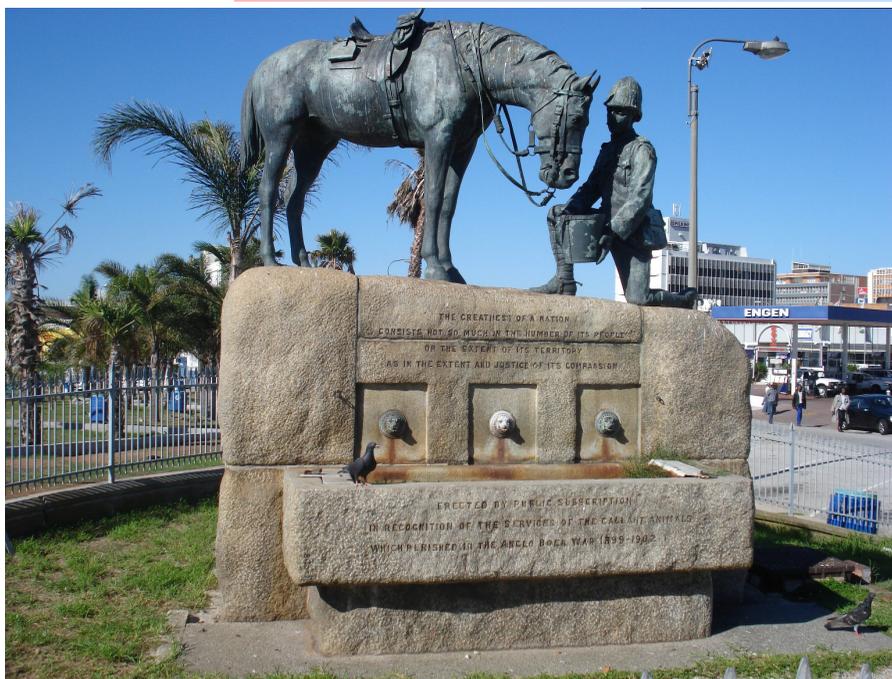


July 2010



See Page 3

This Newsletter is published by the Port Elizabeth Amateur Radio Society
P.O. Box 10402, LINTON GRANGE. 6015

Editing, Composing and Printing by

Ashley ZS2AG

QSX-PE - A Newsletter for the discerning Radio Ham

Download QSX from www.zs2pe.co.za or www.commco.co.za/pears.htm

PEARS Monthly General Meeting

to be held at the Italian Club, in Lorraine at 20H00
on Tuesday the 17th Aug.

Our Guest Speaker will be Beavan ZS2RL on Life in New Zealand and
Australia.

See you there!!!!!!!!!!!!!!!!!!!!!!

WRINKLY RAVERS

The next regular monthly lunchtime meeting of the Wrinklies will take place on Thursday the 5th Aug. You will only be excused if you have a "more" important appointment, or you do not have any wrinkles. Come join the folks at Legacy in the Garden Shopping Centre for some tremendous company and fun, whether you have

From the Chairman



Its that time of the year again and the Volkswagen Rally is here. For those of you who have participated in providing the communication for this event in the past know just how exciting it is to be part of it. If you have not got yourselves involved yet, and if Tony ZR2TX is still in need of helpers, please get yourselves involved. It is a great days outing, even if you accompany another Ham to get the feel of things so that next time you will be ready to participate.

There is a tremendous amount of preparation for this even with Tony ZR2TX and Beavan ZS2RL doing the organising and paper work, and Chris ZS2AAW and Glen ZS2GV making sure that the repeaters are in ship shape for this event. A big thank you to them as well as to all of you who have volunteered for the many duties. Without you it will not be a success. Let us keep the PEARS flag flying.

73

Ashley ZS2AG

ECARES News

With the changes to Hamnet and Ecares as announced in the June issue of QSX comes an update on monitoring and contact information. With the WCS coming to an end, it is gratifying to note that no communication emergency arose requiring input from radio amateurs. Monitoring and comms checks took place throughout the W.C.S and readiness was maintained. Herewith a listing of useful telephone numbers and radio channels.

Al Akers ZS2U - 041-3602983, Ken ZS2OC 0832751771, Police 10111, Amhulance 10177, Fire & Emergency 041-5851555, NSRI 041 -585601, Ambulance (Netcare 911)-082-911, Radio Channels 80m 3760kHz, 40m 7060kHz and Local repeaters.

73's KEN ZS2OC

MINUTES OF P.E. AMATEUR RADIO SOCIETY MONTHLY MEETING

Held in the Italian Sporting Club on Tuesday 15th June 2010 at 20h00

Present: ZS2AG Ashley Chairman, ZS2AAW Chris vice chairman, ZS2GV Glen Secretary, ZS2RT Clive Treasurer, ZR2BA Basie PR, ZS2ABZ Bill Social.

Members as per the attendance register

Apologies: ZR2TX

Financial Report: The Treasurer reported that there is still money in the bank.

Minutes of the April meeting were proposed by Paul ZS2PG and accepted by Allan ZS2BO.

Chris gave a short report on the state of the repeaters. Cradock dropped out this morning for some reason. The HF rig is up and running on Slipper, but only in rx mode due to balun issues.

Activities: Theunis has applied to make use of the light house at Cape st Francis.

Please make a note of the dates for the VW rally: 23 – 24 July.

It was unanimously decided that Chris be given funds to replace the batteries at the Longmore repeater site.

The evening closed with a talk and slide show by Ashley on his visit to the Studebaker museum in the states.

MY RADIO MEMOIRS – Part 9a

By Mike Bosch ZS2FM

mcbosch@telkomsa.net

TROPO DUCTING ACROSS THE INDIAN OCEAN

For many years the most difficult mode of radio amateur operation was EME; it required very high gain antenna arrays, low noise receivers and high transmitting power and technical know how. Ever since the advent of digital communications this celestial scene has changed, as it is now possible for many amateurs to work EME with modest equipment even on 50 MHz.

The terrestrial propagation mode that now presents the greatest degree of difficulty is undoubtedly Tropo Ducting across the oceans. Communication on this mode has been accomplished a long time ago between USA and Hawaii on 144, 220 and 432 MHz. But the USA to Japan link has not yet been achieved; nor has it been done between South Africa and Australia. The challenge remains!

In 1988 I arranged with Bill Hosie VK6ACY, in Perth Western Australia, to run skeds on 144 MHz and tackle this challenge. I invited Andre Botes ZS2ACP and Jim France ZS2JF to share the transmitting schedules with me. Andre ZS2ACP is an exceptionally dedicated VHF-er; he progressed from CB in Cape Town to ZR and ended up in Port Elizabeth as a ZS with many satellite and other VHF records to his name. The Trans-Indian Ocean skeds were three hours long and divided into half hour transmitting and listening periods. The three of us transmitted CW for half an hour each to VK6ACY on the West Coast of Australia, and then patiently listened for any faint CW signals from him. We ran these tests for about a month without any success. A few years later, Bill VK6ACY immigrated to South Africa and has been allocated the call sign of ZS6CCY. He was formerly from Salisbury and operated as ZE1DX, where he set up the first EME record in Africa on 144 MHz.

In 1989 Hannes ZS2BE and I successfully worked Peter Sekora, ZS8MI on Marion Island a number of times via Tropo Ducting on 50 MHz. The longest distance of 1758 km was set up between Hannes and Peter. A few years ago Glenn Kraut ZS2GK eclipsed this record on Tropo Ducting, when he established a two-way record of 2875 km with Philippe Mondon FR5DN in Reunion Island on 144 MHz SSB and FM. Recently Glenn and Phil repeated this contact also on the digital mode of JT65b. On 9th February 2010 Andre ZS2ACP and Phil FR5DN improved the digital record to 3205 km; I missed the boat and only tuned in late that evening on USB to hear the piccolo tones of Phil's digital signal fading out.

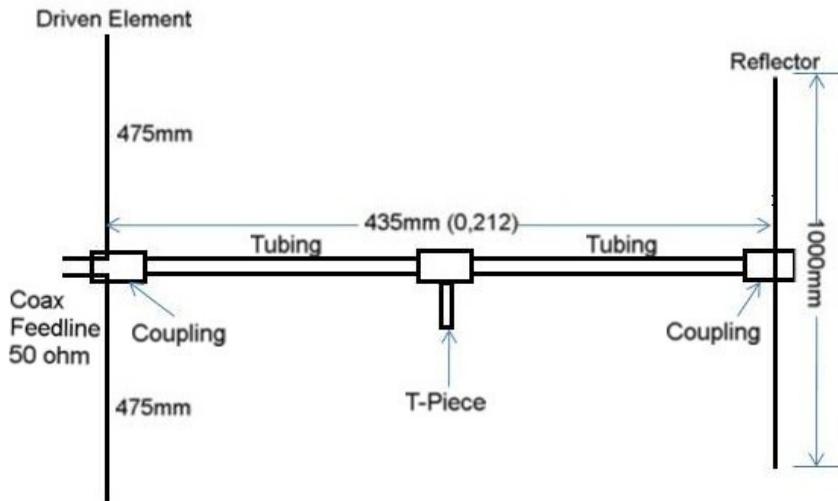
THE PEARS VHF/UHF CONTEST

I have participated in many VHF contests since 1963 and noticed how the rules have been changed over the years and more unnecessary red tape added. In the end my interest started to wane, but I knew that VHF contests were important to encourage VHF operation country-wide. The USA introduced VHF contests as a challenge to make long distance "DX" contacts, and referred to it as a radio sport. It would call for the improvement of equipment and antennas as well as operating skills; but not to make only numerous local contacts that could be accommodated by QSO parties. In view of all this I got the idea of starting a national VHF and UHF contest in Port Elizabeth with simple rules and no red tape.

After some careful consideration it appeared that it would be more effective if it was a club project. So in 1998 I invited Al ZS2U and Garth ZS2HB to join me and formulate the contest rules. It was decided to have dedicated channels for CW, SSB and FM at the bottom end of the VHF and UHF bands and thus eliminate the waste of time looking for other contestants all over the band. After a few arguments we finally agreed on the rules and presented it to PEARS; Beavan Gwilt ZS2RL,

A SIMPLE TWO METRE BEAM

By Al Akers ZS2U



This antenna was developed for those amateurs who would like to have an antenna which performs somewhat better than a half wave dipole, especially for portable use, but do not wish to construct an elaborate multi-element beam with it's associated matching requirements and it's size and time consuming assembly or dismantling.

It is a two element beam, consisting of a driven element which is fed directly in the centre with a coaxial cable, and a reflector. The elements are made of 3 millimetre diameter brazing rods (one metre lengths). The boom is made of 20 millimetre diameter PVC electrical fittings and tubing. There seems to be some variation between different fittings and tubing, so make sure the fittings fit snugly onto the tubing. Dimensions are given in the diagram. The elements are mounted in the middle of one half of the couplings and this half is filled with epoxy resin or similar material to support the elements. Attach a piece of PVC tubing to the top of the mast to be used, and the T-piece is fitted onto this. the antenna itself takes less than a minute to assemble or dismantle. The driven element on it's own can be plugged onto the mast and used as a half wave dipole. Used this way, or as a beam, the measured SWR was 1:2:1 maximum across the tow metre band. Gain is approximately 4 to 5 dB.

Contd from Page 4

chairman of the club, put it to the vote and was accepted.

Our first national VHF/ UHF contest took place under the PEARS banner in January 1999. It was a great success and many divisions participated and we received many compliments and letters including encouraging comments from Barry Murrell ZR6DX (ZS2EX). This success story continued for a number of years. When Suzan and I returned from our holiday in the UK, I noticed that the national support has dwindled and again during the next contest.

When Barry ZS2EZ became contest manager, he promoted the contest over the internet and on the VHF forums. Most of the country experienced very poor weather conditions during the 2009 VHF/UHF contest, its tenth anniversary; nevertheless we had a good turn out including several long distance contacts and a digital record. Dr. Eric Hosten ZS2ECH became the next contest manager and looked after the admin and certificates. Al Akers ZS2U calculated the scores, while Eric and I promoted the 2010 PEARS VHF/UHF contest extensively as a national event. Although rain affected most of the country, yet 127 amateurs were logged from all 6 divisions of the RSA.

13 CENTIMETRES

A few years ago Lionel ZS2DD and I decided to give 1,3 GHz (13 cm) a go, and we planned to construct high level transverters around 2C39A tubes. I was already equipped with a Microwave Modules 1296 MHz converter and a 13 dBd corner reflector beam antenna, but had to complete the transverter with 2C39A's in the final. Unfortunately due to Lionel's ill health and pending move to a townhouse, our microwave experiment never got off the ground. (To be continued)

Ham Radio Outlet-SA cc T/A
HRO-SA Communications
CK: 2005 / 097206 / 23

Agents and Suppliers of: **YAESU**  **KENWOOD**
MFJ  **ICOM**  **hy-gain**

Phone Donovan (ZS2DL) 082 852 4885
Or Barry (ZS2EZ) 071 254 5040

Visit our Website: www.hamradio.co.za



Special Offer: Icom IC 2200H
Price: R2200.00

Office Hours 8:00am—4:30pm (4pm Fridays)

8 Smeeton Road, Framesby, Port Elizabeth, 6008
Tel: +27 41 3600781 Fax: +27 41 3605449 E-mail: sales@hamradio.co.za

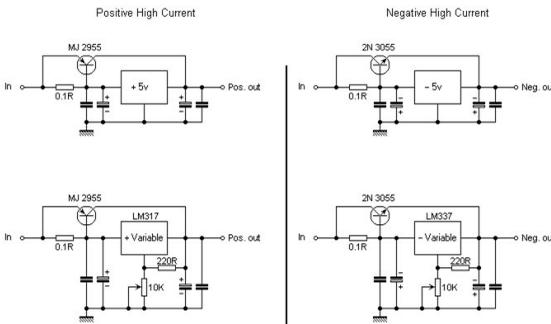
Pearstalk

Grandparents: Alan ZS2BO and XYL Joan ZR2ABA report that their son Andrew ZR2ABB has made them grandparents for the fourth time on the 22nd June.

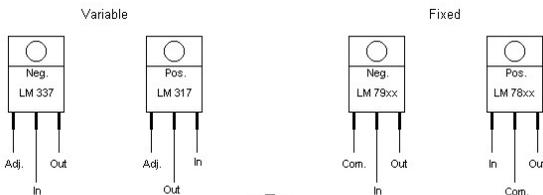
Visiting Daughter: On the 22nd July Alan ZS2BO and Joan ZR2ABA will be visiting their daughter Karen ZR2AAW in Holland, who also had a baby daughter eight months ago.

High-Current PSU's

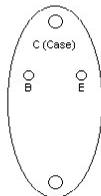
In order to achieve higher output currents it's just a matter of adding a pass transistor to the low-current regulator.



For positive-going voltages use a NPN transistor. A negative voltage output will need a PNP pass transistor. The regulator draws current through the base-emitter junction causing the transistor to conduct. The regulator output voltage is unchanged by the transistor because, in the case of a positive-going voltage, the collector is connected directly to the regulator output.



MJ 2955 / 2N3055
Viewed from rear



It is possible to achieve even more higher currents by simply adding more pass transistors in parallel along with its base resistor.

Submitted for publication by
Neels ZS2ND

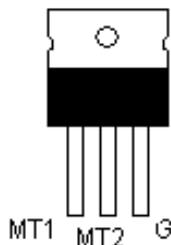
Over Voltage and Reverse Voltage Protector

Submitted for publication by Neels ZS2ND

IT688SG TRIAC

1mA Gate Trigger

8Amp RMS on state

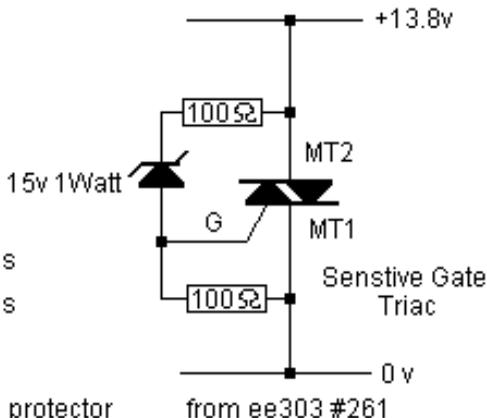


Tab isolated

.PNG 1.8K bytes

7+ 2.3K bytes

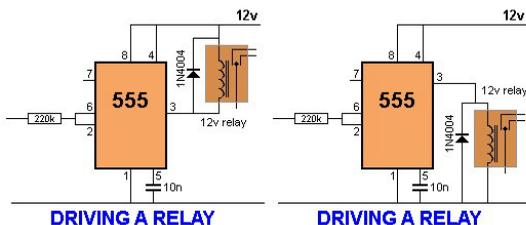
Overtoltage and Reverse voltage protector



DRIVING A RELAY Circuit from Neels ZS2ND

The 555 will activate a relay. When pins 2 and 6 are connected as an input, the chip requires only about 1uA to activate the output. This is equivalent to a gain of about 200,000,000 (200 million) and represents about 4 stages of amplification via transistors.

In the first circuit, the output will be opposite to the input. The relay can be connected "high" or "low" as show in the second diagram. One point to note: The input must be higher than 2/3V for the output to be low and below 1/3V for the output to be high. This is called HYSTERESIS and prevents any noise on the input creating "relay chatter."



NEGATIVE LOGIC

An interesting point to remember.

In the first diagram above, the relay is connected so that it is active when the output is low. This is called NEGATIVE or NEGATIVE LOGIC. It has the same reasoning as $5 - (-5) = 0$.

Or in English: "I am not NOT going."

When the input is low in the first diagram, the output is HIGH and the relay is OFF. The circuitry creates two reversals and makes it easy to see that when the input is LOW, the relay is OFF.

CONGRATULATIONS ...

on your birthdays

July

29 Des Pettit ZS2ABU

August

02 Sharon Layton ZS2SL, XYL of Martin ZS2ML

02 Anita Human ZS2BZ

03 Rob Mac Geoghegan ZS2ROB

04 Brenda Whitehead XYL of Alan ZS2R

06 Julia Atteridge XYL of ZS6GHJ

07 Dawn Hislop XYL of Derek ZR2DJH

07 Ronel Du Plessis XYL Of Basie ZR2BA

10 Herman Nell ZR2NH *

15 Serge Smetryns ZS2SJE

18 Al Akers ZS2U

18 Maggie Moore XYL of ZS2IJ

19 Maureen van Rahden ZS6AVD XYL of Bert ZS6LP

20 Andrew Prideaux ZS2PA

on your anniversaries

August

01 Ginny ZS2GIN and Pat ZS2PJP Pullinger

09 Jayne and David Rishworth ZR2RD

Club Subscriptions are now due

Hi Folks, its that time of the year and your subscriptions are now due.

R80 per member. Spouses R30 and students R30.

Wifi fees R150 per month.

Club's banking details are: Ned-bank Savings Acc. No: 221 252 7594. Branch Code: 121217.

Please use your call sign as a reference.

SWOPS

Sony SW77 World Band Receiver, fully portable with mains unit, digital covers to 30 Mhz, all modes. As new R500-00.

Call D. Forsythe ZS2AW Tel: 046-6223985.

Service manual for Kenwood TM-421 VHF all-mode transceiver R50; Service manual for Kenwood TM-221 VHF mobile transceiver R50; Leaflet for Kenwood PS-430 PSU with specs and circuit diagram - gratis. Beavan ZS2RL 041 368 8810 / 082 837 1659.

Place your Smalls advert here.

Call Ashley ZS2AG on 0823726696 or send email to ashleygoosen@yahoo.com

Batteries for Radio & Power

Battery Specialist

Good Batteries at 1/2 price.

Shop: 041-4846989

Simon: 076-5330167

Prince Alfred Road, North End

Sunday Bulletins

Bulletin Roster

PEARS bulletins are transmitted on Sundays immediately after the SARL English transmission, i.e. at about 08:45 on 7098 kHz as well as the 2 metre linked network that provides from Butterworth to George and up to the Free State and their environs. PEARS 7098 or 3640 kHz transceive facilities are also remotely linked as needed. In addition, the SARL's 40m operations on 7082 or 7066 kHz or Hamnet's 7070 kHz can be remotely patched to the 2m network in receive only mode or with full transceive capability for interactive events.

| | | |
|----------|--------|--------|
| 25th Jul | Clive | ZS2RT |
| 1st Aug | Bill | ZS2ABZ |
| 8th Aug | Basie | ZR2BA |
| 15th Aug | Tony | ZR2TX |
| 22nd Aug | Ashley | ZS2AG |

YOUTH ELECTRONICS

PCB Boards, Tin plated

Contact: Basie ZS2BA

Cell: 0828882118

basiedp@gmail.com

PEARS' VHF/UHF, Packet & Other Services

Local Repeaters:

Town VHF 145,050/650 Town UHF 431,050/438,650 Uitenhage 145,075/675 Tygerhoek 145.000/600

These repeaters form a separate sub-net in the PE - Uitenhage - Despatch area

Cape Linked System Repeaters:

Lady's Slipper 145,100/700 Grahamstown 145.150/750 Cradock 145,050/650 Noupoort 143,150/438,750

Colesberg 431,075/438,675 Kareedouw 145.725/125 Plett 145.775/175 Brenton 145.675/075

These form the PEARS long-range 2-metre repeater system, in conjunction with the Border, Southern Cape and

WCRWG systems

Packet Network:

ZSONTP-2 Packet Node - Lady's Slipper 10.151 LSB 300bd APRS 144.625 1200bd 438.275 1200bd (FWD)

438.875 9600bd 434.800 1200bd APRS - Cape Linked System

ZSONTP BBS - Lady's Slipper On all node frequencies

ZSOGHT-2 Packet Node - Grahamstown 144.675 1200bd 438.275 1200bd 434.875 9600bd

ZS0CDK-2 Digi - Cradock 144.675 1200bd

ZS2ABZ-4 WMR918 WX Station 144.625 1200bd

Beacons:

2M Beacon (ZS2VHF CW ID, FSK) Horizontally polarised 25W ERP 144.415

6M Beacon (ZS2SIX CW ID, FSK) Horizontally polarised 25W ERP 50.005

Banking details (for subs & donations): Nedbank Savings, No:221 252 7594, Code: 121217. Call Sign as Ref.

See the PEARS web site at www.zs2pe.co.za for further details and network diagrams.

Your Societies Committee for 2010/2011

| | | | |
|---|------------------------|-------------|-------------------------|
| Chairman & QSX Editor | Ashley Goosen ZS2AG | 082-3726696 | ashley@peham.co.za |
| Vice-Chairman/Technical | Chris Scarr ZS2AAW | 041-3681344 | christopher@peham.co.za |
| Secretary | Glen Cummings ZS2GV | 082-4112743 | glen@peham.co.za |
| Treasurer | Clive Fife ZS2RT | 041-3673203 | clive@peham.co.za |
| Club Social Activities | Bill Hodges ZS2ABZ | 041-5812580 | zs2abz@isat.co.za |
| Marketing & PR | Basie Du Plessis ZR2BA | 082-8882118 | basiedp@gmail.com |
| Contest and Awards Manager, Convener of VHF Contest Committee | Tony Allen ZR2TX | 082-9562920 | tony@zr2tx.co.za |
| Website Manager | Jarrad Brown ZR2JAB | | webmaster@zs2pe.co.za |
| Co-Opted sub-committees | | | |
| RAE Examination Admin. | Donovan ZS2DL | 082-8524885 | zs2dl@hamradio.co.za |
| Assessors | Rory ZS2BL | 041-5812580 | rory@commco.co.za |
| | Chris ZS2AAW | 041-3681344 | christopher@peham.co.za |
| | Donovan ZS2DL | 082-8524885 | zs2dl@hamradio.co.za |
| | Bill ZS2ABZ | 041-5812580 | zs2abz@isat.co.za |
| Contest Committee | Tony Allen ZR2TX | 082-9562920 | contest@peham.co.za |
| | Al Akers ZS2U | 041-3602983 | |
| | Mike Bosch ZS2FM | 041-5812425 | |
| QSX Distribution | Mitch Rundle ZS2DK | 083-7153375 | mrundle@axcess.co.za |

Front Cover Picture - The Horse Memorial

The Horse Memorial erected and unveiled during 1905 in Port Elizabeth commemorates the horses that suffered and died during the Anglo-boer War (1899-1902). It consists of life-sized bronze figures of a horse about to quench its thirst from a bucket held by a kneeling soldier and stands on the corner of Russell Road and Rink Street.