, and more!

If you have ever searched the web for used communications gear and wondered "What does that radio look like?" remember our site! We feature many pictures of rare and antique radios sought after as "collectibles", as well as the latest and greatest rigs.

So whether you're looking for an old favorite or just browsing the site for fun, we hope you will visit our site often. We are always adding more! If you have a picture that we don't, just upload it and add it to the collection. (Registered members of the site can add pictures to the gallery) **REGISTRATION IS FREE!!! So Sign Up Now!**

73, John Joseph W8NRA, Tom Ford K8CNN



When: *Saturday, March 19, 2005*

Where: *Holiday Inn, Toledo West
2340 S. Reynolds Rd.
Toledo, Ohio 43614*

For more information: *1-419-865-1361*

Or on the web: *<http://greatlakes.arrl.org>*

Email: *gm401@columbiasussex.com*

Public Service Volunteer Opportunities

de TJ Powell, N8UIR

The Northeast Ohio Medical Reserve Corps has events coming up this spring/summer which require volunteers for communications as well as medical support. We would like to obtain as many volunteers as possible for these events. The following is a listing of Public Service Volunteer Opportunities:

March of Dimes WalkAmerica --- Gund Arena
04/17/2005 Sun 0700-1300
Ham Radio & Medical Support Required

MS WALK Downtown Cleveland
04/23/2005 Sat 0800-1400
Medical Support Required

MS WALK Akron (CVNRA --- Boston Mills Ski Resort)
04/23/2005 Sat 0800-1400
Medical Support Required

March of Dimes WalkAmerica --- Wade Oval
05/01/2005 Sun 0745-1300
Ham Radio & Medical Support Required

Nat'l MS Society Pedal to the Point
08/20/2005 Sat 0600-1800
08/21/2005 Sun 0600-1800
Ham Radio & Medical Support Required

We will be adding more events in the near future, please check our website at <http://www.neomrc.org> for them.

To volunteer for any of these contact T.J. Powell @ tpowell@neomrc.org or leave a message at 330-468-1984.

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

on 146.76 MHz in my neighborhood. At first, I thought it was from my own PC. But, the signal remains after shutting off the computer leading me to believe that its origin is a neighbor's PC or a poorly crimped CATV fitting. I have walked the neighborhood with my HT without locating the source, which ironically lands on our east side LEARA repeater's output frequency. So, the only cure is to keep the receiver in tone squelch mode, which is another reason to run tone whenever you communicate through our repeaters, even if you don't need tone to bring it up.

Last month I announced the beginning of the hamfest season. Now, with the warm weather approaching, we will get ready for the public service season. This is one of the best ways to promote amateur radio. We can never have too many volunteers at these triathlons, marathons, soccer tournaments, MS walks and other fund raisers that involve monitoring large groups of participants who are on the move. Put your ham license to good use by volunteering for at least one of these important events in 2005. Not only will you enjoy the event, you will also be preparing for emergency communications at the same time.

This is your final reminder to join us at the ARRL Great Lakes Division Convention which is being held only a couple of hours drive from Cleveland at the Holiday Inn on Reynolds road in Toledo, on Saturday 19 March. Stick around for the Toledo Mobile Radio Association Hamfest the following day at the Lucas County Recreation Center in Maumee. This is TMRA's 50th hamfest and I'm looking forward to it.

As always, the March meeting is our annual Skywarn training session. You must attend if you desire to be a Skywarn spotter. These programs are jam packed with interesting meteorological information and are always accompanied by exciting footage of real severe weather, such as up close tornadoes and flooding. This is your chance to speak directly to our Cleveland NWS meteorologists who make these presentations in order to build up a strong Skywarn program in northern Ohio. Remember to come to Harry's Restaurant this month and not Dimitri's. I'll see you there.

73 de Bob Winston W2THU

Space and Ham Radio—cont'd*(Continued from page 4)*

spaceflight.nasa.gov/station/timelines/. Generally the schedule is a day or 3 behind, but at least you can look at some of the daily activities to get the idea. When the crew is able to make contacts, the uplink is on 144.490 FM. (File this frequency away for Field Day! Hint, hint!).

In the next installment, we'll change gears slightly. Since March is Skywarn Month, we'll look at some weather satellites. There are 3 NOAA polar orbiting satellites that transmit pictures of the clouds in both visible and infrared views that can be received and displayed. There are also satellites in geosynchronous orbit that can be received with the proper equipment. In the meantime, as always, contact me either on the LEARA club net or via email at kc8ran@cox.net if you have any comments or questions.

73 de Joe KC8RAN

Repeater ABC's—cont'd*(Continued from page 5)*

new house. With a bigger yard!" She'll think it's for the kids and be very supportive until you blurt out, "On a very high hill, where there are no antenna restrictions." Then she'll roll her eyes back and walk away, or worse, unless she's a ham too.

Why? Because that's how you get better and more DX.

Then you'll have to have an RF Power Amplifier, a bigger power supply, and a receiver preamp. Soon, it'll be stacked yagis and phasing harnesses. Oh, and don't forget a two-axis rotor, so you can work the satellites, and the space station!

Oh, you'll need a better rig, a multi-mode rig, with single-sideband, because you'll need a better receiver. So you can hear the DX better. And the DX is better on sideband anyway. At least that's what the real DX'ers say.

The salesmen at the ham radio store will get to know you on a first name basis! They'll smile when YOU walk in!

Ah yes, welcome to ham radio!

Until next time..see YOU on the AIR!

Working DX on simplex.like a REAL ham!

Hamfest Listing

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

17 Cuyahoga Falls ARC
<http://www.cfarc.org>
Contact: Ted Sarah, W8TTS
239 Bermont Ave.
Munroe Falls, OH 44262
Phone: 330-688-2013
Email: w8tts@w8tts.com

May

20-22 DAYTON Hamvention & ARRL Convention
<http://www.hamvention.org>
Contact: Hamvention
PO Box 964
Dayton, OH 45401
Phone: 937-276-6930
Email: info@hamvention.org

Volunteer Exam Dates and Locations

<u>Date</u>	<u>Location</u>	<u>Date</u>	<u>Location</u>
3/20	Elyria	5/1	Independence
		5/3	Akron, Pioneer
4/9	Akron ARC		
4/17	Elyria		
4/30	Bentleyville		

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.