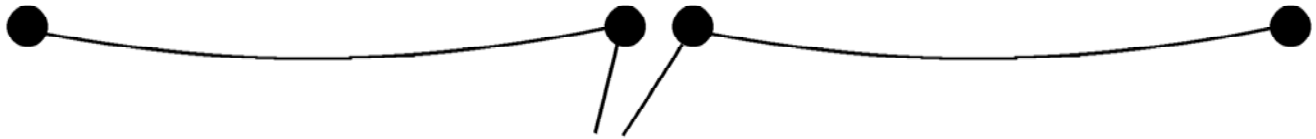


# DIPOLE



## NEWSLETTER OF THE SANDTON AMATEUR RADIO CLUB May/June 2010

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### From the Editor

Dear ZS6STN Members

As I write this, crowds of people are watching an amazing line of stars at Soccer City. The excitement is enormous as the world cup finally arrives.

While many foreigners may think South Africa is a region and not a country, hams through their hobby had conversations with many people around the world, in big and small countries. Because of this international connection, hams are true global citizens, knowing and respecting many peoples and cultures. You won't find a ham asking about lions in the streets in Africa!

It is possible that some of the many visitors are hams and have brought radios to SA. If you hear them on the repeaters, asking who is around, be sure to give them a hearty welcome!

The club has had a good month, with Colin's very successful talk, and a great end to the RAE course. A good group of students will be joining us on the air shortly. Welcome to you too! The AGM will be held on 17th July @ 10:30. Please diarise this date to attend. Further details to follow.

73,

Thomas ZS6TXA  
Dipole editor

#### **APPEAL** Dipole is always looking for content! Can you help?

It doesn't have to be of a pure amateur radio nature, perhaps you took a photograph of an interesting bug, or did something fun and want to share the experience.

Don't worry if it's not in publication-ready form, it can always be retouched, neaten up or edited if you're not completely happy with it as-is.

Send your photos, articles and what-have-you to the editor, contact details on the information page.

## Information page

This page is included in every Dipole, for general club information.

<b>Committee Members – 2009/10</b>					
<b>Name</b>	<b>Callsign</b>	<b>Position</b>	<b>Email</b>	<b>Cell</b>	<b>Home</b>
John Hilton	ZS6XK	Chairman, Bulletins	john@toad.co.za	082 823 5083	
Peter Hers	ZS6PHD	Vice chairman	zs6phd@mweb.co.za	083 445 4634	792 4634
Colin de Villiers	ZS6COL	Treasurer	zs6col@devee.co.za	082 443 6420	704 1643
Bruce McDonald-Watson	ZS6ZAP	Secretary	bruce@mcdonald-watson.com	082 568 3510	
Steve Baynes	ZS6XU	Technical	zs6xu@mweb.co.za	082 929 6817	787 2225
Thomas Abbott	ZS6TXA	Dipole	thomas@reversebiased.com	083 414 6133	
Mark Zank	ZS6YES	Education / Social	zs6yes@gmail.com	083 367 8943	
James Durand	ZS6XL	Committee member	james.durand@mih.com	082 554 6888	
Steve Nuns	ZU6SGN	Committee member	stevenuns@iburst.co.za	082 573 0092	

<b>ZS6STN Repeaters</b>	
<b>2m</b> : 145.700 MHz (input -600kHz)	<b>70cm</b> : 438.800 MHz (input -7.6MHz)
Both repeaters on the Bryanston water tower	<b>IRLP</b> : Node 8661 on 70cm repeater

<b>Bulletin Schedule</b>						
08:45 SAST every Sunday : 7082kHz LSB, 2m repeater, 70cm repeater						
17:45 SAST every Sunday, repeat broadcast : 2m repeater, 70cm repeater						
<b>Date</b>	<b>Date</b>	<b>Date</b>	<b>Presenter</b>	<b>Email</b>	<b>Phone</b>	
13 Jun	18 Jul	22 Aug	Bruce McDonald-Watson ZS6ZAP	bruce@mcdonald-watson.com	082 568 3510	
20 Jun	25 Jul	29 Aug	Mike Bath ZS6XYZ	mike@marshallhinds.co.za	083 325 4994	
27 Jun	1 Aug		Mark Zank ZS6YES	zs6yes@gmail.com	083 367 8943	
4 Jul	8 Aug		Steve Nuns ZU6SGN	stevenuns@iburst.co.za	082 573 0092	
11 Jul	15 Aug		James Durand ZS6XL	james.durand@mih.com	082 554 6888	

<b>Diary of events</b>		
<b>Date / Time SAST</b>	<b>Event</b>	<b>Venue, Notes</b>
Early July	Sandton Club AGM	N.A.R.C.
16 June	Youth day activity. SARL sprint.	
26 June, 12:00	VHF Indaba	N.A.R.C.
18 September	RTA in Johannesburg	
20-21 November	Second leg of HF Field Day	Bartlett's farm, Buffelspoort

<b>Radio Amateur Exam courses</b>
The Sandton club runs two Radio Amateurs Exam courses for people wishing to obtain the licence. They run from February to May, and July to October. The course runs for 16 weekly lectures on Wednesday evenings, a one-day revision session, and the examination day itself. If you or a friend is interested in attending the course and writing the exam, please contact Mark Zank ZS6YES on <a href="mailto:zs6yes@gmail.com">zs6yes@gmail.com</a> or 083 367 8943

## Colin's Talk: 50 years of technology

Colin's talk on the 27<sup>th</sup> of May was a great success – over 25 members joined us to have dinner and hear about technology old and new. Colin demonstrated some rarely-seen items like a mechanical telephone index selector, and ferrite core memory from an early computer.



## Antenna Construction Photos

A successful antenna construction day was held at the N.A.R.C. on the 29<sup>th</sup> of May. Our RAE students constructed a 40m inverted V, and / or a 2m groundplane antenna, from kits made up by the club.



## Ethics and Operating

Taken from, and used with permission from the authors, Ethics and Operating Procedures for the Radio Amateur © 2008.

### II.9. THE ART OF TELEGRAPHY (CW, MORSE CODE)

- Morse code is a code for transmitting text. The code is made up by sequences of short and long audio tones. A short tone burst is called a DIT, the longer one a DAH. The DAHs are 3 times as long as the DITs. These are frequently but incorrectly called DOTS and DASHES, which make us think of something visual rather than sounds.

- Morse code is not a series of written DOTS and DASHES, although originally, in the 19th century, Morse code was scribed as DOTS and DASHES on a moving paper strip. Telegraph operators soon found out it was easier to copy the text by listening to the buzz of the scribe machine than trying to read it off the paper strips. So the letter 'R' is not SHORT LONG SHORT nor DOT DASH DOT, nor . - . but DIT DAH DIT.

- CW makes extensive use of Q codes, abbreviations and prosigns. These are all shortcuts to make communicating faster and more efficient.

- Hams normally use the word CW for telegraphy. The term CW stems from Continuous Wave although CW is far from being a continuous wave, but rather a wave which is constantly interrupted at the rhythm of the Morse code. Hams use the terms Morse and CW interchangeably – they mean the same thing.

- The -6dB bandwidth of a properly shaped CW signal is approximately 4 times the sending speed in WPM (Words Per Minute). Example: CW at 25 WPM takes 100 Hz (at -6dB). The spectrum required to transmit one SSB (voice) signal (2.7 kHz) can hold more than a dozen CW signals!

- The intrinsic narrow bandwidth of CW results in a much better Signal-to- Noise ratio under marginal conditions as compared to wide band signals such as SSB (a wider bandwidth contains more noise power than a narrower bandwidth). This is why DX contacts under marginal conditions (e.g. working stations in other continents on 160m and working EME) are most frequently done in CW.

- What's the minimum receiving speed you need to master to be able to regularly make QSOs in Morse code?

- 5 WPM can get you a starter's certificate, but you will not be able to make many contacts except on the special QRS (QRS means: reduce your sending speed) frequencies. These QRS frequencies can be found in the IARU Band Plan.

- 12 WPM is a minimum, but most experienced CW operators make their QSOs at 20 to 30 WPM and even higher speeds.

- There is no secret recipe to master the Art of CW: training, training, training, just as in any sport.

- CW is a unique language, a language which is mastered in all countries of the world!

#### II.9.1. The computer as your assistant?

- You will not learn CW by using a computer program that helps you to decode CW.

- It is acceptable though to send CW from a computer (pre-programmed short messages). This is commonly done in contests by the logging program.

- As a newcomer you may want to use a CW decoding program to assist you in order to be able to verify that a text was correctly decoded. However, if you really want to learn the code, you will need to decode the same CW text yourself using your ears and brain.

- CW decoding programs perform very poorly under anything but perfect conditions; our ears and brains are far superior. This is mainly because Morse code was not developed to be automatically sent nor received, as is the case with many modern digital codes (RTTY, PSK etc.).

- A large majority of CW operators use an electronic keyer (with a paddle) instead of a hand key to generate Morse code. It is much easier to send good Morse code using an electronic keyer than with a hand key.

#### II.9.2. Calling CQ

- What should you do first of all?

- Decide which band you will use. On which band is there good propagation for the path you want to cover? The monthly MUF charts, published in magazines and on many ham websites can be very helpful in this respect.

- Check which band portions are reserved for CW work. On most bands this is at the bottom end of the bands. Consult the IARU Band Plan on the IARU website.

- Listen for a while on the frequency you would like to use to find out whether it is clear or not.

- And then?

- If the frequency seems clear, ask if the frequency is in use. Send 'QRL?' at least twice, with a few seconds in between. Sending '?' only is not the proper procedure. The question mark just says 'I asked a question'; the problem is that you did not ask anything.

- 'QRL?' (with the question mark) means 'is this frequency in use?'.

- Do not send 'QRL? K' as we sometimes hear. It means 'is the frequency in use? Over to you'. To whom? Just 'QRL?' is correct.

- If the frequency is in use, someone will answer 'R' (roger), 'Y' (yes), or 'R QSY', or 'QRL', 'C' (I confirm) etc.

- 'QRL' (without question mark) means: the frequency is in use. In such a case you will have to look for another frequency to use.

- And if a clear frequency was found?

- Call CQ. How?

- Send CQ at the speed at which you would like to be answered. Never send faster than you can copy.

- 'CQ CQ G3ZZZ G3ZZZ G3ZZZ AR'.

- 'AR' means 'end of message' or 'I am through with this transmission', while 'K' means 'over to you' etc. This means you should always terminate your CQ with 'AR' and never with 'K', because there is nobody there yet whom you can turn it over to.

- Do not end your CQ with 'AR K': it means 'end of message, over to you'. There is nobody to turn it over to yet. End your CQ with 'AR'. It is true that we often

hear 'AR K' on the band, but it is not a proper procedure!

- The use of 'PSE' at the end of a CQ (e.g. 'CQ CQ de... PSE K') may seem to be very polite, but is not necessary. It has no added value. In addition, the use of the 'K' is incorrect. Simply use 'AR' at the end of your CQ.

- Send your call 2 to 4 times, certainly not more!

- Don't send an endless series of CQs, with your call just once at the end. Thinking that a long CQ will increase the chances of getting a response is wrong. It actually has the opposite effect. A station that may be interested in calling you first wants to know your call, and certainly is not interested in listening to an almost endless series of CQ CQ CQ ...

- It's much better to send a number of short CQs ('CQ CQ de F9ZZZ F9ZZZ AR') than one long spun CQ ('CQ CQ CQ ... -15 times- de F9ZZZ CQ CQ CQ ... - 15 more times- de F9ZZZ AR').

- If you call CQ and want to work split (listening on another frequency than you transmit on), specify your listening frequency at each CQ. Example: end your CQ with 'UP 5/10...' or 'UP 5...' or 'QSX 1822...' (which means that you will listen on 1822 kHz ('QSX' means 'I listen on ...').

## For Sale:

The following equipment is for sale, on behalf of a retired ham.

Please contact Peter Hers, ZS6PHD about these. [zs6phd@mweb.co.za](mailto:zs6phd@mweb.co.za) or 083 445 4634 or 011 792 4634

- Steel self-standing mast, 4 x 3m sections. Good condition. Has been dismantled so all you need to do is collect it – Bramley North, just off the M1 motorway. Offers on R4000.
- Kenwood TM241E 2m transceiver, with 5A power supply, mobile mag. mount antenna, and 2m Slim Jim antenna. R1000 the lot.
- Yaesu FT-26 2m hand held transceiver with charger. Batteries need replacing. Offers?
- PK88 Packet controller. Who still uses packet? Any offers?