Logo by ZR6FD

WATTS

10-2014
Year 84 + 10m

Monthly Newsletter of the Pretoria Amateur Radio Club
Maandelikse Nuusbrief van die Pretoria Amateur Radio Klub

PARC, PO Box 73696, Lynnwood Ridge 0040, RSA
http://www.parc.org.za @ zs6pta@zs6pta.org.za

Bulletins : 145.725 MHz on Sundays / Sondae at 08:45
Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
Activated frequencies are announced prior to bulletins
Swopshop : 2m and 7.066 MHz live on-air after bulletins
Bulletin repeats on Mondays / herhalings op Maandae : 2m 19:45

Some Highlights of the Zonderwater / Cullinan Rally

Photo by Eugene

In this Issue / In hierdie Uitgawe

Next Events

Flea market at PMC
4 October 08:00

Club social at Sam's
Thursday 2 Oct 7:00PM

Club committee meeting (UP)
23 Oct 7:00PM

PARC Committee Members / Komiteelede : 2014 – 2015

Chairman, Social & Rallies	Johan de Bruyn	ZS6JHB	zs6jhb@gmail.com	012-803-7385	079-333-4107
Vice Chairman	Jan Pienaar	ZS6OB	pienaarja@gmail.com		082-447-7823
SARL liason	Fritz Sutherland	ZS6SF	fritzs@icon.co.za	012-811-3875	083-304-0028
Treasurer	Andre van Tonder	ZS6BRC	andreh.vtonder@absamail.co.za	361-3292	082-467-0287
Web co-ordination	Graham Reid	ZR6GJR	greid@wol.co.za		083-701-0511
RAE, Bulletin co-ordinator	Vincent Harrison	ZS6BTY	zs6bty@telkomsa.net	012-998-8165	083-754-0115
Contests	Pierre Holtzhausen	ZS6PJH	zs6pjh@telkomsa.net	012-655-0726	082-575-5799
Repeaters	Craig Symington	ZS6RH	zs6rh@hotmail.co.za		081-334-6817
Fleamarket	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za		083-938-8955
Clubhouse	Pieter Fourie	ZS6CN	pieterzs6cn@gmail.com	012-804-7417	083-573-7048
Photographer, Technical	Theo Bresler	ZS6TVB	theo@bresler.co.za		082-698-1742
Auditor	Tony Crowder	ZS6CRO	tcrowder@telkomsa.net	011-672-3311	
Historian, Archives, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	
Secretary, WATTS newsletter	Louis de Wet	ZS6SK	louis.zs6sk@gmail.com	012-349-1044	072-140-9893
Contests	Jaco Cronje	ZR6CMG	jaco.cronje@mobakgroup.com		076-319-1057

Some moments during the Zonderwater Rally

Birthdays – October / Verjaarsdae - Oktober

01 Evan Seligmann (ZS6ELI)
02 Andre van Tonder (ZS6BRC)
02 Hans-Peter Knoepfler (ZS6AJS)
09 Edmar Willers (ZS6UT)
10 Harry Kanowitz (ZS6AMP)
10 Roy Alexander (ZS6MI)
16 Jaco Lubbe (ZR6JLL)
20 Martinho Dos Santos (ZS6BQP)
25 Gabriël Marais (ZS6GJM)
27 Craig Symington (ZS6RH)
30 André Coetzee (ZS6GCA)
31 Stephanus Schonfeldt (ZR6ASR)

Spouse's Birthdays (Oct)

21 Louise, Spouse of Almero (ZS6LDP)
24 Ilze, Spouse of Rian Venter (ZS6RXY)

Anniversaries / Herdenkings (Oct)

21 Jacobus and Lidia de Wit (ZR6FDW)

Lief en Leed / Joy and Sorrow

Molly, sw of Richard is home from a short stay in hospital.
The Mother of Pierre Holtzhauzen (ZS6PJH) has passed away. Our most sincere condolences.

Diary of Events – October / Dagboek van Gebeure - Oktober

02 South African Radio League 80 m QSO Party
04 Pretoria Amateur Radio Club Flea Market (Contact Almero ZS6LDP)
04 Coal Dust HMC Rally – Ogies area (Contact Johan ZS6JHB)
04 Radio Technology in Action (RTA) in Port Elizabeth
04 HABEX Launch from the Vryburg Airport
04-05 Oceana DX Contest, Phone : 08h00 – 08h00
11-12 Antique Wireless Association Valve QSO Party (http://www.awasa.org.za)
11-12 Oceana DX Contest, CW : 08h00 – 08h00
11-12 Scandinavian Activity Contest : 12h00 – 12h00
17-19 Jamboree on the Air
18 CQ Hou Koers
18-19 10-10 International CW Contest : 00h01 – 23h59
18-19 Worked All Germany Contest : 15h00 – 14h59
25-26 CQ Worldwide DX Contest, SSB : 00h00 – 24h00

PARC SUBS / LEDEGELD FROM / VAN 30-06-2014

Please remit your subs in time to our Treasurer or by transfer to:
Betaal asb. U ledegeld betyds aan ons tesourier of per oorplasing aan:

Bank : FNB
Branch : 25 20 45
Account : 546 000 426 73

Ordinary members/ gewone lede R150
Spouses, pensioners R50

Your call sign must appear as statement text!

HABEX LAUNCH ON 4 OCTOBER 2014

On the 4th of October 2014, from 06h00 to 08h00, the Secunda Amateur Radio Club will launch two balloons from the Vryburg Airstrip as part of HABEX (High Altitude Balloon Experiment). This date will also mark the start of Space Week 2014. The lanch of the SPUTNIK will be commemorated which was launched on the 4th of October 1957. An active model replica of this sattelite will be attached to one of the balloons as part of the commemoration. A Morse message will be transmitted on 144.076 MHz by the replica sattelite. Payload frequencies are listed below. Please refer to the SARL Bulletin on 28 September for more information.

Main Balloon	Second Ballon
APRS Tracking RX 144,8 FM ; CW Telemetry RX 432,075 FM ; Sputnik CW RX 144,075 FM ; Crew Comms HF 40/80 m ; Webcam	APRS Tracking RX 144,8 FM ; RTTY 433.92 USB/ 50 baud 500 shift ascii 7, n, 1 ; Crew Comms HF 40/80 m ; Webcam

Radio Technology in Action : 13 September 2014

The Pretoria Chapter of the Radio Technology in Action (RTA) Symposium was held on the 13th of September at the Innovation Hub. The Symposium was opened by Hans van de Groenendaal (ZS6AKV), and the opening adress "Is amateur radio going anywhere" was presented by the President of SARL, Geoff Levy (ZS6C).

The technical presentations were kicked off by a very interesting and entertaining presentation by Tony Voorveld (ZS6CCD) on "The Magic Lamps" which consisted on demonstrations depicting the evolution of the valve from early experiments by Thomas Alfa Edison, to the development of the diode, triode and the x-ray tube, which have paved the way for numerous other inventions which resulted in the modern electronics industry we are familiar with.



Some of the interesting displays during the presentation by Tony Voorveld (ZS6CCD)

Hans van de Groenendaal ZS6AKV

Vincent Harrison ZS6BTY

Riaan Greef ZS4PR

Frik Wolff ZS6FZ

USB Transceiver Control Inteface

Stuart Moss ZS6SGM

The technical presentations, which were very interesting and higly informative included the following:

Vincent Harrison (ZS6BTY) : Antenna Modelling with NEC2
Riaan Greeff (ZS4PR) : Digital modes as applied in amateur radio AND Smartphones / devices and amateur radio applications
Frik Wolff (ZS6FZ) : The SARL Isolated USB Transceiver Control Interface Kit
Stuart Moss ZS6SGM) : The SARL 5 MHz Project – WSPR and early results
Hans van de Groenendaal (ZS6AKV) : Progress report on SA AMSAT's cubesat KLETSkous

Pretoria Amateur Radio Club was well represented by the presence of Vincent Harrison (ZS6BTY), Fritz Sutherland (ZS6F), Jan Pienaar (ZS6OB), Richard Peer (ZS6UK), Molly Peer (ZR6MOL), Thobile Koni (ZS6TKO), Fritz Sutherland Jnr (ZS6DFJ), Ettiene Naudê (ZS6EFN) and Louis de Wet (ZS6SK). The PARC Chairman, Johan de Bruyn (ZS6JHB) could not attend due to work duties.

Valuable information was provided on Digital modes and software applications (Apps) in particular. More on these topics will be reported on in future copies of Watts.

The Heritage Day Sprint

The Heritage Day Sprint on the 24th of September was attended by PARC members (Theo ZS6TVB, Vincent ZS6BTY, Gawie ZS6GJR and Andre ZS6GCA) and their families and a delegation of the Voortrekkers (Andries ZS6VL, Stephanus ZS6XB, Alice ZU6AC and Cliriska ZU6BV) from Sasolburg. Radio equipment and antennas were set up at Forts Skanskop and the sprint turned out to be a great day in the sun as can be seen on the photographs.

The Cobwebb Antenna

A good friend of mine, Oliver Hart, ZR6DD, send me a manual on the construction of the Cobwebb antenna. Looking much like a spider's web, hence the name, the Cobwebb antenna has some interesting features.

The G3TPW Cobwebb which is, according to the designer, suitable for the 14, 18, 21, 24 and 28 MHz bands, is a small, lightweight (made from fibre glass) antenna, which needs only a single support and no rotator. The Cobwebb provides full size dipole performance on all five HF bands (without the end on nulls that straight dipoles suffer from). It is fed by a single 50 ohm co-ax cable (via an in-built air core choke balun) and most importantly, produces a pure horizontally polarized signal with a confined electric field. The result is a much reduced coupling to nearby conductors, so that losses and interference problems are reduced to the absolute minimum possible. The Cobwebb manual lists the following main advantages:

Covers all 5 Bands. Gives a low SWR resonance on the 14, 18, 21, 24 and 28 MHz bands. The SWR at the band edges is mainly reactive, i.e. the resistive component is still near 50 ohms, so auto and simple ATUs can match it with low loss. Over 95% radiation efficiency on all bands! Have you ever seen this spec mentioned by other manufacturers?

Omni-directional. Talk to all the world, without the need for a rotation system.

Minimum of EMC Problems. Vastly reduced interference on both transmit and receive due to pure horizontal polarisation and confined electric field.

50 ohm Single Co-ax Feed. Built in co-axial choke balun to prevent feeder radiation. Standard PL259 plug on end of short lead. Feedbox and resonators all pre-assembled.

No Compromise Performance. Full size half wave dipole on each band, without nulls!

Fibre Glass Construction. Flexible so no metal fatigue problems in windy locations.

Simple Assembly. Fix fibre glass sections together. All screw holes pre-drilled. All elements pre-tuned, just uncoil them and fix to spreaders. No adjustments needed.

Small Size and Weight. Only 2.6 metre (8.5 feet) sides and 6 kg (14 lbs) weight when assembled.
1 metre maximum length parts for low cost world wide delivery.

Easily Erected. "V" bolt fixing to mast of up to 58 mm (2.25 inch) diameter. Can be fixed to 20 foot scaffold pole, which can then be pulled up to the wall bracket with rope.

160 kph Wind Survival. As long as the mast/support can take it!

The most important design point about the CobWebb is that it is a completely horizontally polarised, confined electric field antenna, which provides maximum radiation efficiency and the absolute minimum of interference problems. TVI fears have encouraged many people to shy away from the HF bands, in favour of VHF, UHF or 160 metres.

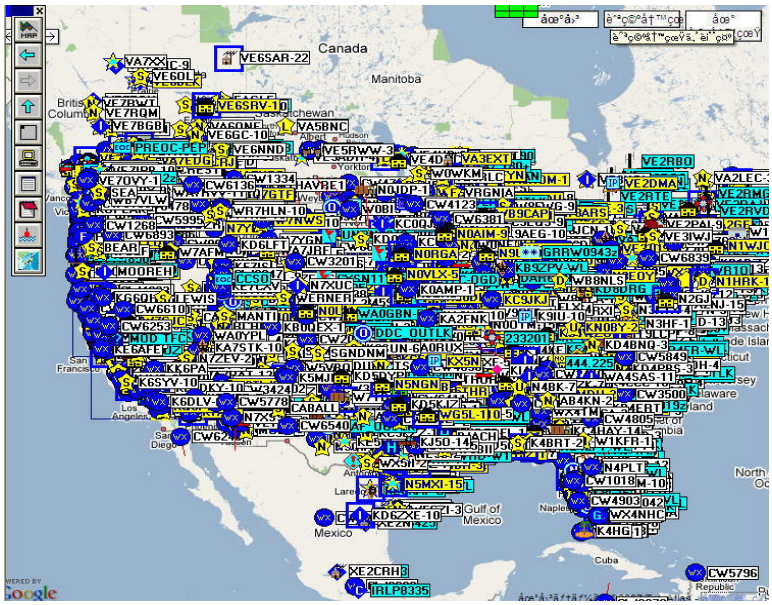
More information on the Cobwebb can be obtained from the author's website at http://g3tpw.co.uk. A manual describing in detail the construction of the Cobwebb is available at http://test.g0mtd.co.uk/CB1.pdf.

APRS Continued

In the previous edition of Watts, a short introduction to the Automatic Packet Reporting System (APRS) was presented. In contrast to packet radio where stations connect to each other in order to exchange information, APRS operates in an unconnected fashion. All stations use a single frequency.

On the VHF 2m band, APRS uses the 144.390 MHz frequency in the USA, and 144.800 MHz in both Europe and South Africa. HF stations are also used for APRS, acting as gateways between HF and VHF, creating the potential for a worldwide radio-based network. APRS stations are able to transmit their position reports, beacons, telemetry, messages, etc. using un-numbered AX.25 frames for any other stations within range to receive. Other stations which receive any frames may re-transmit them after inserting their callsign into the data. Such stations are called digipeaters. The digipeaters are generally well-sited stations with a good coverage area that help to extend the range of low-power mobile users.

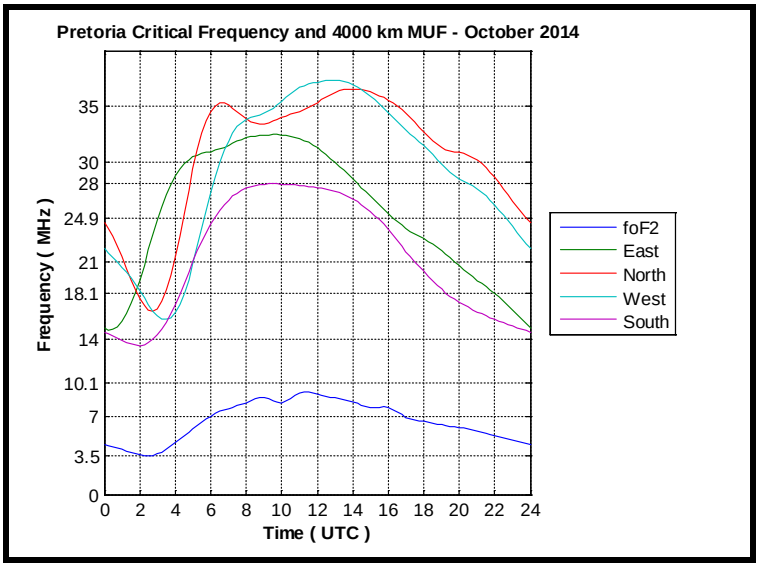
The majority of information sent by APRS stations is not addressed to anyone or a station in particular. Specific information such as text messages are addressed to a specific station, which in turn transmits an acknowledgement when the text message is received. In order that a message is received, an APRS station will re-transmit a message several times with an increasing delay between each attempt until an acknowledgement is received from the recipient station. After a number of failed attempts, retransmission will however stop.



APRS map of the USA

It is not necessary to install any software in order to get the feel of what APRS is all about. The best current website displaying information from APRS-IS (APRS Internet Service) in real time is http://aprs.fi/ . By zooming in on the South African section of the map, the position of the APRS beacon of Pierre Holtzhauzen (ZS6PJH) can be located in Pretoria.

For more information on APRS, and some handy starting guides the following websites can be consulted: http://www.aprs.org/ and http://www.g4ilo.com/. These sites provide lot's of information on which APRS software is required to get your station on APRS, how the symbols are interpreted, and which hardware is required for APRS. The local website of Dick Stratford (ZS6RO) http://www.zs6ro.co.za provides an APRS101.pdf guide, as well as a Powerpoint presentation on APRS in pdf format. (Sincere Thanks to Theo Bresler ZS6TVB for the information on APRS)



Long Term HF Propagation for October 2014

DX Operating

The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.

Local Operating

The F2 critical frequency (foF2) is the maximum F-layer frequency for short range communications.

See also the Propagation tab at http://www.parc.org.za/

Courtesy Vincent ZS6BTY

Amateur Radio Hall of Fame

Priscilla Presley (N6YOS)

In the new era, thought itself will be transmitted by radio. Guglielmo Marconi (1874 – 1937)