



Web address: <http://www.w9joz.org> E-mail: [w9joz@w9joz.org](mailto:w9joz@w9joz.org)

Special Interest Articles

Club meeting

Interesting Sites/Info

*Fort Wayne Convention is this month. Word on the street is that Tony, W9AL will be presenting a program on Saturday afternoon. Try to show up as he needs someone to heckle him from the crowd.*

*Christmas party will be December 1<sup>st</sup> at 5:00 pm (our time) at the King's Buffet in Plymouth.*



Fall is here- get that antenna work done now.

The Club meeting will be November 15th.

Discussion will be on what we can do to spice up the meetings.

We still need someone to ramrod the presentations for club meetings. This should be someone who is retired that can devote some time to finding a presenter for the meetings.

Report on the new Technician Class.

Christmas Dinner is December 1<sup>st</sup>.

Interested in an antenna party?

We'll talk about it again.

Fox hunt topic was brought up at last meeting, will there finally be one?

Know anyone young enough to climb towers?

If so, talk to them about getting into ham radio, we need tower climbers.

Chat about what we will look for at Fort Wayne Hamfest.

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Interesting Sites/info

Find QSL manager  
<http://www.nfdxa.com/K4UTE/K4UTE.HTML>

The QRZ Ham Radio callsign lookup service at  
<http://www.qrz.com>

Basic Electronics Course- FREE  
<http://www.101science.com/basicelectronics.htm>

The Radio Amateur Information Network (R.A.I.N.) at  
<http://www.rainreport.com/>

The Ham Radio Magazine "CQ" at  
<http://www.cq-amateur-radio.com>

The Tucson Packet Amateur Radio group at  
<http://www.tapr.org>

Nuts and Volts Magazine at  
<http://www.nutsvolts.com/>



[Types of Coax Cable and Line Loss Calculator](#)



## Hamfests

17-18 Nov 2007

**Indiana State Convention (Fort Wayne Hamfest & Computer Expo)**

Allen County Amateur Radio Technical Society  
<http://www.fortwaynehamfest.com>

Fort Wayne, IN

Allen County War Memorial Coliseum  
[4000 Parnell Avenue](#)

Tired of looking around at old radios and junk.

Then check out the local area. One of Indiana's largest indoor malls. Over 180 stores and only minutes from the Hamfest.

Free shuttle van service to the shopping center. Open Saturday 9 AM to 9 PM, Sunday Noon to 5 PM

Don't forget Tony will be speaking at one of the forums.

## Weather Spotting/News Items

See Weather Page on web site for more classes.

WINTER is coming. Are you prepared?

Put up those dipoles now before the snow flies.

Check all coaxes to insure that ice will not build up on them when the water runs off the house. This can destroy a coax. Then you are out there fighting the ice and snow

repairing them, or off the air until spring.

And that's a long way off here in the northwest.

## Radioville 2007



## For Sale Items -- Just updated.

### There are new items and new prices.

There are radios, antennas, amp, and power supply listed, check out the web site for great items on sale. Items are added as they come in the email. Non-club members may list items for one month only. **Check the list weekly for new items.** <http://www.w9joz.org>

There are several radios, antennas and even an amplifier on there. New items are being added and people are reading the ads. Check them out, you might find something you really can't do without.

## Articles

The following was submitted by Tony, W9AL

### Skywarn Recognition Day

The Skywarn Recognition Day will be Saturday, December 1, 2007, beginning at 0000 UTC (600 p.m. CST). It will last 24 hours. Amateur Radio Operators will come to operate radios, communicating on most of the amateur radio bands, at the National Weather Service Forecast Office in Romeoville Illinois and North Webster Indiana. We will make contacts with amateur radio operators at other National Weather Service Offices across the United States and across the world. If you are an amateur radio operator, come by the Forecast Office during Skywarn Recognition Day. There will be no open house for Skywarn Recognition Day but HAMs are welcome to come by and operate.

73

Tony W9AL

## Public Information

During the month of September 2007, there were many positive articles in the media about Amateur Radio. But, there were also a few which did major damage to the public perception of our Service. Unfortunately they were in large metropolitan newspapers and, by the time an ARRL PIO learned about them, it was too late to change things. These articles were proclaiming the “death of Amateur Radio”, that it was antique and an anachronism to the 21st century, full of ancient grumpy men and that the hams themselves were not friendly nor welcoming. The real tragedy of this is that the reporters were quoting their community’s own local hams!

While not all areas of the country are motivated by the same approaches, there really is a lot of new growth in important areas. In some places, emergency operations and EmComm is indeed a BIG deal. We are gaining many new hams entering the field because they want to be part of a response operation. That is part of this year’s PR push on EmComm. In other areas, it may not be EmComm that is the big draw. It could be the hobby side of the Service. For them, the “Hello!” materials are still available and timely. If that fits your area, then use them there. In some other places or situations, it will be the technical side of Amateur Radio that is of interest. The ARRL is working on a coordinated program for that to come out in 2008. It will be the hardest of the three to create, but plans are already well along.

These three, Hobby, EmComm and Technical activities are the motivational keystones of the Service. No one thing is going to attract “the general population.” We encourage you to look at your own local situation. Which type of motivator works best in your area? Use that one. In the meantime, our importance in EmComm is a motivator in antenna issues, spectrum defense and other political situations.

Are we “dying” out? Not really. Amateur Radio never was, nor will be, a “mainstream” activity. But recent numbers are up and, just as important; the percentage of hams who actually get on the air or go on to higher class licenses is up. With the 10 year license-lag, most who are dropping out seem never to have been active to begin with. We also see trends which follow the solar cycles – currently at a low.

To quote Pogo, “We have met the enemy and he is us.” Over the past two months the national PR Committee has seen far too many articles quoting their local hams saying we are all dying out! With attitudes like that, is it any wonder the reporters print it? It’s a self-fulfilling prophecy.

This is why we need informed, active PIOs and hams need to defer media responses to them. Anytime you or a ham in your area is contacted by the media, steer them to your local PIO, John, W3ML. These professionals are trained in showing the best that amateur radio has to offer to the public and to prospective licensees. Fifteen minutes of individual fame is not worth the damage your personal opinions could cause to us all.

- Allen, w1agp

The following was submitted by Gary, KB9OLZ

Dee-Bee What? Part II: Feedline Losses  
by Anthony L. Mach, AB9IO

We will see how to calculate the loss in your feedline.

Some examples of feedline are coax, ladder line, twinlead, a wave guide, etc. In fact, every feedline, no matter how good, has some loss. Remember our formula?

THE FORMULA:  $\text{dB} = 10 \times \log_{10} (\text{Pout/Pin})$

Read: Some unknown amount of Decibels are equal to ten times the logarithm of the power output divided by the power input.

Well, this formula also works for loss as well. Note that your feedline loss has to be represented with a negative number (always!).

The power out of the feedline will be lower than the power into the feedline. To make everything easy for us, we'll also have to assume that the antenna is perfectly matched to the feedline, and that the transmitter is also perfectly matched to the feedline (more on this later). Connectors (such as PL-259) also have losses associated with them as well. Also note that the loss in a feedline is frequency dependant. Generally, the higher the frequency, the greater the loss.

Okay, let's do one of our real-world examples, shall we? Marshall uses Belden 9913 coax cable for a 100 foot run out to his 440 MHz beam in the back yard. He looks up the cable via Belden's website and finds out that the loss at that frequency is about 3.0 dB per 100 feet. For this example, we'll ignore the losses in the connectors.

His transmitter is an Icom IC-706MKIIG putting out 50 W into his coax.

How much power is actually getting to Marshall's beam?

Well, we know what the loss is in Decibels (3.0 dB), but this is represented as a negative number (-3.0 dB) for the formula. We also know how much power is going into the feedline (50 W).

$\text{dB} = 10 \times \log_{10} (\text{Pout/Pin})$  Let's put in the numbers! Loss is negative!

$-3.0 \text{ dB} = 10 \times \log_{10} (\text{Pout}/50\text{W})$  Divide both sides by 10

$-0.3 \text{ dB} = \log_{10} (\text{Pout}/50\text{W})$  Now what do we do?

Last time we used the log 10 button on the calculator to get the logarithm, but this time we need the antilogarithm button to get rid of both the logarithm and the Decibel expressions.

This button is usually marked as 10x. So, put in -0.3 into your calculator and press the 10x button. Your answer should look like this:

0.5011872336271

Now our formula looks like this:

$$0.5011872336271 = (P_{out}/50W) \quad \text{The antilogarithm got rid of dB and log 10}$$

Multiply both sides by 50W and you get your power out:

$$25.0593616814W = P_{out} \quad \text{or about 25 Watts output!!!}$$

The keen observer will note that Marshall is losing almost half of his power in the coax. The power is being lost as heat. Marshall's system doesn't sound very efficient, does it?

Well, let's move on to another example. Louis is setting up his 6 Meter EME station with an Icom IC-756ProIII that has an output of 100 Watts into a 50 foot run of 1/4 inch Andrews HeliAx.

Louis looks up his HeliAx and finds it to have a loss of 1.27 dB per 100 feet at 50 MHz (again assuming no loss in the connectors). His transmitter is perfectly matched to the feedline as is his antenna array. How much power is actually getting to the array?

Well, we have a 50 foot run, but the loss is expressed in dB per 100 feet. Simply put, the loss at 50 feet is 1/2 of the loss at 100 feet:

$$1.27 \text{ dB} / 2 = 0.635 \text{ dB}$$

$$?dB = 10 \times \log_{10} (P_{out}/P_{in}) \quad \text{Let's put in the numbers! Loss is negative!}$$

$$-0.635 \text{ dB} = 10 \times \log_{10} (P_{out}/100W) \quad \text{Divide both sides by 10}$$

$$-0.0635 \text{ dB} = \log_{10} (P_{out}/100W) \quad \text{Take the antilog to get rid of dB and log 10}$$

$$0.8639726606841 = (P_{out}/100W) \quad \text{Multiply both sides by 100W}$$

$$P_{out} = 86.39726606841 \text{ Watts} \quad \text{Louis is getting out about 86 Watts to his array!}$$

Here's another question for everyone: what is his efficiency so far on 6 Meters?

$$86 \text{ Watts Out} / 100 \text{ Watts in} \times 100\% = 86 \% \text{ Efficient}$$

or 14 Watts is being lost as heat in his feedline.

Remember when you are using this formula that you must express your loss as a negative number of Decibels. Look up your feedline sometime and calculate your losses and efficiency. Good quality feedline can make up for much in lost power! I've neglected to include connector loss because good quality connectors have a very small loss. Usually, you do have to include the loss when you get into the UHF range. I also had to mention that the antenna and transmitter were a perfect match to the feedline. When standing waves are present, the calculations become much more complicated!

## Contesting

This is the contest season for ham radio. If you have never worked a contest it can be frustrating or fun. In a contest, the purpose is to make as many contacts as you can in a short amount of time. This means you will be saying your call and a report, such as: W3ML 59 Indiana or giving a serial number such as: W3ML 59 001. They will in turn give you a report back. That is all there is to contesting.

## Why Contest?

The fun is that you get to know what your station can do, how your antennas are working and where they can hear from and get into.

Also, it prepares you for emergency work as you have to get the information right the first time and move on to the next QSO.

Operate in the next contest and see how you do. You don't have to operate all of it, or turn in a log, if you don't want to. Who knows you may work a country that you have not done so before. You can really rack up some QSOs, and then send off QSL cards to them and hopefully get a bunch back.

## Next Contest

2007 ARRL November Sweepstakes

**Object:** For stations in the United States and Canada (including territories and possessions) to exchange QSO information with as many other US and Canadian stations as possible on 160, 80, 40, 20, 15 and 10 meter bands. For more information on this contest go to:

<http://www.arrl.org/contests/rules/2007/novss.html>

## Special Events

If you like to operate Special Event Stations for a fancy QSL or Certificate, then go to this site to see who is operating this month.

<http://www.arrl.org/contests/spev.html>

Until next month, happy hamming.

73

John, W3ML