



# Dixie Amateur Radio Club Newsletter

*"Amateur Radio...*

*...When All Else Fails!"*

Dixie Amateur Radio Club, Inc.

August 2008 Edition

## Introduction to New Newsletter Editor



At the last meeting that was held on August 20, of this year I volunteered to be the current newsletter editor. My name is Ned Stevens and I live in Ivins. I moved to this area a little over one year ago. My call is K7ELP and I have been licensed for over 50 years. To learn more about me please look at the January,

February 2008 newsletter. I am interested in your input as to articles and things for this newsletter.

I can be reached via email at [autoivins@Q.com](mailto:autoivins@Q.com).

By regular mail @ 495 Kayenta PKWY, Ivins 84738 or by telephone 634-0510. I will appreciate telephone calls prior to 9PM as this is my quiet time.

## Next Club Meeting

**7:00 P.M. Wednesday, September 17, 2008**



The next scheduled meeting of the Dixie Amateur Radio Club will be held at 7:00 p.m. on Wednesday, September 17, 2008.

The meeting will be held at the St. George Community Building which is located on the west side of the south parking lot of the Aldred (St. George) Senior

Citizens Center at 245 North 200 West, St. George.

The meeting will begin at 7:00 P.M. Besides our Club members, anyone with an interest in learning more about Amateur Radio is invited to attend. Check the web site home page closer to the meeting date for more info on the meeting topics.

## Volunteer Exam Session

**6:00 P.M. Wednesday, September 17, 2008**

There will be an ARRL Volunteer Exam Session held at 6:00 P.M. on Wednesday, September 17, 2008 at the same location as the regular Club Meeting described earlier.



If you are a person desiring to take your first Amateur Radio test or a currently licensed ham wanting to upgrade this month, please plan on attending. If you are a Volunteer Examiner who would like to help out at a session, please contact please contact the Club's V.E. Liaison Gary Zabriskie, N7ARE, via

e-mail: [n7are@arrl.net](mailto:n7are@arrl.net) Or call (435) 674-2678 and leave a message.

Congratulations to the three persons who passed exams at the August 20, 2008 VE session.

The successful candidates were as follows:

Gene L. Homer	KE7VPT	Cedar City, Utah	Technician
Dave S. Seely	KE7VPU	St. George, Utah	Technician
Valerie L. Seely	KE7VPV	St. George, Utah	Technician

The web site home page will continue to have information on those who take V.E. administered exams.

Congratulations to those of you from any earlier sessions that might have been missed being recognized.

## Club President's Letter

Coming to a city near you soon: Dedicated amateur radio operators showing off what public service is all about.

Come help us out with the St. George Marathon, the Huntsman Senior Games and the St. George Community Expo. More information available soon.



Ric Wayman, K7DLX

We're working on getting the 146.640 repeater back up and operational. Watch the Club's web site home page for announcements.

Sorry this is so short. I'll write more later. In the meantime, keep on the repeaters. Show this community what we're all

about. Thanks for all your support. I can be emailed at [k7dlxham@gmail.com](mailto:k7dlxham@gmail.com).

73,  
Ric Wayman, K7DLX

**Technical information about LED's**  
By Ned Stevens, K7ELP

LED is short for light emitting diodes. They are available in a number of colors. The most common are red, green, yellow, white, and blue. LED,s give off light when there is forward current thru them. This current is variable, but for the normal small ones the maximum current is 20mA. LED's are a DC device but with proper circuit design they can be used in an AC circuit, and the forward voltage or Vf varies greatly with color and a small amount with forward current.

The following chart gives some typical forward voltages at two amounts of forward current. These reading are typical and the tests were made on some of the LED's in my stock.

LED FORWARD VOLTAGE		
COLOR	IF = 5Ma	IF = 10Ma
	Vf	Vf
YEL	1.90	2.0
GRN	1.95	2.0
RED	1.95	2.0
OR	1.80	1.9
WHT	3.00	3.2
BLUE	3.60	3.8

The intensity of LED's also varies with forward current and the intensity is rated in MCD. MCD stands for millicandela.

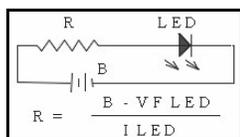
Both the lamp and the LED have a common measure of illumination intensity. The unit is the candela or the millicandela. The candela relates to candle power. Most lamps are rated in Mean Spherical Candela (MSCD) or lumens. Most LED's are rated millicandela (MCD).

Milli is standard and 1 milli = 1/1000. Most household lamps are rated in lumens.

Lumens can be converted to MSCD by multiplying the lumens by .07958. For example a typical 75 watt household bulb is rated as 971 lumens.

MSCD = 971 lumens x .07958, or 77.27 MSCD.

I mentioned earlier that the LED is a current device. The following figure shows a typical hookup for a LED.



Terms: R = required resistor, B = applied DC voltage, VF LED is the forward LED voltage, and I LED = the desired LED current. The forward LED voltage varies with the current. Most common

LED's work great with around 10 Ma of forward current, and the illumination is adequate for most purposes. The intensity for them is around 5 to 10 MCD. I generally use 1/4 watt resistors, 680 ohms for 6V batteries and 1.3K ohms for 12V batteries.

It is best to check the specifications for the particular LED, as there are low current LED's that can be real bright also. It is not uncommon to have LED's with a intensity in the 10s of thousands of MCD. LED's can be connected in series. Just add up the Vf of each diode and use this total in the above formula. It is okey to use different colored LED's in series, they will all have the same current.

LED's can be connected in parallel, but one must use caution. Because the forward voltage varies within the same manufacturer, so unless the LED's are matched for VF one or more LED's in the parallel branch my hog all the current and be destroyed by excess current.

If there is interest from the club members in this subject I will be happy to teach you how to connect LED's in parallel.

Most LEDs are current devices, and require current limiting resistors in series with them for normal operation. There is a group of LED's that are voltage devices and do not need resistors in series with them for normal operation. These are blinking LED's, and they generally work with an applied voltage of between 3.5 and 12 volts. They do have a polarity like normal LED's, so the + supply voltage must be connected to the anode and the - supply lead must be connected to the cathode. The circuitry to flash these LED's is built into the LED. The flash rate is typically between 1.5 and 3.0 flashes per second. A typical intensity for a green one at a supply voltage of 9V is 20 MCD.

One interesting thing about the blinking LED's is that if you connect a blinking LED in series with a normal LED, the normal LED will also blink at the blink rate of the blinking LED.

I once connected two flashing LED's in parallel and then in series with an orange LED. The result was a simulated flickering candle. I placed the assembly in one of those small plastic pumpkins for a Halloween display.

**Join the Club For the First Time or Renew your Membership!**

Club membership dues for 2008 are being solicited. Dues are \$20.00 per member and \$25.00 per family for multiple ham families. As a matter of fact, you do not have to be a licensed Amateur Operator to join the club. (Licensed hams have "full-membership"). You just need to have an interest in Amateur Radio. Check the Club's Membership Roster on the Club's web site to see that you are shown as a member. If you are not listed, you may have simply procrastinated. Please show support for your club and join. To pay your membership dues, please make a check or money order payable to "DARC" and bring it to the meeting or mail it to the club address:

Dixie Amateur Radio Club  
P.O. Box 422  
Santa Clara, UT 84765

### ...and while you are at it - Why not join the ARRL?

Founded in 1914, the 150,000-member ARRL -*The National Association for Amateur Radio*- is the national association for Amateur Radio in the USA. Other countries also have their own national associations.



The ARRL not only reflects the commitment and many enthusiasms of American hams, but also provides leadership as the voice of Amateur Radio in the USA, whether in dealings with the Federal Communications Commission, the World Administrative Radio Conference, the International Amateur Radio Union, or with the general public.

The ARRL is the primary source of information about what is going on in the ham radio world. It provides books, news, support and information for individuals and clubs, special operating events, all sorts of continuing education classes and other benefits for its members.

Being a member of the ARRL is important for hams! Anyone interested in Amateur Radio is welcome to join the American Radio Relay League.

If you join the ARRL for the first time through the Club, or renew your ARRL membership through the Club, our Club benefits directly financially.

Use this link below for more info on joining the Club and the ARRL: <http://www.dixieham.org/join.html>

### Board Meeting Follows Regular Club Meetings

There is a Club Board Meeting scheduled each month immediately following the "Refreshments" at the conclusion of the General Club Meeting. A reminder of this meeting will be announced during the regular Club meeting. Everyone is invited to stay and observe the Board in action.

You can see who our current Board Members are on the Club's Web Site.

### Member Profiles Needed!

We still are in need of profiles of Club members to showcase in future Newsletters. Are you willing to be the next "famous" person profiled in these pages? If you are willing to tell us something about yourself, please e-mail your story or at least acknowledge your willingness to be profiled in a future edition of the newsletter to the editor at: [autoivins@Q.com](mailto:autoivins@Q.com).

### About Our Club

The Dixie Amateur Radio Club (DARC) is a non-profit [IRS 501(c)(3)] association of Amateur Radio operators, also known as "ham radio" operators, in southwestern Utah. DARC is affiliated with the American Radio Relay League (ARRL), the National Association for Amateur Radio. Please use the navigation links below to explore our website. Amateur Radio operators are federally licensed by the Federal Communications Commission (FCC) to provide a radio service having a fundamental purpose as expressed in the following principles:

- (a) *Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.*
- (b) *Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.*
- (c) *Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communications and technical phases of the art.*
- (d) *Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.*
- (e) *Continuation and extension of the amateur's unique ability to enhance international goodwill.*

Members of the Dixie Amateur Radio Club provide voluntary public service radio communications throughout the area for activities such as the annual St. George Marathon and the Huntsman World Senior Games. Amateur Radio operators also maintain a readiness to provide emergency communications locally, regionally and world-wide in the event of a natural disaster or other calamity.

### HAM RADIO HUMOR

(remember the Beanie Babies craze?)



"Harold!!! What are you doing wasting money on more USELESS radio equipment!!!"