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**146.620— 100Hz**
**442.750 + Open**

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# LCARA Waveguide

**December** Published Monthly by The Lapeer County Amateur Radio Association **2005**

## Upcoming Swap & Shops

**Sunday, January 15, 2006** Hazel Park Amateur Radio Club 40th Annual Hamfest. Hazel Park High School, Hazel Park, MI. Talkin 146.640 + (100hz PL) DART Repeater. Www.qsl.net/W8HP

## Contesting & DXing




**On the Road Again!**

Last month our resident Contester and DX'er went on the road again. But this time they flew in an airplane instead of driving - Much safer!

Six radio amateurs went to the island group of St. Pierre & Miquelon for the CQ WorldWide CW Contest. Four stations (three with amplifiers), five laptops, six antennas, and all the associated equipment. It was a "Field Day in November"!

The weather was great—while Michigan was covered in snow and cold weather, the six hams on Miquelon had mostly 40 degree weather, sunshine and one day of fairly high winds (40—60 MPH), but all the antennas stayed up.

In the contest the group, using FP/K8DD, made over 8000 contacts in approximately 125 countries. Overall there were over 10,000 contacts made, including nearly 100 on the low earth orbiting amateur satellites by Ian, K8MM. That, coupled with some fine French cuisine and excellent wine, made it truly a great trip!

## The Christmas Party

The LCARA Christmas Party will be held this coming December on the regular meeting night of December 13 at the Country Side Banquet Hall in Imlay City, just north of the Imlay City Fairgrounds on M-53. As last year, the Christmas Party is **free** to members and their spouse or guest. (except for the bar, which is cash!)

**You must let Bill KD8VP or Bob W8RAE know if you will attend so there are enough chairs!**

***The next Meeting will be held on Tuesday, December 13 —6:30 p.m. & dinner at 7:00 p.m. At the Country Side Banquet Hall in Imlay City on Van Dyke (M-53) just north of the Imlay City Fairgrounds. Members and a guest are free, non-members are $22.50 each, so it "pays" to join the LCARA!***

## Federal Communications Commission

President George W. Bush has nominated Deborah T. Tate of Tennessee, a Republican, to serve out the remainder of the term of former FCC Chairman Michael K. Powell, which expires June 30, 2007. Powell announced his resignation one day into President Bush's second term, and he departed the FCC last March. Under FCC Chairman Kevin J. Martin, a Republican who succeeded Powell, the FCC has been operating with four members ever since.

The White House this week also reappointed Commissioner Michael J. Copps, a Democrat, for a new five-year term, starting last July 1. Both appointments are subject to US Senate confirmation.

**Lapeer County Amateur Radio Association**
P.O. Box 12
Hadley, MI 48440-0012

**Officers**

President, Bob Erskine, W8RAE.....248-628-3401
Vice-Pres., Chris Azelton, KC8TWL..810-245-0073
Secretary, Jim Mazzola, KC8YMF.....810-796-2610
Treasurer, Bill Miller, KD8VP.....810-797-5329

**Committees & Appointees.**

Club Founder.....Hollis Hayes, W8ACD
Club Call TrusteeW8LAP.....Bill Miller, KD8VP
Club Historian.....Bill Hetchler, KC8SHI
VE Coordinator.....Al Wilson, N8NPR
Skywarn Coordinator.....Bill Hetchler, KC8SHI
Swap & Shop Chairperson.....Bill Miller, KD8VP
Field Day Chairman.....Bill Miller, KD8VP
Meeting Refreshments.....Bill Miller, KD8VP
Two Meter Net Mgr.....Charlie Whipp, KC8JBK
Newsletter Editor.....Hank Kohl, K8DD
Public Information Officer...Bill Hetchler, KC8SHI

**ARES Repeater Nets**

Monday at 9:00 PM on 146.620-
Thursday at 9:00 PM on 442.750+
Mon—Sat at 9:30 PM on 147.300+

**Meetings**

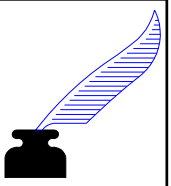
**LCARA meetings** are held on the second Tuesday of each month in the Lapeer County Central Dispatch Center (911), 2332 W. Genesee St, Lapeer MI at 7:30 p.m. local time.

**Board of Directors'** monthly meetings are held on the first Tuesday of each month at Tim Horton's at 7:30PM (Check on the W8LAP repeaters).

**Newsletter**

Items for the newsletter may be called to the Editor at 810-721-0708, sent by Mail (Box 88, Attica, MI 48412), or as an ASCII or Word to k8dd@arrl.net The deadline for submissions is the 20th of each month.

## LCARA Monthly Meeting Minutes
## Lapeer County Central Dispatch Center (911)
## November 8, 2005 Meeting of LCARA



Bob-W8RAE - Opened meeting @ 7:36 with Pledge.
Bob-W8RAE - There we no new updates on Steve-N8EN or Ed-W8NCJ. Bob also indicated we had 3 guests at the meeting that night. Bob also indicated we had the quote on painting the tower back. It was also noted that the lease on the tower has expired.
Bill-KD8VP and Bob-W8RAE will contact the school board on the renewal on the tower with a longer lease in consideration of the investment in the tower maintenance.
Chris-KC8TWL Reported that we were asked to host the ARRL State Convention. We regretfully declined do a number of reason including club size and the availability of local accommodations. We were asked to consider it again in 2007.
Jim-KB8YMF read the minutes from the 11OC05 meeting.
Pete-KB8RSG Motion to Approve//Cindy-KB8WOB Seconded//No discussion//Motion Passed.
Bill-KD8VP read the treasurers report.
Dick-KC8VHA Motion to Approve//Ed-KD8BBX Seconded//No discussion//Motion Passed.
Bob-W8RAE indicated he was looking for some club meeting programs through ARRL. He also indicated he stopped by the Michigan State Police post to see if they would be interested in doing a presentation in Jan-Feb timeframe. Bob also requested the club to provide him with any other ideas anyone has on activities that could be done @ the meeting.
Bill-KD8VP indicated the repeater automatically went on back-up battery power on Sunday without any problems.
Ed-KC8EGR informed the club that the tower we divested interest in was scheduled to be up and on the air sometime next year. Frequency will be 147.26
Bob-W8RAE said the website was being updated by his son.
Chris-KC8TWL General discussion on internet linking of repeaters. There are newer programs available. Cost could be near $150 for software. Would need a computer to run software that would be online 24/7. Discussion on should we do it and if so, which machine 2 meter or 440. There was no decision made at this time due to the number of variables and lack of knowledge of what we really needed.
Ed-KC8EGR stepped up and said he would research the topic and get back with the club with a report.
Move to Break @ 8:12 byBob-W8RAE
Back to session @ 8:30
50/50 drawing was won by Kim-KB8YXZ
Bob-W8RAE clarified the Christmas party time to be 6:00 pm with dinner served @ 6:30 and concluding by 9:00 pm.
Pete-KB8RSG asked where to get best information on radio licensing. ARRL.org
Hank-K8DD reported that Field Day results were out. LCARA and other clubs made a good showing again this year. Further report will be in Waveguide.
Bob-W8RAE entertained a motion to Adjourn @ 8:46
Ed-KC8EGR Motion to Adjourn //Ed-KD8BBX Seconded//No discussion//Motion Passed.

# December 2005

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---|---|---|---|---|---|---|
| | | | | 1 ARES Net 442.750 9:30PM | 2 | 3 |
| 4 | 5 ARES Net 146.62 9:30PM | 6 Board meeting–Tim Horton's . 7 PM | 7 | 8 ARES Net 442.750 9:30PM | 9 | 10 |
| 11 | 12 ARES Net 146.62 9:30PM | 13 LCARA Christmas Party | 14 | 15 ARES Net 442.750 9:30PM | 16 | 17 |
| 18 | 19 ARES Net 146.62 9:30PM | 20 | 21 | 22 ARES Net 442.750 9:30PM | 23 | 24 |
| 25 | 26 ARES Net 146.62 9:30PM | 27 | 28 | 29 ARES Net 442.750 9:30PM | 30 | 31 |

## VE Exam session

The next Volunteer Exam will be December 10, 2005 at 10:00 AM at the Port Huron Branch of the St Clair County Library, 210 McMorran Blvd, Port Huron, MI.

Pre-registration is NOT required. Bring picture ID, the original and a copy of your present license and the original and a copy of any CSC's you may hold. The fee is $14.00. For further information, call Bob Herbert, K8WMW, at 810-982-1561

**Volunteer Exam**
**St. Clair County Library, December 10, 10 AM Walk-ins welcome**

## Help Wanted

Anyone who has done anything involving Ham Radio, geocaching, or anything worth sharing with the group. There has to be someone out there that knows something worth passing on to their fellow members.


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# Grounding!

**How they do it in the utility industry**
**From Jim Heath, W8NGO and the Boatanchor mailing list**

I work for the local utility here (Baltimore Gas and Electric). Two years ago when I installed my station grounds I ask the overhead guys (linemen and supervisors) for advice. Here is what I was told and/or learned.

ALL grounds in the house must be the same potential (tied directly together) It was stressed to me that if the radio station grounds and the house grounds were different potential, The station was NOT grounded!

This, of course, is true. Points grounded at different places, like a ground rod and electric service ground, well may read 20 or 25 volts drop across ground.

Tie your Amprobe around various grounds if you have more than one. If you see currents not identical, you have a potential problem.

Another thing -- RF grounds are a different breed of cat than 50/60 cycle mains grounds. Electricians understand mains grounding, from a safety point of view.

For protection of the station, you need to look at the characteristics of RF. Calculation presumes lightning is about a megacycle IIRC. Due to the tremendous currents induced in a nearby strike, figure what 1000 amps will do with 1 Ohm of ground resistance. 5 Ohms? The voltage dropped across that ground will eventually find its way back to ground, possibly through your equipment.

If all points are tied to a common ground, there will be essentially zero Ohms drop ACROSS ground.

I have a career electrician working for me. Once I was able to break his mindset on 60 cycle versus lightning and power grounds and surge bypassing, etc. and get him thinking in terms of single point ground, we did some marvelous work. Places which died during any electrical storm never again failed after being properly protected. Our EOC (next county up from Bro. Jim) uses Polyphaser products and installation to my spec. We have our UHF and VHF amateur antennas at 285 feet on a 300 foot tower which itself is 660 feet ASL, and we've never lost a piece of equipment.

I've written an amateur-specific White Paper on grounding common systems.
You can find it here:
http://www.swssec.com/white_paper.html one of the articles near the top.

Lightning observes skin effect, so you're better with copper strap than copper wire or braid. 1.5 inch is standard, though they make it to 6 inches for long runs to keep the impedance down. Grounds saturate, so ground rods (note plural) generally are separated by twice their length.
More in the article.

Impedance? Yeah. We're dealing with AC, not DC, so it's impedance, not resistance. The tiniest bit of reactance raises impedance. Good thing to remember. Also, surges and lightning do not turn corners or generally cooperate with your way of doing things. Gently radius any turns.
Wrapping a wire around an eave will be the point at which lightning
decides it will not make the bend and will shoot straight out.

I know this is way off tangent from the original question, but it's pertinent.

We've taken a lightning hit here which has scattered several cords of firewood around the yard. None of the radio equipment was affected, but I did have to replace the phone line protectors. Cheaper than replacing every modem and fax on that line.
Steve WA3SWS

## FEMA COURSES ON AMATEUR RADIO RESOURCES; ICS/NIMS TRAINING

Here is a solution to help public officials learn to interface with Amateur Radio assets: government-approved Federal Emergency Management Agency (FEMA) training course "G250.6 - Workshop: Amateur Radio Resources." This three- to four-hour workshop is designed to provide state and local elected officials, emergency managers, and other public officials with an understanding of how Amateur Radio volunteer communication groups can help in supplementing telecommunication and warning systems. Please direct them to the FEMA Emergency Management Institute (EMI) at <http://www.training.fema.gov/emiweb/> to register for this course.

### More on FEMA Training Opportunities

For information about the FEMA course on Amateur Radio Resources, please see:
<http://www.training.fema.gov/emiweb/STCourses/crsdesc/G250_6.html>
This course is designed to train government employees about the mission of Amateur Radio operations.
Carl Zellich, AA4MI, ARRL Assistant Director,
Southeastern Division, <aa4mi@arrl.net>

*From the The ARES E-Letter put out by the American Radio Relay League*

## *Hints and Kinks...*

Cables, connectors, and adapters are literally everywhere in the ham shack. To that end, you may want to check out Wired Communications (http://www.wiredco.com - "We'll Get You Wired..."). They have a pretty extensive on-line catalog and their display at the ARRL SW Convention in Riverside, CA was impressive.

Laport's Radio Antenna Engineering is a classic antenna book, published in 1952 by McGraw-Hill. Available in reprint via various sources, it is also available as a 32 Mbyte PDF file for free download at http://books.lulu.com/content/159004. This is a 574 page
book, so be prepared to go take out the garbage or do a chore while you're waiting for the Internet to deliver the whole file. (Thanks, John W0UN)

Also on the subject of antenna books, Antennex (http://www.antennex.com) announces the release of "Exotic Antennas". Dealing primarily with the merging technology of compact antennas, the book contains 50 chapters of the theory, construction, use and test performance of some of the most popular compact designs.

"I was looking for a 12 VDC power supply for my station and found the XPower Powerpack 1500 (http://www.xantrex.com/web/id/63/p/1/pt/24/product.asp). It is a car-sized gel-cell battery on wheels with a handle and a 1500 watt AC inverter built in. It has a smart charger to recharge from household current and a cable to recharge from a car battery. It has battery terminals for large current DC applications as well as a cigarette lighter plug to use smaller 12 VDC equipment from it. Best of all, it fits neatly under the shack desk." (Thanks, Al K7NHV)

A few years ago, WE6W published some interested designs for resonant speakers that act as narrow CW filters. These designs are now on the Web at http://www.io.com/~n5fc/res_spkr.htm and http://www.qsl.net/n5iw/RESONANT.htm. Additional information and design notes are available in the QRP-L archives (http://www.kkn.net/archives/html/QRP-L) between 7 and 9 May 2000. (Thanks, Jim AL7FS)

While wandering the aisles of the local truck stop, Stew KD5DL discovered something called a Truck-Spec brand TS139AD Vice-Grip Antenna Mirror Mount for $14.99. This might be handy to have for remote and emergency communications operations. The mount consists of a pair of locking pliers with a right-angle piece of stainless steel welded to it. The angle has a hole in each side, permitting an antenna to be mounted in-line with, or at right angles to, the jaws of the grip with the included SO-239 to 3/8-24 adapter. Erik N0EW also owns one and says to be careful when removing a PL-259 because the center pin is a tight fit. He reports that the mount will rust if left out in the weather.

One of my favorite catalogs to thumb through in amazement is that of Small Parts, Inc. (http://www.smallparts.com) They have an astounding collection of mechanical doo-dads and gadgets. There is no minimum order and same day shipping is available causing techie tinkerers to think tantalizing thoughts! (Thanks, Garey K4OAH)

Ah - my favorite category of tip - "How to Do Hard Things Without Hurting Yourself". This time the subject is pulling ground rods out of the, um, ground. Roger K8RI says to start by using a pair of pipe wrenches to form a "T-handle" and try the "armstrong" method to twist and pull the rod out manually. If the rod still can't be pulled out by hand, put a jack (with suitable support) under each wrench handle. (This requires substantial wrenches.) The jack must be placed far enough out on the handles so the pressure will cause the wrenches to grip tighter. Pat K8PC suggests using a brass ground rod clamp on the rod. A car jack hooked to the clamp can then be used to pull the rod out of the ground.

*Tnx ARRL contest Rate Sheet*

**Be RadioActive**
**Participate!**

# Winter Definitions

A **winter storm** watch indicates that severe winter weather conditions may affect your area.

A **winter storm warning** indicates that severe winter conditions are imminent. A winter storm warning for heavy snow indicates snowfalls of at least 6 inches in 12 hours or 8 inches in a 24-hour period are expected. In the Upper Peninsula, it indicates 8 or more inches in 12 hours and 10 or more inches in a 24-hour period.

**Blizzard warnings** are issued when sustained wind speeds or frequent gusts of at least 35 miles per hour are accompanied by considerable falling and/or blowing snow. Visibility is greatly reduced during a blizzard.

**Snow advisories** are issued when snowfalls of 4 to 5 inches are expected in a 12-hour period for the average of the forecast range. In the Upper Peninsula, it would result when 4 to 7 inches of snow are anticipated in that same time period.

1. What is **wind chill**?
Wind chill is the perceived temperature resulting from the effect of wind, in combination with cold air, which increases the rate of heat loss from the human body.
2. What is **frostbite** and what can you do to treat it?
Frostbite is damage to body tissue caused by that tissue being frozen. Frostbite causes a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes, or the tip of the nose. Frostbite varies in severity from frostnip to deep frostbite, depending on the length of exposure, temperature to which the skin is exposed and wind speed. For frostnip, place firm, steady pressure from a warm hand against the area. Also, blow on the surface holding the frost nipped area against the body. Do not rub the area, apply snow or plunge it into very hot or cold water. Victims of severe frostbite must receive prompt medical attention.
3. What is hypothermia and what are the warning signs?
Hypothermia occurs when the body temperature drops to 95 degrees F. or lower. It can develop whenever body heat loss exceeds heat gain. Hypothermia is not exclusive to winter. It can occur during the wind and rain of spring and summer. Hypothermia is often mistaken for fatigue, irritability, or dehydration and may include some of these signs: abnormal decision making; improper response to cold; apathy, lethargy; decreased cooperation; slurred speech; disorientation; shivering; stumbling; and stiffness progressing to inability to move.
4. How do you treat **hypothermia**?
Mild to moderate hypothermia (body temperature greater than 90 degree F., conscious, shivering, able to walk)
o Prevent further heat loss. Dry, remove from cold and insulate.
o Rewarm by warming the body core first. Rehydrate with warm broth.
o Seek medical attention.
Severe hypothermia (body temperature less than 90 degree F., unconscious, not shivering)
o Evacuate to rewarm.
o Prevent further heat loss.
o Seek immediate medical attention.
In order for your body to work properly, its temperature needs to be around 98.6 degrees Fahrenheit. If cold causes your body temperature to drop below 95 degrees, your heart begins to slow, your body becomes weak and your mind becomes confused. This could place you in a life-threatening situation. That is why you should understand the hazards of wind chill. The NWS has implemented a replacement Wind Chill Temperature (WCT) index . The reason for the change is to improve upon the current WCT Index used by the NWS and the Meteorological Services of Canada. The new WCT index will:
o Use wind speed calculated at the average height (5 feet) of the human body's face instead of 33 feet (the standard anemometer height)
o Be based on a human face model

## 2005-2006 L.C.A.R.A. MEMBERSHIP APPLICATION

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ARE YOU AN A.R.R.L. MEMBER: YES__ NO__

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**Lapeer County Amateur**
**Radio Association**
P.O. Box 12
Hadley, MI 48440-0012