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WATTS

10-2011

Year 81 + 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> mail: zs6pta@zs6pta.org.za

Bulletins: 145,725 MHz 08:45 Sundays/Sondae
Relays: 1.840, 3.700, 7.066, 10.135, 14.235, 51.400, 438.825, 1297 MHz
Activated frequencies are announced prior to bulletins

Swapshop: 2m and 7.066 MHz Live on-air after bulletins
Bulletin repeats Mondays | herhalings : Maandae 2m 19:45



Lesotho EME Dx-pedition 14-26 September

Pine ZS6OB/7P8EME en LV Erika, Pieter ZS6PA/7P8PA, Wynand ZS6ARF/7P8QRO., Dick ZS6BUN/7P8BUN and SW Lana.
Not shown are Lynette ZR6LHT/7P8LHT and Hermann DL2NUD/7P8HP. See p.4 for currently available information.



In this issue

- Minutes 10 Sept 2011
- Member's pages
- Member news and activities Lede-nuus en Aktiwiteite
- 7P8 Dx-pedition
- Technical Use of Beacons
- History of your antenna rotor
- Page eight

In hierdie uitgawe

- Notules
- Lede-bladsye
- Bladsy agt

Next meeting

Date: Sat 8 Oct. 2011
Time: 13:30 for 14:00

Building 4
University of Pretoria.
S/E corner University and
Lynnwood roads

PARC Management team / Bestuurspan Aug. 2012 - Aug. 2013

Committee members

Chairman, SARL liaison	Pierre Holtzhausen	ZS6PJH	chairman@zs6pta.org.za	012-655-0726	082-575-5799
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Treasurer, repeater maint.	Andre van Tonder	ZS6BRC	andre.vtonder@absamail.co.za	361-3292	082-467-0287
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Co-opted/Geko-opteer:

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Training	Fritz Sutherland	ZS6ASF	training@zs6pta.org.za	012-811-3875	083-304-0028
Historian, Awards	Tjerk Lammers	ZS6P	zs6p@iafrica.com	012-809-0006	

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 10 Sept. 2011.

As none of the elected committee members were present at the scheduled meeting time, the club members unanimously elected Tjerk ZS6P as chairman for the meeting. The minutes were written by Fritz ZS6ASF

Welcome: The chairman welcomed all present.

Present: See register, 6 members.

Apologies: See register, 5 apologies.

Joys & Sorrows: The club chairman Pierre ZS6PJH was not present as his father had died during the week.

Minutes: The minutes of the July meeting were published. Approved by Craig ZS6RH and seconded by Fritz ZS6ASF.

Matters arising:

Rally: No discussion.

Finances: It seemed that the financial statements have not yet been sent to the auditor. As none of the responsible members were present, there was no discussion.

RAE: There are only three students for the present course. Fritz ZS6ASF mentioned that the committee has decided that for future courses, students must join as PARC members before attending the course.

Web site: It seems that the donation to the charity preferred by Chris (the person maintaining the website) was made, both for the past and the present year.

Portfolio Allocations: Portfolios were allocated at the committee meeting of the 10 of September. They are:

Chairman: Pierre ZS6PJH was elected chairman at the AGM.

Vice-chairman; Almero ZS6LDP.

Secretary; Fritz ZS6ASF will help out until the portfolio can be filled. Because of the requirements of continuity and responsibility, rotating the portfolio between members is not considered practical.

Treasurer; Andre ZS6BRC. In the interests of continuity and a smooth transition, Richard ZS6UK will advise and assist the treasurer and secretary as needed.

SARL Liaison; Pierre ZS6PJH.

Rally Coordinator; Johan ZS6JHB.

Contest Coordinator; Sander ZS6SSW. Coordination required only for participation as a club, not for individuals.

Technical and Repeater Maintenance; André ZS6BRC.

Website Coordinator; Graham ZS6GJR.

Social Coordinator; Johan ZS6JHB.

Training Coordinator; Fritz ZS6ASF.

Fleamarkets; Alméro ZS6LDP.

Clubhouse Manager; A decision on the need for a clubhouse manager will be taken later.

Fritz reported that there are some alternatives to consider before committing to a clubhouse – the committee will discuss that at the next meeting. Some photographs of the Niemeyer Square and the Rossouw Street buildings were shown. SAM is also under consideration.

Next meeting: The next club meeting will be on Saturday 8th of October. Venue and time to be published in Watts and on the web page.

The meeting adjourned at 15.05

Birthdays Verjaarsdae

Oct.



Anniversaries Herdenkings

Okt.

- 01 Evan ZS6ELI
- 02 Hans-Peter ZS6AJS
- 02 Andre ZS6BRC
- 06 Danny ZS6AW
- 09 Ed ZS6UT
- 10 Harry ZS6AMP
- 10 Roy ZS6MI
- 10 Hein ZS6Q
- 13 Bill ZS6KO
- 14 Iza ZS6IZA
- 14 Gary ZR6TB, son of Selma and Joe ZS6TB
- 15 Caleb, son of Phil and Craig ZS6RH
- 16 Hennie ZR6HWM, seun van Poppie ZS6BCP en Hansie ZS6AIK
- 20 Corlene, dogter van Poppie ZS6BCP en Hansie ZS6AIK
- 20 Martinho ZS6BQP
- 21 Louise, lv van Almero ZS6LDP

- 02 Erna en Whitey ZS6JJJ (40)
- 06 Poppie ZS6BCP en Hansie ZS6AIK (49)
- 17 Elmarie ZR6AXF en Johan ZS6JPL (19)

- 22 Marieza, dogter van Marelise en Pierre ZS6PJH
- 26 Callie ZS6BRY
- 26 Marilyn, sw of Deryck ZS6KQ
- 27 Candie KC2EVM/ZS6MOM sw of Jim KG2QB/ZS6US
- 27 Craig ZS6RH
- 28 Tracey, daughter of Joey an Graham ZR6GJR
- 29 Pierre, seun van Marelise en Pierre ZS6PJH
- 30 Viv ZS6BZS
- 30 Andre ZS6GCA
- 31 Darlington, om of Hilary ZR6HAP

Joys and Sorrows | Lief en Leed

† **Pierre ZS6PJH** lost his father during early September. Our sincere condolences to him and the family.

Diary | Dagboek (UTC times)

Oct

- 01-02 Oceana Phone DX Contest 08:00-08:00
- 02 UBA ON Contest SSB 06:00-10:00
- 06 SARRL 80m QSO Party. 17:00-20:00**
- 08-09 Oceana CW DX Contest 08:00-08:00
- 09 UBA ON contest CW 06:00-10:00
- 15 CQ Hou-Koers
- 15-16 Jamboree on the air
- 16 Worked All Germany Contest. 15:00-14:59
- 30 CQWW SSB DX Contest. 00:00-24:00

Nov

- 12 PARC Fleamarket**
- 12-13 WAE DX Contest, RTTY 00:00-23:59
- 12-13 OK/OM Contest CW 12:00-12:00
- 18 YO international PSK contest 16:00-22:00
- 19-20 ARRL EME Contest 00:00-23:59
- 19-20 SARRL field Day contest 10:00-10:00**

Forgot?

PARC SUBS / LEDEGELD 30-06-2011

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 Ordinary members/ gewone lede R150
Branch : 25 20 45 Spouses, pensioners R50
Account : 546 000 426 73

Your call sign must appear as statement text! !

SARRL Subs have also been due since 30 June

Snippets | Brokkies

- **Results of the 2011 SARRL HF CW Contest: 1st Roger ZS6RJ, 2nd Hans ZS6KR. PARC 1st in club standings.**
- **Results of the 2011 SARRL combined scores: (single op) 1st Hans ZS6KR, PARC 2nd in club standings.**



CQ Hou Koers: Inligtingstuk vir Voortrekkers en radio-amateurs (2011) Wat is CQ Hou Koers?

CQ Hou Koers is 'n jaarlikse geleentheid waar Voortrekkers die geleentheid kry om per amateurradio met ander Vories van regoor die land te gesels. Dit is terselfdertyd 'n kans om vaardighede te oefen / op te skerp wat vereis word vir kentekens soos Radiospraak en Radio-amateur. Dit gee kinders blootstelling aan 'n baie interessante tegniese en wetenskaplike stokperdjie wat stimulerend kan wees ten opsigte van loopbaankeuses.

CQ Hou Koers 15 Okt. val saam met die Scouts se soortgelyke radiokommunikasienaweek **JOTA ("Jamboree On The Air") 15-16 Okt.** – dit skep die geleentheid vir interessante interaksie tussen Scouts en Voortrekkers

- **Current repeaters: 145,725 (Radcliffe) is now coupled to 438,825 UHF from New Road and further south. Similarly use 439,025 simplex north of the Magalies ridge to reach Radcliffe.**
Thanks to Craig ZS6RH we have excellent coverage in previously sketchy 2m areas. Also see our Club News page for detail.
In order to prevent lock-ups there is 3 minute time-out-timer (TOT) on each so restrict your overs to less than 3 minutes.
- **D-Star Repeater back on a Highsite** (20 Aug 2011)
The D-Star repeater is back on a highsite and available for use. Craig ZS6RH installed the Dstar Rpt with gateway on Radcliff highsite on Saturday 20 August 2011. The frequency remains 145.7125 and the callsign ZS6PTA C. The gateway needs to be commissioned on site by ZS6SSW as soon as he is available to go to site with ZS6RH. This is still in the "proof of concept" phase.

Lesotho DX-pedition

Pine ZS6OB (7P8EME), Wynand - ZS6ARF (7P8QRO), Dick ZS6BUN (7P8BUN), Pieter ZS6PA (7P8PA), Lynette ZR6LHT (7P8LHT), Hermann - DL2NUD (7P8HP), Erika Pienaar and Lana Coats arrived at Ramabanta Trading Post on Wednesday 14 September and operated as **7P8EME** until 26 September.

Lynette ZR6LHT (7P8LHT) became the first YL on EME in 7P8 and - as far could be ascertained - the first YL in the southern hemisphere to make a successful EME contact.

This was a record setting International DX Expedition for EME, as far as infrastructure, equipment, band coverage & antenna systems are concerned. All VHF-UHF frequencies from 50 MHz to 1296 MHz on EME were activated.

More detail will appear on <http://www.ZS6ARF.co.za>.



Use Beacons to Spotlight Band Openings

Radio beacons alert you to where the open bands are.

Steve Sant Andrea, AG1YK

“I wonder if any of the bands are open?” you think to yourself. “I guess I’ll tune around and see if I hear anyone.”

That’s certainly one way to see what the ionosphere is up to, but there is also a way to tell not only *if* the band is open but *to where* and how good the opening is.

Beacons — Ham Radio Lighthouses

A beacon is a station that broadcasts a repeating CW signal on a specific frequency. As a lighthouse guides ships, a beacon helps guide your operating toward the frequencies where your RF will do the most good. Listening for beacons can tell you quickly whether a particular band is open and if so to what area and how strong signals are.

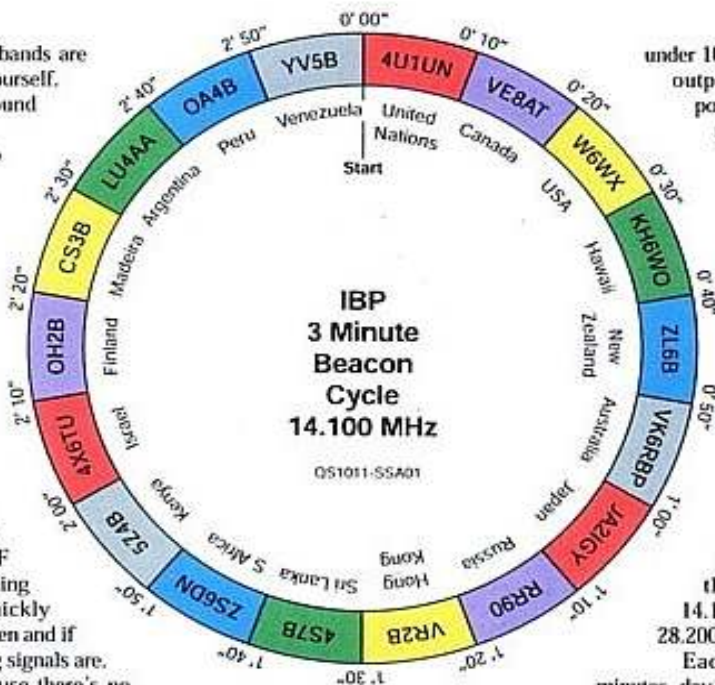
A band can be dead because there’s no propagation or because no one is transmitting. We can’t do anything about the first problem but for the second problem beacons come to the rescue. The multitude of amateur beacons ensures that there is always a station transmitting.

Finding Beacons

“Okay, so beacons can tell me which band is open to where, but how do I find a beacon for the frequency and area I am interested in?”

A fair question since there are beacons operating on all of the ham bands. Initially, the best way to become familiar with the available beacons is to access some of the beacon lists on the Internet. Beacon lists can be found on the AC6V Amateur Radio and DX Reference Guide Web site (www.ac6v.com). At AC6V, just select BEACONS from the master index and you will open the beacon page that has links to various beacon lists. Another list can be found at The DXZone (www.dxzone.com) listed under DX RESOURCES.

There are also many beacon lists for individual bands. For the 10 meter enthusiast, 10-10 International (www.ten-ten.org) maintains a list of 10 meter beacons. Beacon lists also exist for 6 and 2 meters. In fact, there are lists for all the ham bands up to 79 GHz!



This “clock” represents a complete 3 minute cycle of the 18 IBP beacons operating throughout the world.

Using Beacons

“Well, I searched the lists and came up with some beacons. Now what?”

First, if you have a beam antenna, remember to turn it to the proper azimuth for the beacon’s location. Now tune your receiver to the frequency of the beacon you have selected.

The majority of beacons operate in the CW portions of the bands. Can’t read CW? Since beacons are automated they repeat the same transmission. If you are on the right frequency and the station you hear repeats the same CW sequence over and over — in perfect code — it is most likely the beacon you are seeking. Note that even if you lack CW skills, if you listen to these repeating patterns for a few minutes you will be able to make out the individual code characters. Just write them down and use a Morse code table to decipher them yourself.

Now that you have the beacon you want, note how strong it is. Check its listing again. How much power is it radiating? Most beacons are under 100 W with many

under 10 W. Some broadcast a “stepped output,” transmitting once at full power then reducing the power of transmissions following a specific pattern. If you are hearing a 10 W beacon at S-2 then your 100 W station will produce an S-4 or 5 signal in the beacon’s area. Worth a shot, right?

International Beacon Project

Of particular note is the International Beacon Project (IBP), a system of 18 beacons located all over the globe. Organized and managed by the Northern California DX Foundation (www.ncdx.org), these beacons all operate on 14.100, 18.110, 21.150, 24.930 and 28.200 MHz.

Each beacon transmits every 3 minutes, day and night. A transmission lasts 10 seconds and consists of the beacon’s call sign sent at 22 WPM followed by four 1 second dashes and then a 2 second gap. The call sign and the first dash are sent at 100 W. The remaining dashes are sent at 10 W, 1 W and 100 mW. At the end of the gap the next beacon begins its transmission and the first one repeats the pattern on the next frequency.

For example (see diagram), beacon 1, 4U1UN, begins at cycle time 0 minutes and 00 seconds and transmits on 14.100 MHz for 10 seconds. Next, beacon 2, VE8AT, transmits on 14.100 MHz beginning at cycle time 10 seconds till cycle time 20 seconds. This continues until beacon 18, YV5B, begins transmitting on 14.100 at cycle time 2 minutes and 50 seconds ending at cycle time 3 minutes. Then 4U1UN starts the cycle over. This pattern is repeated on the other frequencies. This regular pattern also provides a method for identifying the individual beacons. If you have an accurate clock synchronized to a time standard, the time you hear a beacon will identify which beacon is transmitting.

So the next time the band seems dead, check its pulse by listening for a beacon.

Steve Sant Andrea, AG1YK, is ARRL Assistant Editor. He can be reached at aglyk@arrrl.org.

QST

November 2010 75

Heathkit's Amateur Radio Plans Taking Shape

from HF Happenings 471

Heathkit Educational Systems hopes to re-enter the Amateur Radio market by the end of 2011. Back in August, Heathkit announced <http://www.arrrl.org/news/heathkit-returns-to-the-kit-business> its return to the kit business and actively solicited suggestions. The response from Amateur Radio operators convinced Heathkit to develop several Amateur Radio products. They are hoping to have one or two kits by the end of the year.

A SHORT ANTHOLOGY OF THE FACTS, FIGURES, MYTHS, AND LEGENDS ABOUT THE 50+ YEARS OF THE CDE/HY-GAIN SERIES OF "BELL ROTORS".

by Craig Henderson, N8DJB C.E.O. of C.A.T.S.

(from www)

The general line of "bell rotors" was developed by engineers at Cornell Dubilier Electronics about 1950 starting with the TR-2 and TR-4 series of rotators designed for directional TV antennas which were just then becoming popular. These models were meant to compliment their existing line of smaller rotators and in many cases, turned out to be the "big brothers" as some of the control units would work on both series.

As "Ham Radio" antennas became larger and larger during the 50's, the need for larger rotators became evident, so sometime about 1956, work started on a heavier design with a separate brake feature to keep the antennas from "windmilling." This eventually ended up as the HAM IV that we know today.

But first, the Ham-M

This was the result of beefing up considerably the older style TV rotators with stronger, heavier gears, the wedge brake, and an improved indication system for direct readout to a meter with a scale for NESWN and degrees from 0 to 360. This model, (Ham-M) first debuted in November 1957.

The first Ham-M's, series 1 and 2, used a wiring format that was different and not compatible with later units. While these earlier units can be rewired, it is not generally considered economically feasible or worth the time to convert.

Ham-M series 3 showed up late in 1959 after numerous complaints about the wiring and the meter "flutter" and the "backwards" scale. SERIES 3 addressed these problems with revised wiring that DOES MATCH the current models, an improved grounding system for the meter feedback circuit, and a more popular scale -SWNES -since most people in the U.S. wanted North in the center of the scale.

No major changes occurred in 1963 and 1967 when the later Ham-M SERIES 4 and 5 were brought out, but minor improvements continued to be made in reliability. Ham-M's continued until December 1973.

HAM-2 or HAM-II

This model showed up very early in 1974, or possibly late 1973, and a number of rumors exist as to why this new control was developed. The most logical explanation is simply that a separate control was needed for the brake because as large antennas continued to grow in popularity, the instant stopping feature of the older style was causing more and more breakdowns. The HAM-II rotator was identical to the HAM-M at that time. The improved control was larger and more roomy inside, therefore lending itself nicely to the options which appeared later. Early versions of the Ham-II control unit had metal covers which were two shades of brown; later controls had covers which were black and white. Both had a gold faceplate and three plastic levers for direction control, along with a front-mounted calibration switch and on/off switch.

HAM-3 or HAM-III

This model came out in the spring of 1977 to fulfill the needs of contesters and other "big-guns" whose antennas continued to get larger as the 70's and technology progressed. The wedge brake style which had served so well for almost 20 years was being overloaded more and more often by antennas with boom lengths that exceeded that of the average tri-bander. Monoband yagis with "loooooong" booms were becoming more common to the point of being normal, and the "pointed" steel brake wedge just wouldn't hold. Consequentially, a new wedge was developed that was squared off on the end, and a new brake housing design was built to match. This was an incredible improvement, and is still being used. Also at that time, the control was modernized internally with a printed circuit board to replace the old "point to point" wiring style. A disc pre-brake was also added to the motor to stop "coasting".

HAM-4 or HAM-IV

This model came soon after the Ham-3, about January 1979, because all these new large antennas tended to break the cast, (pot-metal) type of ring gear used in the "bell-rotors" since the beginning. The improvement consisted of making the ring gear out of steel, actually cast out of a low-grade stainless steel and then machined for a precision fit to the other gears and the main casting. (This was copied from the T2X, but we'll get to that shortly). The other most noticeable change was the switch to black plastic covers on the control unit, probably to save money, and changing the color of the faceplate also to black.

Other changes within the next few years included changing the old rotary on/off switch to a toggle switch and redesigning the indication potentiometer in the rotator as another stab at improving the grounding for more reliable meter indication.

In 1981, TELEX~HY-GAIN bought the rotator portion of CDE and continued to build the world's most popular rotators, the Ham-4, T2X, and several smaller models. However, as the years progressed, the material in the brake wedge somehow changed, and problems started to develop (like broken wedges) in 1985. Late in 1987, C.A.T.S. produced some hardened steel wedges and Hy-Gain followed suit in November of 1988. This was the last major change to date on this series and its popularity continues.

HAM-5 or HAM-V

This model came out in 1994 when Hy-Gain decided to "spruce up" their product line a bit. The rotator is the same as the Ham-4, only the controls are new. A new plasma display with digital readout was used for the new control; as well as auto-positioning pre-sets, slow-stop, and reverse-delay features. It also has the modern RS-232 connection for computer on the back via a standard DB-9 connector. Other amenities included 6 memory positions, auto-calibrate, and a delay for the brake.


TAILTWISTER or T2X

Starting in September 1977, CDE produced a different looking design commonly called the T2X. This model had much heavier upper and lower housings, and was painted a flat black color. It also had an extra row of ball bearings located at the bottom of the brake casting, which was made thicker to accommodate them. This means the T2X rotator will support heavier antennas than its smaller brothers, and is much more tolerant of side thrust such as when pipe mounted with a lower adaptor. Originally, the T2X had a specially made wedge that was much different than the smaller models, but this proved to be a problem. After several different designs the whole brake assembly was changed in 1983 to a similar, but not identical system like the Ham-4. One point worth mentioning is that all internal components such as the motor and all gears are the same as the HAM-4... this is not widely known. The only other change from the Ham-4 is the use of LED indicators in the control for showing activation of the brake and direction levers.

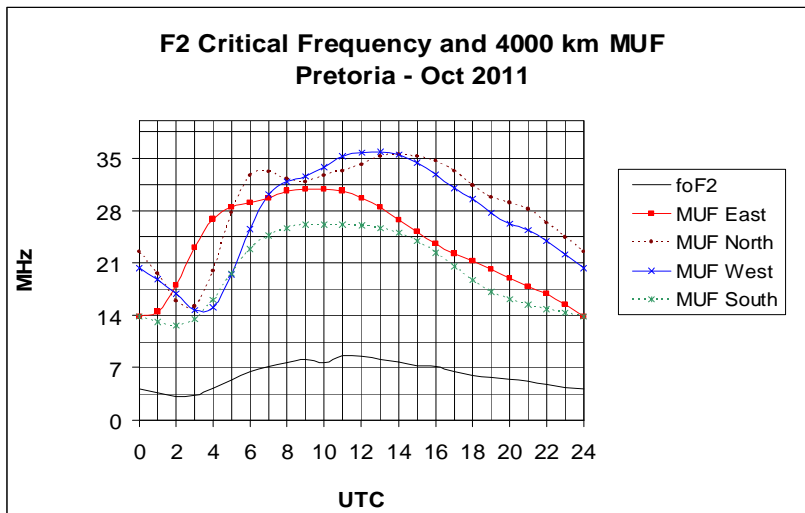
Note: Hy-Gain was sold to the MFJ corporation in May 1999 and they continue to build most of the rotator line; although in somewhat different fashion. As expected, quality suffered a bit initially but has now improved.

C/O NELSPOORT & 801 MALMESBURY STR, WINGATE PARK, PRETORIA [S25.49.36 & E28.16.07]

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Long Term HF Propagation Prediction for Oct 2011

Courtesy ZS6BTY
 (see also our website propagation tab)

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 frequency that will reflect when you transmit straight up. E-layer reflection is not shown.

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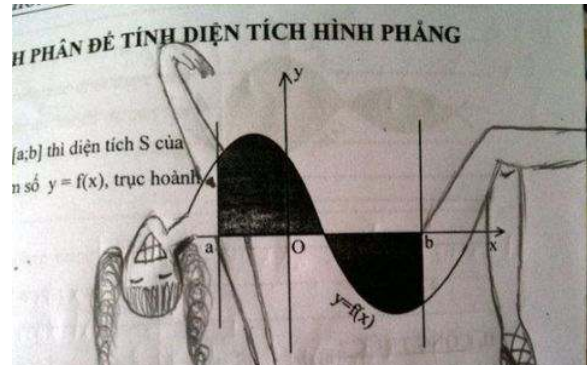

CABLE & INTERCONNECT SOLUTIONS FOR TELECOMS, BROADCAST AND MIL/AERO MARKETS



Only in Britain - Complaints to Councils - extracts from letters written to local councils:

1. I want some repairs done to my cooker as it has backfired and burnt my knob off.
2. Their 18 year old son is continually banging his balls against my fence.
3. Tiles are missing from the outside toilet roof. I think it was bad wind the other day that blew them off.
4. My lavatory seat is cracked, where do I stand?
5. The toilet is blocked and we cannot bath the children until it is cleared.
6. Will you please send a man to look at my water, it is a funny colour and not fit to drink.
7. Our lavatory seat is broken in half and now is in three pieces.
8. I want to complain about the farmer across the road. Every morning at 6am his cock wakes me up and it's now getting too much for me.
9. The man next door has a large erection in the back garden, which is unsightly and dangerous.
10. Our kitchen floor is damp. We have two children and would like a third, so please send someone round to do something about it.
11. I am a single woman living in a downstairs flat and would you please do something about the noise made by the man on top of me every night.
12. This is to let you know that our lavatory seat is broke and we can't get BBC2.
13. My bush is really overgrown round the front and my back passage has fungus growing in it.
14. He's got this huge tool that vibrates the whole house and I just can't take it anymore.

Just bored or dumb?



M. McWilliam
101 Science
Strong.

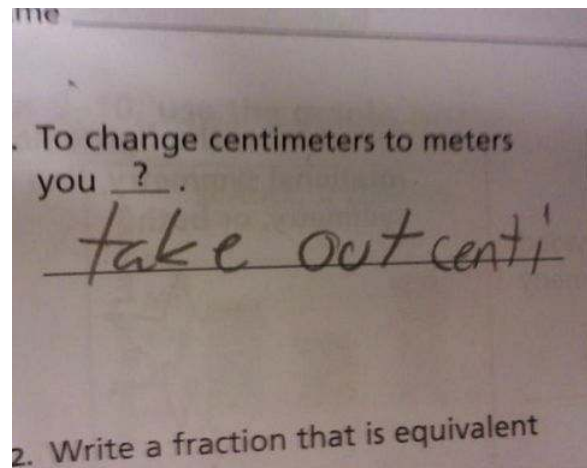
a) What is the general width of a hair follicle?

~~NOT much~~ = 1

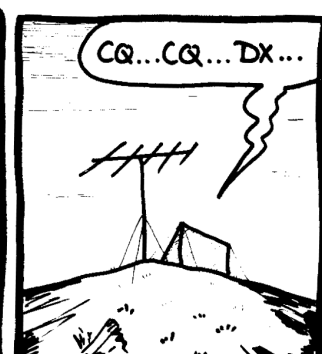
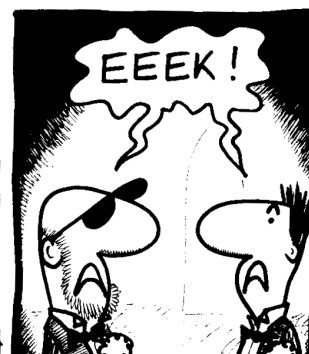


b) Name this Tooth:

Champy = 2



REBYRNE



GOMEN .52