

# THIS NEWSLETTER IS PUBLISHED BY THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE

P.O. BOX 10402 LINTON GRANGE 6015

August, 1994

### N(a)National (electrical April Nobel Hali

The next monthly general meeting of the Branch will be held on *FRIDAY*, 19 August 1994 in the Civil Defence Centre, Westview Drive, Mill Park, Port Elizabeth, commencing at 8 pm (20:00).

After what should be minimal business, Andre van Deventer ZS2BK will give a short talk on **Mobile Data Systems**, which cover facilities such as vehicle tracking, data transmission etc. And, of course, it's done by radio. The talk will include a video presentation. This should be a most interesting evening so roll up and early and get a good seat.

There will be an auction of a beautiful morse key (donated by Beavan ZS2RL) and a Vacuum Tube Voltmeter (VTVM) donated by Steve ZS2WS, so here's your chance to acquire some useful items for your shack.

### JVFAX Catches On in RSA

Last month we mentioned this excellent new program which permits the exchange of Slow Scan Television (SSTV) and weatherfax type pictures in colour or black-and-white on HF or VHF with the aid of a very simple interface unit between your transceiver and IBM compatible computer.

Since then, an increasing number of stations have been heard discussing the system on the air, so it looks as if the SSTV mode is set to take off in the RSA.

Gary, ZR2ABU, has already disposed of his initial supply of 15 kits to hams in the Eastern Cape and has arranged for a further supply which, it is hoped, will be available towards the end of August. The kits, with a floppy or stiffy disk carrying the JVFAX6 and HamComm CW/RTTY programs, go for R65 plus postage if appropriate.

The whole thing can be assembled in an hour or two.

To get on the SSTV bandwagon, contact Gary at 38-1101 after hours and reserve a kit.

### 2 Metre Receiver Kits

We hear that the Johannesburg Branch has some two metre FM crystal controlled receiver kits available at R195,00 plus R10 for packing and postage.

The kits come complete with instructions and a crystal for 145,650 MHz, which seems to imply that it works on simplex only. It has a switch and sockets for five additional crystals of your choice. The only extra item you need to complete the project is a case, says the message received on Packet.

For further information write to the Johannesburg Amateur Radio Centre, c/r Duff Rd. and Louis Botha Avenue, Houghton 2041 (Fax 011 969-2193).



At the last committee meeting (5 July 1994) the matter of portfolios was discussed, and it was agreed that some reshuffling might not be out of place.

It was felt that all the major activities and responsibilities within the Branch should have representation on the committee. Also, these responsibilities should be logically grouped within a portfolio.

So, unless this proposal is shot down in flames before the next AGM, the committee to be elected at the AGM in September will look like this:

PORTFOLIO	RESPONSIBLE FOR
Chairman	Chair meetings & general coordination of Branch affairs.
Secretary	Minutes of meeting, correspondence.
Treasurer	Money, membership list, asset control.
Repeaters	Repeaters, digital comms, beacons.
Special events	Coordinate jota, rallies, hobbies fair, etc.
Social	Socials, publicity, refreshments at meetings.
QSX	Coordinate articles & publication.
Technical classes	Recruitment, classes.
Awards & library	Awards to members & outsiders, library.
Technical projects	Coordinate technical projects.

Before anyone takes fright and decides not to stand for election, I think we should bear in mind that committee members are there in a managerial/coordinating role and are not put there to do all the work. We might look like donkeys and mules, but that is purely a \*misperception! As in the past, it will be quite acceptable for specific responsibilities to be farmed out to non-committee members (e.g. beacons to ZS2FM), but the committee member will remain accountable.

As mentioned in the previous edition of this worthy \*\*rag, members will be elected to specific portfolios.

++++

The rally has come and gone, and I hope that everybody enjoyed it as much as I did. And my thanks to all who participated and assisted so willingly. In particular, the repeater group must be complimented for the excellent VHF comms – sure, the squawks were irritating, but imagine the difficulties we would have faced if we did not have Knysna 650, especially during the emergency situation on Friday night.

At the next General Meeting, 30 minutes will be set aside for a debriefing session on the rally. So make a note of the areas where you feel we could have done better, and let us hear about it then.

+ + + +

The Branch will be gaining another two members. Fanie ZS2ACE from Knysna has indicated his desire to join the best Branch in ZS-land, and Mike ZR2MBM will be transferring his membership back to PE. A big welcome to both.

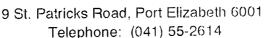
### 73s **Beavan** ZS2RL

\*\* This worthy WHAT?!?!-Ed.



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### TESTING QRP ONLY 2 mW DE ZS1J 73 FROM KNYSNA

### ROGER DAVIS ZS1J

The above message is being transmitted 24 hours a day on the frequency of 3512 (3513 LSB) from the farm near Knysna.

Reports are coming in weekly from as far afield as Cape Town, Port Elizabeth, Durban and Transvaal. Your own ZS2HB can copy the signal most of the day and night, which shows that a reliable path exists over the distance of 250 km 24 hours a day.

The transmitter was first built, if coupling a couple of components together can be classified as built, in 1987 as a QRP experiment in Durban. The base bias resistor was initially chosen so that the output of the oscillator was 10 mW.

Each evening for a couple of weeks, I would call CQ using a straight key and

my patience finally paid off when ZS5DD, OM Bunny Hilton from Hilton in Natal, came back to a CO call.

Well, you can i m a g i n e m y surprise. Later I reduced the output to 5 mW and ran the device as a beacon during the non "R"

months, that is, May through to August. Reports—on the beacon over the years came from every division and my best was a SWL in a block of flats in Johannesburg using nothing but a Barlow Wadley.

The antenna coupled to the oscillator is a G8KW trap dipole for 80 and 40 metres which is a good 15 metres high at each end but amazingly is facing due North/South, which should not favour PE.

The phenomenon of the 24 hour path from Knysna to PE brings me to

mention my stay of 18 months in the UK. For some 10 years I had kept a sked with my father, G3WMO, on 21 MHz from 1975 to 1985, whilst I resided in Durban. In 1985 I moved to Somerset in England and we changed our sked to 80 metres.

Can you imagine being on 80 metres at any time of the day and not

being able to find a clear frequency due to every available frequency being in use with QSO's? The only chance one had was to find a frequency that had a regular sked on it and note the time that it was occupied. My father and I would then get on

RFC ANT

The circuit of Roger's 2 milliwatt beacon described in this article.

the frequency 15 minutes before their sked and have our QSO.

On more than one occasion the regulars would come up at their time and let us know that we were on *their* frequency and that they had a prior right to it as they had been using this frequency every day at this time. for the last twenty years.

I don't know whether I prefer the level of activity in England to the lack of any in this country!

73 de Roger, ZS1J / ZS5L

### HAMNET NEWS

**AL AKERS ZS2U** 

The current list of qualified Hamnet members is as follows:

<u>Callsign</u>	1	2	3	4	5	red	blue	yellow_	green
ZS2U	*	*	*	*	*			*	
ZS2OC	*	*	*	*	*			*	
ZR2MBM	*	*	*	*	*	*		*	

#### **Modules**

- 1 General operating procedures.
- 2 Field station operation.
- 3 Incident scene procedures.
- 4 Map reading and orientation.
- 5 Participation in at least two Hamnet exercises.

### **Discs**

These discs on members' cards represent additional qualifications:

Red Holders of a current basic first aid or equivalent

qualification.

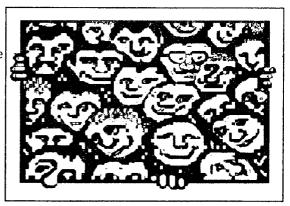
Blue Accredited members of a 4WD Club Rescue Unit.

Yellow Accredited members of a Civil Protection Unit.

Green Members who have qualified for the advanced training

module.

Right— There is no reason to doubt that the second eager group of RAE students for 1994 will pass the examinations in November with flying colours.





# FOR YOUR HOMEBREW (ZS1KE, RAGCHEW, MARCH 1990)

Some time ago I bought a Ten Tec 505 transceiver using the antique string-and-pointer mechanism for approximate frequency indication and a calibrated tuning knob skirt giving more accurate indication of the true frequency. The problem is that the skirt had to be calibrated for every band change. This article describes a digital frequency read-out solution to that problem, that can be used with any transceiver using a 9 MHz Intermediate Frequency (IF) – or any other "even" value IF, i.e. 4 MHz, 5 MHz etc.

## FREQUENCY COUNTER BASICS

If your transceiver is generating a signal at say 14,567890 MHz, and you want to determine the frequency, you could count the number of oscillations in a one-second period, and you'll end up with 14 567 890 cycles, i.e. the frequency in Hz. It is, however, inconvenient to wait for a full second every time you need an answer, and one Hertz precision is totally unnecessary.

So, say you only need 100 Hz precision (adequate for transceiver frequency calibration). If you count oscillations for 0,01 second, you'll end up with 145 678 of them, and if you juggle the decimal point a bit this comes to 14,5678 MHz. Only one problem remains – you need a counter that counts at more than 14 MHz in this case, and up to 30 MHz in the case of the 10 metre band.

If the signal is first divided by

10, a technique known as prescaling, and then fed to the counter, the counter only sees a maximum of 3 MHz. To get the required precision, however, the gate time has to be increased to 0.1 second.

We now have a counter that determines the frequency of an arbitrary oscillator in the 0-30 MHz range. In a superhet receiver the variable frequency oscillator (VFO) operates on a frequency that differs from the received signal by the IF frequency. Typically the VFO will be operating at 5,5678 MHz to receive the signal at 14,5678 MHz, assuming a 9 MHz IF.

This is not really a problem – you already know that the MHz part of the frequency is 14 MHz, so if you only look at the last four digits you get 567,8 kHz, and this gives the received frequency to the nearest 100 Hz. This method also carries the advantage that a simple counter circuit can be used – only four digits are required.

### THE ACTUAL CIRCUIT

A four-digit counter is available in a single package, with the number 74C926. This is a complete counter, latch and 7 segment driver and replaces 12 TTL IC's as used in the traditional counter-latch-driver design. The maximum frequency for this counter, incidentally, is about 3 MHz.

The input to this counter is gated to count input pulses for 0,1 second. The count value is latched by an input on the LATCH pin, putting the value on the display, and the counter is then reset to zero by an input on the RESET pin. The actual value displayed is only as accurate as the gate time, which is derived from a crystal at 3,2768 MHz by a series of dividers.

### ASSEMBLY AND USE

The frequency counter is built on a fairly cramped printed circuit board, since the counter had to fit inside my Argonaut transceiver. The only cautionary note is to be careful with the CMOS IC's, but I have never had any static electricity problems here near the sea. Also, carefully clean ALL the soldering flux off the PCB – CMOS circuitry doesn't like high-resistance paths anywhere.

The frequency counter is connected to the VFO using the smallest value capacitor that gives a stable display. Too large a capacitor will 'pull' the VFO by a small amount, which is annoying if you switch the counter on and off while using the set. In some cases it

might be necessary to implement a small buffer amplifier using a FET and a transistor. The circuit for such a buffer amplifier can be found in various handbooks.

Power for the counter can be anything from about 8 volts to about 40, but in the latter case the regulator might need a fairly substantial heatsink. The circuit draws between 100 and 200 mA, so power can be 'stolen' from virtually anywhere. If you get 'hash' on your receiver, it might help to wrap the power leads to the counter around a ferrite bead. There has to be a grounded shielding plate of some type between the counter and the RF circuitry of your rig, of course.

Unfortunately no componentoverlay was available when this newsletter went into production. For the experienced home-brewer, however, there should be no problems in placing the components correctly. The positions of the ICs are shown on the reversed view of the PCB below, and R indicates where R4 to R10 lie horizontally, one below the other. The fat lines are wire links.

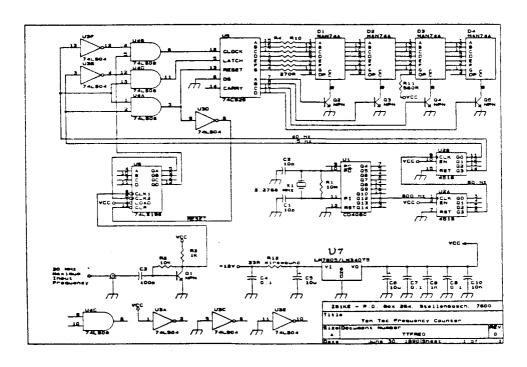
The circuit diagram and an actual-size view of the PC board are also furnished below.

André, ZS2ACP, who has been very pleased with the unit, informs us that all parts, including the crystal but excepting the 74C926 counter, are obtainable from Cosmotronies, Port Elizabeth.

The 74C926 is available from Progressive Electronics, 62

Voortrekker Road, Goodwood Cape Town (\* 021 591-7101 or 591-2300). André remarks that adding this frequency display to the "Simple Simon" transceiver published previously in QSX would not only simplify getting onto frequency quickly but also add that modern, professional touch to the original project.

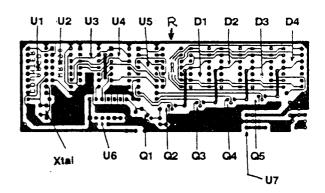
	PART	S LIST	
U1 U2 U3 U4 U5 U6 U7 D1 - D4 Q1 - Q5 XTAL R1	CD4060 4518 74LS04 74LS08 74C926 74LS196 LM340T5/7805 MAN 74A 2N2222/BC109C 3,2768 MHz 10 MΩ	R2 R3 R4-R10 R11 R12 C1, C2 C3 C4, C7 C5, C6 C8, C9	10 kΩ 1 kΩ 270Ω 560Ω 33Ω Wirewound(SW) 10 pF 100 pF 100 nF 10 MF 1 nF 10 nF

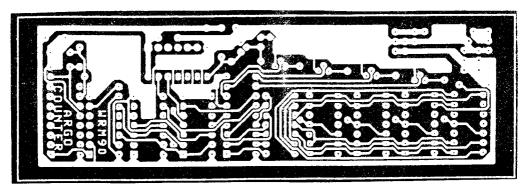


Circuit diagram of the digital readout unit.

Right—The positions of the ICs and other components are shown. R indicates the positions of R4 to R10. The thick lines are wire links.

**Below**—Actual-size PCB layout.





### Notepad-

Congratulations to Colin, ZS2CR, on his election as Chairman of the East London Branch. Guess we knew it wouldn't be long before you're in harness again, Colin. Good luck to you and your Branch.

Hearty welcome to the new RAE students. At the last count we had 21 on the list. You can see them on page 6. Obviously we need more space!

**Rally claims**—If you haven't already done so, please submit your claim at the August Branch meeting at the latest. Even better, let Clive have it beforehand and collect your cash at the meeting.

Have you renewed your SARL subscription? We believe the cutoff date is 31 August, whereafter your name will be removed from the membership list and you will no longer receive Radio ZS.

A big thankyou to Vic ZS2SZ for his stout effort in providing morse classes on the air for the last several months again. Most of his bitter-enders have now achieved their goals with The Code. [To p12—

### OM TE MORS-E OF NIE

#### FANIE SWIEGERS, ZS2EM

ELKE AMATEUR kom na aflegging van die tegniese eksamen voor die keuse te staan of hy/sy Morse se kode gaan leer al dan nie. In my geval was dit ook nie anders nie, en alhoewel ek gemengde gevoelens gehad het rondom die nut daarvan, het ek na bykans 'n maand se getob tot die slotsom gekom dat daar geen ander uitweg was nie.

Ek was vasberade om "ZS" te word en het begin vrede maak met die feit dat die opoffering van tyd en inspanning ter bereiking van die doelwit geregverdig was. Gelukkig het my dogter Lana ook besluit om saam te leer, en dit het gesorg vir daardie ekstra ondersteuning wat ek nodig gehad het. Min het ek toe geweet hoe nodig ek dit sou hê in die vier maande van "ZS2SZ met SLOW MORSE" op die "Lady's Slipper" herhaler wat voorgelê het.

Om die letters en syfers baas te raak was nogal maklik en selfs die eerste paar weke teen vyf tot agt

woorde per minuut het ons met gemak onder die knie

Ek het nooit gedink ek sou dit geniet om Morsekode te gebruik nie

gekry, maar toe word die manne, of is dit meisies, van die seuns geskei. Lana het nogsteeds met gemak aangepas by die al vinniger-wordende "SLOW MORSE" maar teen nege woorde per minuut was ek gereed om handdoek in te gooi.

Gelukkig was daar die ondersteuning en bemoediging van "SLOW MORSE" Vie en my medestudente wat die moraal 'n gereëlde hupstootjie kon gee. Twaalf woorde per minuut, en Vie begin praat van "MORSE" wat toe skielik nie meer so "SLOW" is nie, en dit voel asof ek nooit die paal sal haal nie, tot die eerste keer wat ek dit kon regkry om 'n stukkie teks foutloos te ontvang. Daarna was dit

asof dit effens makliker was, en kon ek selfs nou en dan die interessante teks wat Vic uitgesoek het geniet.

Om te stuur was heelwat makliker as om te ontvang, en binne twee weke kon ek redelik leesbaar met 'n ou handsleutel stuur. Noudat alles verby is, en ons nie meer elke aand om 19h00 stiptelik hoef aan te meld vir klas nie, en die stresvlakke na normaal teruggekeer het, is dit lekker om te sit en luister hoe iemand in hierdie eers vreemde kodetaal met 'n stasie aan die anderkant van die wêreld gesels. Ek het nooit gedink ek sou dit geniet om

Morsekode te gebruik nie, maar ek kan kwalik die gevoel beskryf wanneer iemand

die eerste keer jou "CQ" beantwoord.

Of Morsekode tydmors is of nie sal elkeen van ons seker maar vir homself moet besluit, maar ek kan jou verseker dit is heelwat makliker na die ondervinding.

Baie dankie aan Vic Olivier ZS2SZ vir jou tyd en geduld.

Veelsgeluk met jou en Lana se prestasie, Fanie. En ook dankie nie net vir 'n interessante en bemoedigende artikel oor die morse nie, maar ook dat ons uiteindelik weer 'n Afrikaanse artikel vir QSX gekry het! Ons nooi ander Afrikaanssprekende lesers om ook 'n ietsie vir ons te skryf.—Red.

PRESENT: ±55 members and visitors.

APOLOGIES: ZS2FM, ZS2RG, ZS1RON, ZS2SL, ZS2MC, ZS2H

WELCOME: The chairman welcomed all.

**MINUTES OF PREVIOUS MEETING:** The minutes were taken as read and adopted - proposed by Lynne ZS2MM and seconded by Dick ZS2RS.

TREASURER'S REPORT: Clive ZS2RT reported on the Branch finances.

CLUBHOUSE: The Chairman reported that the Committee had discussed the matter of a clubhouse, and felt that the Branch had to be in a stronger financial position before leasing a piece of land. As soon as a lease was entered into, the Branch would be liable for monthly service charges amounting to approximately R100, and there was no sense in incurring this expenditure before we are in a position to proceed with building.

**VOLKSKAGEN RALLY:** After a break for refreshments the rest of the evening was taken up in discussing the arrangements for the rally.

CLOSURE: The meeting was declared closed at 10.15pm.

Ω

Notepad (cont'd from page 10)

Oscar-21 Again Transmitting Pictures—Oscar-21 is transmitting an interesting picture in the Wefax format to celebrate the 25th anniversary of Man's first steps on the Moon. It also plays a digitized recording of the words of Neil Armstrong as he descended the ladder from the Eagle onto the Moon and sends data by packet. Listen on 145,990 on your handy-talky.

Some of our bands are shared! Following a report in a sister newsletter of alleged "intrusion" in the 80 metre band, and a similar complaint in a local QSO, it might be well to remind members that our 80 and 30 metre bands are shared with other services and we must avoid interfering with them! We are regarded as the secondary service. Also, we understand that one or more smaller countries have allocated frequencies in the Region-1 40-metre band to commercials. Perhaps they don't know it but, as the secondary service, they are supposed to avoid QRMing us, being the primary service. But that's not likely to happen, take my word for it.

### Silent Key

We were sad to learn of the passing of Peter Brightman, ZS2T, on 29 July after suffering several heart attacks over a period of time. Our condolences go to Pam and the family. Peter's grandson, Malcolm, is a member of our RAE class.

We also extend our sympathy to Werner, ZS2WA, and Raphey, ZS2SP, on the recent loss of their son Neal and brother Hyman respectively.

### Congratulations...

### Birthdays

### August

23 Owen Thomas ZS2AZ26 Vic Plumridge ZS2VP

### September

- 1 Julian Sacke ZS2AAV
- 2 Mel Gwilt XYL of Beavan ZS2RL Reinette van Deventer XYL of Andre ZS2BK
- 6 Gerhard Baum ZS2UM Irene Middendorp XYL of Lou ZS2UI
- 8 Phil Hopper ZS2PP
- 9 Brady Ridgeway
- 10 Andre van Deventer ZS2BK
- 11 Jane Fife XYL of Clive ZS2RT Barry Jackson ZS2H
- 12 Jo Akers ZS2W Pam Hopper XYL of Phil ZS2PP
- 13 Dick Schönborn ZS2RS
- 14 DC Groenewald ZS2-100 (Is that Dave?)
- 15 Hanni Baum ZR2JB
- 16 Rietjie Staples XYL of Sel ZS6SS Philip MacGeoghehan ZS2-279
- 20 Van van der Merwe ZS2JC Gideon Grobbelaar ZS2ZS

- Martie vdBerg XYL of Dick ZR2ABH
- 22 Garth Moore ZS2AAR

  Hettie Thompson XYL of Royden
  ZR2ABF
- 26 Garth Laaks ZS2HB
- 27 Ewalt Bouwer ZR2ABN

#### **Anniversaries**

### August

None after those in July QSX.

### September

- 2 Joan & Alan Bowles ZR2ABA & ZS2BO
- 15 Rosemary & Colin Robertson ZR2RR & ZS2CR
- 22 Anne & Vic Olivier ZR2ABC & ZS2SZ
- 23 Joey & Desmond Pettit ZS2ABU
- 28 Hettie & Gerald Taylor ZS2AAX

#### **RAE and CW Successes**

Glad to hear that Lana Swiegers, daughter of Fanie ZS2EM, has in fact passed the RAE and having already done her 12wpm with flying colours, went straight to her ZS call (see below). Chanel Layton, ZU1CL, has passed her 12 wpm CW with ease and

awaits a ZS call as a birthday present from Uncle PMG. Dave Grunewald of Adelaide also passed the RAE. Congrats, all of you!

#### **New Callsigns**

Peter Flynn ex ZR2PF traded the R for an S and now signs as ZS2PF, Fanie Swiegers ZR2CC now sports the call ZS2EM, daughter Lana Swiegers has become ZS2LS; Francois Anker is ZR2NM, Daniel Burger has a short suffix with ZR2B, Arthur Baynes of Adelaide is ZR2ARB, Collette Schönborn, daughter of Dick, has at last taken out a callsign ZR2CBS some two years after passing the RAE, and Hans Joritsma has become ZR2HJ.

Talking of callsigns, many questions have been asked about the prefixes of

the former independent homelands (S8, H5, etc). Well, the ITU didn't recognise those states and actually allocated the prefixes to South Africa. Hence, they remain available for use in the new RSA and don't *have* to fall away. Just how the PMG will deal with them eventually remains to be seen.

Precione back as a member of the premier Branch to Mike Bentley ZR2MBM. As you will see from the Hamnet News on page 6 of this issue, Mike is the highest qualified Branch member! Congrats, Mike.

While House — Peter ZS2PL had a cataract removed. Insists he was never on Robben Island.

### DX OSL Addresses

### LAMBERT LEDOUX, ZS2LL

At the instigation of Fred, ZS2JS, I pass on herewith some QSL addresses obtained from the horse's mouth. All on CW since 9 May, mostly 40 metres. 73 es DX!

EX2L	Larry, via UM8 Buro	U17LM	Vitaly, via PA3CCP (have recvd mine)
EX/UA4FAO	Box 558 PENZA, Russia	T91ESP	via DL3KCI
UAINA	Boris, Box 59, 105122 SANKT, Petersburg	Z.32XA	Ozren, Box 15 STIP, 92001 Macedonia
EW8MW	Vlad, Box 105 Gomel, 246050 Belarus	VQ9LW RK1OWZ	Larry, via WA2ALY Larry, via WA7OBH
VQ9TP	Pete, via N5TP (14 MHz)	UA0ZC	Val, Box 12, KAMCHAΤΚΑ,
UN7LGW	Ivan (23 yrs), Box 73, Kustaniy 458007	XU7HW	683000 Russia Lace, via HA0HW
8Q7AD	Arthur, via DL7AHW	TI.8ABM	Andrè, via F5JDG
4K2BY UN9LGS	Vlad, via KF2KT Vitaly, Box 61,	4K49V	Boris, via UD6DC (IRC?)
ONSEAS	Kustaniy 458007	9Q5EX	via F2VX
UT0CT	Gene, via LZ1XL	EW3LB	Greg, via W3HNK

### Port Elizabeth Branch Committee

Chairman, Rallies	Beavan Gwilt ZS2RL	30-6968
Vice Chairman, Library	Barry Jackson ZS2H	30-3052
Secretary, Uitenhage/Despatch Liaison	Sharon Layton ZS2SL	922-7958
Treasurer, Hamnet Branch Liaison	Clive Fife ZS2RT	32-3203
Awards	Peter Flynn ZR2PF	46-4096
Projects, Repeaters, Packet	Wolf Gerstle ZS2WG	30-1510
•	Martin Layton ZS2ML	922-7958
Tea Convener, JOTA, Field Day	Dick Schönborn ZS2RS	56-3908
QSX, IPHA	Vic Olivier ZS2SZ	30-2440
Inventory Control	Lynne Crothall ZS2MM	35-4671

### **Branch VHF & Other Services**

REPEATERS	
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Town VIIF	. 145,050/650	Kareedouw 145,125/725
Town UHF 4	131,050/438,650	Lady's Slipper 145,100/700
Grahamstown	. 145,150/750	Uitenhage 145,075/675

### OTHER SERVICES

OTHER SERVICES	
Packet Bulletin Board (ZS0NTP)	144,675
Digipeater (Grahamstown - ZS0GHT)	144,675
2m Beacon (ZS2VHF CW ID)	144,910
6m Beacon (ZS6SIX CW ID)	50,005
6m Link with Lady's Slipper 2m Repeater	51,400
Wefax Relay (Meteosat)	145,350
997 A 1 A1 1	

★ Watch this space for developments

### Sunday Bulletins

Branch bulletins are transmitted on Sundays immediately after the Headquarters English transmission, i.e. at about 08:45, on 7098 kHz (40 metres) as well as on the 2 metre linked repeater system giving coastwise coverage from ±Mossel Bay to East London.

DATE	COMPILE, READ & CALL- INS ON 145,700	PE BULLETIN TRANSMIT ON 40 m	CALL-INS ON 40 m
14 Aug	ZS2SZ	ZS2SZ	ZS2RT
21	ZS2RL	ZS2RL	ZS2SZ
28	ZS2H	ZS2H	ZS2RL
4 Sept	ZS2MM	ZS2RL	ZS2RS
11	ZS2PF	ZS2WG	ZS2WG

Was the failed Tour Frances