

Zululand Amateur Radio Club News

The newsletter for the discerning Ham

February 2015

ZARC Committee

Chairman: Andrew Jansen ZS5AND

Vice Chairman: Warren Snyders ZS5WOZ

Treasurer: Willie Axford ZS5WI

Secretary: Dawn Snyders ZS5ME

Ham Net: Jo Snyders ZS5PO

Editor: Jo Snyders ZS5PO

Member: Anne Griffiths ZS5FAB

Member: Gerald Scrooby ZS5GS

Webmaster: Chantel

Club Repeaters

Ntumeni 145.675 MHz

Empangeni 145.700

Club Packet Digipeater/Mail-drop & APRS Digipeater

Ntumeni 144.625 (ZS5ZLB Mail, ZS5ZLB-2 Digipeat, ZS5ZLB-7 KA-Node) PBBS: ZS5AND

Club Nets

ZS5PO & ZS6AE Have A Sched On Thursdays Between 17:30 and 18:45
On 7.175 Or 3.645 Depending on propagation
ALL are more than welcome to join us for a "rag chew"

SARL News

08h30 - Sundays - 145.650, 7.066 MHz

NEXT ZARC MEETING

DATE: AGM ??th July 2015 (**Sunday**) (Date to be decided)

TIME: Meeting will take place ± 13:30, after the customary Braai at 12:00

QTH: Tattenham Resort Dam Lapa

E-Mail: dawnjo@telkomsa.net (Secretary)

Club Web site: <http://zs5zlb.zs5and.co.za/>

Editor, Q.R.L.



Greetings & Salutations fellow members, I trust that this news letter finds you all in good health. The next club meeting will be our AGM on Sunday 27th July 2015. The venue will be at Tattenham Resort near Gingindlovu. The meeting will take place at ± 13:30. Please make a note in your day books and diaries. The time for the customary braai will be at 12:00, giving everybody a chance to get there after Sunday morning commitments. **THIS WILL BE THE CLUB AGM!!** The exact date will be decided later.

Have you bought insurance to continue enjoying your hobby yet? SARL membership IS that insurance!!!
Is your hobby worth R1.09 per day to you? YES?! Then join the SARL, it's the RIGHT thing to do!!!

The radical opinions, and rantings of the Editor, are not necessarily the opinions of, or supported by, the ZARC Committee, or it's members.

Wots Potting In The ZARC

Birthday Greetings Go To:



March: Rob, OM of Anne, ZS5FAB, on the 14th. Jo ZS5PO, on the 15th.

April : Warren ZS5WOZ, on the 13th. Brian ZS6AE, on the 26th.

May : Tinkie, SW of Willie ZS5WI, on the 18th. J-J, son of Warren ZS5WOZ, on the 23rd.

Many happy returns to all of you, and may you be spared for many more years.
(If your birthday wishes do not appear here, it is because you have not informed me of your birth date).

Get Well Soon



Willie, ZS5WI, is back home recovering from his back operation..

I have not got any update regarding Sakkie ZS5ID, who had a stroke during the end of last year some time. We all wish you both well, and hope you have a speedy recovery. GBWY

Club Happenings

Over the weekend of February 15th – 16th the ZARC, represented by ZS5J, ZS5AND, ZS5WOZ, ZS5GS & ZS5PO, took part in the SARL Field Weekend. With very cool conditions, and a bit of drizzle, a very enjoyable weekend was had.

Thanks go to ZS5WOZ, ZS5ME, ZS5WI & ZS6AE, who came up and supported their club by working the club station. In the photo on the left are the intrepid station operators, who braved the elements, way out in the bundu, in the name of their club. L to R: Jo ZS5PO, Gerald ZS5GS, Andrew ZS5AND, John ZS5J, Warren ZS5WOZ. Only John & Jo stayed on overnight to keep the bands warm.

The club meeting was held on the communal kitchen veranda on Sunday just before we packed up in the rain. Please note that the next meeting will take place under the Lapa at Tattenham during July, This will be the club AGM, and a date will be confirmed when we have been advised by all club members, what dates in July will suite them best.



The South African Radio League Hamnet 40 meter Simulated Emergency Contest, is the next contest that is normally supported by a number of club members.

This is open to all Radio Amateurs in South Africa, Namibia, Botswana, Zimbabwe, Swaziland, Mozambique, Lesotho, Marion Island and South African Antarctica. Only contacts with these areas will count. The contest will be on the air from 12:00 to 14:00 UTC on **Sunday 1 March 2015** and it is a phone contest in the band segments 7 063 to 7 100 kHz and 7 130 to 7 200 kHz.

You may participate as a single operator stationary mobile, single operator portable, multi-operator portable or **single operator base station**. Stationary Mobile and Portable stations shall operate from the same site for the duration of the contest and all power used shall comply with the requirements for Field Stations in the general rules. The exchange is a signal report followed by a three-figure number depending on the class of participation. Please consult the 2015 Contest Manual for the scoring and multiplier details. Log sheets must be submitted by 7 March 2015 to Hamnet Eastern Cape, Al Akers, ZS2U, 53 Clarence Street, Westering, Port Elizabeth, 6025 or by e-mail to contest@peham.co.za

Packet

On the packet Mail-Drop scene. The TNC is beaconing out. The coax on this set-up still has to be renewed, and the antenna moved to the east side of the tower

APRS

Your path to any stations in RSA, (or anywhere in the world via the I-Gate on 144.625) will be **ZS5ZLB-2, RELAY4-4**. The I-Gate should be available between the hours of about **09:00** and **22:00**, WHEN I AM AT HOME. People in the Richards Bay/Empangeni area can get into the PMB I-Gate on 144.800.

For those of you Zululanders who have Internet, go and look on the www.aprs.fi web site, and type your call sign into the slot at the top of the column on the right, and press search, and see if your station appears on the map.

Repeaters

145.675: This repeater was replaced after the Xmas meeting & lunch, and the old Storno is working well.

145.700: This repeater is now a DEAD puppy, and needs LOTS of TLC. **STILL waiting for ESKOM to open up for us to get into this site.**

Re-licencing

It is "THAT TIME OF YEAR AGAIN"

RENEWAL OF AMATEUR RADIO LICENCES AND FORM B - **Form B is no longer required**. Amateur radio licenses are due on 1 April 2015. ICASA will be sending out reminders in January but the responsibility remains with the licensee to ensure that the license is paid. **Unpaid licences will expire at the end of April**. Radio amateurs also have the **option to pay for 5 years**. Simply send an email to dkuhrau@icasa.org.za and advise him that you are converting to a 5 year license then when making payment, **pay R500**. This is a saving of **R100** and protects the licensee against **inflation increases** which will be introduced from the **2016** license year. **When paying ICASA, please ensure that you quote your licence number and call sign.**

"SWAP SHOP"



If you have any items you want to get rid of, or if you are looking for something, Please let the Editor know and he will advertise it in the swap column for you.

1 X **Neutec SM-1645** 16 channel 2Mtr VHF radio for sale.
Service, user and reprogramming instruction manuals available.
Reason for selling: Surplus to requirements
Please contact Gerald, ZS5GS on: **071-143 5433**



NB This picture of the radio was found on the internet, and is NOT a picture taken of the actual radio that is for sale

Please contact me if you are looking for a **Hy-Gain TH-MK4** beam antenna, The price being asked is **R4500**, and this one is in very good condition. Brand new they go for around **R9500**.



Goodbye incandescent lamps

This article discusses the place of the incandescent lamp in the lighting industry over the years and explains in some detail three alternatives to this technology



A lot has been written about the invention of the incandescent lamp. The first attempts at creating light using incandescent technology were made at beginning of the nineteenth century.

Commercialization started after Thomas Alva Edison successfully tested an incandescent lamp using a carbon filament in 1879.

A marked improvement in lamp performance was realised by using tungsten filaments. The first lamps using tungsten filaments were marketed by the Hungarian company Tungsram in the early 1900s. After that, only small incremental improvements were implemented in incandescent technology.

Remarkably, the incandescent lamp remained popular over the years despite an avalanche of other lamp technologies introduced since Edison's first test.

It was still the most widely-used technology worldwide in terms of numbers until the USA and the European Union started to ban incandescent lamps some three years ago.

The main reason for this is the low purchasing price of incandescent lamps due to their simple construction. Other points in favour of the incandescent lamp were their excellent colour rendering, their instant start and re-start ability, their dimmability and the fact that basically only a lamp holder was needed to operate the lamp.

Due to rising electricity prices, electricity supply shortages and increasing environmental awareness, however, the incandescent lamp, with its low energy-efficiency (only 10% of input power is converted into light while the rest of the energy is wasted as heat), is now in decline.

Cuba was the first country to ban incandescent lamps in 2006 as part of its "energy revolution". Since then, many countries have followed suit with full or partial bans. Senegal and Ghana were the first African countries to ban incandescents, followed by Tunisia and Egypt with its partial ban. Now that it is South Africa's turn to abolish the bulb, end-users have three main alternative technologies to choose from: halogen, compact fluorescent and LED bulbs.

Halogen

Halogen lamps use the same basic principle as incandescent lamps and can be labelled “improved incandescent lamps”. A small amount of halogen (usually bromine or iodine) is added to the gas inside the lamp. The combination of the halogen gas and the tungsten filament produces a halogen cycle reaction which re-deposits evaporated tungsten back onto the filament, increasing the lamp’s life. This means that halogen lamps can be operated at higher temperatures than standard gas-filled lamps of similar power and operating life, giving halogen a higher efficacy than comparable incandescent lamps. The colour temperature is also slightly higher (3000°K as opposed to 2700°K for incandescent lamps).

Lamp manufacturers have used the higher efficacy of halogen lamps to develop “incandescent look-alikes” offering some 30% energy-savings. These lamps (including the Philips EcoClassic) have a small halogen burner built into the traditional incandescent bulb.

As these lamps use the same basic technology as incandescent lamps; they also share some advantages with incandescents such as perfect colour rendering (CRI 100), dimming from 100 to 1% and instant start and restart.

Dimming halogen lamps not only reduces the light output but also decreases the colour temperature, creating a warm atmosphere. They are relatively inexpensive to produce, although the levy charged in South Africa adds to their retail price. Halogen lamps are made in the same shape as incandescent lamps and have a lifetime is around 2000 hours.

Compact fluorescent lamps

Compact fluorescent lamps (CFLs) are low-pressure mercury vapour discharge lamps and use the same technology as fluorescent tubes. These lamps consist of fluorescent tubes (in either a “stick” or spiral shape) and a lamp foot containing electronic control gear. The tube holds a filling gas and a small amount of mercury while the inside of the tube is coated with fluorescent powder made of varying blends of metallic and rare-earth phosphors. Ultraviolet radiation is generated when a gas discharge is initiated inside the lamp. The fluorescent powders convert this UV into visible radiation.

Fluorescent technology makes CFLs efficient (they save 80% energy compared to incandescent lamps) while offering lifetimes of between 6000 and 10 000 hours. Another advantage of fluorescent technology is that light with varying characteristics can be created by using different fluorescent powders. Most CFLs are available in warm white (2700°K) and daylight (6500°K).

The warm white version is preferred in colder climates while hot countries prefer the daylight version. The colour rendering of CFLs is rated “good” (CRI 80). CFLs are generally not dimmable, although special dimmable CFLs are available. They are also less suited to applications where lamps are switched on and off frequently, as switching the lamp many times reduces lamp life. The colour temperature stays more-or-less constant when dimming CFLs.

Introduced in the 1980s, CFL technology is now mature. Prices have dropped tremendously since their introduction, although their more complex design compared to that of incandescents means a price premium. With the energy prices of today, though, the cost savings incurred by CFLs (in combination with their longer lifetime) enables a fast pay-back of this price premium.

Like all fluorescent tubes, CFLs contain a small amount of mercury and care must therefore be taken when disposing of the

lamps. Most CFLs are larger than incandescents, which means they do not fit all fixtures. There are, however, very compact CFLs available which do fit most fixtures, an example is the Philips Tornado range.

LED bulbs are based on solid state lighting technology and contain light emitting diodes. Like CFLs, LED lamps also incorporate electronic control gear. The electronics convert the mains voltage into the right current

to operate the LEDs. This operating current is then turned into light by the LEDs. As LEDs are sensitive to heat, these lamps usually contain heat sinks to reduce the temperature of the LEDs.

Creating similar light distribution is one of the challenges for LED lamps developed to replace incandescents. Most LED bulbs today are already more efficient than CFLs and, due to their ongoing efficacy improvement, will further outperform CFL in the future. Energy-savings of more than 80% can be realised compared to incandescent lamps.

LED bulbs also outperform CFLs in terms of lifetime, with lifetimes ranging up to 40 000 hours. The lifetime of LED solutions is not defined, not because the product breaks down, but because the light output drops below a certain level (a common definition is the number of hours after which 50% of a large group of identical lamps drops below 70% of initial light output).

By using different types of LED chip, bulbs with different colour temperatures can be made, from warm white to daylight. The colour rendering of LED bulbs on the market varies, but the LED bulbs from more reputable suppliers are mostly rated “good” (CRI 80).

Although LEDs can be dimmed easily, not all LED bulbs are dimmable. One should choose a dimmable LED bulb and a suitable dimmer where LED bulbs must be dimmed. As with CFLs, the colour temperature of most dimmable LED bulbs remains more or less constant while dimming. However, some special dimmable LED bulbs are on offer, which emulate the dimming of incandescent lamps in the sense that the light becomes warmer when the bulb is dimmed.

In terms of wattage, there are now LED bulbs available which can replace incandescent lamps up to 100 W. Although the prices of LED bulbs are decreasing rapidly, LED bulbs are still considered expensive.

As solid state lighting is digital technology, it is possible to add unique features to LED bulbs. A good example is the Hue from Philips, a kit of three LED bulbs whose colour and brightness can be controlled wirelessly from an iPhone. For many, this points to the future of intelligent lighting.

Knowing that three alternatives to incandescent lamps exist, the question is which to choose.

Looking purely at value for money, the CFL seems the best option as it is efficient, has a good lifetime, performs well in most applications and the price premium over incandescent lamps can be recouped within a reasonable time.

The halogen look-alikes will also have their place in the market and will be the right choice for applications where colour rendering is important, where a warm and cosy atmosphere is preferred, and where bulb size is critical (halogen look-alikes have a bulb size similar to that of incandescents). Large homes usually have a few places such as attics and store rooms where the lights are on for very short times. Halogen look-alikes seem to be the right choice for these applications as they offer instant start and can be switched on and off many times.

With ever-increasing performance and decreasing cost, the real successor for incandescent will be the LED bulb. LED bulbs are already the right choice for applications with very long burning hours and where changing bulbs is problematic. The LED bulb is also the optimal choice from an environmental point of view as it is the most efficient and contains no hazardous materials. Being a digital technology, exciting new features can be added to LED bulbs and they can evolve into intelligent lighting.

**If you would like to contribute to your Club newsletter, or to contact me for any reason,
please use the address / Phone numbers below.**

**Jo Snyders ZS5PO
PO Box 98
Mandini 4490**

Telephone 032-456 2301

Mobile (Cell) 083-666 0709

Email jodawn@telkomsa.net

