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WATTS

05-2010

Year 80 + 5m

Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrieff 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



Our recent fleamarket had much to offer

more on p.7



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In hierdie uitgawe

Next Meeting

Date: 12 May. 2010
Time: 19:30 for 20:00
PARC Clubhouse,
South Campus,
University of Pretoria.
SE cnr University and
Lynnwood roads.

PARC Management team / Bestuurspan Aug. 2009 - Aug. 2010

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SARL liason, fleamarket					
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Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 10 April 2010.

Welcome: The vice chairman welcomed all present.

Present: See register, 15 members, 3 visitors.

Apologies: 6 as per register. The chairman is on the recce for the Sasol rally.

Joys & Sorrows: Sig ZS6SIG and his sw are now going to Kenya where he will have the call 5Z4EE.

Minutes: The minutes of the previous meeting were in Watts, approved by Whitey ZS6JJJ and seconded by Mark ZS6USA/KW10.

Matters Arising: None.

Finances: We have a bank balance of R3262.78. The major expense was the day in the sun on 27 March.

Membership: There are 113 paid up members of the total of 140.

Activities

Rallies: The Delmas rally took place on 10 April. The weekend of 23/24 will be the Sasol rally in the low veldt.

Flea Market: The next PARC flea market be towards the end of June, the date will be announced.

Contests: The contest committee is not in favour of rule changes which take place quietly.

Projects: Whitey ZS6JJJ gave a report with some photos of the spider beam antenna. The cost is about R2000 and it produces a VSWR of between 1.0 and 1.2 on most bands but on 15m this increased to 2.1. The forward gain is about 11.7dB.

Next meeting: The next meeting will be on Wednesday 12 May 2010 at about 20:00.

Close at 14:45

Birthdays

May Verjaarsdae



- 01 Amanda, dogter van Martie en "JB" ZR6YV
- 02 Chris ZS6LOG
- 06 Lourens ZS6KRT
- 06 Suzette ZS6SZT, dogter van Pieter ZS6PVW en Magda ZS6MWW
- 08 Phillip ZS6MZ
- 10 Roy ZR6RV, son of Marieta and Roy ZS6MI
- 11 Zdena, SW of Ivo ZS6AXT
- 14 Johannes ZS6BPB
- 14 Pieter ZS6PVW
- 17 Vincent ZS6BTY
- 20 Deryck ZS6KQ

Mei

Anniversaries Herdenkings

- 04 Ronel en Pieter ZR6PSR ()

- 23 Lily, SW of Harry ZS6AMP
- 25 Tjerk ZS6P
- 26 Vitor ZS6VG
- 28 Flip ZS6BSO
- 31 Gawie ZS6GJJ

Joys and Sorrows | Lief en Leed

Hans ZS6HVG het 'n knie-operasie ondergaan

Diary | Dagboek (UTC times)

- May**
- 01-02 ARI International DX Contest - CW/SSB/RTTY - 20:00-19:59
 - 08 Technological High School John Vorster ARC flea market
 - 08-09 Portuguese Navy Day - CW/SSB - 15:00-15:00
 - 15-16 H.M. King of Spain Contest – CW- 12:00-12:00
 - 16 Worked all Britain Contest – phone – 10:00-14:00
 - 19 Moon Contest 18:00-20:00 all modes
 - 22-23 EU FSK DX Contest – BPSK63- 12:00-12:00
 - 29-30 CQWW WPX Contest – CW – 00:00-23:59

Be an early bird : PARC subs are due end of June. R70 or R50 pensioners

Notice – Kennisgewing

Lede kan nog steeds die sekretaris in kennis stel van u voorkeur oor watter dae en tye vir u geskik sal wees vir klubvergaderings.

Members can still notify the secretary about your preference as to which days and times club meetings should be held.

Snippets | Brokkies

Congratulations to the following club members having received awards at the recent SARL AGM : Craig ZS6RH - Jack Twine Award , Pine ZS6OB – Arthur Hemsley 2m Trophy and Vincent ZS6BTY – JJ Pienaar Trophy. Details soon on SARL web.

PARC made 2nd place in the multi-operator category of the **SARL National Field Day HF contests** second leg held in February. Again a big thank you and congratulations to the team leaders Pierre ZS6PJH and Pieter ZS6PA whose untiring efforts and enthusiasm keep our club in the limelight.

Amateur Radio ad on commercial TV in New Zealand

Mainland Television operates free to air TV channels in parts of New Zealand and has put together a TV ad for the Nelson Amateur Radio Club to promote an open night to encourage new members to the hobby. All the costs were covered by the TV station. The ad is in 2 parts, one a generic ad and the other to promote the Nelson clubs open night.

The TV ad is online at http://www.7media.net/downloads/adverts/Ham_radio_Ad.wmv

The TV ad is available to any ham radio club or group at no charge provided it is not on sold to other parties

18 month project to promote innovation in amateur radio – win an ICOM 7000 sponsored by Multisource

Radio amateurs and technological fundis are invited to submit innovative amateur-related projects with no limits on creativity, whether it is software, amateur radio and the internet, development of compact HF antennas or innovation in emergency communications such as high speed imagery and data or interfacing all the networks available to amateur radio as well as satellite payloads that will make people of all ages want to be part of the scientific and technological communities.

Out-of-the-box ideas are required to solve some of the problems and challenges faced by 21st century radio amateurs. The project is in the form of a competition to stimulate the creative side of amateurs to develop solutions that will make the hobby more enjoyable to amateurs all over the world.

Design descriptions must be in by 30 September of which 3 will be chosen to the final stage to develop and build a prototype. More detail on www.amateurradio.org.za

Pieter ZS6PVW hersien toring en stel weer in bedryf



Ghries word hier benodig...



en verseëling hier...



Kabels weer vasmaak...



Optrek begin...



Byna op...



Nou vertikaal met 7 antenas in sig. Van bo naonder:
6m J-pole, 2m,6m en 10m yagi's, vertikaal 70cm,6m en 2m.
Links is ook 'n 2m Slim-Jim te sien.

Ook vas aan die toring is omgekeerde V's is vir 80m, 40m, 30m en 20m en word met een coax gevoer met 'n Jannie ZS6WAS Balun.

Building the broadband version of a 6 Band (6–20m) Hex Beam

Part 3 by Roger Jones, ZS6RJ

Build a "Test" Hex with Cheap Materials!

Build a hex for around R 150! If you want to get a feel for a hexagonal beam very cheaply, you can build a monobander out of cheap materials before you go all-out on a solid 6 bander. In one afternoon or less, using a bit of marine ply for the centre-hub and electrical conduit for the spreaders with 3mm bare copper earth wire for the elements, you can cobble together a hex. Drill holes in the marine ply and fasten the electrical conduit to this with two or three heavy duty tie-downs. Use hose clamps positioned at the right intervals with tie-downs clamped through them pulled into small loops to allow for the stringing of the element wires.

For a centre-post use a length of 50mm pvc plumbing pipe. I would suggest screwing a short stub of timber onto the top and bottom of the marine ply (around 10cm on the top for the post to slide over and 30cm on the bottom to strap to a mast). You could use small steel right-angle brackets for this around the wood stubs. I'd suggest building a hex for 12 or 15 metres using this type of material, because electrical conduit is rather flimsy. If you want to build one for 17 or 20 metres, you can put "stiffeners" between the spreaders around halfway up. This is easily achieved by inserting 4-way junction connectors for electrical conduit.



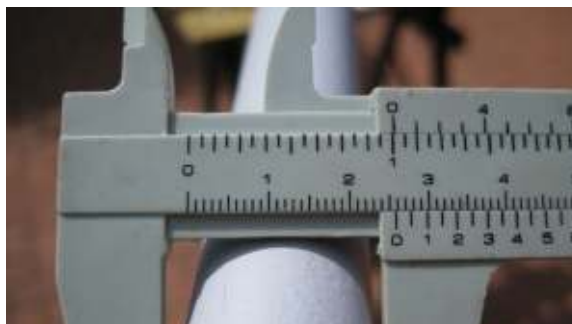
Materials for Building a Long Lasting Hexagonal Beam

Spreaders (by far the biggest challenge): Fishing rod blanks will give you a service life of around 3 or 4 years in our sun.

Expect to pay in the region of R 1 600 for 6 blanks if you purchase them directly from a local manufacturer. I bought mine for my first hex from Blue Marlin Fishing Rods in East

London. They sent them up to me via courier when made.

For a long lasting spreader with relatively uniform curvature one should use nested fibreglass with a thicker wall diameter. I'm currently using really nice ones I brought in from the US with a 3mm wall thickness and a 26mm outer diameter on the thickest section (the one bolted to the hub): Each spreader consists of three sections that clamp together with a hose clamp. If anyone knows where to source such material in South Africa – please share the secret! The good news is that they break down into around 1.5 metre lengths for shipping. Be prepared to pay 10% duty, 14% VAT, and R 800 upwards for shipping (on which VAT is also levied, of course). A good company to source such spreaders from is <http://www.mgs4u.com/fiberglass-tube-rod.htm>



The centre hub

If you look at commercial hexagonal beams (e.g. <http://www.hexbeam.com/>), you'll note that a lot of advertising hype goes into the fact that they feature lightweight aluminium laser-cut centre hubs etc.

This is absolutely not necessary, your radiated signal is not going to know the difference, I promise! I generally fabricate my centre-hub from a piece of mild steel 3mm plate available from any hardware store (Newlands Steel in Pretoria stocks) for around R 40. A major benefit of steel is that it's easily weldable without resorting to a MiG welder. I draw out my hexagonal shape and cut it out with an angle-grinder. In terms of weight, steel is maybe 900g to 1kg heavier, but as this is centred directly over the middle of your tower or pole, it will have no appreciable effect.

Of course, if you go the steel route, make sure you prime and paint the hub properly. In order to make provision for fastening it to (1) a 50mm mast underneath and (2) the PVC pipe for the elements above, I simply weld a short length of 40 - 50mm diameter angle-iron to either side in the centre. To these I weld 4 rectangular tabs on the sides (with holes drilled in them) fabricated from the hub offcuts through which I pass two 50mm U-bolts top and bottom. The example shown has been exposed to the weather for just over three years and never repainted. The condition is still fine for R50 worth of materials!



That about covers the home-brewing of a hexagonal beam. All the rest of the small hardware has been mentioned during the course of this series of articles, but to recap, you're looking at:

- Nuts and bolts for attaching elements and feed line to the centre-post.
- U-bolts of varying sizes for attaching spreaders and the hub
- Lots of hose clamps!
- Lots of thick cable-ties!
- Ferrite beads for an RF choke (6 or more)
- Insulating tape
- 50ohm coax feed line of any length

Last but not least – ingenuity!

A glimpse in the shack of Hein ZS6Q and cable management

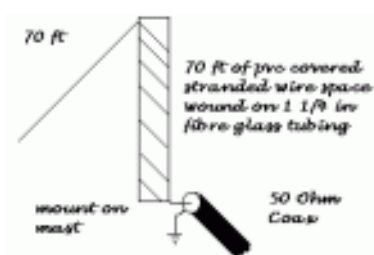


More fleamarket snaps



A Practical Antenna for 160 Metres

Original article published by G3YCC



This aerial is one I have used for top band (160m) and it was suggested to me by Alan G4ERZ. It consists of 140 feet of insulated wire, the first half of which (70 feet) is space wound on an insulated tube.

It appears to work very well, apparently giving some horizontal and vertical polarisation.

I used glass fibre tubing which was to hand, but PVC may be used also.

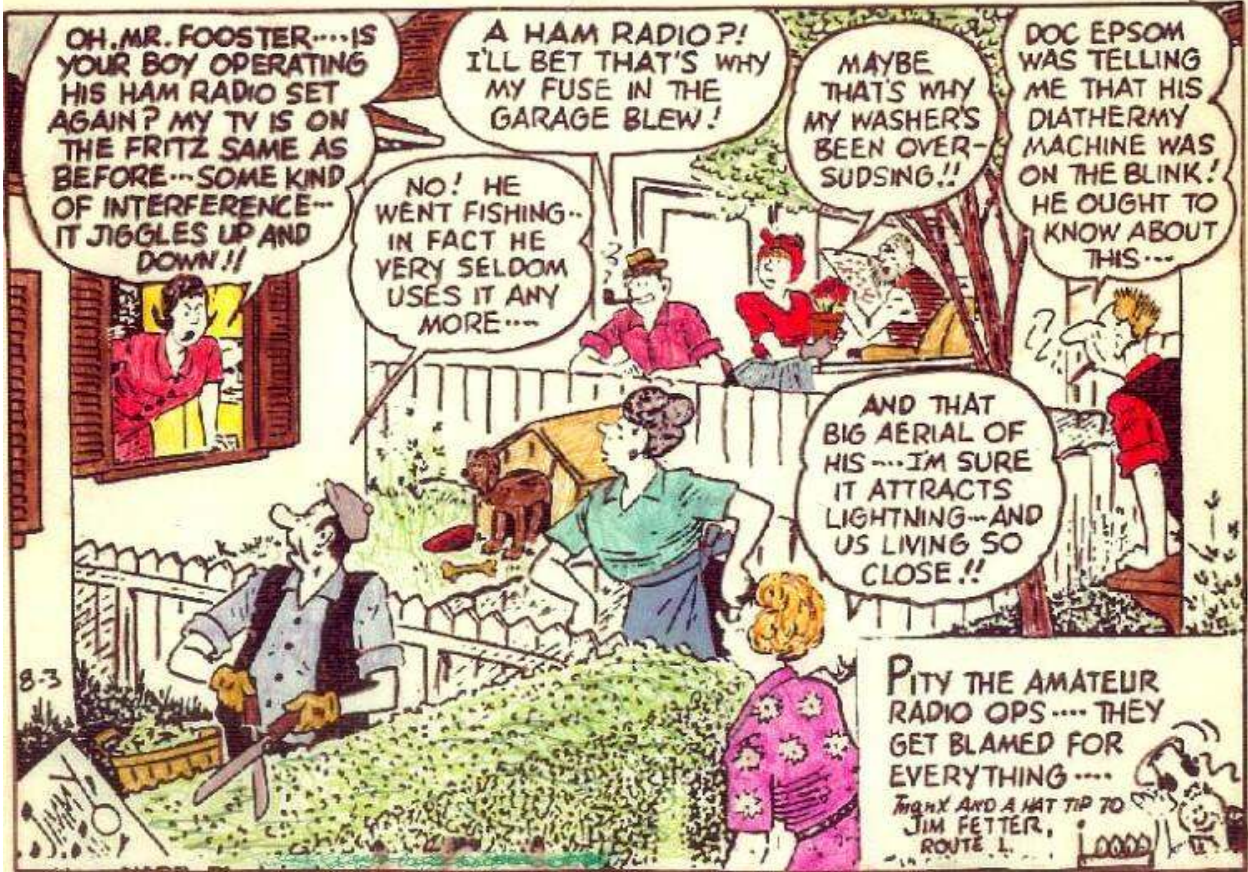
- My tube is 1 1/2 inches in diameter and about 5 feet 6 inches long.
- The turns are about 0.5 inches apart.
- The other 70 feet of wire acts as a loading wire and slope down from the top of the coil to near ground level.
- The system is coax fed to the base of the coil, with the shield or braiding going to earth.

One great advantage is the system can be tuned without having to lower the mast - by pruning the loading wire to resonate on the required part of the band. Bandwidth is also good - mine is about 30 kHz either side of resonance.

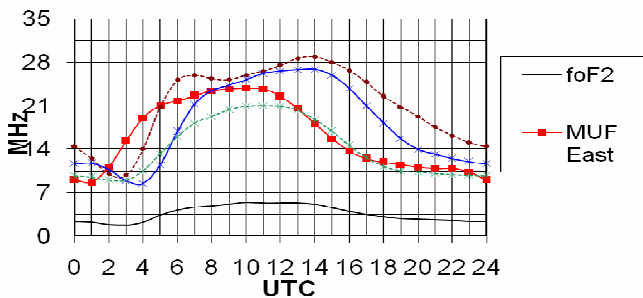
I found the MFJ Antenna Analyzer MFJ-259 invaluable for this project, as well as many other experimental systems. Ensuring an efficient earth system will add to the effectiveness of the aerial. My earth system currently consists of two 140 ft radials and connections to some buried guys stays.

Alan, G4ERZ, has a far more elaborate and efficient ground and his results prove what we all know - the ground (or earth system) is all important. He is a tremendous signal on 160 DX wise. He still gets the same band width as I do, though. I have worked a few DX stations with it since erecting it only a short while ago, and I think it has a lot to offer, especially for those of us blessed with relatively small gardens."

THEY'LL DO IT EVERY TIME :-:- :-:- :-:- by Hatlo



F2 Critical Frequency and 4000 km MUF Pretoria - May 2010



Long Term HF Propagation Prediction for May 2010

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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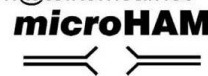
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