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WATTS

02 - 2005
Year 75+2m

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

✉ PARC, PO Box 73696 Lynnwood Ridge 0040, RSA

web <http://www.qsl.net/zs6pta>

Bulletins : 145,725MHz 08:45 Sundays / Sondag

Relays : 1840, 3700, 7066, 10135, 14,200 MHz

depending on season

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

Last months' meeting : Home-brew heaven demonstrated by Joe ZR6SA



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Next Meeting

Date: 10-02-2005
Time: 19:30 for 20:00
PARC Clubhouse,
South Campus,
University of Pretoria.
SE cnr University and
Lynnwood roads.

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Editorial

Our club has made 75 years of age albeit with a few bumps and grinds along the way. Observe many of our members are approaching a similar age! Weekly we also hear of silent keys from all over the country on HQ Bulletins. It is of paramount importance to recruit the younger generation into our ranks. The age group 18-50 is a good target to ensure perpetuation. The PARC has made reasonable progress in this respect and is grateful for the trickle of new applicants and the skills they bring with them. As long as I have been Chairman I have made this one of my objectives to increase membership with new- and lost souls. I would like to encourage all current members to do the same lest we end up as a BOFARC (Boring Old Farts Amateur Radio Club) rhubarbing over cups of tea at club meetings.



BOFARC
member

Redaksioneel

Ons klub het by 75 jaar uitgekome al was dit met 'n paar stampe en stote op die pad. Kyk hoeveel van ons lede is naby dieselfde ouderdom! Weekliks hoor ons ook van stil sleutels van oor die hele land op HK Bulletins. Dit is van uiterste belang om die jonger geslag by ons geledere te werf. Die ouderdomsgroep 18-50 is 'n goeie teiken om voortsetting te verseker. Die PARK het redelike vordering in die verband gemaak en is dankbaar vir die stroompie nuwe aansoekers en die kundighede wat hulle meebring. So lank as wat ek Voorsitter was, het ek dit een van my doelstellings gemaak om lidmaatskap aan te sterk met nuwe- en verlore siele voordat ons dalk opeindig as 'n VOKRAK (Vervelige Ou Kêrel Radio Amateur Klub) wat oor koppies tee gorrel by klubvergaderings.

VOKRAK
lid

Don't say:

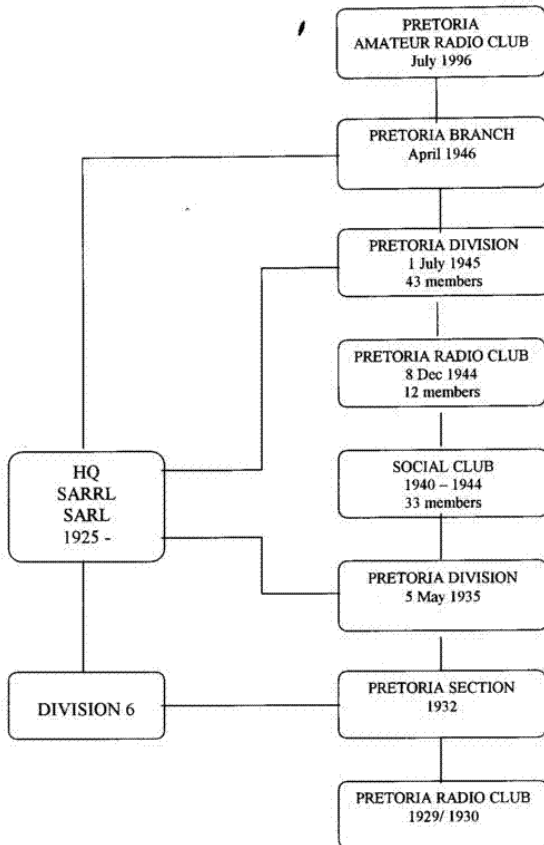
"I don't have a solution, but I admire your problem"

Be pro-active and help build Amateur Radio and your Club !

ZS 75 PTA

1930-2005

History of the Pretoria Amateur Radio Club



By the middle of 1940 only 4 members remained
Aubrey Jones acted as secretary until 1944.

From an original drawn by Don Stewart ZS6IA 28 Nov 1979

June 1952

PRETORIA

Pretoria is to help the Wheelers when they have their 84-mile race on the 31st May. It is expected that five stations will take part with twice as many helpers. A good deal of fun can be expected on this day and all get a chance to operate.

Don't forget the HQ bulletin on Sundays. The time has been changed to 9 a.m. as from the 4th May, and the branch bulletin follows after.

It did not take Dave, ex-6JW now 5P, long to get on the air from Durban, and a very nice signal is heard from this OM's portable rig.

6ACU is still in the throes of rebuilding and expects to get going this month. It should be interesting to see what this ether-shaking signal will sound like.

6AAS heard whilst at Kroonstad over Easter weekend. One of the cleanest sigs on the air, considering the small power used.

6TQ seems to have an urge to explore 10 metres. Why pick on a dead band; 20 seems to be better, when it is open both ways.

6UV, expecting a transfer down country, has hopes of being able to settle down and get on the air again. You should build yourself a portable, OM.

6XT Chester is leaving this vale of iniquity for the States next month. We have enjoyed your company and friendship, and hope to be able to contact you from your own country soon. The best of luck to you and your family.

ZSL PCM is getting his rig together. We hope to hear a new call-sign in Pretoria soon, Jimmy.

8ZU will probably be on Marion Island by now. Look out for him. He will be using his own rig, which he has taken out with him. He might operate under ZS2MI as well. Either way it is a new country for those who haven't worked 2MI as yet.

It is believed that 5C paid a quick visit to Pretoria; we did not see him but he has since been heard at 6HX, Nick's shack. I hope your rig is still OK, OM.

6AK spent a happy, short holiday at Kroonstad with 6AV. The change was a busman's holiday, but enjoyable nevertheless.

Visitors to Pretoria: 6GH and 6J to 6AK's shack, where a pleasant afternoon was spent chin-wagging.

The fact that more names do not appear in these notes is due to the inherent modesty of various Hams, who do not like to, or do not want to, see their names in cold print. Anyway I do not have any dope on their activities so I can't give them a write-up. Try to let us have something next month, please. It is hard enough for me to get something out each month without help from anyone.

6 AFRICAN KILOWATT.

A little admonishment... Aug 1952

Not having any further news or views from the 100-odd members of this, the premier branch, I must reluctantly draw to a conclusion. If each of you sent me one line I would be able to fill RADIO ZS. However, don't forget to pay the subs now due to your local secretary, and I hope he has more success than I have had. Listen on 7115 kcs. every Sunday morning after the HQ Bulletin.

ZS6 AFRICAN KILOWATT.

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 13 Jan. 2005

Welcome: Hans ZS6KR declared the meeting open and welcomed all who attended and a special word of welcome were extended to Martin Jancuska OK1DJO, Johan ZS6CAQ, Pine ZS6GST, Abraham ZR6JPA, Joe ZR6SA , the two Michael's and Nomeka, xyl of Tobile ZR6TDK.

Attendance: The meeting was attended by 22 members and 6 visitors.

Apologies were received from Graham ZR6GJR, Edwin ZR6ESP, Hillary ZR6HAP, Hans ZR6HVG, Brian ZR6BJS and Lynette ZR6LHT.

Personal Matters/Lief en Leed: Bertha, lv van Hans ZS6KR steeds in die hospitaal, Fred, ZS6MRA se lv sterk tuis aan en Magda ZS6MVW moet volgende week 'n operasie ondergaan.

Matters arising from previous minutes: None.

Minutes of previous meeting: The minutes of the previous meeting as published in Watts were approved. Proposed by Almero ZR6RY and seconded by Mike ZS6AFG.

Club Activities:

Rallies/Tydrenne: Johan ZR6JHB reported that the first rally for the year will be the Belfast Rally on Saturday 19 February 2005. The rally will be run over a distance of 90km and there will be 7 stages. Thus far it looks as if 4 Radio stations will be needed for communications.

DF Hunt/Jakkalsjag: The next DF hunt will take place on Saturday 22 January 2005. The start will be at the Botanical Gardens in Silverton. Starting time 14:00

Social/Sosiaal: Willie ZR6WGR ask members to come forward with ideas for social events.

Finance report/Finansiele verslag: Richard reported on the club's finances.

Projects: No report – Remember the Monday evenings chat on 145,725 at 20:30 - on technical issues.

Fleamarket/Vlooiemark: Almero ZR6RY - volgende vlooiemark moontlik einde April.

Ham Diary:

Jan 15 - 16 Hunting Lions on the Air
21 - 23 Pears V/UHF Contest
23 President's net
29 SARL Youth Day
29 - 30 CQ 160m CW Contest
Feb 13-Dec SARL HF Field Day.

General/Algemeen:

PARC HF awards applications to be handed in at 19 January latest. Members were asked to consider donating a ream of paper for the printing of Watts!

Presentation/Aanbieding: Joe ZR6SA gave a very interesting and talk on his homebrew items. Thank you very much Joe for your time and effort.

Next meeting/Volgende vergadering: 10 February 2005. (19:30 for 20:00)

Closing/Sluiting: The meeting closed at 21:50.

Thanks to the ladies for the refreshments .

Flash: The DF hunt went off well and, including SW's and visitors, 17 attended the de-briefing braai held at the PMC.

Birthdays

Februarie

Verjaarsdae



February

Anniversaries Herdenkings

03 Alletta, lv van Alf ZR6ABA
 03 Willie ZR6WGR
 06 Ellen, lv van Joe ZS6AIC
 07 Victoria, dogter van Louie ZR6LVW
 07 Andre, son of Andre ZS6GCA
 08 Melvyn ZS5MF
 09 David, son of Joe ZS6AIC
 09 Kenny ZS6KMM
 10 Paddy, sw of Kenny ZS6KMM
 11 Leanne, sw of Allan ZR6AHL
 12 Yvette, daughter of Robert ZS6ARC
 13 Sander ZR6SW
 15 Philippe, son of Robert ZS6ARC
 16 Pat ZR6AVC, sw of Frank ZS6GE

17 Freddie ZS6JC
 22 Christopher, son of Graham ZR6GJR
 23 Nic ZR6DVS
 23 Arrie ZS6IRA

03 Heather and Vince ZS6BTY (15)
 06 Lucilla and Carlos ZS6AJW (34)
 12 Agnes ZS6BAV and Ivan ZS6AUT (50)
 13 Claire and Robert ZS6ARC (45)
 18 Sarina en Willie ZR6WGR (5)
 27 Paddy and Kenny ZS6KMM (40)
 28 Martie en `JB` ZR6YV (?)

24 Daniel, son of Robert ZS6ARC
 24 Claire sw of Robert ZS6ARC
 24 Petro, lv van Gert ZS6ZB
 25 Bernice, lv van Pieter ZR6KSA

Nuwe Lede | New Members

A hearty welcome to: Bill ZS6WK in Rustenburg
 Craig ZR6REV in Johannesburg
 Joe ZR6SA in Fourways
 Hank ZS6USA (KC4XX) currently in Iraq as YI9XX

'n Hartlike welkom aan: Bokkie ZR6CL in Pretoria
 Casper ZR6CVZ in Benoni

Sick Parade | Krukkelys



Kallie ZS2CWP is weer in Unitas Hospitaal
 Bertha, LV van Hans ZS6KR is huistoe maar moet oor 4-6 maande geopereer word.
 Jean ZS6ARA se Pa was onlangs ook in Unitas Hospitaal en sterk aan by die huis
 Magda ZS6MVW vorder goed by die huis na haar operasie
 Hattie, LV van Fred ZS6MRA eindig nou haar na-operatiewe behandeling

PARC Diary | Dagboek

Feb 12-13 SARRL HF FieldDay Contest
 12 PARC DF Hunt
 19-20 ARRL International DX CW Contest
 26-27 CQ 160m SSB Contest

Ma 05-06 ARRL International DX SSB Contest
 06 DARC 10m Digital Contest
 10 PARC Meeting

Snippets | Brokkies

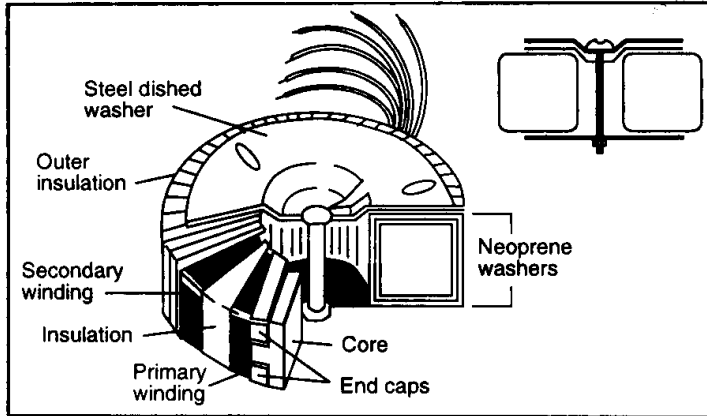
- PARC received an official letter of congratulations on our anniversary from the Bloemfontein ARC ZS4BFN
- Hilary ZR6HAP, daughter of Richard ZR6CK and Molly ZR6MOL is currently studying at UCT
- Joe ZR6SA donated one of his past ATU projects to PARC – Professionally made, and up for offers/raffle? Below are some more glimpses of what he had to show and discussed.



Toroidal Transformers

extract from a W.Gardner advertisement page in *Quantum* June 1995

Faraday built the first toroidal transformer 150 years ago. Since then, the stacked lamination design has proved more popular, largely because of its ease of construction. This design allowed the transformer to be produced in quantity by winding the turns on a bobbin and then assembling the core. From many aspects the toroidal construction can be shown to have considerable advantages when using modern mechanized winding techniques.



The basic core constructional differences of different transformer designs are:

- a) "E" and "I" laminated cores have an air gap
- b) "C" core can be made with a smaller air gap
- c) Toroids have no air gap

Air gaps introduce reluctance (=magnetic resistance) and higher magnetizing currents are then necessary to overcome this.

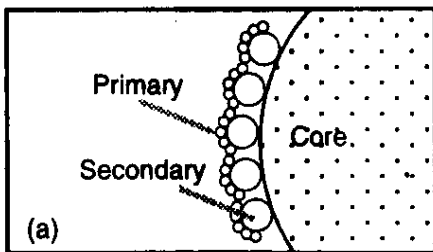
Air gaps also have fringing fluxes and introduce spurious radiated electrical noise (hum) into nearby wiring.

Toroids are ± 8x better than "E+I" types

Toroids are generally wound from grain-oriented steel with all the molecules in the

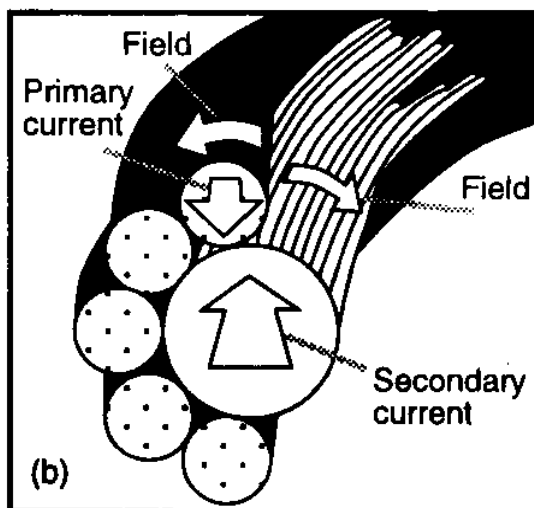
metal pointing in the same direction as the flux. Molecules out of alignment increase the reluctance and, at 90° out of phase, the effectiveness is reduced to approximately that of mild steel. Generally toroids have better molecule alignment ratios over stacked cores and flux density handling will be about 25% better.

The reluctance of a toroid is usually so low that the iron losses are of little significance and core size can be adjusted to optimize copper usage. Width to height ratios range from optimum 2:1 to low profile 3:1. Windings are evenly distributed as shown to



ensure that the magnetic fields generated in the windings themselves cancel each other.

Comparison of toroidal and laminated transformers				
Nominal rating (V.A)	20	20	130	130
Transformer type	Toroid	Laminated	Toroid	Laminated
Radiated field (mV) at 75 mm from centre of transformer	1	7	-	-
Radiated field (mV) at 110 mm from centre of transformer	-	-	1	8
Radiated field (mV) at contact with transformer	3	10	20	40
Magnetising current (mA)	3	36	10	110
Off-load power consumption (V.A)	0,72	8,64	2,4	26
Iron loss (W)	0,4	3	1,8	7,5
Copper loss (W)	2	3	10	9
Total losses (W)	2,4	6	11,8	16,5
Regulation (%)	10	10	8	7
Temperature rise (°C)	40	40	45	45
Weight (g)	400	660	1500	3000
Length (mm)	70	70	95	84
Depth (mm)	70	50	95	90
Height (mm)	30	58	50	98

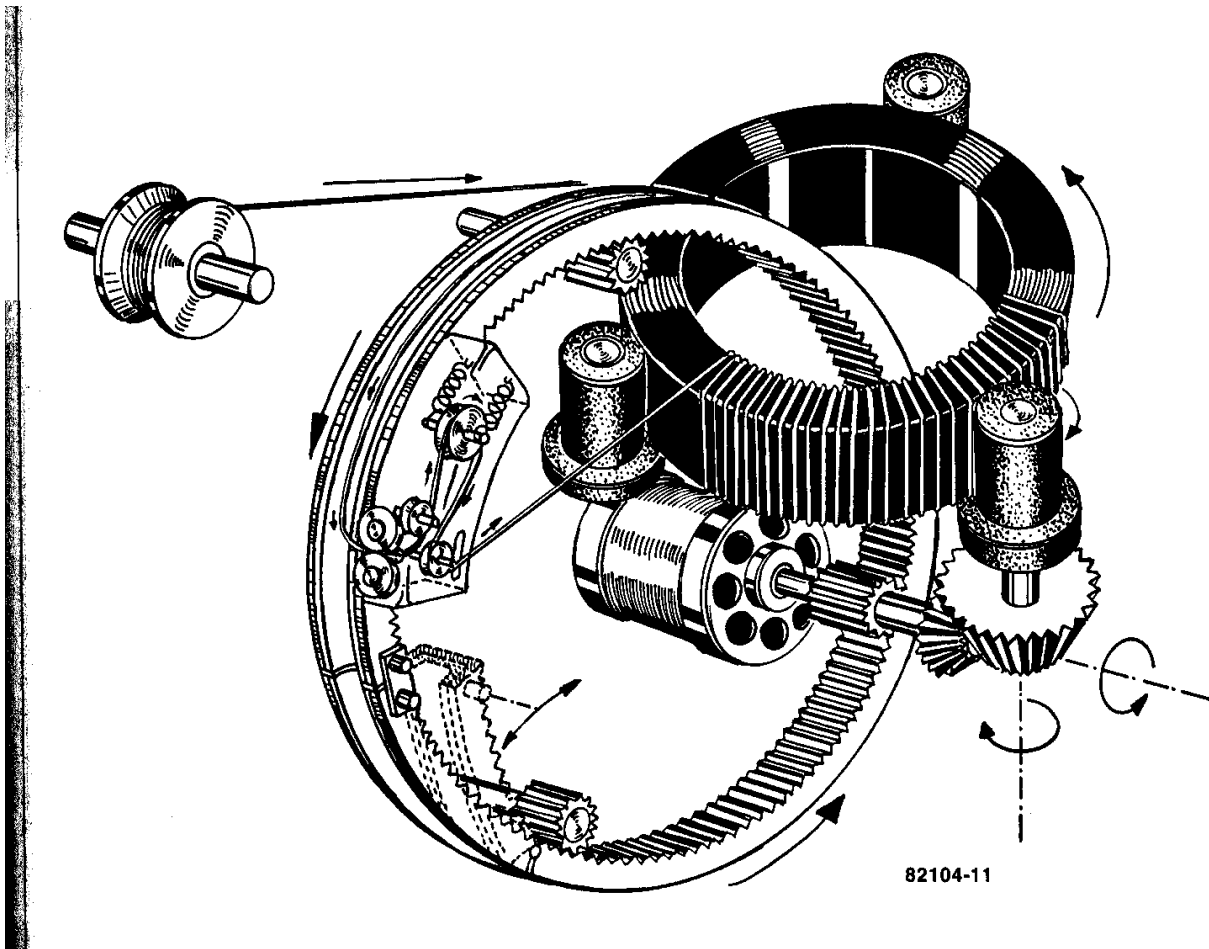


The windings also introduce a natural screening effect which helps to cut down unwanted radiated field. Another advantage of winding the turns around the core is that the copper wire acts as a damper against any magnetostriction effect which causes *audible* hum. The strip core is very tightly wound under constant tension which gives a high packing density and produces a core which is virtually a solid ring. Capillary impregnation of the core and the windings can also reduce audible noise.

Toroids are used in all industrial applications from current transformers on the national grid to top of the range audio equipment.

The upper limit, imposed by winding machines, is for cores to 1m diameter which are useful as medium sized distribution transformers with efficiencies much higher than previously possible. The smaller mains types up to 150VA are already price-competitive with stacked types.

Can you figure out this toroid winder?



CB-Ham convert asks opinions (Original spelling retained) Newsgroup header: Newbee bought ts2000 (mistake?)

Taking test next month (will pass)-sold almost all c.b. equipment,over 25 years on c.b radio getting tired of all the crap ,have over 2000.00\$ to invest,read the reviews for different transievers (mostaly on eham.net) the ts-2000 seamed to stand out for the most part ,put a deposet on brand new rig (can still get my money back)-not to troublle anyone,is this a good entry level unit for a person who likes to talk skip,and experiment.i have good radio knolage but not on the ham side-is this to much radio?and if so what would your advise be.

Comment "Brenda Ann":

Overkill for a newbee rig. You can get most of the features for about half the money with a Yaesu FT-847. For around half of THAT you can get a nice rig in either the Yaesu FT-100 or the Icom IC-706/II (for a bit more, you can get the upgraded versions of these, the FT-100D or the IC-706/IIG)

Comment Steve KK9ZZ:

...I find the small buttons and multi function buttons a bit getting used to however. If you do not need satellite or 440 all mode, the Icom 746 Pro is great. I had one a while back. They have a reputation for the transmit failing which Icom says has been fixed in later models. If you only need Hf - up to 10 meters, you can't beat the Yaesu FT 1000MP Field or Mark V which also has 200 watts that is within your budget. You could then pick up a dual band 144/440 FM mobile for under 300.

Comment "Steve":

Ts 2000 is a nice rig but it's more than the average Ham would use. Granted it's dual receive and is the only HF rig that does it.

The 847 is nice but, it also is a small rig. 706 is basically a Mobil. All the smaller radios like 847 -706 -ft-90 - 100 all are nice but they lack the receiver. The Ft-

1000mp or the MP Field has a great receiver but does not have 6 meter or VHF UHF.. I would think if you want an true all mode then the TS-2000 would be what you want. But if you want a good receiver then the FT-1000 is what you want. Hope we all have not confused you, or maybe helped.

Comment "Danjr":

...I would refrain from using CB-esque slang on amateur radio. Instead of "talkin' skip" perhaps you should refer to it as DX.

Comment "Mike":

...perhaps we could let people use whatever terms/slang/language they wish on the public airwaves or public internet. I happen to like "talkin' skip". The DX is parked in my driveway... although I sometimes talk skip from the DX.

Comment "Ralph":

Did you save any money for the antenna system ?

Nissei SWR/Power meters

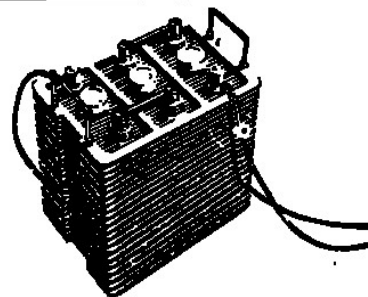
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 Model RS-401 125 - 525MHz 5,20,200W scales

All models R660.00 to Club members and Trade
 Contact Hans ZS6KR QRV Tech cc
 Details page 2 www.qrv.co.za



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