

# RAGCHEW

The official newsletter of the Cape Town Amateur Radio Centre  
February - March 2010



## CHAIRMAN'S CHAT

by Shaun Overmeyer ZS1RA



Hi Everyone,

A lot has been happening with the Club over the last month. Our biggest achievement was the repair and installation of the various antennas. We now have a tribander beam with a 40m add-on. We also have a three element WARC band Yagi directly above that.

Furthermore we have added a dual band antenna which has give us 2m and 70cms capability, something which has been sorely lacking at the Club for a long time now. We have to thank OM Barry ZS1FJ who has very generously offered the Club the full use of these antennas as well as another yagi for use

when running a station away from the Clubhouse. To keep this and all the other things running smoothly requires a huge amount of effort from the committee.

Your committee is a volunteer committee who enjoy no additional benefits over the ordinary members and they put in a huge amount of effort and sacrifice a huge amount of time and energy for the benefit of CTARC. In these times when time is at a premium for everyone we are finding it harder to do everything on our own. Our club is in desperate need of assistance from you the members. The February 2010 Field Day was the first time in many years that CTARC did not have a station up. This was due to all the committee members being tied up with commitments other than CTARC. This highlighted the issue of club which is wholly dependent on its committee for its existence. I do not believe that this is a healthy situation as it places too much of a burden on to few people. Furthermore if some of the current committee members decide not to stand for re-election then we are faced with a huge problem to replace those members as all the knowledge is invested with so few. I want to urge all CTARC members to consider volunteering your assistance with the running of the club. This does not mean that you will be required to attend every committee meeting but rather to assist with specific projects. We could possibly have someone who would be willing to champion one Field Day in the year, in so doing will arrange with others that there are sufficient people to assist with the setting up, operating and dismantling of the station. That could be your only task for the year. We have many such projects and ideas that we would love to implement and which would make a huge impact on our hobby. Lighthouse weekend is another, the Academy for Maths and Science another, Speakers at the monthly meetings, etc. I am appealing to each one of you to please consider volunteering for a project that you think would be of interest to you. Please email Peter if you are available we have lots we would love to do to ensure that CTARC remains the premier amateur radio Club in the Western Cape.

So much for the begging, now let me tell you about an exciting initiative that we are going to be undertaking. CTARC plans to host a Homebrew project course on a Saturday. Our plan is to provide you with a project to build, this will involve everything from the designing of your own circuit diagram, etching the PC - Board, drilling and finally soldering the components to your freshly manufactured board. The project design, features and operation will be explained to you so you that you have a full understanding of what it is you are building, how it works and how you can use it by adding to it. Dates and cost of the course will be communicated to you soon via email and the normal Sunday bulletins. The number of spaces will be limited due to space constraints so please be on the lookout and book as soon as the bookings open.

Finally, CTARC has decided to make funds available for the purchase of a new VHF repeater. We are in discussion with the Repeater Working Group to finalise the details of the purchase. We believe that the repeater upgrade project currently underway is going to be good for our hobby and may well usher in a phase of new excitement in the hobby. There are many modes with which to

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experiment and with a fully functional modern repeater network I believe that we will find a new generation of hams who want to play with modes that has seen limited use until now.

Keep your ears and eyes open for all these exciting developments and we look forward to you being part of this.

Until next month. Best 73 Shaun - ZS1RA

## SECRETARY'S REPORT

by Peter Henochsberg ZS1PMH

**Welcome:** We are pleased to welcome Chris Muller ZS1TX as our latest club member. Chris previously belonged to the club some years ago until he moved to the northern suburbs. Chris very kindly volunteers his services and equipment to relay the SARL and CTARC bulletins via Echolink which he does faithfully each Sunday, much to the pleasure of a number of listeners outside of CT and even overseas.

Welcome home Chris and thanks for your contribution!



**Financial matters:** In terms of our financial situation, there is not much movement on the accounts at this time of year. We have had to pay out approximated R700 to purchase some HT lead connectors for a linear amp we have. Thanks for Hans-Jurgen ZS1HJH for organising this while in Germany.

**Repeater:** Mentioned in last month's *Ragchew* was that we have been approached by the Western Cape Repeater Work Group for a substantial contribution to the repeater fund. I put an extra zero on the figure mentioned in the last edition and, in fact, a new commercial repeater costs in the region of R8'500 (not R85K reported!). The committee decided that if we used our entire repeater fund as well as a sizeable chunk of our club's reserves, we could assist the WCRWG to purchase a new repeater. However, we made this offer conditional of the money being used to replace the 750 repeater, which we feel is the one most used by our club members and CT users. This sparked a debate as some of the WG feel that the current 750 repeater, although old, is working relatively well as it is a very expensive one donated by Eskom years ago when they standardised all their equipment. To date it has never broken, except for a PSU. It was felt that a modern repeater may not necessarily solve our problems but may, in fact, compound them. We were asked if we would reconsider the conditions of our donation. The committee will revisit its offer at our next meeting. Our aim is to work wisely with our money.

**Appeal to serve the Club:** Shaun has said it in his report and, once again, I am calling on club members to volunteer their services. I will not be available for re-election to the committee and so the club needs to find another secretary and a treasurer. In addition, some of the other committee members have indicated that they may stand down too. Surely in a club of ninety people there must be more than 8 people who are willing to serve on the committee. It saddens me that for the first time since I have been associated with the club we have missed a SARL HF Field Day – because the committee members are overcommitted and overstretched. In addition, on a weekly basis I get requests from people to attend an RAE course. We have not held one in ages. Is the club going to fade into nothingness because of the lack of support from the membership? Please contemplate this. It is really that serious.

**Pirates:** Johan Visagie ZR4LP who lives near Nelspruit emailed asking if anybody can hear pirates. They were on 7007 and now on 7001 USB. The apparently use foul language and one of this is named Gavin and is on a yacht. He asks us to listen out for them and report them to the appropriate authority such as Cape Town Radio Harbour. If you hear them, please let us know.

**Print your solar noon calendar:** John Haycox ZS1AGH sent us this very neat link <http://www.solar-noon.com/>

Hope to see you at the meeting on the 22<sup>nd</sup>!

73 Peter

# NEXT CLUB MEETING

**Plan A: Guest speaker – to be confirmed**

**Plan B: DVD of Scarborough Reef**

Any which way, it promises to be an interesting evening.

Date: Monday 22<sup>nd</sup> February 2010  
Time: 20:00  
Venue: CTARC Club House

## Club Contact Details

You can call the chairman Shaun – ZS1RA on 083 462 5695  
The Secretary/Treasurer Peter – ZS1PMH can be reached on 022-485-7281  
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## OTHER AVENUES TO EXPLORE - by Dave Reece ZS1DFR



Greetings, and welcome to another edition of "Avenues". Last month's info about the BACAR launch went sour when they cancelled the flight 36 hours before take-off, so my report was useless then! Sorry about that, but circs very definitely beyond my control! However, hold on to the info, because you may have use for it later this year if plan B comes to fruition. Having established that balloons of a certain general size do not need a flight plan or authorisation, a new date may be chosen for the Western Cape later.

This time I thought I'd stick to safe ground and talk about something simple you should be doing in your shack. With all the talk about expensive electricity coming our way, and the possibility that power cuts may occur during the winter, I thought I'd talk about emergency lighting in your shack. We can expand to discuss emergency power in general later on.

Presumably, some of your equipment in the shack can run on battery power, and perhaps you already have a car battery or, better still, a deep cycle battery, to run either a VHF or HF rig on. Take my word for it, it's darn difficult to sit at a radio, possibly monitoring emergency traffic or bulletins or making notes, when all the light you have is the glow of the radio's dashboard running off battery! So, what to do?

Well, there are all sorts of torches, fluorescent strip portable lamps, and camping lantern type lights that will at least allow you to walk around without stubbing your toes on the legs of your workbench <ouch, demmit!>, but they're not very effective at illuminating your desktop. Also they use current and batteries at an alarming rate! There must be a better way. There is! Ultra-bright LED technology.

With the passage of time, LED's have become brighter and brighter, and whiter and whiter (sounds like a soap-powder commercial), and consume so little current that batteries can last for days. And, although the brightest of the bright can be rather expensive, remember that they have a lifetime of about 400 years, so you needn't bother to have a large stock of replacements lying around!

There are several ways you can organise all this. Clearly, a biggish deep-cycle battery will keep a string of LED's going for about a year, so the added current from some lights will not reduce your radio time significantly. However, even a 7.5Ah alarm battery will keep going for weeks if needed, so you could keep your desk lit up separately from the rig power. OK, so we're going to use 12V or so. Most LED's require 3 to 4V, and consume 20 to 30mA current in the process. So you could easily rig up 3 or perhaps 4 ultra-bright LED's in series, to run off your 12.8V battery, and use some current-limiting resistors also in series. Around about 47ohms on the legs of the supply, one from the negative pole, and the other to the positive pole, should keep the LED's happy. However, the resistors will get quite hot, so use 2W or 5W resistors if you can. You may need to experiment with various resistors and your ammeter in series to get the current right.

Once you've done the experimenting, you can plan a simple means of mounting your LED's above your head, or slightly in front of you where they can shine happily down on to your operating position. I had a dead fluorescent strip lamp that I cannibalised to give me a long reflector, to mount the LED's in front of, such that the light was mainly directed where it was needed. However, a toilet-roll tube cut into two troughs, by slitting longitudinally, and lined with tin-foil, shiny side showing, would act as a perfectly adequate reflector if you want to do it in cheap and nasty fashion!

How about this idea? Put a bridge rectifier in front of the LED's and their resistors, and then you could use the system with 12V AC or DC, and connect up either way to a DC system without worrying about polarity.

Talking about that, I once ran a red LED off the mains very easily, by putting something like a 68K resistor in series with it, and not worrying about the polarity of the LED, because every half cycle of the AC mains, the LED conducted and the flicker was not visible to the human eye! Quite useful for putting a red marker at the light switch in a dark room for people to find when they don't know where the switch is in the dark. Straddled across the light switch, the LED lit whenever the light was off, and was bypassed whenever the light was turned on. Not enough current flowed to light the light bulb in the ceiling, so very little electricity consumption occurred. Just a thought.....use it if you like! See you next month, and happy hamming! Dave ZS1DFR

## **ANCIENT POWERS OF ENLIGHTENMENT – Tony McEwen ZS1TM**

The Temple of Hathor, built between 30 BC and 14 AD at Dendera, on the Nile north of Luxor, may depict the usage of electricity, magnetism, and the principles of the modern light bulb.

Krassa and Habeck describe the site in their book "Light for the Pharaoh": "The walls are decorated with human figures next to bulb-like objects reminiscent of oversized light bulbs. Inside these "bulbs" there are snakes in wavy lines. The snakes' pointed tails issue from a lotus flower, which, without much imagination, can be interpreted as the socket of the bulb. Something similar to a wire leads to a small box on which the air god is kneeling ..."  
Electrical engineers have studied the design and determined that the carvings on the temple walls actually represent a type of lightbulb called a Crookes tube. Chris Dunn explains in his book, "The Giza Power Plant".

According to Dunn, all aspects of the Denderah reliefs correspond exactly to modern electrical specifications. The bulb size and shape, the position of the elements relative to each other, and even the wiring patterns and insulators all match their modern counterparts. But if there were electric lights, how were they powered? There seems to be another out of place artefact that has been given some attention, the Baghdad Battery. This jar-shaped artefact is designed in the configuration of a crude but accurate battery. Using wine or citrus juice as an electrolyte, if it had been connected to others, it could have done some serious electrical voltage.

Well, here's a battery that's 2,000 years old! Known as the Baghdad Battery, this curiosity was found in the ruins of a Parthian village believed to date back to between 248 B.C. and 226 A.D. The device consists of a 5-1/2-inch high clay vessel inside of which was a copper cylinder held in place by asphalt, and inside of that was an oxidized iron rod. Experts who examined it concluded that the device needed only to be filled with an acid or alkaline liquid to produce an electric charge. It is believed that this ancient battery might have been used for electroplating objects with gold. If so, how was this technology lost... and the battery not rediscovered for another 1,800 years?

On the Discovery channel program Mythbusters, the Baghdad battery "myth" was put to the test. On Mythbusters' 29th episode (which aired on March 23, 2005), the Baghdad battery "myth" was put to the test. Ten hand-made terracotta jars were fitted to act as batteries. Lemon juice was chosen as the electrolyte to activate the electrochemical reaction between the copper and iron. (Oddly enough, it was discovered that a single lemon produced more voltage than one of the batteries). When all of the batteries were linked together, they produced upwards to 4 volts.

So, where does that leave us?

It is a widespread belief in alternative science that our forefathers possessed a much greater technological knowledge than our schoolbook science is willing to accept. Many of those theories are lacking serious foundation and are often based on overdrawn speculations. But the theory that electricity was known and used in antiquity seems to rest on a much more stable foundation. Even if it is accepted that the "Baghdad batteries" were in fact electrical devices, this provides no evidence of any real knowledge of electrical phenomena.

Sceptical archaeologists see the electrical experiments as embodying a key problem with experimental archaeology; such experiments can only show that something was physically possible.

You decide!

# ANNOUNCEMENTS

## BIRTHDAY WISHES

To all our club members who celebrate their birthdays in the coming months, may your special day herald a fantastic year ahead and bring you all that you would wish for yourself and lots of good signal reports.



21-Feb	Peter Stuart	ZS1PZ
28-Feb	Patrick Yeadon	ZR1AA
04-Mar	Johnny Burroughs	ZS1ME
09-Mar	Dirk Lotz	ZS1X
11-Mar	Noel Futter	ZS1FW
16-Mar	Robin Poggenpoel	ZU1R
17-Mar	Evan Pedlar	ZS1EVP
24-Mar	Monte Breytenbach	ZS1ABC
26-Mar	Dave Perry	ZS1SG

## BATTERIES AND BATTERY CHARGING

Bruce Robinson ZS1FX gave us an interesting talk last year on batteries. If you would like to download the notes he provided, please go to [www.ctarc.org.za/downloads.html](http://www.ctarc.org.za/downloads.html). It is a 1.5Mb PowerPoint file, full of useful info.

## UPDATE OF THE REPEATER NETWORK DOCUMENT

If you would like to download an updated PDF file with full details of the Cape Town Repeater Network, please go our website on [www.ctarc.org.za](http://www.ctarc.org.za) and click on the Repeaters link in the index column.

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