



# Pearl River County Amateur Radio Club

Promoting Amateur Radio and Public Safety in South Mississippi  
Operating the KE5VSU Repeater - 145.210 (-) 136.5 in Poplarville, Ms.

Pearl River County Amateur Radio Club is dedicated to promoting Amateur Radio in south Mississippi.

## Officers

Ron Smith - President  
Larry Wagoner V-President  
Roger Aubert - Treasurer  
Janice Wagoner - Secretary

## Website

[www.prcarc.com](http://www.prcarc.com)

## Inside

Mississippi QSO Party  
Page 2

Tech Notes  
Page 3-5

Repeater Roundup  
Page 2

Aubert Is Back  
Page 2

Field Day In Henleyfield  
Page 5

Ham Radio In School  
Page 5

Purvis Makes Presentation  
Page 6

Big Meeting Turnout  
Page 6

# Tech Class To Start

POPLARVILLE - A Technician-level amateur radio class is slated to run this month, sponsored by the Pearl River County Amateur Radio Club.

The class, to be held Saturday, March 7 and Saturday March 14 at the Emergency Operations Center in Poplarville, will introduce students to the world of Amateur Radio. A testing session will be held Saturday, March 21.

The classes run from 8 a.m. to 5 p.m. each day of the two-day class. The testing session will start at 9 a.m.

The class will be taught by local ham and PRCARC Vice-President Larry Wagoner (N5WLW), who has taught several tech classes in the past with great success.

He noted that the class itself is free, but that the test costs \$14. Testing will also be available for any current hams wishing to upgrade their licenses.

Students should supply scratch paper and a pen or pencil, as well as a photo identification.

Anyone wishing to upgrade their current license should bring \$14, a photo identification and proof of their current license.

The class is filling quickly and anyone who wishes to attend needs to reserve a spot with Wagoner by calling (601) 590-0553.

The testing session will be provided by local Volunteer Testing Coordinator David Moore (N5ELI).

The technician license is the lowest of the three currently-available amateur radio licenses, and is the gateway to amateur radio. The others are General and Extra Class.

## *Repeater Roundup*

| Location       | Frequency     | Offset | Tone  |
|----------------|---------------|--------|-------|
| Poplarville    | 145.210       | -      | 136.5 |
| Millard        | 145.150       | -      | 136.5 |
| Hillsdale      | 145.410       | -      | 136.5 |
| McHenry        | 147.165       | +      | 136.5 |
| McHenry        | 147.375       | +      | 136.5 |
| Wiggins        | 145.270       | -      | 136.5 |
| Kiln           | 145.330       | -      | open  |
| Biloxi         | 146.730       | -      | 136.5 |
| Biloxi         | 146.790       | -      | 136.5 |
| Hattiesburg    | 146.775       | -      | 136.5 |
| Hattiesburg    | 147.315       | +      | 136.5 |
| Hattiesburg    | 145.370       | -      | 136.5 |
| Hattiesburg    | 145.190       | -      | 136.5 |
| Hattiesburg    | 442.725       | +      | open  |
| Hattiesburg    | 444.775       | +      | 136.5 |
| Hattiesburg    | 443.700       | +      | 136.5 |
| Collins        | 146.985       | -      | 136.5 |
| McComb         | 146.940       | -      | 103.5 |
| McComb         | 444.875       | +      | 100.0 |
| Pine, La.      | 145.430       | -      | 107.2 |
| Slidell, La.   | 147.270       | +      | 114.8 |
| Slidell, La.   | 146.460       | +      | 114.8 |
| Slidell, La.   | 444.425       | +      | 114.8 |
| Slidell, La.   | 443.950       | +      | 114.8 |
| N.O., La.      | 146.860       | -      | 114.8 |
| Covington, La. | 146.715       | -      | open  |
| Hammond, La.   | 147.000       | -      | open  |
| Hammond, La.   | 145.130       | -      | 107.2 |
| Hammond, La.   | 145.010       | HMU    | Digi  |
| Hammond, La.   | 444.250       | +      | 107.2 |
| 107.2nd, La.   | 53.090/52.090 |        | open  |

## Local Ham Participates In Mississippi QSO Party

HENLEYFIELD - Larry Wagoner, N5WLW, vice-president of the Pearl River County Amateur Radio Club spent most of Saturday, February 28 on air making contacts as part of the Mississippi QSO Party.

Wagoner made 206 contacts for a total of 14,832 points in the contest - with contacts made with 39 states, three Canadian provinces and 31 Mississippi counties.

"I could have made a lot more contacts if I had been able to continue to work until 9 p.m." he noted, pointing out that he had to go off air at about 4:30 p.m. to travel with his wife.

The Mississippi QSO Party is an opportunity for Mississippi hams to make contacts with hams across the country and for hams from other states to make contacts with Mississippi counties. It also offers a contest for Mississippi and other hams who make the most contacts.

Wagoner said his contacts were made on 80-meters, 40-meters, 20-meters and 2-meter simplex. He made the contacts on HF using his 80-meter Carolina Windom antenna and Yaesu 897-D transceiver, operated from home in Henleyfield.

## Aubert Returns, Is Better

POPLARVILLE - Pearl River County Amateur Radio Club Treasurer Roger Aubert (KE5ELS) is on the mend. He was able to attend Tuesday evening's regular monthly meeting of the club in Poplarville.

While still moving gingerly, he said he enjoyed being able to take part in the activity again.

# TECH TALK

Tech Talk, is a creation by WA5WRE, that we hope will help develop some interest in the "hands on" end of Amateur Radio. It will consist of daily happenings in the shack, and in all of the Amateur community in Pearl River County. It will relate to construction projects, and helpful hints pertaining to the hobby.

---



First of all, let me thank everyone who has made comments as to what they would like to read in the Tech Note. This list is quite long, and I will try to get to it all ASAP, so please bear with me.

As I can see it, there still seems to be some confusion on proper selection of transmission lines, and the correct understanding of INPUT power. I would like to discuss both, and see if we can establish what is right, and what is wrong. The first topic, is:

## **TRANSMISSION LINES**

To begin with, what is a transmission line? To answer that question, we must first take into consideration that for any piece of wire, if RF rides on its surface with any degree of success, we must consider it a transmission line.

Notice I said, "rides on the surface". This is a little thing called "skin effect", and we will cover that another day. While sitting here, I can think of several kinds of transmission line: You can use what is known as "zip cord" which is the electrical cord on most of your appliances, older Television 300-ohm flat lead, ladder line, wave guide, and of course, coax cable.

Several things must be taken into consideration when selecting transmission line if you expect to get proper operation from your equipment. Some of those things are frequency of operation, length of the line, wattage output of the transmitter, proper impedance with reference to the transmitter, and the output circuit, just to name a few.

One of the most commonly used coax cables used today, is RG-8U. Since most individuals look at the printing on the coax, and they see something like Belden RG-8U, they consider all RG-8U to be the same. WRONG...

If you have the "Amateur Radio Bible", also known as the Handbook, you can see what I am talking about. I have the 2005 edition, and on page 21.2, there is a chart showing just about any type of transmission line you can think of. One quick glance shows me, that there are 11 different types of RG-8U.

What makes them different? Basically, there are three things:

- 1) VF (velocity factor)
- 2) Capacity per foot
- 3) Center Conductor AWG

Even though they all have a characteristic impedance of 50 ohms, their internal

construction makes them different. Why is this important?? The best example that I can think of at the moment is, if you are playing with more than one antenna on a certain frequency, and you want to phase the two together, to increase the gain of the system (which will effect both transmit and receive operations), then the matching network must be precise, or you will just spin your wheels.

Let's take what we now have, and apply a little math. If I want a piece of transmission line to be resonant at a certain frequency, I can use the following:

$\lambda$  - a symbol called Lamda - which stands for electrical wavelength in feet, is equal to 983.6 (norm), divided by the "f" frequency of operation, times the VF (velocity factor of the cable being used).

Now, let's plug in some values. Let's say we are going to use a piece of Belden 9913. Its velocity factor is 84 percent. If we use the frequency of 144Mhz as an example, then we have the following:

$983.6 \text{ divided by } 144 = 6.83.$

Multiply that by .84 (velocity factor) = 5 foot 7 inches.

This would make a stub that is tuned to 144Mhz, and can be used for a matching stub in conjunction with the antennas. The internal construction of the coax determines its ability to handle frequency, wattage, and compensation for losses in length. We covered this in a past Tech Notes, but let's go over it one more time (since most operators today seem to be concerned with how many watts he or she can run).

Another chart from the Handbook expresses RF loss due to feedline length in "DB's" (a logarithmic unit of relative power measurement that expresses the ratio of two power levels).

In my book, this chart is located on page 24-20. If you look at 9913, using 4 Mhz as a frequency, attenuation (db) is .27 per hundred feet. With all things being equal (which only actually occurs in free space), if your antenna has a flat 3 db gain:  $3 \text{ db} - .27 \text{ db} = 2.73 \text{ db}$  (the actual gain of the antenna)

In other words, if your transmitter is providing 100 watts of output, and you are using 100 feet of the coax with .27 db/100 ft. loss, the actual wattage making it to the antenna is 91 watts - and that is assuming that your antenna is a perfect 50 ohm match.

Now lets use a different 50 ohm coax - RG58/U. According to the chart, the loss at 4 Mhz is .633 db, and with the same parameters, wattage reaching the antenna would be 19.2 watts, which is quite a difference. As you move up in frequency, this really takes a toll on radiated power.

Once again referring to the chart, if we use a frequency of 144Mhz, 9913 has 1.2 db/100 ft. loss and RG58/U shows 4.8 db/100 ft. loss, so if you have a 3 db gain antenna, that has now changed to an antenna of 1.8 db gain for 9913, and using RG58/U, you effectively have no antenna at all!

You might as well hang a dummy load can up in the air ad try to operate with that.

## **CONCLUSION:**

This Tech Note is leading up to an article on ERP (Effective Radiated Power), which I was going to cover in this same newsletter, but my boss (the editor) told me I couldn't do that, so please make sure you read the next Tech Notes.

---

Editor's note: One of the geniuses of Jim's Tech Notes is that it makes concepts easy to understand - but we can get overloaded - and breaking the two articles apart gives the reader time to absorb one idea before encountering the next one.

---

It will be very important and it will let a lot of users understand that if you have a gain antenna, and you are emitting a carrier of 1KW, you may no longer be operating legally.

To offer a short example (without blowing the upcoming article), if you are radiating on a frequency of 14.250 Mhz into a tri-band yagi which has a gain of 7 dbi, your ERP is roughly 2500 watts. SURPRISE! You are no longer operating legally!

So until next time, take care, enjoy the hobby, and remember, read, read, and read. Too much knowledge cannot hurt you, too little knowledge will hurt you.

73's ... Jim WA5WRE

---

---

## **Henleyfield Community Center Is Likely Site For 2009 Field Day Event In June**

POPLARVILLE - After determining that there are problems with several other previously suggested sites for the 2009 Field Day Event, the Henleyfield Community Center appears to be the likely site for this year.

Located on Highway 43 in the Henleyfield Community, about 13 miles north of Picayune, the community center offers a large covered pavilion, bathrooms, a walking track, available power and a convenience store nearby.

A final decision on the location should be made at next month's regular meeting.

## **Amateur Radio Clubs At Schools Suggested**

The idea of assisting local school systems in establishing amateur radio clubs in local schools was floated at Tuesday night's regular Pearl River County Amateur Radio Club meeting.

Clubs would be run by the school, with assistance from local amateurs in setting up and possibly holding trainings. Club officials will explore the idea and contact Pearl River Community College about the same idea.

# Large Turnout For PRCARC Meeting

POPLARVILLE - The March meeting of the Pearl River County Amateur Radio Club had a large turnout. Fifteen local hams showed up for the meeting.

Among the hams who came out Tuesday, March 3 were:

|                |        |
|----------------|--------|
| Larry Wagoner  | N5WLW  |
| Janice Wagoner | KE5ZJX |
| Alex Dumestre  | KD5GFI |
| Ralph Miller   | KC5ODF |
| Jack Beith     | K5WNU  |
| Bobby Graves   | AD5WA  |
| Peter Kahan    | N3MHJ  |
| Ron Smith      | KE5WJL |
| Jim Searcy     | WA5WRE |
| Shirley Searcy | KA5BLD |
| David Moore    | N5ELI  |
| Tim Purvis     | N5UDK  |
| Jay Stevens    | KB5OXE |
| Roger Aubert   | KE5ELS |
| Dan Beavers    | KE5WJN |

Club officials said they were very pleased with the high turnout.

---

---

# Dues Are Due

POPLARVILLE - Dues for 2009 for the Pearl River County Amateur Radio Club are due, according to PRCARC Treasurer Roger Aubert.

Several club members paid their dues at the Tuesday night meeting in Poplarville.

# Purvis Makes Presentation To PRCARC On Weather

POPLARVILLE - Wiggins ham Tim Purvis (N5UDK), who serves as head of the Stone County ARES organization and Emergency Coordinator for Stone County made a presentation to the Pearl River County Amateur Radio Club on computer-linked weather warnings and monitoring at the March regular meeting of the club.

Purvis noted that his group has installed several weather stations with computer links to provide weather alerts to anyone monitoring.

He also promoted the idea of additional training and staffing for the SkyWarn Program. SkyWarn is a program of the National Weather Service in which trained observers report sightings of bad weather through their local Emergency Operations Center to the National Weather Service.

David Moore (N5ELI), who serves as Pearl River County Communications Officer at the EOC in Poplarville, said new trainings are being set for Poplarville.

While no dates are currently available, he said the training will be announced to amateur radio operators in the area as soon as the information is available so interested hams can get involved.

The training usually takes less than two hours and gives certification as a SkyWarn Observer. Observers report weather from their locations to the National Weather Service. The local NWS office is in Slidell, La.