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# WATTS

06 - 2008

Year 78 +6m

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.zs6pta.org.za> mail:[zs6pta@zs6pta.org.za](mailto:zs6pta@zs6pta.org.za)

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

Relays : 1840, 3700, 7066, 10135, 14235, 51400, 438825, 1297000kHz

Activated frequencies are announced prior to bulletins

Swapshop:Live on-air after bulletin 2m and 40m

Bulletin repeats | herhalings : Mondays 19:45 on 145,725 MHz

## Craig ZS6RH receives the 2008 Nokia-Siemens Networks Radio Community Service Award. In recognition of establishing a diversity reception repeater system.

16 May 2008



### In this issue

- Minutes 14 May Notules
- Member's pages Lede-bladsye
- Member activities Lede-bedrywighede
- Simple Icom CI-V interface
- Technical items Tegniese items
- Transistors 60 years old
- Page eight Bladsy agt

### In hierdie uitgawe

### Next Meeting 14 June 2008

Time: 13:30 for 14:00  
PARC Clubhouse  
South Campus  
University of Pretoria  
SE cnr University and  
Lynnwood roads

## PARC Management team / Bestuurspan Oct. 2007- Sept 2008:

Committee members

<b>Chairman,</b> Fleamarkets	Almero Dupisani	ZS6LDP	<a href="mailto:chairman@zs6pta.org.za">chairman@zs6pta.org.za</a>	012-567-3722	082-908-3359
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<b>Treasurer,</b> Database, DF hunts	Richard Peer	ZS6UK	<a href="mailto:treasurer@zs6pta.org.za">treasurer@zs6pta.org.za</a>	012-333-0612	082-651-6556
<b>Repeaters, Technical</b>	Craig Symington	ZS6RH	<a href="mailto:technical@zs6pta.org.za">technical@zs6pta.org.za</a>	083-259-3233	083-259-3233
<b>SARL liaison</b>	Pierre Holtzhausen	ZS6PJH	<a href="mailto:zs6pjh@qtsp.co.za">zs6pjh@qtsp.co.za</a>	012-655-0726	082-575-5799

Co-opted / Geko-opteer:

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<b>Public Relations</b>	Graham Reid	ZR6GJR	<a href="mailto:greid@wol.co.za">greid@wol.co.za</a>		083-701-0511
	Thobile Koni	ZS6TKO	<a href="mailto:toko40@mweb.co.za">toko40@mweb.co.za</a>		082-493-2483
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	Doreen de Bruyn	ZR6DDB		012-803-7385	082-857-9691

## Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 14 May 2008

**Welcome / Verwelkoming :** Almero ZS6LDP welcomed all present and declared the meeting open .

**Attendance / Bywoning :** The meeting was attend by 18 members and 1 visitor.

**Apologies / Verskonings :** Apologies were received from Bill ZS6KO, Pine ZS6OB, Hillary ZR6HAL, Pieter ZS6PVW, Magda ZS6MVW, Lizette ZR6LHT and Helen ZS-2507.

**Personal Matters / Lief en Leed :** Jean ZS6ARA se vader is tans in 'n sorgsentrum. Helen junior van Roy ZS6XN, gaan volgende week die RAE aflê.

**Minutes of the previous meeting / Notule van vorige vergadering :**

The minutes of the previous meeting as published in Watts were approved .

Proposed by Roy ZS6XN and seconded by ALF ZS6ABA

**Matters arising from previous minutes :**

Membership cards. – Johan ZS6JHB requested an updated membership list to finalise the printing of the cards.

### Club activities / Klub akitiwiteite

**Tydrenne :** Johan ZS6JHB – Die volgende tydren vind plaas op 17 Mei in Tzaneen. Klublede wat betrokke is met verskaffing van die kommunikasie netwerk is JB ZR6YV, Tony Crowder ZS6CRO en Pierre ZS6PJH.

Die volgende Nasionale byeenkoms, die Total Tydren, vind plaas op 29 – 31 Mei in die Ermelo omgewing. Johan ZS6JHB het almal bedank wat hulle dienste aangebied het. Sodra die akkomodasie gefinaliseer is sal Johan die lede kontak en hulle inlig van wanneer die inligtingvergadering sal plaasvind.

**Social / Sosiaal :**

Daar word beplan om n bring en braai te reël na afloop van die volgende klubvergadering wat Saterdag 14 Junie sal plaasvind. Alle klub lede en hul families is welkom om die braai by te woon .

**Foxhunt / Jakkalsjag :** Richard ZS6UK will announce the date of the next foxhunt on the club's bulletin .

**Financial report / Finansies :** Richard ZS6UK reported on the club's finances .

**Technical / Tegnies :** No technical report as Craig ZS6RH just returned from a holiday in New Zealand.

**Fleamarket / Vlooiemark :** Almero ZS6LDP het berig dat die volgende vlooiemark sal plaasvind op 26 July 2008 by die klubhuis.

**Projects :** Roy ZS6XN informed the meeting that he has available 3-LED Voltage monitors as well as 10 LED monitor/charger kits. If you are interested please contact Roy. Contact details available in WATTS.

**Ham Diary / Dagboek van gebeure :** Details available on SARL web site.

**Presentation :** Hans ZS6KR showed a video on the history of television as there was no one available to do a presentation.

**General :** Hans showed off the club's new website. Very impressive! Go to [www.parc.org.za](http://www.parc.org.za) to have look.

**Next meeting / Volgende vergadering :** 14 Junie 2008.

**Closure / Sluiting :** The meeting closed at 21.55.

## Editorial

Please tell everyone about our website and consider contributing (posting) something yourself that can be of use to others as well as any swaps you want to advertise. Check out the inactive members list and encourage anyone you know to join again for the coming financial year. This means membership to the end of July 2009. Is your face already in the gallery? See if you can post one yourself or else send a photo(jpg) to this editor.

## Redaksioneel

Vertel asb van ons webwerf aan almal wat u ken en oorweeg dit om self ook iets by te dra (pos) wat kan nuttig wees vir ander sowel as enige ruil-items wat u wil adverteer. Kyk by die onaktiewe ledelys en moedig enigiemand aan wat u ken om weer by ons aan te sluit vir die komende finansiële jaar. Dit beteken lidmaatskap tot eind Junie 2009. Is u gesig in die galery? Kyk of u dit self een kan pos of anders stuur 'n foto(jpg) waarin u gesig voorkom vir hierdie redakteur.

## Birthdays

## June Verjaarsdae



06 Simon ZS6AST  
 07 Claus ZR6CMU  
 07 Chantel, dogter van Martie en 'JB' ZR6YV  
 08 Ronel, sw van Pieter ZR6PSR  
 11 Nadia, daughter of Pat ZR6AVC and Frank ZS6GE  
 14 Attie ZR6REY  
 14 Hilary ZR6HAP, daughter of Molly ZR6MOL and Richard ZS6UK  
 17 Lynette ZR6LHT, dogter van Elize en Pieter ZR6AHT  
 20 Malcolm ZR6OLM, son of Retha and Roy ZS6XN  
 22 Richard ZS6UK  
 23 Annemie, dogter van Bernice en Pieter ZR6KSA  
 26 Pieter ZR6PSR

Junie

## Anniversaries Herdenkings

24 Marieta and Roy ZS6MI (37)

27 Emil ZS6EGB  
 27 Jac ZS6QA  
 27 Selma, sw of Joe ZS6TB

**July** 01 Craig, son of Gordon ZS6AGV  
 05 Lynette, daughter of Bill ZS6KO  
 06 Anniversary of Julie and Paul ZS6BMF (45)  
 06 Helen ZS6-2507, daughter of Retha and Roy XN

## Joys and Sorrows | Lief en Leed

**Jean ZS6ARA** se pa is in versorging geplaas.  
**Pine ZS6OB** se lv Erika is onwel en onder behandeling  
**Mike ZS6AFG** is nearing the end of his treatments

## Nuwe Lede | New members

applications

**ZS6MEG** Mike Brink ex ZR6RBI  
**ZS6WVT** Willem van tonder  
**ZS6AC** Sarel Nienaber

## PARC SUBS / LEDEGELD 30-06-2008

Please remit your subs in  
 time to our treasurer or  
 by transfer to:

Betaal asb. u ledegeld  
 betyds aan ons tesourier  
 of per oorpasing aan:

**Bank : FNB Ordinary members/ gewone lede R70**  
**Branch : 25 20 45 Spouses, pensioners R50**  
**Account : 546 000 426 73**  
**Your call sign must appear as statement text!**

## Diary | Dagboek (UTC times)

**June** 07-08 IARU Region 1 Field Day CW 1500-1459  
**14 PARC Saturday afternoon Club meeting**  
 14 Portugal Day contest 0000-2400  
 16 SARL Youth for Amateur Radio  
 21-22 All-Asian DX Contest CW 0000-2400  
 28-29 Ukranian Digi-contest 1200-1200  
 28-29 His Majesty King of Spain Contest SSB 1200-1200  
 28-29 Marconi Memorial HF Contest 1400-1400  
 28-29 ARRL Field Day  
**July 09 PARC Wednesday evening Club meeting**

## FUTURE MEETING DATES

**Even months: Saturdays 14:00**      **Odd months: Wednesdays 20:00**

Jun	14	2008			
Aug	09	2008		Jul	09
Oct	11	2008		Sept	10
Dec	13	2008		Nov	12

## Snippets | Brokkies

- **QSL's from SARL HQ** now require members to send DL or B5 pre-paid Post-Office self addressed envelopes.
- **PARC again made 1<sup>st</sup> place in the SARL 15-16 march VHF contest** with 54 682 pts – 5 times more than the nearest contender! Knap gedaan ZR6AHT, ZR6HVG, ZS6PJH, ZR6LHT, ZR6WGR. Desondanks die slegte weer en vroeë aftog het julle fantasies geprester.
- At the recent SARL AGM two well-deserved **Jack Twine Awards** were conferred on two of our members: **Richard ZS6UK and Johan ZS6JHB**.
- **S.A.M. is sponsoring new membership cards.** Make sure your call sign/name appears on our member's webpage as an "active member" else none will be made for you. *While on that page, please edit in all your correct particulars.*
- **Helen ZS6-2507**, daughter of Roy ZS6XN obtained an RAE A-class pass and still needs to do her HF evaluation. Well done Helen.
- **SARL fees** are also due end July as well as **PARC fees (see box)**. Note the SARL has changed their bank and are now with ABSA branch 632-005 and account number 407-158-8849.

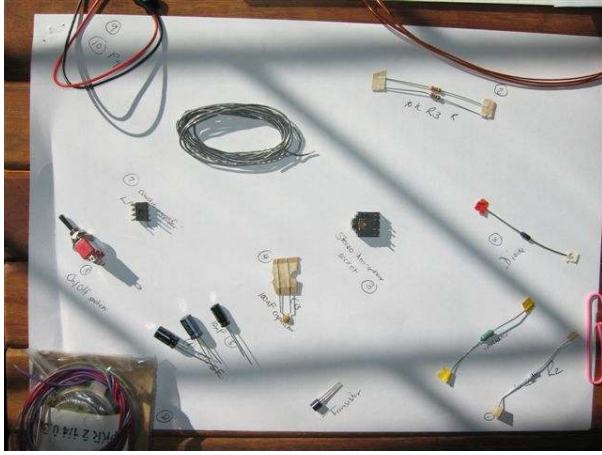
## First in Africa

The Pretoria amateur Radio club has established the first D-Star digital-voice repeater system in Africa operational from the Moreleta repeater site. The first 3-way repeater QSO took place on 16 May between ZS6AQ, ZS6RH and ZS6KR.

*D-STAR (Digital Smart Technology for Amateur Radio) is an open protocol developed by the Japanese government and by the J. A. R. L. Icom is currently the only company manufacturing D-STAR-compatible radios. D-STAR radios can talk directly to each other without any intermediate equipment, or through a repeater using D-STAR voice or data transceivers.*

*The D-STAR system supports two types of digital data streams: The Digital Voice (DV) stream used on 144 and 440 MHz which contains both digitized voice (3600 bps including error correction) and digital data (1200 bps). Using a DV radio is like having both a packet link and FM voice operating simultaneously.*

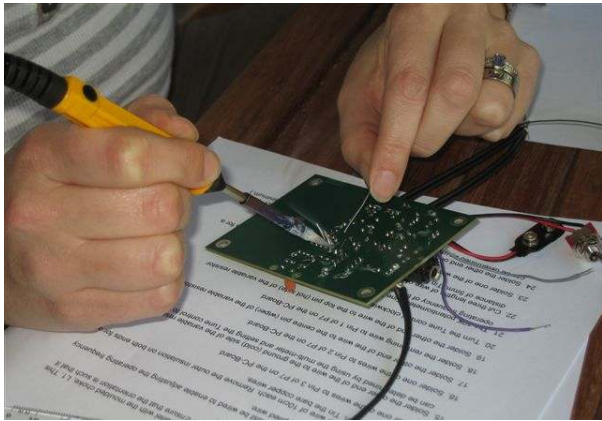
**Estie ZR6STB neem stappe na ZS status en pak 'n 40m ontvanger boustel aan**



**Stap 1: identifiseer komponente**



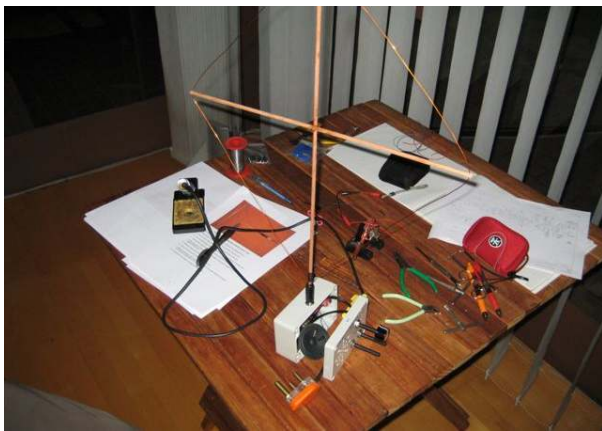
**Stap 2: wat gaan waar**



**Stap3: soldeer alles vas**



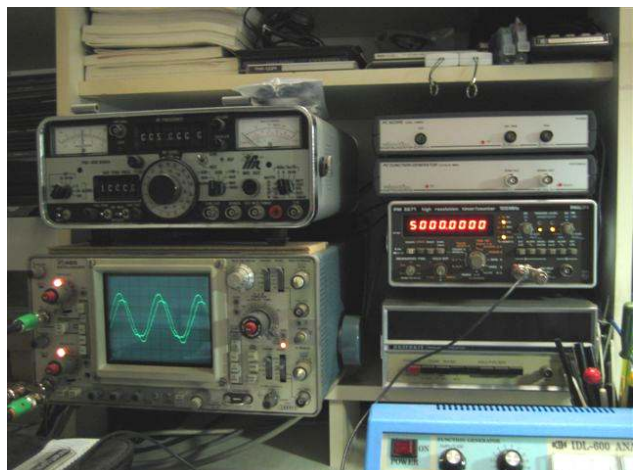
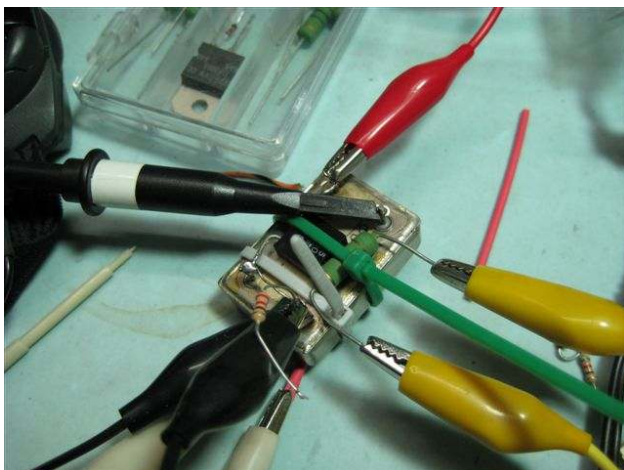
**Stap 4: sny drade af**



**Stap 5: bou in kassie met kontroles en luidspreker, maak antenna en... dit werk!**

**Stap 6: Nou vir die beoordeling...**

**Doppies ZS6BAQ is experimenting to stabilize a commercial 5MHz oscillator for calibration and shack use by virtue of oven control. The left photo shows an initial experiment with a (green) resistor as heating element and a (black) thermistor next to it attached to the module. The right photo shows comparison with a GPS derived signal during short and long term stability tests.**

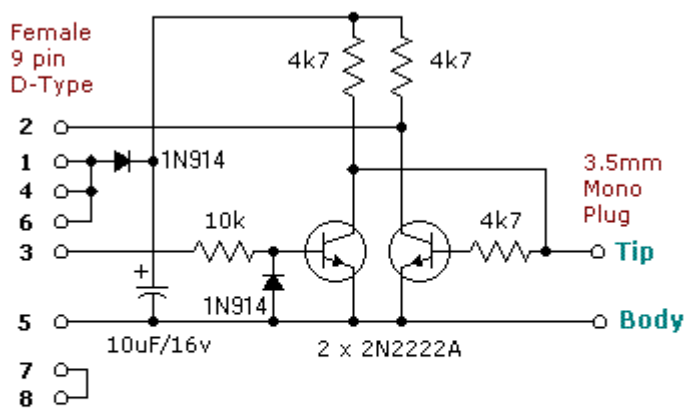


# Simple ICOM CI-V Interface

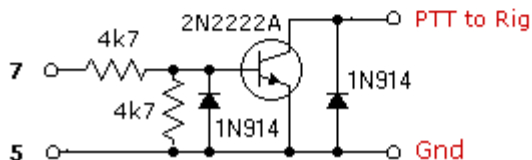
published on the web by **G3VGR**



Icom CI-V Interface



Additional Circuitry to provide PTT from RTS



Icom appears to delight in charging outrageous prices for all transceiver accessories, so many Hams improvise instead. A few circuits have been published for CI-V interfaces, most of which use the MAX232 IC. Here is a very simple CI-V interface, originally described by [OK2WY](#). I've made small changes to the modem control signals connections. Although the circuit doesn't conform exactly to the RS-232 specification, it does work well and has the advantage of being easily constructed inside a 9 pin D-type shell. Please note that the resistor value 4K7 means 4700 ohms. The transistor types are not critical, I just happen to have plenty of 2N2222As.

I've used this interface on various PC's and also Dell Latitude Notebooks with both an IC735 and IC706MkIIG. No problems have been experienced even at 19200 baud with the IC706. It has also worked successfully when using a USB/Serial adapter from a notebook. If a PTT function is required from the COM port, pin 7 (RTS) can be used to provide this facility.

The circuit is powered by DTR (pin4). I experienced some problems with YPLog using this power source. If YPLog is configured to use PTT from either the Parallel port or a different serial port from the one used by the CI-V Interface, the program drops the DTR signal, resulting in no power to the interface. This is easily resolved by powering the circuit from RTS (pin 7) instead of DTR (pin4).

**Disclaimer:** Although I have tested and used the above circuit on my own IC735 and IC706mkIIG with no problems, I do not make any representation or guarantee that this circuit will function, nor do I accept any responsibility whatsoever for any damage or malfunction arising from the use of this circuit.

Here are some links to software for use with CI-V controlled Icom rigs:

[CI-V Test by DF4OR](#)

- Freeware program to test CI-V bus

[CI-V Commander by AA6YQ](#)

- Freeware program to control Icom rigs and monitor CI-V bus

[RadioComm by KE7ZZ](#)

- Careware program to control and load memories of Icom rigs

[IC706 Memory Manager by G4FEV](#)

- Freeware program to load IC706 memories

[YPLOG by VE6YP](#)

- Shareware Icom Rig control and logging program

## Dayton Hamvention 2008 – New Products

1. ICOM launched a new rugged HF radio the IC-7200 and also an new handheld receiver
2. Yaesu launched a new quad-band handheld the VX-8
3. TenTec launched a new release of the Jupiter Radio
4. Heil launched a new directional microphone
5. Marconi launched a new radio kit
6. Timewave launched two new BlueTooth radio control and interface products

## TRANSISTORS 60 YEARS OLD:

(Article lifted from NARL Newsletter)

## EUROPE AND THE SEMICONDUCTOR.

by Pat Hawker G3VA With acknowledgement to RadCom

In the UK, germanium point-contact transistors began to appear in research laboratories about 1951. GEC produced GET1, GET2 etc. devices using germanium refined from chimney flues. Mullard, owned by Philips, marketed low-cost alloy-junction transistors (probably made in Nymegen) in the mid-1950s as the OC44, OC45 RF types and OC71, OC72 AF types, and OC16 power type.

The first MW/LW transistor radio to appear on the UK market, in June 1956, was the Pam Model 710, a brand of Pye, using eight transistors made by Newmarket Transistors Ltd, a subsidiary of Pye, with an I F of 315kHz. The following year, Pye marketed, under their own name, a table receiver (Model 123).

The first British firm to concentrate solely on transistor sets, including miniaturised components, was Perdio, formed in 1955. Their first receiver, the PR-1, was shown at the 1957 Earls Court Radio Show but initially suffered component failures, not overcome until about 1958/9.

Although the vast majority of UK amateurs remained committed to all-valve equipment throughout the 1950s and early 1960s, the availability of alloy-junction transistors that could oscillate at MF and low HF soon began to attract experimental interest. Early in February 1954, Tony Cockle, G3IEE, using a 1.8MHz transmitter (Figure 4) based on a single Mullard OC50 with an input of 30mW (described in the RSGB Bulletin, March 1954) made contact with a number of local stations, the first with G3DAZ at a distance of 2 miles.

On 21 February, 1954, the Yeovil Amateur Radio Club station, G3CMH, made an un-arranged 3.5MHz CW sky-wave contact with G3CAZ in Haslemere, at a distance of some 90 miles, using a p-n-p point contact transistor in a crystal-controlled, negative-resistance oscillator designed by C G Banbury, BRS 20100 and described in the RSGB Bulletin April 1954, see also Radio Communication, February 1994, p5.

Other reports of QRP transistor transmitters soon followed. During the night of April 19-20 1954, G3CCA of Leicester made a number of 1.8MHz contacts, using a transistor oscillator with an input of 50mW, including stations in Harlow, Essex, Littlehampton and Liverpool. During a contact with G3ERN (Harlow) at a distance of 100 miles, G3CCA made possibly the first transistor DX 'phone contact using a modulator consisting of five GET1 transistors.

In A Guide to Amateur Radio (6th edition, 1958), I included an illustration captioned "Transistors now offer many exciting possibilities for fresh experimental work. Here is a low power, two-stage transmitter with which G3CCA successfully spanned the North Sea in 1954."

By the time that 'T1' began in April 1958, transistors were established as devices that could be used for many purposes. The very first diagram ever in 'T1' was of a simple transistorised CW monitor, using an AF transistor oscillator powered from rectified RF pick-up (Figure 5).

The 1950s and 1960s saw the availability of an increasingly wide range of semiconductor devices, including silicon transistors and diodes, JFETs, dual-gate MOSFETs, CMOS, VMOS, Zener diodes, varactors etc.

Small-signal p-n-p and n-p-n transistors became available at lower cost than thermionic valves. The silicon BYF51 as an oscillator could deliver 1 W RF output (Figure 6). Hybrid and all-transistor communications receivers and hybrid transceivers began to appear on the market in the mid-1960s.

Bipolar silicon transistors and MOSFETs capable of increasing power output at up to 30M Hz became available at some cost; low-cost VMOS devices could provide some watts of RF on the lower part of the HF spectrum.

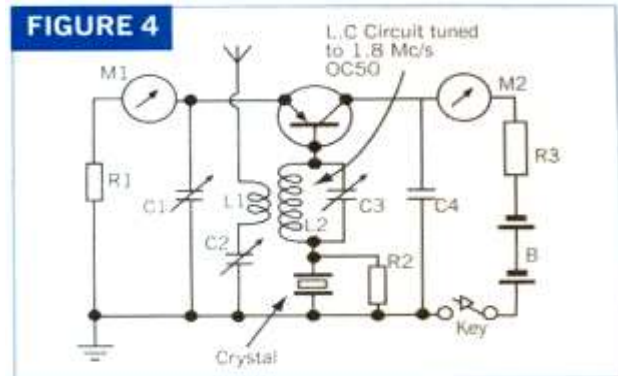


Figure 4: Circuit diagram of G3IEE's 1954 QRP transmitter with which he made local contacts early February 1954 using a 30V hearing-aid battery.

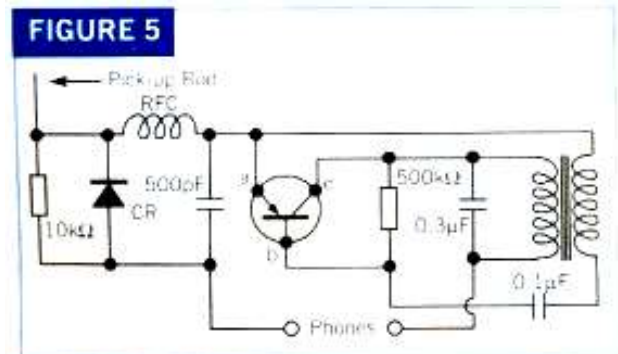


Figure 5: The first diagram ever to appear in 'TT' (April 1958), showing a simple CW monitor originally described by a German amateur in DL-QTC.

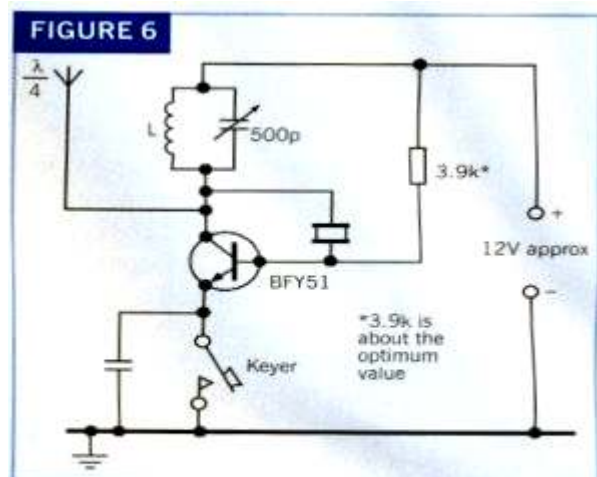


Figure 6: By the early 1970s, amateurs were using BFY51 silicon n-p-n devices in oscillator-transmitters providing about 1W output.

Progress is still continuing. 'TT' has reported on a German solid-state transceiver with an output of 600 watts; a description in QEX by JEIBLI and JAll DJW amateurs of a 1.5kW linear using two ARF1500 devices in push-pull; a similar design is being marketed by Tokyo Hy-Power as the HL-2.5KFX. Freescale Semiconductors has recently introduced their MRF6VP11 KH dual LDMOSFET which can deliver 1 kW pulsed output (duty cycle 20%) at 130M Hz intended for use in MRI medical systems.

Yet, for various reasons, many amateurs, at least until the late 1970s, still preferred to use valves, particularly for home construction. Valves seemed more familiar, less vulnerable to over-voltages; with more consistent and better-defined characteristics. This feeling gradually lessened but, for a few of us, has never entirely disappeared. The difficulty of handling the latest generation of tiny surface-mounted components, with their many pin-outs, has revived interest in discrete components, and even, to some extent, in the 'obsolete' thermionic valve.

In 'TT' (October 2007, p82) I noted that Peter Chadwick, G3RZp, claimed that July 2007 had seen the 50th anniversary of the opening by Plessey Semiconductors of the Cheney Manor plant in Swindon, which was Europe's first purpose-built semiconductor facility. It was a joint effort with Philco for making surface-barrier transistors, the first type of transistor capable of working up to VHF. This device had first appeared in 1954.

This brought the following comment from Gerald Drijver, PG2D: "In my opinion this [claim] is not correct. I claim that the Philips Semiconductor Facility in Nijmegen was the first European purpose-built semiconductor plant." He explains: "I started my professional career as an electronics engineer in semiconductor development at Philips in Eindhoven, The Netherlands, in April 1954. In October 1953, Philips started a semiconductor production department in the basement of the Twentse Bank (later ABNAMRO) building in the city of Nijmegen and at the same time began building there a new factory for that purpose. The alreadyrunning production moved into the new building at the end of 1954. The development laboratory (including me) moved from Eindhoven to the new building in Nijmegen about 19 January 1955, by which time two production buildings, the laboratory and administrative-building were ready. The official opening by the Dutch Minister of Economic Affairs was on 12 July 1955. I retired on 30 November 1988, after almost 35 years in semiconductor development. "

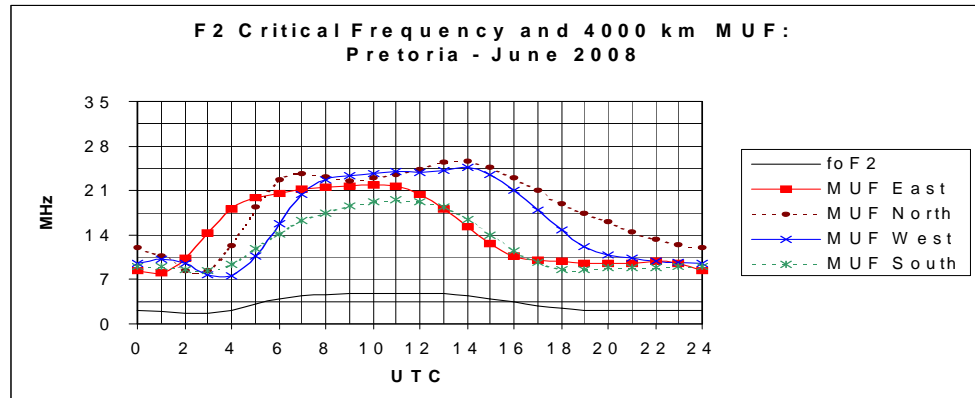
## Long Term HF Propagation Prediction for June 2008 (courtesy Vince ZS6BTY)

### 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 straight up. E-layer reflection is not shown.



### ITALY GAINS NEW FREQUENCIES

(from 25 Bulletin)

Effective 13 May 2008, Italian amateur radio operators are authorized to use 7100-7200 kHz (for the time being on a secondary basis), using a total radiated power not exceeding 24 dBW.

### Roy ZS6XN still has these projects available

**3LED monitor - R20.00,**

**10 LED with charger controller R170.00.**

See details under Tech Projects on our website.



## Amateur Electronic Supplies

Your Affordable Amateur Radio Dealer

Johan Lehmann ZS6JPL

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aesham@telkomsa.net



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



## IMPORTANT CHANGE TO OUR WEBSITE SWAP SHOP POLICY

Swap shop postings are now open to all amateurs - whether club members or not - on a trial basis.

This is to entice a broader spectrum of advertisers - and dealers of any related equipment.

Management will however immediately remove spammers and nonsense adverts.



**KILLER BISCUITS WANTED FOR ATTEMPTED MURDER**  
*(the actual AP headline)*

Lisa Burnett, 23, a resident of San Diego, was visiting her in-laws, and while there went to a nearby supermarket to pick up some groceries. Several people noticed her sitting in her car with the windows rolled up and with her eyes closed, with both hands behind the back of her head. One customer who had been at the store for a while became concerned and walked over to the car. He noticed that Lisa's eyes were now open, and she looked very strange. He asked her if she was okay, and Lisa replied that she'd been shot in the back of the head, and had been holding her brains in for over an hour. The man called the paramedics, who broke into the car because the doors were locked and Lisa refused to remove her hands from her head. When they finally got in, they found that Lisa had a wad of bread dough on the back of her head. A Pillsbury biscuit canister had exploded from the heat, making loud noise that sounded like a gunshot, and the wad of dough hit her in the back of her head. When she reached back to find out what it was, she felt the dough and thought it was her brains. She initially passed out, but quickly recovered and tried to behold her brains in for over an hour until someone noticed and came to her aid. Lisa is blonde.

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**Amazingly simple home remedies**

Avoid cutting yourself when slicing vegetables by getting someone else to hold the veggies while you chop.

For high blood pressure sufferers: Simply cut yourself and bleed a few minutes, thus reducing the pressure. Remember to use a timer.

A mouse trap placed on top of your alarm clock will prevent you from rolling over and going back to sleep after you hit the snooze button.

If you have a bad cough, take a large dose of laxatives – you will afraid to cough.

File: 1200422105.jpg - (8 KB, 200x267)

01/15/08 (Tue) 13:35:05 No. 51026198 [Reply] [Quick Reply] !



A week ago I bought this 32GB USB-Stick from some japanese guy on Ebay for \$299  
 Paid immediately by bank-trasfer, good deal!

Today I received it, and found out it's not working.  
 When I shake it, I could hear something rattling inside.

So I decided to open it up, just to find out it was EMPTY!!!

Have I been tricked by this Jap. and if so, how to get back @ him?  
 Comment too long. Click [here](#) to view the full text.

Showing all replies.