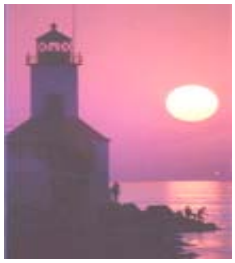


LAPORTE COUNTY / HARBOR BEAM JANUARY 2015

146.970 / 441.950 (W9LY)
Echolink Node: 193001
146.610 (K9JSI)

What's new?

WHO WE ARE

President:
Brian Salzer KB9HMR
Vice President:
John Phillips KA9PGC
Secretary:
Barb Cave KA6OJX
Treasure:
Ken Osborne N9ZIP
Board Members:
Ron Broviak, WA9RON
Dan Foster, KC9GFO
Scott Tharp N9NKK
Trustee W9LY:
Dan Sheetz W9DWS
Trustee K9JSI:
John Rozinski, N9CJR
Tower Site:
Ken Osborne
John Phillips
Dan Foster
Bob Smith
Fund Raising:
John Rozinski
Ken Osborne
Troy Harrison
Ron Broviak
Mike Broviak

ARRL
The national association for
AMATEUR RADIO

AMATEUR RADIO
A BRIDGE TO FRIENDSHIP

Communications:
Matt Lasayko, KC9KUD
Dave Kaufman NU9I
Repeater Committee:
Matt Lasayko
Ron Broviak
Dan Sheetz
John Rozinski
Ken Osborne, Todd Saboff
Dan Foster, Dave Kaufman
Mike Broviak, Curt Yeater
Internet:
Stan Vandiver
Mike Broviak, Todd Saboff
Field Day:
John Phillips
NEWS LETTER:
Ken Osborne
Activities:
John Phillips
VE TESTING:
Scott Tharp
PUBLIC RELATIONS
Barb Cave
MEMBERSHIP:
Troy Harrison

MEETING NOTICE:

Next LaPorte County Amateur Radio club meeting is Monday January 19th 7pm @ THE KNIGHTS OF COLUMBUS

LAPORTE COUNTY AMATEUR RADIO CLUB

P.O. Box 148,
Michigan City, Indiana 46361

WEBPAGE: http://lpcarc.org
EMAIL: info@lpcarc.org
FACEBOOK: lpcarc
A 501 (c) (3) Public Charity # 35-1390856

ARES EMERGENCY COORDINATOR:
Dan Foster, KC9GFO

RACES OFFICERS:
Ken Osborne, N9ZIP
Ken Maynard, W8KRM
Dan Foster, KC9GFO
SKYWARN:
Ken Osborne, N9ZIP

"It is not the class of license the Amateur holds, but the class of the Amateur that holds the license."

News & Events

In This Issue

TO

THE

LaPorte County Amateur Radio Club

lpcarc.org

LaPorte County / Harbor Beam

PICTURE OF THE MONTH

It was snowing so hard, this was all you could see.

CLUB MEETING

Our next club meeting is Monday, January 19th at 7pm CST

Join us for a burger before the meeting

CLUB DUES

Once again, it's that time of year and your dues for 2015 is being accepted.

Club dues for 2015 is only $15.00.

Your dues goes towards our repeaters and pays for our insurnace, which is our largest expense, for the club. Our fundraisers keep our dues low and support of activities.

Your dues can be paid at any club meeting.
Your dues can be paid atthe Hamfest.
Your dues can also be mailed.

Our mailing address is...

LaPorte County Amateur Radio Club
P.O. Box 148
Michigan City, Indiana 46361

Support the club!

Support our repeaters!

Membership is open to all.

The LaPorte County / Harbor Beam is published on the Saturday, before the monthly club meeting, 12 times each year, as a service of the LaPorte County Amateur Club; for it's members and those interested. Inquires and submissions should be sent to the LaPorte County / Harbor Beam Editor at our e-mail address info@lpcarc.org.

Give us your Feedback

InfoBeat

2015 OFFICERS

Saturday Morning Breakfast is held at Schoops's at 8:00am in the morning, in Michigan City. Come and join some good friends and club members for breakfast.

Thursday Morning Breakfest is held at B&J's American Cafe, at 8:00am. B&J's is located 607 Lincolnway, LaPorte. Come out and join some good friends for breakfest.

Amateur of the Year 2014

At our Christmas Party, Brian Salzer, KB9HMR was awarded, this award. Some times our officers are over looked, because of the office they hold, but Brian has worked very hard to keep our club growing since our merger. He has worked very hard to improve of Hamfest and to make it better. Congratulations Brian!

PAST WINNERS ARE:

2003 TODD MILLER,
2004 DAN VANDERPLOUGH AND KEN OSBORNE,
2005 RON AND ROWENA STAHOVIAK,
2006 TROY HARRISON,
2007 TODD AND BARB MILLER
2008 DANNY SHEETZ
2009 RICH OBERLE
2010 JOHN PHILLIPS
2011 JOHN PHILLIPS AND PAT MALLOTT
2012 DAN FOSTER AND STAN VANDIVER
2013 RON BROVIAK AND BARB CAVE
2014 BRIAN SALZER

January is when new officers take their offices, but this year there was no changes. I guess when things are running good, don't change them. With that being said, our officers still need your help, they need your ideas. Our club is always looking for members to join committees.

Over the past few years, our club has seen steady growth, in it's membership, and participation from it's members.

Congratulations to our officers and boardmembers for 2015.

SKYWARN NEWS

Spotter Training for LaPorte County will be held on February 25, 2015. Location
Michigan City Hall
100 E Michigan Blvd (Lower Level - EOC)
Michigan City, IN 46360
at 6:30 CST.

If you are planning to attend, please fill out the on-line registrion form.

http://laporte-in-spotter.eventzilla.net/web/event?eventid=2139052705

or visit the NWS webpage.

Spotter classes are held once every two years. All spotters should plan on attending.

A New Year

It may only be January, but we start gearing up for another fun filled year.

SKYWARN spotter class is next month.

Our Hamfest is next month.

Soon the Fox will be let of his cage, and the hunt will begin again.

Before you know it, will have our Spring Clean Up. The mowing team will start another season, and Field Day will be here before you know it. Light House weekend, Heston, JOTA, VE Testing is just some of the events planned for 2015.

This is your club. We can't grow with out you. Elmers are always willing to you. Committees is great way to become involved, in the club.

LETS MAKE 2015 THE BEST EVER!

HAMFEST

The count down has began, we have only two more meetings before the event. The committe is already hard at work, contacting vendors, and getting things ready.

This is our club's first fundraiser, for 2015. Again we ask for your help. This is an event that takes several months to prepair for.

If you would like to help, in advance, contact Brian or Ron.

We are in need of members to help the setup on Friday night. We need members to work the front door, collecting money. We need a couple of members to work in the concession area. For the front door, we need two members per/hr.

In this addition, you will find a Hamfest Flyer, please print it out, please pass them out. If you know of a store or someone who might be a vendor, ask them to come, and give them a flyer.

NOW YOU KNOW

A while back, it was suggested to bring back Now You Know. With the new inflex of amateurs, this could help new and old a like. So it was suggested that we talk about antennas. All of use them, but do we really undertsand them?

We came upon a book written by Jim Abercrombie, N4JA. It's 67 pages of information and free for educational use. So we will be taken parts of the book and running them here. Like our past series, we will condense the information into short segments, so that you aren't overwhemled with a ton information, all at once.

When I started in this hobby, I was told by my mentor, you can have an expensive radio and cheap antenna and sound like crap, or you can have a cheap radio and great antenna and sound like a million bucks. Over the years, I found this to be true, (thanks Dan!) but great antennas doesn't have to cost million bucks. Having a basic understanding how and why they work, is the first step in having a great antenna.

WHY ALL THE FUSS ABOUT ANTENNAS

Definition: An antenna is a piece of metal, a conductor of electricity, to which you connect the radio. It radiates your signal and receives the signals you want to hear.

Definition: An antenna system consists of the antenna, the feed-line, and any matching unit. Most antennas are made of copper or aluminum, while most mobile antennas are made of stainless steel. A feed-line consists of two conductors that carry the signal to and from the radio and to and from the antenna. A matching unit can be an antenna tuner, a series matching section, or one of several different kinds of matching circuits at the feed-point.

What we are trying to prove is next to your radio, the most important part of your station is the antenna.

Any antenna will make contacts, but your signals will be stronger on some antennas than on others. In addition, some antennas hear better than others.

HOW ANTENNAS WORK.

First of all to work properly the antenna system must be matched to the transmitter. That is, all modern transmitters have an output impedance of 50 ohms. Antenna systems range in impedance of a few ohms to several thousand ohms. There are several ways to match them: pruning the length of the antenna, using an antenna tuner, matching the antenna with a length of transmission line called a matching section, or the use one of several matching systems at the antenna feed-point. Antenna matching is beyond the scope of the material found in this series and it is suggested you consult a more comprehensive antenna manual. Simple half-wave dipoles eliminate the need for a matching system because a resonant half-wave dipole has an impedance near 50-ohms.

You must also understand electromagnetism to understand how antennas work. If you attach the two poles of a direct current (DC) voltage source to the two ends of a coil of wire, current will flow through the coil of wire and it will become magnetized. The magnetized coil is known as an electromagnet. Its magnetism will extend out to infinity becoming weaker with distance. Remove the voltage and the magnetic field collapses back into the coil. If an alternating current (AC) is connected to the coil, the magnetism moves out and collapses into the coil in step with the frequency of the alternating current source. The north and south poles of the electromagnet reverse on each half-cycle of the AC voltage.

If voltage and current can cause a coil to become magnetized, the reverse is true: A magnetic field can produce a voltage and a current in a coil. This is known as **Faradays Principle of Magnetic Induction**. A voltage will be produced at the ends of the coil of wire as you move any permanent magnet close to and parallel to the coil. A transformer uses this method to work. Transformers have a continuous iron core running from the inside of one coil through the inside of the second coil to confine the magnetism inside the iron core. This makes the transformer nearly 100% efficient since only a little of the magnetic energy escapes.

A straight wire that has an AC current flowing through it also has a magnetic field surrounding it. But it is a weaker field than is produced by a coil. The magnetic field from the wire radiates out into space and becomes weaker with distance. The radiating magnetic field from a wire is known as "**electromagnetic radiation**" and a radio wave is one type of it. The wire that radiates becomes the transmitting antenna. Some distance away, a second wire in the path of these waves has current induced into it by the passing electromagnetic waves. This second wire will be the receiving antenna. The receiving antenna feeds that voltage to the amplifiers in the receiver front-end where it is amplified many thousands or millions of times.

The dipole antenna is made of a wire broken in the center and where broken, each half of the wire connects to an insulator that divides the wire in two. Two wires from the voltage source, which is the transmitter, are connected across the insulator. On one side of the dipole, the current in the form of moving electrons flows first from the voltage source toward one end of the dipole. At the end, it reflects toward the voltage source. The same thing occurs on the other half of the wire on the other half cycle of alternating current. An antenna that is the right length for the current to reach the far end of the wire just as the polarity changes is said to be resonant. Because electricity travels at 95% the speed of light in a wire, the number of times the polarity changes in one second (frequency) determines how long the wire has to be in order to be resonant.

POLARIZATION OF ELECTROMAGNETIC WAVES

Electromagnetic waves travel away from the wire in horizontal, vertical, slanted, or circular waves. If the antenna wire runs horizontal or parallel to the earth, the radiation will be horizontally polarized. A wire or conductor that runs at right angles to the earth produces vertical radiation. A slanted wire has components of both horizontal and vertical radiation. Crossed wires connected by proper phasing lines that shift the phase from one wire to the other wire by 90 degrees will produce circular polarization.

When your high frequency (HF) signals are reflecting off the ionosphere, it isnt important if the other stations antenna has the opposite polarization from yours (the polarization does matter for line of sight communication). The reflected polarized waves passing through the ionosphere are slowly rotated causing fading signals (QSB). The reason the polarization of antennas is most important is that it determines the angle of radiation. Horizontally polarized antennas at ordinary heights used by hams produce mostly high angle radiation and weaker low angle radiation, but this doesnt mean there is no low angle radiation. It is there but is weaker than high angle radiation. A vertically polarized antenna produces mostly low angle radiation, with its high angle radiation being weak. For this reason, vertical antennas do not work as well as horizontal antennas do at ordinary heights for working stations less than about 500 miles away.

FREQUENCY

The number of times the polarity of an AC voltage changes per second determines its frequency. Frequency is measured in cycles per second or Hertz (Hz). A thousand cycles per second is a kilohertz (kHz). One million hertz is a Megahertz (MHz). The only difference between the 60 Hz electric power in your house and radio frequencies (RF) is the frequency, but 60 Hz electricity in a wire also produces electromagnetic radiation just like radio waves. Useful radio waves start at 30 kHz and go upward in frequency until you reach the infrared light waves. Light is the same kind of waves as RF except light is at a much higher frequency. Light waves are used like radio waves when they are confined inside fiber optic cable. Above the frequencies of light are found x-rays and gamma rays.

The radio bands: The Long Wave Band (LW) starts at 30 kHz and goes to 300 kHz. The Medium Wave Band (MW) is from 300 kHz to 3000 kHz or 3 MHz. The High Frequency Band (HF) is from 3 MHz to 30 MHz. The Very High Frequency Band (VHF) is from 30 MHz to 300 MHz. The Ultra-High Frequency Band (UHF) is from 300 MHz to 3000 MHz or 3 GHz. Above these frequencies are several microwave bands which are defined as the Super High Frequency Band (SHF).

THE IONOSPHERE AND MODES OF HF PROPAGATION

The Ionosphere

In the upper air around fifty miles and higher where the air molecules are far apart, radiation from the sun strips electrons from oxygen molecules causing g the molecules to become ionized forming the ionosphere. The ionized oxygen molecules and its free electrons float in space forming radio-reflecting layers. Ionization of the ionosphere varies by the time of day, seasons of the year, and the sunspot cycle. The strength of ionization also varies from day to day and hour to hour. Since the height of the ionosphere varies, the higher the ionized layer becomes, the farther the skip will be.

The part of the earths atmosphere called the ionosphere is divided into three layers. The three layers are, from lowest to highest, the D layer, the E layer, and the F layer. Each layer has a different effect on HF radio propagation.

Being at a lower altitude, the D layer molecules are squeezed closer together by gravity than those in higher layers, and the free electrons reattach to the molecules easily. The D layer requires constant radiation from the sun to maintain its ionization. Radio waves at lower frequencies such as the frequencies of the AM broadcast band cannot penetrate this layer and are absorbed. The higher frequency signals are able to pass through the D layer. The D layer disappears at night causing AM broadcast stations to reflect from the higher layers. This is why AM broadcast signals only propagate by ground wave in the daytime and they can be received from great distances at night. Like the broadcast band, the D layer absorbs signals on 160 and to a lesser extent 80 meters during the day making those bands go dead. During solar flares, the D layer becomes ionized so strongly that all high frequency radio waves are absorbed, causing a radio blackout.

We'll stop here for this month.

Next month we'll pick up with E-layer propagation.

HAMFEST

Saturday, February 28, 2015

7:00am-1pm CST
LaPorte Civic Auditorium
1001 Ridge St, LaPorte, Indiana

General Admission $7.00
Talk-In 146.610 (131.8)

FREE PARKING

Food Concessions

VE TESTING 9am

Door Prizes

Vendors & Tables
Tables Reservations Contact
cabinfeverhamfest@gmail.com
PHONE (219) 575-8146

Tables $15.00/per
Electric $5.00 extra
per Vendor (Limited Access)
ADVANCE RESERVATIONS MUST BE PAID IN ADVANCE BY FEB. 7th
No Refunds
Reservations can be mailed to:
LPCARC
PO BOX 148
Michigan City, Indiana 46361
CABIN FEVER HAMFEST
is sponsored by the
LaPorte County
Amateur Radio Club

Visit http://lpcarc.org/hamfest for updates and information

Calendar of Events

GET ON BOARD
JOIN IN THE FUN
WITH AMATEUR RADIO

LaPorte County Amateur Radio Club Meeting Calendar for 2014

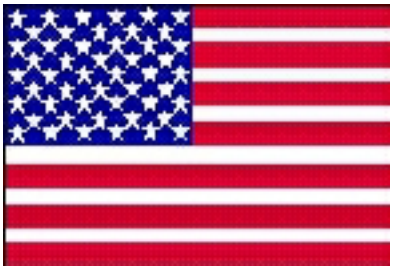
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Meeting	19	16	16	20	18	15	20	17	21	19	16	TBA
Location	LP	LP	LP	LP	TS	TS	TS	TS	TS	LP	LP	TS

LP= LaPorte Knights of Columbus TS= Tower Site, U.S. 35 & Schultz Rd.

Cabin Fever Hamfest

MORE EVENTS ARE IN THE PLANNING
STAGE, WE WILL HAVE THEM
HERE AS WE KNOW THE DATES
EVENTS ARE ALSO POSTED ON FACEBOOK

Give us your Feedback



As always, we need your feedback.
Do you know of an event coming up, Do you have some news of interest, or just like to commentendar on our news letter.
Give us you feed back!
You can reach the News Team @ info@lpcarc.org

ADVERTISMENT