

Zululand Amateur Radio Club News

The newsletter for the discerning Ham

November 2014

ZARC Committee

Chairman: Andrew Jansen ZS5AND

Vice Chairman: Warren Snyders ZS5WOZ

Treasurer: Willie Axford ZS5W1

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: ??th February 2015(**Sunday**)

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

QTH: Tentatively at the QTH of Andrew ZS5AND, in Empangeni

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 in February **2015**. The venue will tentatively be at the QTH of Andrew ZS5AND in Empangeni. 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.

**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:



December: Belinda, SW of Warren, ZS5WOZ, on the 17th.

January: Daniel, Grandson of ZS5ME & ZS5PO, on the 10th.

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

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



Andrew ZS5AND, has been on the sick list with his ongoing leg problems, and has been booked off work for some time now. Andrew, we all wish you well, and hope you have a speedy recovery. GBWY

Club Happenings

The second leg of the SARL National Field Weekend Contest took place from 12:00 to 12:00 CAT on the 15th and 16th November 2014. During which HF, CW, Digital & VHF/UH modes were used. Three members of the ZARC set up station at Tattenham Resort on 14th 15th & 16th November. They were, John ZS5J, Warren ZS5WOZ & Jo ZS5PO. Andrew ZS5AND joined us on Sunday morning. Despite the terrific thunder storm on Saturday afternoon, which sent the QRN soaring to 9+, 57 contacts were made, among which were Wales, Mauritius, Madagascar, Botswana, USA & Spain, for a score total of 20,832.



Three club members supported us by coming up and working the club station. They were Dawn, ZS5ME, Brian ZS6AE, & Gerald ZS5GS. Thanks for the support guys, much appreciated.

SARL QRP Contest

John ZS5J took part in the October leg of the SARL QRP Contest, and came 6th in the Ultra Light field category. Congrats Boet.

80 Mtr QSL Party

The October leg of the 80 meter QSO Party was held on Thursday evening 2nd October from 17:00 to 20:00 UTC with activity between 3 603 and 3 650 kHz and 3 700 to 3 800 kHz. The only club member who took part was Dawn, ZS5ME. Conditions left a lot to be desired, as propagation was not too bright, and high QRN did not help matters either. Anyway, Dawn managed to make 12 contacts, among whom was only one club member, Jo ZS5PO, who was house sitting over at the home of Warren ZS5WOZ, who was away from home for a few days. Dawn came 3rd in this contest. Congratulations Dawn.

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.

“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**.

Home Brewers Hoekie



Balun Measurements

Why can't you find the specifications for the baluns on the market? The only specifications you'll see are the ratio, the power rating and a bandwidth that is more hoped for than reality. The power rating is also often ambiguous. We publish the specification for our baluns. We are proud of the products we make, and we're happy to give you the specifications that will help you select the correct balun for your project. Here are some measurements and characteristics necessary to generate a balun's specifications.

Winding inductance affects a balun's low frequency response, output balance, and isolation factor.

It is commonly accepted that winding reactance to load impedance = 5:1. At the RADIO WORKS, a 10:1 ratio is required for precision baluns.

Coefficient of coupling

To keep losses low and bandwidth wide, a very high coefficient of coupling is required. Current-type baluns have no tertiary windings and coupling can be as high as 100%.

To measure the coefficient of coupling:

1. Voltage balun's tertiary winding must be disconnected.
2. Measure inductance of the main winding
3. Measure with tertiary winding open-circuited
4. Measure with tertiary winding short-circuited.
5. $K^2 = 1 - L_{sc}/L_{oc}$
6. K must be at least .98. The larger this number the better the tolerance to mismatch and the wider the bandwidth.

Core Saturation

A balun must be able to operate without saturating while high power is applied and the load is moderately mismatched. Core saturation can cause signal distortion, RFI, TVI, and balun failure.

The measurement technique for this specification requires applying increasingly higher power to a balun until the core saturates which is indicated by a change in the transmitted carrier as monitored on an oscilloscope.

Output balance

Balanced drive to the antenna is one reason for using a balun in the first place. Output balance should be excellent over a moderate range of mismatch.

To measure output balance, a signal generator is connected to the balun's input.

1. Use a centre-tapped matched load. The signal generator is set to the measurement frequency.
2. Measure voltage from each output to ground. Use RF voltmeter or scope.
3. A dual trace scope also will show any phase difference between the two outputs.

Alternate technique

1. Place a centre-tapped load resistor at output of the balun.
2. Measure input impedance with suitable bridge with center-tap on resistor load grounded.
3. Remove ground on load resistor- note change in input impedance. The smaller the change the better. In a well designed balun, this change will be less than 1%.
4. This test can be done with balun in case with all windings connected.

There are several other measurements that must be made. All of them require good lab equipment or high power transmitters. If you have access to the equipment, there are several books and articles that outline the various procedures. Balun design is interesting, but **you soon learn that building a good balun is more than just winding a few turns of wire around any available core.**

The Zululand Amateur Radio Club Committee and members wish everybody a safe, healthy and happy festive season, and God's richest blessings from this day forward.



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

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