



QSX PE

Merry Christmas from

PEARS



This Newsletter is published by the Port Elizabeth Amateur Radio Society
Editing, Composing and Printing by Ashley ZS2AG
Co-edited by Rory ZS2BL and Barry ZS2EZ

[Download QSX from www.zs2pe.co.za](http://www.zs2pe.co.za)

P.O. Box 10402
LINTON GRANGE
6015

December 2006

PEARS MONTHLY MEETING

The Year End Function of the Port Elizabeth Amateur Radio Society, will be held on [Saturday, 16th December](#), at the Scout Hall, Walmer, starting at 14H00.

Come and enjoy some good company and at the same time bring your eats and enjoy a braai with the chaps.

[See you there!!!!](#)

Wrinkly Ravers

The next get-together of the Wrinklies will take place on Thursday, **4th January 2007** at the usual venue, Barneys, Circular Drive, Lorraine.

Come and enjoy the company of the "wrinkled ravers" who gather at this popular venue to have a good chat as well as enjoy some good food.

[See you there!](#)

Donations acknowledged

PEARS acknowledges financial donations to the club received from the following members and non-members, from the start of this financial year.

ZS1NAZ Naz; ZR2VAN Otto; ZS2FOX Guy; ZS1T Stan; ZS6GHT Bill; ZS2BW Donald; ZS2PG Paul and ZR1S Saney

Some of the above paid more than the R60 subs, so Clive, ZS2RT took the excess as a donation.

Received with thanks.

Know Your Bible

[Correspondence Course](#) (Six lessons Free)

Contact

Ashley Goosen Cell: 0823726696 or email: ashleygoosen@xsinet.co.za

HAMNET / ECARES news

Well it's that time of year again when we must reflect on the activities of those Radio Amateurs who helped their fellows and the Community at large. During the year many of our members took part in exercises and in real operations in order to relieve the lot of those affected by accidents and disasters.

We may say that it was a good year and well done by all who assisted. We may also say that good communications were realized by so many newcomers to the scene that they can no longer be considered as newcomers.

The holiday season is nigh on hand and often brings with it an increase of trauma brought about reckless behaviour, misuse of alcohol and selfish and dangerous driving. There is often an increase in the number of veld fires caused by criminal carelessness.

We therefore ask that our members and all Hams be vigilant and try to make an effort to assist. This can be accomplished by informing the relevant authority that help or relief is needed. We do advise not to become involved to that extent that you too become a casualty or part of the problem. Mobile stations becoming aware of accidents on the roads or any unusual action likely to become a disaster should make contact with a fixed station in order to seek assistance. This makes it easier to deal with a protecting authority.

Channels to monitor 2M, The East Cape linked repeater network.

HF on 7060KHz or 3760KHz

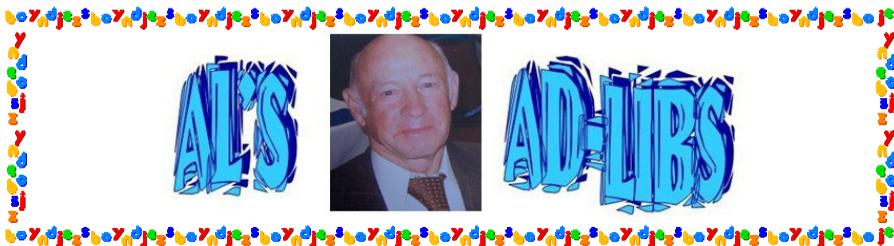
4M on 70.200MHz

Regional Director: As above and telephone 041-360-2983

Asst. Director: As above & 041-379-1856, 083-275-1771 AR-
Anywhere in the RIVE ALIVE 0800~005-619 NAT. TRAFFIC
RSA INFO CENTRE 0861 600-800

We can only hope that such assistance may never be necessary but please be prepared. Have a good holiday.

73, Ken ZS2OC and Hamnet Directorate.



With the festive season upon us, one tends to think about the happenings of the past year. We have several new licensees and a number of upgrades. The activities started with a successful vhf/uhf contest in January, an equally successful radio technology in action in April, our AGM and our participation in the League's Field Day contest. We have certainly set a record in our area and maybe in any other area in South Africa with five multi-operator stations active round Port Elizabeth, and these are just the highlights.

It is good to have a membership who work together well, any differences are sorted out amicably, in contrast to some others who even resort to stabbing or shooting each other to death, probably over something petty. Thank you very much to all of you who have in one way or another contributed to the successful operation of our club.

Wishing you and yours a very blessed Christmas and a very happy new year.

73,

Al. ZS2U

IRC EXPIRY DATES

Many DXers still use International Reply Coupons (IRCs)

issued by the Universal Postal Union (UPU) to cover return postage for QSL cards. As of January 1, 2002, UPU-issued IRCs bear expiration dates, after which the coupon has no value. The so-called "Beijing model 1" IRC expires December 31, 2006. The newest IRC, the "Beijing model 2," expires December 31, 2009. Check any IRCs you've got on hand for an expiration date!

The UPU says IRCs are exchangeable in all member countries for the minimum postage of a priority item or an unregistered air mail letter sent to a foreign country.

It is mandatory for post offices in UPU member countries to exchange the coupons.

Minutes of PEARS Monthly Meeting

Held at the St. Hugh's Church Hall, Newton Park, P.E. on 16 November 2006

Welcome: The Chairman welcomed all in attendance.

Present and Apologies: As per the attendance register. Apologies noted from ZS2AG, ZS2GIB, ZS2WG

Acceptance of previous meeting minutes:

Proposed: ZS2MM,

Seconded: ZR2GLP

Matters Arising:

None

Correspondence:

In: Six Licence renewals for January

Donation from ZS1NAZ

Three newsletters RTS

Out: Fax to ICASA re the town repeater interference

Finance:

In good state as reported by the treasurer.

Paid: Slipper electricity R143, QSX printing R300,
postage – R231 pending

General:

1. Field Day:

Barry read an extract from the HF happenings newsletter re comments from the Eastern Cape on the link system re the HF Field Day rules. Al highlighted some rules for the contest. Donovan asked the procedure for transmitting "CQ Field Day". ZS1PC is to set up ZS1SKR, ZS1HF will also be on the air.

2. Year-end function:

Date change proposed – 16th was accepted by the meeting. Venue as the Walmer Scout Hall.

3. PEARS HF QSO Party – ZS3 hams are keen on arranging a jointly hosted second party during the year.

4. Beacon Transmitters:

Al and Bill reported on the beacon equipment status needing attention. Equipment has been removed for maintenance. Al mentioned the site becoming a commercial concern, so charges might be levied. An alternate site may be forced upon us, possibly the South Science Block.

5. Paul is still searching for a bandplan for 6m. Barry to try to source one for QSX.

6. Barry mentioned the new web site and email addresses/groups.

7. Caps that were ordered were delivered by ZS2H

The business of the meeting was concluded at 20h32. Tea, coffee and biscuits were enjoyed, followed by a general knowledge quiz by Lynne, ZS2MM.

For Some, Searching The Internet, Could be for a Needle in a Haystack

Submitted for publication by Mike Hanslow ZS1RMS

The internet is a great source of information but to find exactly what you are looking for can be a case of searching for the proverbial needle in the haystack. For those that tinker with valves, then Pete Millett's DIY Audio pages is a great web site where you can download anything from the complete Sylvania Tube Manual of 1951 to a whole host of obsolete books aimed at the Radio Amateur and home constructor. For the budding Propagation Elmer's out there, there are very comprehensive propagation tools. For the VHF/UHF bands, Radio Mobile is the ideal propagation tool. For the HF guys, then VOACAP is just for you. Originally developed for Voice of America, this program can generate all the graphs you would expect from the experts. Happy downloading.

Radio Mobile Home Page - <http://www.cplus.org/rmw/english1.html>

Pete Millett's DIY Audio pages - <http://www.pmillett.com/index.html>

VOACAP - <http://www.voacap.com/>

Email zs1rms@yahoo.co.uk

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Pearstalk



From the past.....

----- Original Message -----

From: "Ewan and Ali Mathieson" <ewan-m@hotmail.com>

To: <cvscarr@intekom.co.za>

Sent: Sunday, October 29, 2006 11:47 AM

Subject: PEARS

Hi Toff.

Wonder how you all are? Not sure if you are still part of the PEARS committee but I found my way onto the PEARS website today to see how things are going in PE. Found the site hasn't been updated for a long while. I was wanting to see if I was still a member and if so if I could get some electronic copies of QSX.

We are living in the Middle East at present. Ali, my wife is teaching in Oman. A great place to be. No crime and a beautiful but hot and dry country.

Have brought some equipment over from SA which I hope to have operating soon.

Not much interest in Echolink in ZS2 area so not able to make contact that way.

Hope this finds you all well. How your folks doing?

Regards

Ewan A45WJ (ZS1EM ex ZS2EN)

Submitted for publication by Chris ZS2AAW

From the Editor.....

In consultation with Chairman AI, ZS2U of PEARS, all information regarding the SARL HF Field Day, with pictures, will only be published in the January issue of QSX.

The Editorial also takes this opportunity wish members of PEARS, as well as all our readers, a Merry Christmas and a Happy New Year. - 73 Ashley ZS2AG, Barry ZS2EZ and Rory ZS2BL

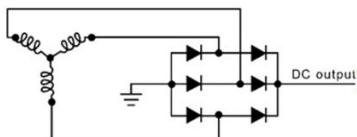
Alternator Whine

(Edited from an article by Alan, K0BG on eham.net)

The average alternator's output is between 13.9 and 14.2 VDC. It might be less if there is a problem with the alternator. In some cases it may be a little higher, but voltages over 14.6 VDC should be considered abnormal.

Continuous output and peak current ratings vary quite a bit. The requisite amperage ratings selected by OEMs are largely based on content. That is to say, how many features like rear window defrosters, premium sound systems, electric windows, and heated seats any given vehicle is equipped with. Heavy duty and high-end vehicles usually have larger ones, as do those with extra-cost trailer towing packages.

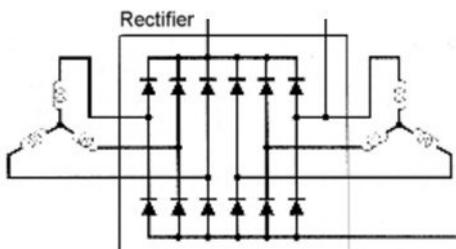
Nowadays, the smallest OEM ones are rated about 90 amps peak, and the larger OEM ones about 150 amps peak. There are a few exceptions, but the highest rated OEM units are about 225 amps peak. The reason I use the term *peak* is this; very few OEM alternators will deliver their rated output continuously, and contrary to popular belief, there isn't any standard rule for peak versus average.



Almost all alternator stators (the non-rotating part) are wired in a “Y” configuration (as shown), and the rest are wired in a delta configuration (primarily Ford products). Rotating within the stator is the field. The field

current and/or voltage is varied by the regulator so the output voltage is constant, regardless of the load, up to their peak amperage rating. There are several different regulation strategies employed. Some simply use a pass transistor, others use pulse width modulation, and some almost defy definition.

Depending on the engine type (diesel or petrol), alternators are driven from two to five times engine speed, up to a maximum of about 16,000 rpm. As a general rule, the output frequency of an OEM alternator is equal to the engine rpm. That is to say, 1,000 rpm equals 1KHz. Their efficiency is about 90%. Thus, an alternator rated at 130 amps, with an output of 14 vdc, will have an input of



around 2 KW, and will require about 3 HP to drive.

In a never-ending quest to reduce weight, and improve efficiency, most new-generation OEM alternators are double wound, and use twelve diodes instead of six. This not only reduces size and weight, the lower mass of the rotating field allows the alternator to be driven faster, which improves low rpm power output. It also doubles the ripple frequency.

As long as the diodes are doing their job, the output ripple is nearly nonexistent, as the battery is acting like a very large capacitor. When they don't do their job, the result is what we commonly call alternator whine. To be sure, there are other causes that will be discussed later.

While alternator whine can be a bane for us amateurs, as long as the alternator delivers its rated output, dealers don't care, and typically will not replace noisy ones under warranty. So this leads those who are plagued to seek other avenues of relief. For example, using RG8 as a power cord, or twisting the factory power cords of their transceivers. Doing so is junk science. Let's visit this in more depth.

First, any technique we use to shunt alternator whine to ground must present a low impedance at the frequency we're trying to suppress (less than 8 kilohertz typically).

Further, it must be of lower impedance than the circuit it is attached to. In the case of vehicle DC wiring, that's seldom higher than a few tenths of an ohm.

An average power cord is 3m long. A 3m piece of RG8 has 250 pF of capacitance. At 8 kHz, 250 pF has a reactance of about 1,500 ohms. In terms of suppression, this amount is insignificant.

Twisted or not, a 10 foot power cord made from two number 10 conductors will have about 2 pF of capacitance per foot. Ten feet of it is an insignificant reactance even at 80 kHz! What's more, those who support twisting the power cord as a fix for alternator whine, and a host of other maladies, ignore some basic facts. Twisting works to reduce noise pickup only if both inputs and outputs are balanced, and neither end is grounded. That's not the case here.

Brute force filters offer some help, but there is a big downside too, and that's voltage drop. Radio Shack used to sell one that was rated at 20 amps. Inside its tubular construction is 6m of what appears to be number 16 Thermalese wire wound around a laminated steel core about 3/8 of an inch square, and and 2 inches long. A 1 uF coaxial capacitor completes the package. The input and output are size 10. The voltage drop at 20 amps is almost 2 volts. At 8 kHz, the suppression is less than 2 dB.

In some cases, a 1 Farad cap, like those used in mobile sound systems will suppress alternator whine if they're placed near the radio end of the power cord. However, they have a lot of drawbacks, not the least of which is their propensity to explode if dead shorted.

The best place to cure alternator whine is at the source. If you think it is a leaky diode causing your problem, use an Oscilloscope to look at the alternator output directly at the output terminal. If it is a diode, you'll easily see it. The fix is obvious.

As alluded to above, there are another situations which can cause what ripple there is to invade the circuitry of your transceiver. One of those is a ground loop. Ground loops occur when there is a differential in current flow between the positive and negative power leads feeding the radio. This is typically caused by incorrect wiring techniques. Poor bonding of body on frame vehicles, and poor coax connections can also cause the problem.

Another problem altogether, which is often incorrectly identified as alternator whine, is the switching transients from the alternator's regulator. While diode induced whine directly varies with engine speed, regulator whine normally does not. It will appear louder at low rpms, and when there is a high amperage load. Since it is radiated RF energy, removing the antenna will cause it to go away. The only fix is to replace the regulator.

Distractors will surely point out that they fixed their alternator whine with one of the aforementioned anecdotal remedies. If that is indeed the case, then the original wiring was amiss.

Alan, KØBG

www.k0bg.com

For Sale

ICOM IC-728 HF all band transceiver and hand microphone. **ICOM PS-55** DC power supply R5900.00. **ICOM SM-8** desktop microphone R490.00. **MFJ Enterprises MFJ-948** delux versa tuner II R690.00. **KENPRO KR-600RC** rotor and controller. **CREATIVE** 3 element beam antenna. Control cables and coax R2600.00. 8 element 2m antenna R240.00. Please contact Victor Batt 041-5813978 / 073-7711949.

SIX METRE sectional portable mast & 2M six element LOGYAG beam. Excellent for field use. **Antennas:** base and mobile for 2, 4 and 6 metres. **Magnet mounts** and bootlid mounts. Whips terminated in PL259 fittings, three EL beams for 4 and 6 metres. **RF connectors**, co-ax cables, antenna poles, masts and mounting hardware. **Radios:** Barcom Z66 ready for 4M band. Contact Ken ZS2OC on 041-3791858 or 083-2751771.

TV sets to get data-over-mains

Edited from an article by Clive Akass, Personal Computer World

Televisions and other consumer-electronics equipment going on sale overseas next year will be network-enabled using data-over-mains modules, according to a company making chips implementing the technology.

"They want to get rid of the HDMI socket and cables," said Andy Barnes, European field applications manager of Intellon.

The Intellon chips use Home Plug AV, the latest generation of Homeplug Powerline Alliance technology, which is rated at 200Mbits/sec, with real data rates of up to 85Mbits/sec in each direction.

This is enough to deliver at least two high-definition data streams, which in theory could eliminate the need for a monitor data cable.

Barnes says the latest-generation Home Plug implementations are cleaner than earlier ones, reducing the risk of RF interference by 'notching out' frequencies used by radio hams, aircraft and police. He claims they are also less susceptible line noise than rival data-over-mains technology from the Spanish company DS2. Hair driers, microwave ovens and other appliances plugged into the mains can hit data throughput.

"Even mobile-phone adapters can cause noise. Oddly they are worse when they are left plugged in but not attached to the phone."

Devolo has just launched kits using the Intellon chip, with a starter pack of two costing around £180. The company says the units can allow you to set up a network in a minute, with no additional wiring – you plug an adapter in the mains and it acts as an Ethernet port.

Barnes said fears about the cumulative affect of RF noise from power-over-mains have not been justified. Devolo has been pushing out 250,000 units a month with no complaints.

Panasonic has its own data-over-mains technology, which it has said will be implemented as standard on its consumer-electronics equipment. However this is not compatible with Homeplug equipment

Detect Tropo Openings via DX FM Stations

By Mike Bosch

We are approaching summertime when many long distance VHF band openings will occur via Tropo propagation. Tropo propagation is caused by temperature inversions in the troposphere and is weather related. Under these conditions long distance communication can take place on 50 MHz (6M) but especially on the 144 MHz (2M) and 70 MHz (4M) bands. Two-way contacts have already been made from Port Elizabeth to Richards Bay on 144 MHz on both SSB and FM. The secret is to receive an early warning of a possible opening and be ready! This is where our FM broadcasting stations, which are located within a few hundred kilometres from us, can do the trick if we monitor them regularly.

FM STATION	ALGOA	AFRIKAANS	ENGLISH
East London	94,8	101,6	105,2 MHz
Suurberg	95,0	101,8	105,4 MHz
Port Elizabeth	95,5	102,3	105,9 MHz
Grahamstown	96,7	103,5	107,1 MHz
Karedouw	96,1	102,9	106,5 MHz

Modern car radios are very sensitive, selective and suitable for monitoring the above mentioned FM stations. The writer has programmed these stations into his car radio and can readily determine what tropo conditions are like when driving.

any FM receiver may be used at home providing it is selective enough and must be fitted with at least a vertical dipole antenna. But far better results can be obtained if a small vertically polarised FM beam antenna is used instead and beamed at the preferred distant FM station. In Port Elizabeth one may experience a problem with some older FM receivers in separating the Suurberg and East London FM stations, since they are so closely spaced. But even this problem can be licked by adjusting the FM beam antenna so that it nulls out the powerful Suurberg station or at least greatly reduces its signal strength.

So here is wishing you good luck with the summer Tropo DX!

Excerpts from "The SARL LETTER" of the 18 November 2006

HAVE YOU CONSIDERED RELAYING THE PRESIDENT NET AND INTECNET ON YOUR LOCAL REPEATER?

Hundreds of people listen to the President Net and Intecnet but hundreds more could be part of the information flow if you arrange to have your club repeater linked to the network. All you need is a small telephone interface with a two-metre rig and your repeater is linked.

The next President Net is on Sunday 10 December 2006 at 19:00. It is followed by the INTECNET at 20:00 featuring a discussion on "If we get the opportunity to fly an Amateur Payload on South Africa's third satellite what would it be?"

RAE DATES FOR 2007

The first examination for the ZU licence will be held on 1 March 2007 at the following venues: Cape Town, George, Port Elizabeth, East London, Durban, Pietermaritzburg, Bloemfontein, NARC, Pretoria, Nelspruit, Polokwane, Kimberley/Upington. Additional venues can be arranged if there are ten or more candidates. The Examination fee is R50.

The examinations dates for the ZR and ZS licenses for 2007 are 17 May 2007 with the closing date for enrolments 12 April and 18 Oct 2007 with the closing date for enrolments 13 September.

WHERE TO SEND ITEMS FOR SARLNEWS?

Go to www.sarl.org.za and look on the left hand side for SARL News inbox. Click on the inbox and a window will open where you can paste the item or type it.

At the end of your story enter a telephone number the editors can call should they require more info.

Then click to send. You will receive a confirmation screen to confirm that your item has been sent.

Where possible send the items in both English and Afrikaans. Please also use the correct abbreviations. Check a recent copy of Radio ZS for details of the ISO standards. It is a good idea to set your spell checker to: South African English.

We look forward to your news items to support your activity and promote amateur radio.

New Committees

We welcome news about new committees. Please use the following format:

Chairman:

Vice Chairman:

Secretary:

Treasurer:

Committee members:

Please supply the full name and callsign i.e

Congratulations...

on your birthdays

December

- 18 Anne Olivier ZR2ABC
- 20 Nina Smetryns, XYL of ZR2SJE
- 20 Marlene Ashwell, ZR2ED
- 20 Donald Jacobs ZS2BW
- 21 Paul de Vos ZS2ABY
- 21 Ron Clarke ZS2MF
- 23 Noel Hislop, XYL of ZS2EJ
- 24 Bryan Marshall ZS1NQ
- 25 Mike Bosch, ZS2FM
- 25 Brian Weller ZS2AB
- 25 Betty Greeff, XYL of ZS2ZG
- 26 Cygnett van der Walt, XYL of ZS6WDV
- 28 Elize Laaks, XYL of ZS2HB
- 28 Allen Lubbe ZS2AEG
- 30 Lida Ligthelm, XYL of ZS2D
- 31 Willem van der Walt ZS6WDV

January

- 6 Brian Prior ZS2AU
- 9 William Hickson ZS2BIL
- 12 Bernice Marshall, XYL of ZS1NQ
- 15 Neil Fulton ZS2MG
- 15 Ashley Goosen ZS2AG
- 17 Maxie Crouse ZR2A
- 18 Dudley Forsyth ZS2AW
- 20 Barry Murrell ZS2EZ
- 21 Margaret France ZS2HM

on your anniversaries

December

- 18 June and Gert Schwarz ZR2GPC
- 19 Lida and Dirk Ligthelm ZS2D
- 23 Noel and Cyril Hislop ZS2EJ
- 28 Edna and Clive Swanepoel

January

- 1 Nellie and Johan van Zyl ZS2Z
- 2 Julie ZR2EY and Trevor Scarr ZS2AE
- 2 Chantelle and Linton Rohl ZS2ICE
- 3 Brenda and Allan Whitehead ZS2R
- 5 Anne and Brian Prior ZS2AU
- 9 Pam ZU1PAM and Phil Hopper ZS2PP
- 16 Cygnett and Willem van der Walt ZS6WDV

Sunday Bulletins

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.

Bulletin Roster

7th Jan	ZS2ABZ	26th Nov	ZS2EHB
22nd Oct	ZS2U	3rd Dec	ZS2GV
29th Oct	ZS2BL	10th Dec	ZS2U
05th Nov	ZS2AAW	17th Dec	ZS2BL
12th Nov	ZS2RT	24th Dec	ZS2AAW
19th Nov	ZS2ABZ	31st Dec	ZS2RT

Your Societies Committee --

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PEARS' VHF/UHF, Packet & Other Services

REPEATERS

Town VHF # 145,050/650 **Town UHF** # 431,050/438,650 **Uitenhage** # 145,075/675

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

Cockscomb 145,000/600 **Lady's Slipper** *145,100/700 **Colesberg** *431,075/438,675
Noupoort *431,150/438,750 **Cradock** *145,050/650

* These form the PEARS long-range 2-metre repeater system, also linked to which are **East London** 145,775 MHz, **George** 145,700, **Danabaai** 145,600, **Stilbaai** 145,750, **Butterworth** 145,725, King Williams Town 145,625 and Umtata (438,725 duplex). It is further extendable to **Cape Town** via the WCRWG system. # These can also be linked as required.

PACKET NETWORK

ZS0NTP-2 Packet Node - **Lady's Slipper** 7.040 300bd, 144.625 1200bd, 434.875 9600bd, 433.800 1200bd APRS, Cape Linked Network listen-only for APRS.

ZS0NTP Packet Bulletin Board - **Lady's Slipper** Access via the node, or use "VIA ZS0NTP-7"

ZS0GHT-2 Packet Node - **Governorskop** 144.675, 438.275, 434.875

ZS0CDK-2 Packet Node - **Cradock** 144.675

ZS2ABZ-4 WMR918 Weather Station on APRS 144.625

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

See the PEARS web site at www.qsl.net/zs2pe for further details and network diagrams.