



# BACKSCATTER

Newsletter of The Lakeland (FL) Amateur Radio Club



Editor: Joe Pirkle

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The LARC MEMBERSHIP MEETING is held on the first Monday of each month at The Fellowship Hall of the Westminster Presbyterian Church on S. Florida Ave between Riggins Street and Mosswood, Lakeland FL. at 7:00 PM, Talk in on 146.685 MHz, PL Tone 127.3 Hz.

**John R. (Sparky) SPARK of :61 Strathmore Drive, Haines City, passed away at about 10:00 pm on January 20, 2005 at the Lakeland Regional Medical Center. He had broken his hip in a fall. He then suffered a heart attack in the hospital.**

**Sparky, as he was universally known, had been a long-time member of the Lakeland Amateur Radio Club, and had received his 60-year pin from the ARRL this past year.**

**You will be missed and remembered fondly by all that knew you, John Spark.**

**May God bless and keep you.**



**THE PREZ SEZ**  
Pat Pirkle - WD4BEK



We are starting out well this year. Jim Murray, KC5QWG, has started Field Day 2005 planning and needs

volunteers. See Jim's article elsewhere in this issue for more information.

The CROP Walk will be February 27 around Lake Hollingsworth. For further details see Events column from Patrick O'Neil, KI4CDY.

The annual audit has been completed by Ron Smith, KF4JED, Phil Dentler, K4BHE, AND Marv Johnson, KI4CDZ. My thanks to these members for taking on the task. This brings to mind the fact that dues must be paid by March 31.

Don' forGet "QLF" at the February meeting. I am looking forward to seeing all of you there.

*73/88 de Pat*

## EVENTS

Patrick O'Neil - KI4CDY

### CROP Walk

We have been asked to support the annual Crop Walk in Lakeland on Sunday, February 27th, 2005 from 2PM to 4PM. The event will be held around Lake Hollingsworth this year. This faith based fund raiser helps the needy in Lakeland as well as internationally.

This will be the 22<sup>nd</sup> year for this event in Lakeland and LARC has supported this event in the past. If you are interested in supporting this event, please sign-up during the February 7th, 2005 meeting or contact Patrick O'Neil (KI4CDY) at (863) 206-6755 or e-mail at [patrickboneil@juno.com](mailto:patrickboneil@juno.com)



## Wave Lengths, Meters and Lecher Wires

Jack Falkenhof, K4BYF

Like many of the things that sort of slip away from our memories after a period of time is how the term “meters” applies to frequency. As we know, radio waves travel at the speed of light, about 186,000 miles per second or approximately 300,000 meters per second. We can find the wavelength of a particular frequency by dividing either 300,000 meters by the frequency in KHz or 300 meters by the frequency in MHz. For instance, if we divide 300 meters by 144 MHz we find that a wavelength at that particular frequency is 2.08 meters and we say that a transmitter operating near that frequency is in the 2 meter band.

How do we use this knowledge? Well, we can get a pretty good idea of how long an antenna has to be without doing much math. For instance to get a rough idea of how long the elements on a 2 meter half wave antenna are, we can convert meters into feet by multiplying 2 meters by 3.28 if you are a purist or simply by 3 if you are like most of us. Now we know that a wavelength is about 6 feet long, a half wave is about 3 feet long and a quarter wave is about 1 ½ feet long. We can also use these figures to plot the current and voltage distribution points along the length of an antenna if we are interested in doing so or as just stated, to get a rough idea of how much room you will need for that 40 meter dipole you want to put up.

In the not too distant past, most hams didn't have access to frequency counters or even calibrated receivers when they

built transmitters for use in the VHF or UHF bands. When I built my first transmitter for the then UHF band at 420 MHz, I had no idea of what frequency it was really on. Because there were no crystals available that I was aware of and the fact that I couldn't afford to buy one anyway, I, like most other experimenters, used a free running oscillator. To measure and adjust the frequency of the transmitter, I built a set of Lecher wires in accordance with a design published in the Radio Amateur's Handbook. This consisted of 2 parallel wires about a wavelength long and spaced a couple of inches apart. One end of the wires was excited by my transmitter's output and the other end was left open. A small 6 volt dial lamp was inductively coupled to the transmitter end of the wires. A shorting bar was pushed along the plane of the parallel wires and marks were made at the points where the bulb either dimmed or extinguished. The distance between those marks, a half wavelength, was measured with a metric ruler and the frequency determined by dividing 150 by the measured distance. After I adjusted the transmitter frequency into the ham band, I used it to adjust my homebrew receiver to the same frequency. In order to have someone to talk to, I took the receiver to my buddy's house across town and we adjusted his transmitter to the receiver frequency. Back in those days there was no UHF activity and about 5 of us used 420 MHz as our personal intercom system, but that's a whole different story.

A couple of years ago, as a demonstration for an Eastside Group meeting, I put together a set of Lecher wires using some model railroad train track. Instead of using



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a light bulb I used a microammeter and I used my 70 Cm HT as a source of RF power. I think everyone in attendance enjoyed the demo, but we all agreed that it sure is nice and a lot easier to just hook up our frequency counters and read the results out to the exact Hertz.

03/26/05 Cy Harris Plantation  
W4MAQ  
Mem. Free  
Flea



KI4CRI	Charles Gribble	5-Feb
KC5QWG	Jim Murray	21-Feb

If your birthday was omitted, please contact the editor at [ad4ih@arrl.net](mailto:ad4ih@arrl.net) to correct your database profile.

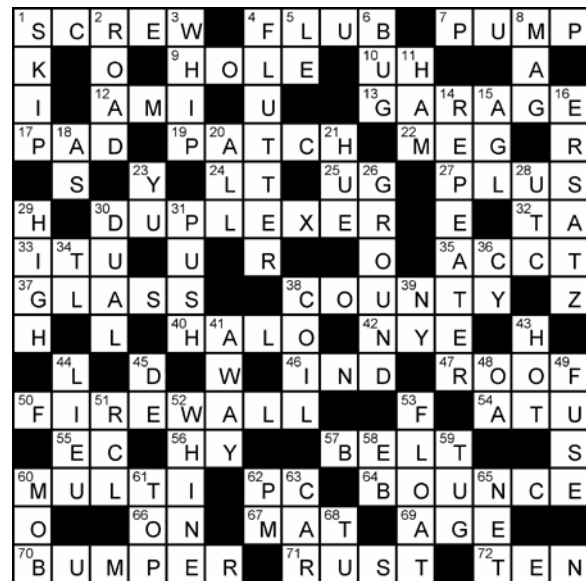
## FLORIDA HAMFESTS

For more detailed information consult the ARRL Web Site at [www.arrl.org](http://www.arrl.org) or your current QST.

MO/DA/YR	EVENT	CITY
02/05/05	Dade Radio	Miami Fair Expo
02/06/05	Club of Miami	Cntr
02/11/05 thru 02/13/05	N Florida Section Convention	Orlando
03/06/05	Charlotte County Tailgate-Fest	Port Charlotte
03/26/05	Gulf Coast ARC	New Port Richey

## CROSSWORD SOLUTION

This is the solution to last month's puzzle. This material taken from the ARRL website at <http://www.arrl.org/>.



## TRIBUTE TO A LADY

Joe Pirkle, AD4IH

Ruby Duncan, long-time supporter of the Lakeland Amateur Radio Club was voted in as a Life Member at the December 2004 Executive Board meeting.

Ruby, wife of Al Duncan, K4BHF (SK) has continued to play a very active part in the club since Al's passing, serving until recently as Sympathy and Hospitality Committee chairperson.. We all love you, Ruby!



## What happened to ARES in Polk County?

As of January 1<sup>st</sup>, 2005, the Polk County ARES program came to an end. This announcement came directly from Evans Mitchell, the ARES Emergency Coordinator or "EC" in an email that he posted to the ARES Yahoo group. Mr. Mitchell is still holding the position of EC for Polk County, but officially, there is no active ARES program running here.

The Polk County PCCP (Polk County Communicators Program) is still active and will continue to be throughout 2005. According to Ben Holycross, who heads the program in Bartow, PCCP will be redefined in the coming months with a different mission. In short, the PCCP members will be tasked to man the shelters only in the event of a hurricane or other disaster requiring shelter activation.

The shelters will be equipped with county owned radios operating on county assigned frequencies, thus not requiring a licensed "Ham" radio operator. These radios will operate through their own repeater located at the Shelter Net Control Point in Bartow, FL.

According to Mr. Holycross, this system will allow for "non licensed" volunteers at the shelters to operate the shelter radios, although it is still possible for a licensed operator to work a shelter if they desire to.

The main reason for this change is important - there just aren't enough licensed radio operators in the area willing to volunteer to man all the shelters, and the other key positions that PCCP is tasked to manage. By using non licensed operators

in the shelters, this frees up licensed operators to fill more important key positions in the county where they are needed more. Some of the key positions are the Red Cross, the Shelter Net Control Point, the ROC, EOC and the local law enforcement offices in the area.

Mr. Holycross said in a meeting with Evans Mitchell and Wayne Miles, AEC, that it would be ideal if we had enough volunteer "hams" to fill all these positions, but this last year has proved that this is not going to happen.

He added, in the coming months, we will form a special group of dedicated licensed hams that will take an active role working with PCCP to fill key positions around the county. We need Net control people, and people who can man the Aluma-trailer and deploy to other areas of the country if needed.

Overall, the need for licensed operators in the PCCP program has increased - not decreased. They are needed to fill the skilled positions more than ever...

So where is ARES???

The best way to describe what has happened to ARES is that it is undergoing a major change and redesign. This change actually started last spring when Evans Mitchell asked Wayne Miles, AEC, to come up with a new idea for the county. "Polk County EmComm" was born. This soon to be announced program will include some new and exciting features that everyone in the county can take part in.

It will include a brand new radio net called the "Cemetery Net" that will handle NTS



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traffic and provide some new features not normally found on the air waves. Monthly training nets and public demonstrations designed to build membership and bring training to your local neighborhood!

Another new change is a brand new meeting place - located in Lakeland. This will allow people to meet and enjoy some food and drink if they want, socialize and get informed on all the latest developments as they happen. The Bartow Shelter Net Control Point, will still be used as needed for training and special events.

You may have noticed some new activity on the 146.985 machine in the last couple weeks. IRLP and EchoLink are up and running (in test mode) on VHF! These two systems will allow people to log into our "Cemetery Net" via computer and be used as a recruiting tool to attract the interest of new hams.

All of this and much more is on the way and will be officially announced soon. The new "Polk EmComm Program" promises to be totally new and exciting. It's a brand new beginning for Emergency Communications in the area and it's way over-due.

Look for more information coming to LARC real soon about EmComm. In the meantime, if you have comments or suggestions, or would like to take part in the development of this new program, please contact Wayne Miles, KG4TCJ at (863) 858-1244 or (813) 545-2520 He can also be reached via email at [editor@PicoffeeShop.com](mailto:editor@PicoffeeShop.com)

## **FIELD DAY 2005**

Jim Murray - KC5QWG

Field Day will be the fourth full weekend of June, beginning at 1800UTC Saturday and ending at 2100UTC Sunday. Field Day 2005 will again be held June 25-26, 2005 at the Hunt-Fountain Complex in North Lakeland. Polk County Parks and Recreation has waived the usual fees thus saving our treasury some major dollars.

We will be looking for people willing to head up or help the following committees:

### **CW**

Contact: Jack Falkenhof K4BYF

Equipment: ?

Antennas: Have vertical

Operate from KC5QWG motor home

### **SSB/Voice**

Contact:?

Equipment:?

Antennas:?

### **6M**

Contact:?

Equipment:?

Antennas?

### **GOTA Station**

Contact: Joe Pirkle AD4IH

### **Publicity**

Contact: Jim Murray KC5QWG

### **Foods**

Saturday Supper:

Sunday Breakfast:

### **Generators**

Please contact Jim Murray KC5QWG if you are able to head up a committee or provide any other assistance.  
[Jimmurray3@verizon.net](mailto:Jimmurray3@verizon.net) 863-984-8272





## 2005 STORM FORECAST

Excerpted from  
**Dr. William Grays Hurricane Predictions 2005**  
PROBABILITIES FOR AT LEAST ONE MAJOR  
(CATEGORY 3-4-5) HURRICANE

Landfall on each of the following coastal areas:

- 1) Entire U.S. coastline - 69% (average for last century is 52%)
- 2) U.S. East Coast Including Peninsula Florida - 49% (average for last century is 31%)
- 3) Gulf Coast from the Florida Panhandle westward to Brownsville -39% (average for last century is 30%)
- 4) Above-average major hurricane landfall risk in the Caribbean

*Editor's note: It is not too early to begin preparations for the 2005 season.*

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## HUMOR

*Although the following has no amateur radio connection, it has a connection o the majority of the club members as grandparents. Thanks to Fred Kalt, W2XN, our Texas correspondent, for forwarding it.*

### WHAT IS A GRANDPARENT?

(Taken from papers written by a class of 8-year-olds)

Grandparents are a lady and a man who have no little children of her own. They like other people's.

A grandfather is a man grandmother.

Grandparents don't have to do anything except be there when we come to see them. They are so old they shouldn't play

hard or run. It is good if they drive us to the store and have lots of quarters for us.

When they take us for walks, they slow down past things like pretty leaves and caterpillars.

They show us and talk to us about the color of the flowers and also Why we shouldn't step on "cracks."

They don't say, "Hurry up."

Usually grandmothers are fat, but not too fat to tie your shoes.

They wear glasses and funny underwear.

They can take their teeth and gums out.

Grandparents don't have to be smart.

They have to answer questions like "why isn't God married?" and "How come dogs chase cats?".

When they read to us, they don't skip. They don't mind if we ask for the same story over again.

Everybody should try to have a grandmother, especially if you don't have television, because they are the only grown ups who like to spend time with us.

They know we should have snack-time before bedtime and they say prayers with us every time, and kiss us even when we've acted badly.

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## Aerials and Where to Stick Them

**Author Unknown**

There are a great many types of antenna and most of them function best when they are erect. This is because of 'standing-waves' which produce energy in a vertical plane. Energy in the horizontal plane



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requires 'lying-down waves' and this is why most of the radiated and received energy is termed 'ecstatic' rather than 'magnetic'. (Kirchhoff's fourth and fifth laws of self-immolation present a heated argument on this subject.)

One of the most famous aeriels is the diamond-shaped 'Ron Bick' aerial, named after its inventor Ron Bick of Watford, England. This aerial is very good but, because of its size, it has two main disadvantages - it is difficult to erect vertically and it is of limited use in fast-flying jet aircraft.

Another aerial that deserves a mention is the Log Periodic - so I have mentioned it.

I will now move quickly onto the three 'pole' antennas, namely the monopole, the dipole and the tripole. The last-mentioned can be disregarded as it is not now in use. The reason for this is fascinating, but I can't remember what that reason is. The monopole is very useful for LF, MF and HF but has limited usefulness at VHF frequencies where one should use the stereopole if maximum enjoyment is required.

At this point the reader may feel that there has been some neglect of the technical aspect of aeriels. This is true and the author intends to deal with the dipole in depth technically, but at the same time try to satisfy the natural curiosity of the non-technical reader.

The word 'dipole' is a composite of two Latin words, 'di' meaning 'six' and 'pole' meaning 'sticks'. So it can be easily seen, even by the most ignorant, that a dipole is made from six sticks. As the reader will already know from my in-depth study of

the Log Periodic, six sticks will have a much wider aperture than only one stick. Now we come to the technical bit. Pushing these sticks into the ground at regular intervals will give a quasi-omniphysical deltoid stub-matching line-of-sight high incident ground-wave. If three of the 'sticks' are coated with an intensely ionised P material and the other three coated with un-ionised N material then Zowie! - it's instant Receivesville man. (It is hoped that the reader will forgive the author for occasionally lapsing into the vernacular, particularly when excited.)

Another thing about aeriels that must be remembered is feeder independence. If the feeders of dipoles are spread apart it changes the natural independence of the aerial from 75 Ohms to 250 Megohms. As is commonly known it is impossible to hear anything with that sort of resistance in the aerial feeder. So best not to do it.

Other types of aerial in constant use are the 'Beverage' (called the 'T' aerial in Britain). This is also called a long wire and is 1.5 inches long at 16 GHz. The Inverted X is also famous but not much in use as no-one can decide which way up it is supposed to be.

Finally, we move on briefly to microwaves where there are special considerations to be taken into account. Microwave and satellite signals can 'bounce around' all over the place and can become what is technically known as 'dirty'. However, fortunately there is one aerial which can be used effectively to 'clean up' these 'dirty' signals. This is, of course, the very well-known Carabolic Dish.

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### Board Of Directors

<b>President</b>	Pat Pirkle	WD4BEK
<b>Vice President</b>	Ron Smith	KF4JED
<b>Secretary</b>	Gillian Murray	KC5TEN
<b>Treasurer</b>	Charles Gribble	KI4CRI

<b>Board Members</b>	Jack Falkenhof	K4BYF
	Jim Murray	KC5QCW
	Joe Pirkle	AD4IH
	Bob Pendleton	KE4ECW
	Richard Sharp	KQ4KX

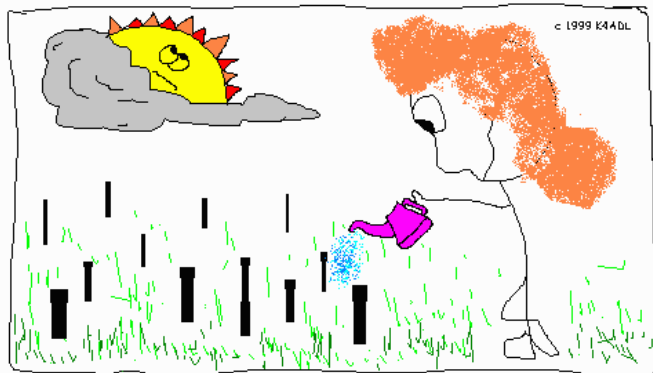
### Committee Chairpersons

<b>Education</b>	Joe Pirkle	AD4IH
<b>Events</b>	Patrick O'Neil	KI4XΔΨ
<b>E-Mail Reflector</b>	Joe Pirkle	AD4IH
<b>Field Day</b>	Jim Murray	KC5QWG
<b>Hospitality</b>	Lenore Smith	KF4TKY
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PAT'S RUBBER DUCKIE ANTENNA FARM

<http://www.qsl.net/k4adl>