

papier/paper ZS6KR en wie nog?

drukwerk

ZS6BAQ

WATTS

Monthly newsletter of the Pretoria Amateur Radio Club Maandelikse nuusbrief van die Pretoria Amateur Radio Klub.

PARC, PO Box 73696 Lynnwood Ridge 0040, RSA

web

http://www.gsl.net/zs6pta (courtesy ZS6DX)

Bulletins: 145,725MHz 08:45 Sundays / Sondae : 1840, 3700, 7066, 10135, 14,200 MHz Relays

depending on season

Swapshop: After bulletin 2m and 40m (also on-line)

Management team / Bestuurspan 2003-2004:

Chairman, SARL liason, WATTS newsletter Vice Chairman, P.R., Fleamarket, RAE, Projects Sekretaris Tydrenne, Toekennings Treasurer Clubhouse, Database Klubfasiliteite, Sosiaal, Vlooimark	Hans Kappetijn Almero Dupisani Johan de Bruyn Richard Peer Willie Greyling	ZS6KR ZR6RY ZR6JHB ZR6CK ZR6WGR	hans@qrv.co.za dupisani@postino.up.ac.za johandbr@absa.co.za peerrk@safrica.com willie@up.ac.za	012-333-2612 012-567-3722 012-803-7385 012-333-0612 082-940-2490
Co-opted / Geko-opteer: Auditeur Tydrenne Webmaster (temp) RAE DF Hunts, Morse testing Tegnies Repeaters Repeater Maintenance	Egbert Begeman Johann de Beer Rudi Venter Brian Scott Bill Ingleson Johan Lehmann Hans Gurtel Willie du Plessis	ZS6AZG ZR6YV ZS6DX ZR6BJS ZS6KO ZR6ANF ZR6HVG ZS6AEA	begeme@unisa.ac.za zs6dx@ananzi.co.za ano@mighty.co.za jlehmann@csir.co.za adele123@absamail.co.za hesterdup@webmail.co.za	012-347-1905 011-918-1060 012-993-4848 084-312-7407 012-331-2327 083-300-8677 082-940-0623 012-565-5555 083-653-2101

In this issue

Editorial

- Fleamarket
- Club meeting minutes
- Member news
- Diary
- General / Technical
- Page eight

in hierdie uitgawe

Redaksioneel Vlooimark Klubvergadering notules Ledenuus Dagboek Algemeen / Tegnies Bladsy agt

Next meeting

Date: 13-11-2003 Time: 19:30 for 20:00 PARC Clubhouse, South Campus, University of Pretoria. SE cnr University and Lynnwood roads.

Editorial

No admonishments this month. What will be, will be. Our Mega-Fleamarket attracted many from far and wide, bringing the amateur community together as it should. Was it a club thing? Only in name and venue. At these occasions differences are put aside and the common purpose is to make a few changes in the shack, either by buying or selling - and meet old friends. Let's hope everyone went home a New Amateur with renewed enthusiasm for his hobby and the intention to protect it.

Redaksioneel

Geen aanmanings hierdie maand nie. Wat sal gebeur, sal gebeur. Ons Mega-vlooimark het baie van heinde en ver getrek en sodanig die amateur-gemeenskap bymekaar gebring soos dit behoort. Was dit 'n klub-ding? Net in naam en plek. Op hierdie geleenthede word verskille tersyde gestel en die gemene doel is om 'n paar veranderings te kan maak in die hok, hetsy met koop of verkoop - en ook om ou vriende weer te ontmoet. Kom ons hoop dat elkeen as 'n Nuwe Amateurs huistoe gegaan het met hernude entoesiasme vir sy stokperdjie en die voorneme om dit te beskerm.



09:30: Excellent turnout. Young Malcolm ZR60LM (blue shirt) is facing the camera while his dad Roy ZS6XN is checking his budget. Ed ZS6UT (blue cap) is walking towards the camera checking the stalls.



Van L na R: Fred ZS6MRA (bleskop), Bushy ZS6M in stewige pas, regterhand-in-die-sak Hansie ZS6AIK, arm reguit af: Willem ZS6BBV, skuins Roy ZS6MI se agteraansig. Mario ZS6KM met kamera en rugtas.





6. End

Next meeting



Hennie ZR6HEN and Richard ZR6CK checking the scenery



Hennie ZR6HEN and Richard Almero ZR6RY, organiseerder

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 9 Oct. 2003

1a. Welcome : Hans ZS6KR declared the meeting open and welcomed all present. Surprise visitors were Ivan OK1LL and his SW Dlasta from the Czech Republic Embassy. They may be here for 3 years. Ivan is an active amateur and plans to become operate from his home in Fairie Glen. 1b. Attendance : The meeting was attended by only $12\ \text{members}$ and the two visitors. This was the lowest turnout this year despite agendas sent out by email to about 60 members. We have 101 paid-up members to date. The rally this coming weekend is partly to blame. 1c. Apologies : 9 members: ZS6BZS, TB, XN, ZR6JHB, DDB, HAP, ESP, ANF, OLM 1d. Lief en leed : ZS6QA Jac Roux nog in die Eugene Marais hospitaal. 1e. Minutes of the previous meeting: The minutes as published in Watts were approved. Proposed by Almero ZR6RY and seconded by Brian ZR6BJS. 1f. Matters arising: none 2. Club activities 2a. DF Hunting : Bill ZS6KO away to the Great North Rally - no dates yet for hunting. 2c Mega-Fleamarket: Almero ZR6RY en Willie ZR6WGR, en ander wat betrokke was is bedank vir die organisering. Alles het glad verloop en bywoning was baie goed. 2e. Tydrenne : Johan ZR6JHB nie aanwesig nie vanwee die Great North tydren 17-18 Oktober. Ons hoop om 'n HF kontak en verslag op Sondagoggend te kry. 2f. Social : Willie ZR6WGR het kontak opgeneem met twee instansies oor besoeke by 1. Telkom toring in Groenkloof. 2. Hartebeeshoek satelliet nasporingstasie Altwee sal ons enige tyd verwelkom maar egter net in weeksdae. Hier moet dus vasgestel word of genoeg lede belang stel en kan tyd maak daarvoor. 2g. Financial : Richard ZR6CK - reported on the Club's finances. 3. Ham diary : The meeting was informed of the various local and international amateur events during October and early November. 7-9 November is the second leg of the SARL HF Field day contest and since we made second place in the first leg, why not try for first place overall. The venue will again be Roodeplaat Dam campsite if Bill ZS6KO can make it. Club members can visit and make contacts under the ZS6PTA callsign. 4. General : Hans ZS6KR gave an update on the repeater interference and the apparent noninterest by ICASA to act despite an official Club communication reporting this. The culprit is a paging service on 156,625MHz and appears to be badly maintained. Its spurious travels and settles anywhere between 149-145MHz Presentation : Pine ZS60B - A home-brew 13 element Quagi antenna (4,5dBi) was shown and discussed (so easy to build with easily available hardware) Then with copper tubing, tools, gas flame and all, Pine constructed a $2m\ J$ pole within 14 minutes flat. Everyone present gave their full attention to these extremely informative

simple but very effective VHF antennas.

: Thursday November 13, 2003

presentations. Those not present certainly missed out on tips to construct

The meeting closed at 21:30 and refreshments were attended to by Molly and

excellent catering was supplied by the SW of Willie ZR6WGR.

ZS6KR

Birthdays November Verjaarsdae



November Anniversaries Herdenkings

04 Estelle en Simon ZS6AST 11 Aletta en Alf ZR6ABA

06 Brian ZR6BJS

06 Sollie ZS6SV

07 Adele sw van Hans ZR6HVG

07 Andrew seun van Andre ZS6BRC

10 Agnes ZS6BAV sw of Ivan ZS6AUT

10 Luther ZS6E

11 Peggy sw of Ed ZS6UT

16 Jean dogter van Andre ZS6BRC

19 Joe ZS6TB

22 Heila sw of Melvin ZS5MF

26 Bridge ZS6BJM

27 Janice dogter van Joe ZS6AIC

27 Albert ZS6JU

New Members Selwyn ZS6SEL Pieter ZR6KSA

Current membership: 105 (64 on e-mail) Still unpaid: 23 who will not be reading this!

Sick parade



Krukkelys

Roy ZS6MI had his oxygen supply restored

Calie ZS2CWP is tans in die Unitas Hospitaal Jac ZS6QA is nog in die Eugene Marais Hospitaal

Ham diary

Oct 26 SARL Presidents' Net

25-26 CQWW DX phone contest

31 SARL membership subs last date

Nov 08-09 SARL HF Field Day 2nd leg

15-16 RSGB 160m CW contest

15 Bring + braai at QTH of Tjerk ZS6P 6pm

22-23 CQWW DX CW contest

30 Closing date for SARL Council nominations

Dec 04 Club end-of-year meeting and social

Our club came second in the first leg of this contest last February!

Bill ZS6KO and sw Mary as well as Johan ZR6JHB and sw Doreen ZR6DDB set up camp at Roodeplaat Dam, and ZS6PTA was soon commissioned using a 20W rig, dipole, car battery and solar panel. Hans ZS6KR also operated the station during an afternoon visit

All indications are that the same will happen on 8 and 9 November and we would like to see more members to try their hand at operating ZS6PTA.

Why not come for a pleasant summer weekend, day, or evening and enjoy your hobby.

Snippets / Brokkies

- PARC made first place 7th time in succession in the 2003 SARL HF Contest!
 Thanks to ZS6UT, ZS6CS, ZS6KR, ZS6EGB, ZS6ZB, ZS6MF, ZS6KO, ZS6SDZ, ZS6WB. (SSB leg)
 Thanks to ZS6UT, ZS6CS, ZS6KR, ZS6EGB, ZS6ZB (CW leg) according to logs received.
 The total aggregate was 1081 pts with Bloemfontein RAC at our heels on 1018 pts.
- PARC het kommunikasie-bystand gelewer by die Great North Rally op 17-18 Oktober. Betrokke klublede: ZR6YV, ZR6JHB, ZS6BRC, ZR6DDB, ZR6CK, ZR6MOL, ZS6XN, ZR6OLM, ZS6ANU, ZR6ZRO, ZR6NBA, ZS6CRO, ZR6AKK, ZR6PJH. (plus nog 5 lede van ander klubs) Hulle toegewydheid en ondervinding in die gebied word hoog op prys gestel.

Nature is wonderful.

Jakkalsjag / 'Vossejag' in Nederland met 'n Ballon - BACAR op sy beste

Die jakkalsjag-aktiwiteit het die naam van "Landelijke Ballonvossenjacht" en die aankondiging daarvan op een van die internet amateur-nuusgroepe het my aandag getrek. Dit is 'n groot geleentheid met genoeg tegnologie aan boord en op die grond sodat elke amateur hom hier op kan uitleef met wat hy beskikbaar het. 'n Volledige uiteensetting en verslae, foto's ens. was te vinde op: www.ballonvossenjacht.nl

Dit word jaarliks ge-organiseer deur plaaslike send- en luister-amateurs wat al die benodigde apparaat skenk, leen of bou. Daar is ook veel belangstelling in die res van Europa vanweë die toepassing van 'n 2m en 80m radio baken asook 'n TV sender en kruis-band herleiding.

Opvallend goeie verbindings kan gemaak word want die ballon kan ongeveer 30km hoogte bereik. Herleistasies is in die middel van Nederland (provinsie Utrecht) opgestel om informasie oordrag (ook met APRS) te hanteer. 'n Spesiale-geleentheid 2m herleistasie is tydelik op 'n uitsaaitoring by Lopik geplaas met die 2m antenna op 350m hoogte. Ook is 'n 70cm herleistasie by Hilversum opgestel met 'n antenna op 160m hoogte. 'n 80m frekwensie is ook gereserveer. Vlugleiding was effens noord by Maartensdijk.

Die ballon gedeelte is gesponsor deur die Koninklijke Nederlandse Meteriologiese Instituut (KNMI, naby Utrecht) wat al die permitte besit om sulke ballonne te lanseer en ook ooreenkomste het met ander lande mbt hulle dwalings.

PA10KZ

Die vrag is net onder 2kg gehou:
Baken 80m (met 40m draadantenna)
Baken 2m
Transponder 70cm in / 2m uit
ATV TX 2330MHz 1,2W tuisgebou deur PA0OKZ

Op Sondag 7 September op 1 uur plaaslike tyd het die ballon opgestyg vanaf die KNMI en laat gaan met 'n matige windkrag 2, sonskyn en 20°C.

Peiling was onmiddelik moontlik op 2m en 80m en die manne

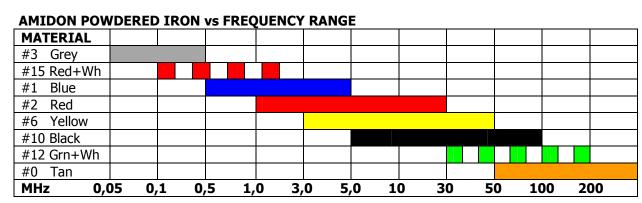
het in die mobiele begin volg. Dié met ATV- ontvangs mobiele fasiliteite kon ook saam jag. Behalwe die kamerabeeld, is ook digitale informasie op die beeld beskikbaar gemaak. Die verloop was kortliks soos volg: hoogte 5 km na 10 min, 16km na 45 min en 29km na 80 min, daarna daling en 40 min later geland in 'n bos. Drie jagters vind hom redelik gou en die 2m baken bly aan vir nog spanne wat op pad is. Uiteindelik het 16 spanne hom gevind.

Daling was per valskerm wat geaktiveer is toe die ballon op 29-30km hoogte gebars het. Afstand gedek was ongeveer 70km in noordoostelike rigting en gelukkig nog ver binne die landsgrense.

Op die einde van alles, naby die vindplek, het die aanwesige spanne by die naaste publieke geleentheid 'n ietsie geniet en aandenkings ontvang.

Die manne by die huis is ook nie vergeet nie en kon deur middel van 2m herleidings en APRS vanuit Lopik sowel as op 70cm herleidings vanuit Hilversum monitor. 'n TV skottel met posisie-beheer het gedien vir ATV ontvangs waarvan die seine na 'n ATV herleistasie wat ook in Lopik gestasioneer was, gestuur is. Sodoende kon feitlik die hele land bereik word en die verrigtinge volg. Meer as 1100 amateurs het ook die webwerf besoek daardie dag.

ZS6KR



(Ed: This basic introduction excludes the intricacies of short- and long-term effects ---- For more detail consult the ARRL Handbook)

Solar activity affects our ability to propagate HF signals around the earth. Predictions are possible from measurements made on a regular basis by observatories specifically of the so-called A and K index.

Solar flux The 10,7cm (2800MHz) radio flux is the amount of solar noise that is emitted by the sun at this wavelength. The solar flux is measured and reported at approximately 1700 UTC daily by the Penticton Radio Observatory in B.C. Canada. It can vary from around 60 to 300 Solar Flux Units (SFU). It is worth noting that it takes several days for the ionosphere to change (respond) - not just a single day. The solar flux is closely related to the amount of ionization (electron concentration or density) taking place in the F2 region.

(Ed: WWV broadcasts the latest SFU at 18 minutes after each hour and WWVH 45 min after each hour)

A-index The geomagnetic A-index represents the severity of magnetic variations occurring at local magnetic observatories. This can reach 100 or even 300 during rare severe roque storms.

A quoted A-index will indicate a local reading whilst an Ap-index represents a planetary index.

K-index The K-index is related to the A-index.

Comparison figures are given in Table 1. The maximum deviation from the guiet day curve is measured during 3hour intervals and the largest deviation is selected. It is then put into a standard mathematical equation to yield the K-index for the period.

This index is useful to determine the state of the geomagnetic field, the quality of signal propagation and the condition of the ionosphere. Typically:

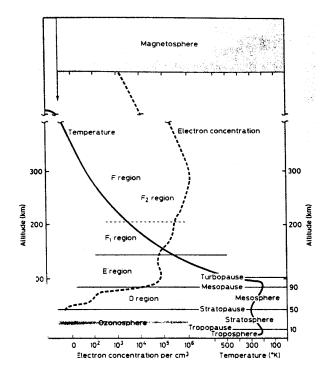
K = 0-1> guiet conditions and good propagation

K = 2 - 4> unsettled to active condition and less impressive HF propagation.

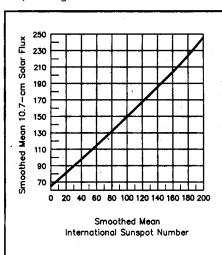
> minor storm conditions: fair to poor HF K=5

> major storm conditions: poor HF K=6 severe storms: HF radio blackouts K=7 K = 8 - 9

> HF blackouts can last 6-10 hours



Complete picture. Visible sunspots are the cooler areas on the sun's surface associated with high magnetic activity. Counting these still provides a convenient alternative to SFU determination. Extreme Ultra Violet (EUV) radiation is by far the most important cause of atmospheric ionization (electron concentrations); represented by bright areas called *plages* that can be seen surrounding sunspot groups. They vary throughout the solar cycle and the higher the ion density and SFU, the higher the Maximum Usable Frequency (MUF) that can be bent (reflected)



back to earth by means of refraction. An approximate conversion between the two observations is according to the accompanying graph.

With increasing solar activity, a cycle gathers momentum towards a peak and following that peak, geomagnetic activity also tends to build. The higher the A/K ratio, the more the MUF is depressed and depends on the period of the storm. Geomagnetic and ionospheric storms are intrinsically associated and thus affect the earth

For the best chance of HF and 6m DX, look for levels of SFU of 150+ and levels of K=0 to 2, especially

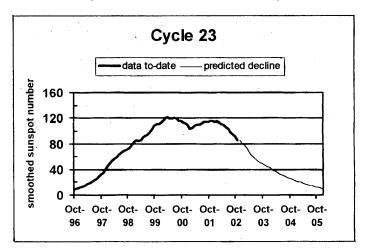
Кp	Ap	State
00	0	l de la companya de l
0+	2	1
1-	3	Quiet
10	4	1
1+	5	- 1
2-	6	. [-
20	7	Unsettled
2+	9	. 1
3-	12	
3о	15	
3+	18	
4-	22	
40	27	Active
4+	32	į `
5-	39	i
50	48	Minor storm
5+	56	1
6-	67	
60	80	Major storm
6+	94	
7-	-1111	
70	132	Severe storm
7+	154	V By I was a
8	F179	
80≉	207	
4.8	236	severe .
944	್.300	storm 🐑 💮
90	····400	And the Art of the Art

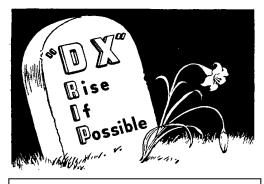
Table 1: The relationship between Ap and Kp. Note that normally only the figures of Kp with an 'o' after them are quoted. This means that each 'K index covers a range of 'A' indices.

Propagation - Cycle 23 - What can we expect

(Bouquet of several old publications and an article in WORLDRADIO Aug 2003 by Carl Luetzelschwab K9LA)

Cycle 23 started in October 1996 and peaked in April 2000 with a smoothed sunspot number of 121. That was followed with a nice second peak (smoothed 116) around November 2001, which gave us excellent worldwide F2 propagation on 6m. But there is no doubt that it is now in descent, and 10, 12 and 15m operators can expect poorer conditions while 80 and 160m fans will begin to see some light at the end of the tunnel. The figure shows Cycle 23 smoothed sunspot numbers where the thin line is predicted data.





Ed: This plea was published in 1940. Cycle 17 was on the way down. The phenomenon was not yet fully understood from radio noise data (hiss) collected since 1936 on the 10m band.

General path conditions in say, January 2004 at smoothed sunspot numbers around 40, would be something like 15-21 days of good openings, 7-15 days fair, and 7 days of poor openings.

The ionosphere varies on a daily basis about the monthly median value and it is tough predicting which specific days will give the good band openings. So the best thing to do is to listen to beacons and watch the daily sunspot numbers. The sun can of course go through short periods of increased activity, even then.

The lower bands will improve and are best around the solar minimum and for a couple of years thereafter. Coronal mass ejections (CME) which cause geomagnetic storms, lag the smoothed sunspot number by a couple of years (quietest after a solar minimum) The declining phase of a solar cycle (where we are right now) is the period of most geomagnetic activity. So hang in

.... and this proves propagation studies were far from over

AND speaking of cops getting in each other's hair, comes the beef from Lorain, Ohio's police department that the Beverly Hills, California, police radio despatcher is causing them to go galloping off to an emergency which is happening in the land of sunshine. Because these two stations are on the same high frequency channel, the Ohio squad can hear the Californians so clearly, especially between 3:00 and 5:00 p.m., that they have to make sure of the station's call letters before chasing out on the call. 'Tis sad a fence can't be put up high enough to stop this interference, what.

there for a couple of years and 80-160m will start picking up. The workhorse long-haul DX bands will be shifting down to 17m and 20m over the next years. Be patient, listen carefully, consider CW, and you can still enjoy DX.

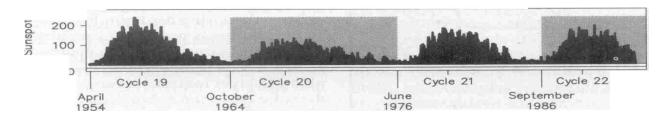
History in detail:

In January 1936, Miss Nell Corry G2YL, became author of the "28 Mc/s Group" report, which she compiled each month from her own 10m work and from information she received from amateurs and short-wave listeners around the world.

Fortunately for posterity, Nell was a very methodical individual and kept daily records of the 28MHz information she received, until early 1940, in a set of four diaries which have survived the passage of time and are now in the author's collection. Analysis of these diaries revealed that over the 4-year period 1936-1939, aurora was reported on 53 days, echoing on signals on 26 days, fadeouts on 140 days and a "hissing" noise on 107 days.

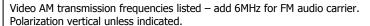
From Nell Corry's diaries and her journal reports, the author found that some 24 other radio amateurs and short wave listeners had heard the "hissing" noise and furthermore it was not limited to 28MHz, because, at midday on 31 July, 1938, Miss Barbara Dunn G6YL heard the hissing noise in the 5m band, confirmed by 2BIL, and Denis Heightman heard it again at 56MHz on 25 June, 1939.

Although amateur radio activity was suspended at the outbreak of war on 3 September, 1939, a few carried on listening, and the "hissing" was heard again during February, March and November, 1940 and March, June and July, 1941. The next known report about solar noise came in February 1942 when British radar receivers, working between 60 and 80MHz, suffered severe interference which contemporary scientists attributed to a large group of sunspots. Also in 1942, American scientists discovered radio noise in the microwave part of the spectrum coming from what is called the "quiet" sun.



Causing TVI? If on any one particular channel only, it may be a harmonic!

TV CHANNELS Greater Pretoria								
(Terresual)	TV1 ch MHz	TV2 ch MHz	TV3 ch MHz	ETV ch MHz	Mnet ch open MHz	CSN ch MHz		
PRETORIA	08 207.25	05 183.25	11 231.25	29h 535.25	21h 471.25	25h 503.25		
MENLO PK	57 759.25	53 727.25	65 823.25	48 687.25	61 791.25	44 655.25		
SUNNYSIDE	63 807.25	55 743.25	59 775.25	38 607.25	67 839.25	46 671.25		
PTA NORTH	52 719.25	40 623.25	46 671.25	37 599.25	50 703.25	54 735.25		
JOH' BURG	06h 191.25	09h ^{215.25}	13h ^{247.43}	47h 679.25	39h 615.25	43h 647.25		





Vir kennisname...

- Om 'n skietstoel in 'n helikopter in te bou is nie 'n goeie idee nie...
- Leerstof is stof wat vry kom by die afvee van 'n skoolbord...
- Houtwurms moenie plankekoors kry nie...
- Niks is so goed verdeel as verstand; almal dink hulle het genoeg daarvan...
- Misdaad is nou al goed georganiseer; nou moet die polisie dit ook doen...
- Treine ry nooit op tyd nie: hulle ry op spore...
- Daar is mense wat dink dat hulle dink, maar hulle dink net so...
- Met geld wat ons nie het nie, koop ons wat ons nie nodig het nie, om mense te beindruk van wie ons nie hou nie...
- Regte manne eet nie heuning nie; hulle kou bye...



In the good old days...

Watchdogs of moral standards were quick to reprimand originators of verbal diarrhea and profanity.