



ZR6FD logo

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WATTS

04 - 2006

Year 76+4m

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 / Sondae
Relays : 1840, 3700, 7066, 10135, 14,200 MHz
depending on season

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

Bulletin repeats : Mondays 19:45 on 145,725 MHz only

Toyota-Ellisras Rally 18 March 2006: Johan ZS6JHB, Roy ZS6XN, and Ivan ZS6CCW and many others provided communications support.



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Next Meeting 5 April 2006

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

PARC Management team / Bestuurspan Aug 2005- Aug 2006:

Committee members					
Chairman, SARL liason, Fleamarkets	Alméro Dupisani	ZS6LDP	almero.dupisani@up.ac.za	012-567-3722	082-908-3359
Vice Chairman, Secretary Rallies, Social, Hamnet	Johan de Bruyn	ZS6JHB	johandbr@absa.co.za	012-803-7385	082-492-3689
Treasurer, Clubhouse, Database, DF hunts	Richard Peer	ZS6UK	peerrk@safrica.com	012-333-0612	082-651-6556
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Repeaters , Technical Public Relations	Craig Symington	ZS6RH	craigsym@global.co.za	012-997-4504	083-259-3233
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Co-opted / Geko-opteer:					
Repeater, technical	Johan Lehmann	ZS6JPL	jlehmann@csir.co.za	012-804-6173	083-300-8677
	Hans Gurtel	ZR6HVG	adele123@absamail.co.za	082-940-0623	082-940-0623
	Pieter Human	ZR6AHT	humanp@telkom.co.za	012-800-2888	082-565-6081
Repeater Maintenance (70cm)	Willie du Plessis	ZS6AEA	hesterdup@webmail.co.za	012-565-5555	083-653-2101
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Asset control	Andre v Tonder	ZS6BRC	andre.vtonder@absamail.co.za	361-3292	082-467-0287
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Klubfasiliteite, vlooiemark	Willie Greyling	ZR6WGR	willie@up.ac.za		082-940-2490
Webmaster,	Edwin peer	ZR6ESP	zr6esp@peer.co.za	012-333-0612	
RAE	Brian Scott	ZR6BJS	scottbri@gmail.com	084-312-7407	
Hamnet, projects	Roy Newton	ZS6XN	newtonr@telkomsa.net	012-547-0280	
Morse testing	Bill Ingleson	ZS6KO		012-331-2327	
Tea	Molly Peer	ZR6MOL	molly@peer.co.za	012-333-0612	
	Doreen de Bruyn	ZR6DDB		012-803-7385	

Editorial

Also reprinted without comment..

SOME WAYS TO KILL A SOCIETY

(Reprinted, without comment, from
"Ham Chatter," May, 1942).

1. Don't come to meetings.
2. But if you do come, come late.
3. If the weather doesn't suit you, don't think of coming.
4. If you do not attend meetings, find fault with the officers and other members.
5. Never accept an office, as it's easier to criticise than to do things.
6. Nevertheless, get sore if you are not appointed to a committee.
7. If asked by the Chairman to give your opinion regarding some important matter, tell him you have nothing to say; after the meeting tell everyone how things ought to be done.
8. Do nothing more than is absolutely necessary; but when other members roll up their sleeves and willingly and unselfishly use their ability to help matters along, howl that the Society is being run by a clique.
9. Hold back your subscription as long as possible, or don't pay at all.
10. If you don't receive a bill for your sub, don't pay.
11. If you receive a bill after you have paid, resign.
12. Don't tell the Society how it can help you, but if it doesn't, resign.
13. If you receive service without joining, don't join.
14. When you attend a meeting, vote to do something and then go home and do the opposite.

Redaksioneel

Ook herdruk sonder kommentaar..

Tegniese Net: Dankie, Wynand ZS6ARF

Wynand het die afgelope weke op ons *tegniese net* Maandagaande ons vergas met baie interessante praatjies oor linieêre versterkers. Baie HF operateurs sal seker graag een wil hê, en Wynand het ons vertel hoe dit gedoen word om een self te bou en te bedryf. Hy werk self nou aan nommer 39! Alles uit ondervinding met intensiewe navorsing oor baie jare sonder dat hy enige formele tegniese agtergrond gehad het

Op bladsy 6 is 'n verkorte weergawe van hoe sulke versterkers opgestel behoort te word vòòr gebruik.

Het jy ook iets om oor te dra aan lede? Kom ons hoor van jou ondervindings enige tegniese gebied wat van nut is vir die amateur radio stokperdjie van a tot z. Kontak ons asb.

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 1 March 2006

Welcome: Almero ZS6LDP declared the meeting open and welcomed all who attended.

Attendance: The meeting was attended by 16 members and 1 visitor.

Apologies were received from Vince ZS6BTY, Molly ZR6MOL, Hal ZS6WB, Lynette ZR6LHT, Don ZS6AQS, Malcolm ZR6OLM and Helen Newton.

Personal Matters/Lief en leed: Bertha, lv van Hans ZS6KR, sterk tuis aan.

Egbert ZS6AZG sterk tuis aan na 'n voet operasie.. Hans ZR6HVG het bosluiskoors onder lede.

Matters arising from previous minutes: None.

Minutes of previous meeting: The minutes of the previous meeting were approved. Proposed by Roy ZS6XN and seconded by Almero ZS6LDP.

Club Activities/ Klub Bedrywighede :

Rallies/Tydrenne : Johan ZS6JHB – Volgende tydren – Ellisras Toyota Sam Tydren – Alles is in plek – gaan 145,725 mobile herhaler (Kenwood) toets.

Social/Sosiaal : Johan ZS6JHB – Next social, Day in the sun – PMC premises – bring and braai – date to be announced.

DF Hunt/Jakkalsjag : Richard ZS6UK – Not many members participated – bring & braai at QTH of Peer family well attended. Next hunt 25/3/2006 - start at Botanical Gardens in Siverton at 14.00.

Financial report/Finansies : Richard ZS6UK reported on finances. An increase in membership fees was proposed.

Fleamarket/Vlooiemark :

Almero ZS6LDP – volgende Mega vlooiemark - 1/4/2006 – perseel van Pretoria Amateur Radio Klub vanaf 09:00 – tafelbesprekings kan gedoen word by Almero.

Ham Dairy / Dagboek :

March/Maart.

18/19 – UHF/VHF Kompetesie

21 - Human Rights Day.

Technical/Tegnies :

Pine ZS6OB – Thanks Pieter ZR6AHT, Johan ZS6JPL, Craig ZS6RH and Hans ZR6HVG for work done on repeater.

Thank you Nico ZR6VT who donated a brand new repeater to the club. Be assured that it will be well used.

Tegniese praatjies : weereens op Maandae aande.

General/Algemeen.

RAE – closing date for entries – 13 April 2006.

Pine ZS6OB – sturing op 144,300 – brief skryf aan SARL – Jakkalsjag moet gereël word om sturing op te spoor.

Next meeting /Volgende vergadering : 5 April 2006.

Presentation/Aanbieding :

Thanks to Pieter ZS6AHT who on very short notice did an excellent presentation on lightning protection techniques.

SARL AGM Proxies

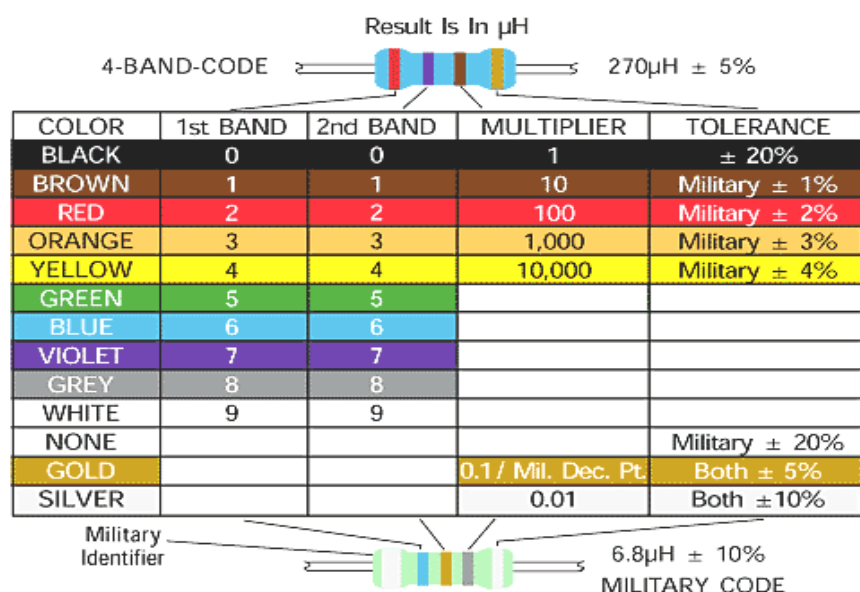
If you have not already given, posted or emailed your Proxy to our Secretary or any Committee Member, please bring it along to our Club meeting on 5 April.

It should be made out in favour of Tjerk ZS6P, not Johan de Bruyn ZS6JHB as previously requested.

Alternatively if time still permits it can also be posted to SARL HQ.

Thank you.

Inductor (microchoke) colour coding



ZS 6 PTA

1930-2006

Mike Rowland ZS6AFG

Guess Mike's age...



Do you have any photos or cuttings related to our Club's past? Your Editor has just about run out and will appreciate anything useful for publication.

Birthdays

Verjaarsdae

April



- 01 Melanie, daughter of Peggy and Ed ZS6UT
- 02 Fred ZS6MRA
- 04 Joe ZS6AIC
- 07 Tamzyn, daughter of Gary ZR6GK
- 08 Ronell ZS6BRX, dogter van Susan en Freddie ZS6JC
- 08 Bertha, lv van Hans ZS6KR
- 08 Klasie, seun van Tjerk ZS6P
- 09 Tanya, daughter of Pat and Frank ZS6GE
- 10 Joey, sw of Graham ZR6GJR
- 11 Susan, dogter van Susan en Freddie ZS6JC
- 12 Marina, dogter van Miemie en Hennie ZR6HEN
- 12 Jan ZS2LJ
- 13 Liam, son of Heather and Vince ZS6BTY
- 19 Anne, sw of Jac ZS6QA
- 21 Wynand ZS6ARF
- 22 Hennie ZR6HEN
- 22 Marieta, sw of Roy ZS6MI

Anniversaries

April

Herdenkings

- 02 Annemarie and Bernie ZS6ANU ()
 - 02 Pieter ZS6PVW en Magda ZS6MVW (23)
 - 04 Diana en Louis ZS6LVW (19)
 - 05 Chrissy ZS6JX and Dave ZS6JW ()
 - 06 Lynn en Andre ZS6BRC ()
 - 07 Rae and Mike ZS6AFG ()
 - 08 Jeanne and Sander ZS6SSW (13)
 - 12 Rika and Errol ZR6VDR (37)
 - 30 Joey and Graham ZR6GJR (23)
-
- 24 Antonio ZS6OAJ
 - 25 Erna, dogter van Susan en Freddie ZS6JC
 - 25 Gerhard, son of Jeanne ZR6GPC and Sander ZS6SSW
 - 28 Tracey, daughter of Rita and Vitor ZS6VG
 - 29 Heather, sw of Vince ZS6BTY

Mleegevoel | Condolences

Ons is geskok om te verneem dat Egbert ZS6AZG op 20 Maart etlike dae na 'n operasie heengegaan het. Ons innige meegevoel en sterkte word toegewens aan sy vrou Isa ZS6IZA en familie. Sy aktiwiteite en steun aan ons klub sal erg gemis word.

Sick Parade | Krukkelys

- Stan ZS6SDZ has become increasingly immobile. An operation will be performed on his lower back to try and improve sensations in his arms and hands.

PARC Diary | Dagboek

Apr	05	PARC Club meeting
	08	SARL AGM in Durban.
	09	Hamnet 40m contest 12-14:00 UTC
	13	Closing date May RAE
	18	World Amateur Radio day
	25	Marconi Day
May	03	PARC Club meeting

ZS6PTA QSL: Is daar 'n borg of kan iemand help om te laat druk? Kwotasies vir die enkelkant kaartjie beloop R746/2000.

Kaart : 160gsm
 Tipe : Tokai
 smooth
 Kleur : Buff
 Ink : swart
 Afm : 140x83
 mm



ZS6PTA

Official call sign of the Pretoria Amateur
 Radio Club, Republic of South Africa.
 ITU Zone 57
 CQ Zone 38

Acknowledging 2-way QSO with:

Station	Date ddmmyy	UTC	Band	Mode	Report

Snippets | Brokkies

- Our members were active in Ellisras (Lepalale) on 18 March where tough rally conditions for both contestants and our members resulted in an eventful day. Only 22 out 39 entries finished.
- 21-22 April sees the 2-day Sasol Rally at Sabie-Graskop which is the biggest National event of the year.
- PARC made 4th place in the recent SARL HF Field Day contest. Congratulations to our <young> team!
- Hans-Peter ZR6AJS is nou ZS6AJS. Geluk aan jou Peter.
- **Want your callsign under our logo for 3 months on page 1? Donate a ream of paper to print WATTS!**

Foxhunters trap 144,300MHz intruders

On Saturday 25 March 6 hunters started out from their respective QTH's to get a fix on consistent transmissions on that channel. Thanks to Pieter ZR6AHT and Hans ZR6HVG who persevered after dark till 9pm, GPS fixes were obtained north of Pretoria. Currently no detail can be given until the proper channels have been notified and action taken. Members will be informed as soon as possible.

ERP - What's that?

This is an acronym for Effective Radiated Power and often used to indicate what a transmitter system, *including its antenna gain*, can radiate out into a medium.

A good antenna can 'multiply' your transmitter power by a factor equivalent to its numerical gain and your distance attainable is dependent on the product of:

$$\text{power} \times \text{antenna gain.}$$

The power so radiated from a fixed location can be visualized as radiating into the inner surface of a sphere and the power per square meter on that surface is then:

$$\frac{\text{ERP}}{\text{surface area}} = \frac{\text{ERP}}{4\pi r^2} = \frac{(\text{Vreceived})^2}{120\pi} \text{ Watts/m}^2$$

where $120\pi = 377$ is the impedance of free space in ohms.

The table shown has calculated values for a 100W transmitter used with various antennas.

When doing a budget for fixed links, then the effective signal received over a known distance must also take into account the receiver antenna gain and can thus make the transmitter requirements even less if the antennas are properly aligned to each other.

Antenna dB gain	numerical gain	ERP Watts with 100W TX
1	1,20	120
2	1,60	160
3	2,10	210
4	2,50	250
5	3,20	320
6	4,00	400
7	5,10	510
8	6,30	630
9	8,00	800
10	10,2	1020
11	12,6	1260
12	15,9	1590
13	20,0	2000
14	25,1	2510
15	31,6	3160
16	39,9	3990
17	50,2	5020
18	63,3	6330
19	79,5	7950
20	100	10000

TUNING YOUR TUBE LINEAR AMPLIFIER

Wynand ZS6RF

Step 1: Switch on the amplifier and allow for all the timing circuits to commence and warming of the tube/s. There is no harm in allowing tube/s not in need of warm up to also stabilize. While waiting do have a look at the metering to confirm the plate voltage (HT) and that no current fluctuations which can point to parasitics in the amplifier are shown on any meter.

Step 2: If the amplifier has a switch for low or high voltage set it on the voltage mode you intend to use on air.

Step 3: Set the exciter to the level that increases the plate current to twice that of the idle current level.

Step 4: If known, preset the amplifier to the manufacturers suggested settings, Set the exciter to CW/RTTY mode, ready to start transmitting a "string of CW "dits" (less taxing) or RTTY (more taxing).

Step 5: Transmit starting at low power while "dipping" the plate current as this resonate the plate circuit. Keep an eye on the grid current not to exceed the tube/s rating. Remember to give the tubes a rest period every few minutes.

Step 6: While still transmitting, tune the load control, for "peak" RF output. Remember to again give the tubes a rest period every few minutes.

Step 7: Repeat this cycle by increasing the exciter's output to increase the plate current with the same increment as the initial plate current increase. Do this each tuning session until the maximum plate current is reached.

Step 8: Leave all settings where they are. Tune the "load" control to just "over-couple" the amp loading. Loading is increased by reducing the load capacitor capacitance. This will result in some lower power output and a decrease in grid current but a dramatic increase in tube life.

Step 9: Switch the exciter to the mode that you wish to operate on.

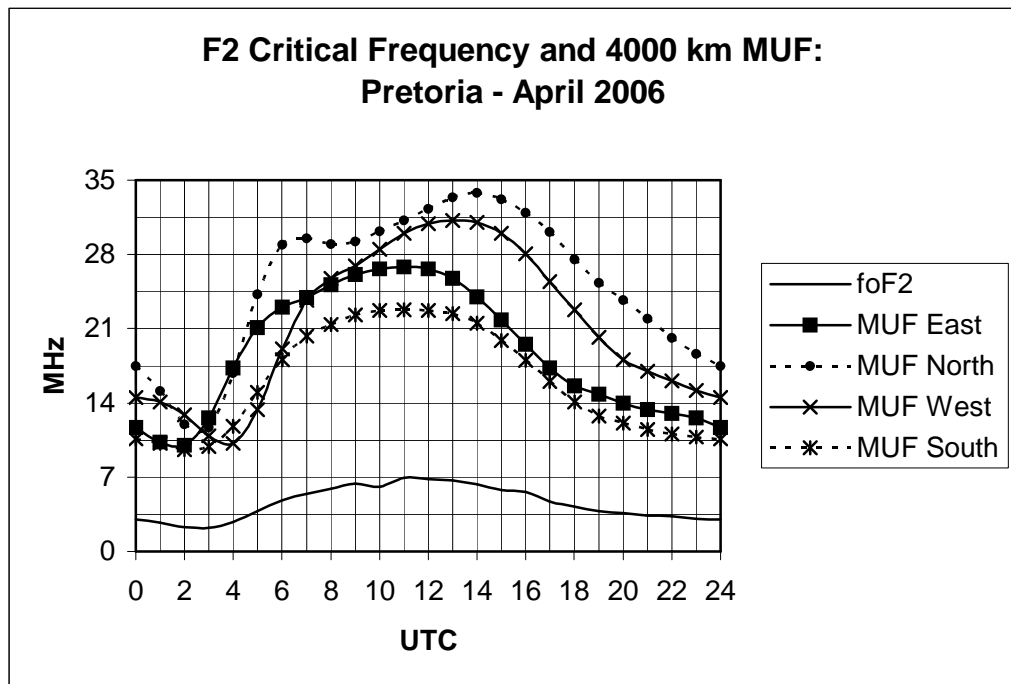
Step 10: If lower output from the amplifier is desired, *reduce the RF drive power*. Do not be tempted to change the voltage (if such an option is provided) as this requires a complete retune at the new voltage level.

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.



From the Web: BPL in Tshwane is on.

Tshwane is widely considered the leader when it comes to municipal telecoms, and when one looks at their infrastructure and projects it is not difficult to see why.

This municipality has developed an extensive fiber infrastructure and is now starting to build telecoms services on this foundation.

One of the most exciting developments is the Rooiwal Broadband Village project where all the houses in this town have been furnished with a 4 Mbps broadband connection. These connections are 4 times faster than Telkom's fastest DSL offering, and make use of Broadband over Power Line (BPL) technology.

The traffic is carried over 28 km of Tshwane's fiber network while the last mile connectivity is provided through the existing power cabling. The full BPL network has a theoretical capacity of up to 200 Mbps.

Charles Kuun, Manager of the Tshwane Digital Hub, says that the project is a great success. He pointed out that users utilize these fast broadband connections for anything from research to entertainment.

This project has proven to be so successful that Tshwane is now preparing for commercial launch in the East of Pretoria. Specifics surrounding this project are not public knowledge yet, but if Rooiwal is anything to go by residents of this city are sure to benefit from the innovation by Kuun and others.

The Tshwane Metropolitan Area Network (MAN) is however not only sticking to fixed networks, and based its developments on wireline, wireless and powerline (PLC, BPL) communications.

Tshwane aims to establish integrated broadband networks creating an effective broadband cloud over the city. They further plan to provide free Internet points and would like every citizen to have an email address and a means to access their mail.

This may seem like a very ambitious aim, but Tshwane is working with various interested parties to ensure its success. With their extensive fiber network and the innovative use of existing technologies it is not far fetched at all.

Many other cities in South Africa are moving in the same direction, and these municipal developments are one avenue which may just prove to be the solution to South Africa's broadband dilemma.

----- PRODUCTS AND SERVICES FROM OUR MEMBERS -----

ICOM in Pretoria: Pine ZS6OB has most of the whole ICOM line-up for demo/sale at his QRA. Phone 082-447-7823

VHF/UHF antennas: Pine ZS6OB builds to your requirements. Best performance and materials guaranteed.

Battery condition indicator kits: Roy ZS6XN has 3-LED indicator kits available at R20 each. Phone 012-547-0280

Connectors and adapters, legal limit 40m traps, Nissei SWR/wattmeters and component bargains: Hans ZS6KR always has stock. Also **Radio Protection kits:** Build this over-voltage sensing electronic circuit breaker into your 12V supply and prevent 12V radio burn-out in case of supply series-transistor failure. Phone 012-333-2612.

1930

This one cost a few weeks' wages...

Osram Valves

Type D.A.60.

The OSRAM D.A.60 is a Power Amplifying Valve fitted with a dull emitter filament of generous emission and a molybdenum anode. It is rated to dissipate continuously a D.C. power equivalent of 60 watts at the anode at 500 volts. When operated under maximum conditions the anode will be normally at red heat and provision should be made for sufficient air circulation to prevent overheating.



Dimensions :

*Overall length (including pins)
205 m/m.*

*Maximum diameter of bulb
78 m/m.*

Price £7

Profound thoughts..

- Who was the first person to look at a cow and say, "I think I'll squeeze these pink dangly things, here and see what comes out?"

- Who was the first person to say, "See that chicken there...I am gonna eat the first thing that comes out of its bum."

- Do illiterate people get the full effect of alphabet soup?

- Did you ever notice that when you blow in a dog's face it gets mad at you, but when you take it on a car ride it sticks its head out the window?

- Did you ever wonder why you gave me your e-mail address in the first place?

A passenger in a taxi leaned over to ask the driver a question and tapped him on the shoulder. The driver screamed, lost control of the cab, nearly hit a bus, drove up over the curb, and stopped just inches from a large plate glass window.

For a few moments everything was silent in the cab, and then the still shaking driver said, "I'm sorry but you scared the daylights out of me."

The frightened passenger apologized to the driver and said he didn't realize a mere tap on the shoulder could frighten him so much.

The driver replied, "No, no, I'm sorry, it's entirely my fault. Today is my first day driving a cab.... I've been driving a hearse for the last 25 years.

Justice was done?



RULE OF THUMB FOR VHF/UHF

☞ Ground everything in sight;

If you can't ground it, bypass it;

If you can't bypass it, shield it;

If you can't shield it, forget it.

If you can't forget it, go back to the low bands

Dennis McCormack, K1PLX, Winchester, Mass.