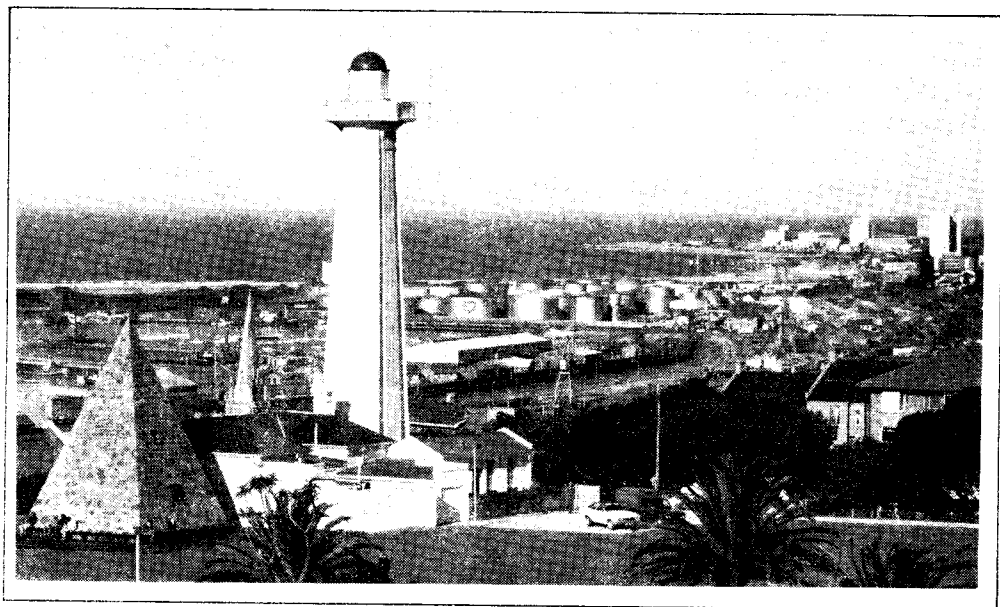
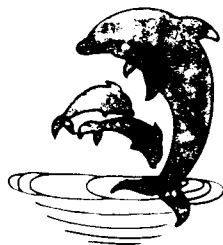




Q S X P E



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

**P.O. BOX 10402
LINTON GRANGE
6015**

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2 - 9 2

NOTICE OF MEETING

The next monthly general meeting of the Port Elizabeth Branch will be held on Friday, 21 February 1992, commencing at 20:15 in the Civil Defence Centre, Westview Drive, Mill Park, Port Elizabeth.

This is a very important meeting as the motions for the 1992 SARL AGM will be discussed. Bring your copy of the Motions, which you should have received with your January Radio

ZS. This is *your* League, and the AGM, through these motions, is the forum where *you express your views* on how things should be done, so please come and have your say.

Actually, there are not many motions to discuss, so perhaps we'll be able to cajole Fred ZS2EQ into giving us an interesting talk on the manufacture of lamps (OK, globes then!)

BRANCH CHRISTMAS DINNER

The Branch's belated Christmas Party will take the form of a dinner on Thursday 27 February (yes, 1992!) in the Yacht Clubhouse at the PE Harbour at 19:30 for 20:00. Please contact Owen ZS2AZ at 54-2177 without delay to let him know if you wish to attend. The meal will cost you R20.00 per head. Drinks will be available at Club prices.

GET-TOGETHER PLANNED FOR BATHURST SHOW

The Bathurst Show will run from 1 to 4 April this year and Phil, ZS2PP, intends once more to put on his FB Ham Radio display. More about this later, but the Branch is planning a **get-together for the whole Border and East Cape Amateur fraternity at Bathurst** to coincide with the event, so keep the Saturday, 4 April, reserved pending confirmation of the planned visit. Some may wish to make a long weekend of the visit - Monday, 6 April is Founders' Day.

**MINUTES OF THE GENERAL MEETING OF THE PORT ELIZABETH
BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE HELD AT THE
CIVIL DEFENCE CENTRE, MILL PARK ON FRIDAY, 17
JANUARY 1992**

PRESENT: 49 members and visitors.

WELCOME: The Chairman, Marge ZS2OB, welcomed all to this, the first meeting of the year, especially to those who were sporting new call signs, as well as our visitors.

MINUTES OF THE PREVIOUS MEETING: The minutes of the meeting of 15 November 1991 as printed in QSX were approved: proposed by Garth ZS2HB and seconded by Raphy ZS2SP. Marge ZS2OB was happy to report that Peter ZS2PL was out of hospital and feeling much better.

FINANCE:

The Treasurer, Colin ZS2CTR reported that the Branch funds stood at R5085,79 and the AGM fund at R1022,80.

CORRESPONDENCE:

1. Other Branch newsletters were tabled.
2. Application forms to join THE Branch and League received from two new members.
3. Stocks of 'How to become a Radio Amateur' have been received from HQ and have been passed to Colin ZS2CTR.
4. Details of the forthcoming AGM to be held at the Technikon Centre, Cape Town from March 13-15 have been received and are available from Marge ZS2OB.
5. Council meeting minutes were tabled.

GENERAL:

1. Raphy suggested that we support our novices by contacting them on 128,465 Mhz.
2. A Hobbies Fair is being considered for this year and the general Branch feeling is that we must take part. More details once things have been decided and finalised.
3. Ben Schilder ZR2ABE has constructed and presented to the Branch not one but four beautifully made Morse keys. These will be sold and the proceeds to go to the AGM Fund. Thank you, Ben. Another handmade key was donated by Gerald Taylor

ZS2AAX and it was suggested that this be made available to members learning the Morse code. Thank you, Gerald.

4. Received from HQ: 'Guide for Branches'. This includes, amongst other things, the League's Constitution and will be kept in the library for reference purposes only.

5. Our social organiser ZS2AZ has given advance notice of an informal get-together at the Civil Defence Centre, as well as the delayed Christmas party. Both events are being planned at this time and details will be provided at the next Branch meeting.

5.1 Branch members also discussed the possibility of the East Cape branches meeting at the Bathurst Show. Apparently the other Branches are also quite keen. Further details to be announced.

6. Thanks to Trevor ZS2AE who said that the Slipper repeater was repaired during the week and was now functioning normally again. He also suggested that the Branch purchase sets of crystals for up to five 2-metre sets he has managed to secure and donate to the Branch. These sets are the property of the Branch and would be loaned to qualified novices, subject to certain conditions.

7. Al ZS2U gave some of the results of the VHF contest and stated that there were over 60 sections in the contest; many more sections than contestants.

8. Marge ZS2OB said that Council were considering having members fees paid directly to HQ. After some discussion the Branch felt that this would be a retrogressive step.

9. Trevor ZS2AE said that the Branch was looking for a 400MHz transceiver, of the portable type, or one that could be modified for use in the 400MHz band. It is to be adapted for repeater use. Can anyone help please?

10. The first DF hunt of 1992 will be held on Sunday 2 February 1992. The start will be at the Civil Defence Centre, Framesby. Further details on the bulletins.

CLOSURE: The business part of the meeting closed at 21:10 and everyone then enjoyed tea and eats.

After the break, Koos Arnold ZS2ABD gave a very interesting talk on maritime radio and the coastal radio network. Our thanks to Koos for a successful talk.

CHAIRMAN

SECRETARY

MOBILE GAIN ANTENNÆ

by Schalk van der Merwe, ZS2Y

Our early morning "workdrive" net on 2 metres deserves a wider audience. Sometimes it even rivals SABC talk shows. Apart from comments on the habits and shortcomings of PE drivers, traffic advisories, boats, helicopters and laptop computers, there are also sage comments on divergent matters. Such as Bevan ZRL, who once likened the current political situation to a ship in mid-ocean, where some of the passengers don't agree with the captain's decisions and knock holes in the bottom of the ship in an effort to sink it. [This article was written *before* the *Oceanos* saga! - Ed.] Colin ZAO came up with some observations on the performance of a $\frac{1}{4}$ wave gain antenna which he was using on that day, and which didn't come up to expectations.

Having done a fair amount of work on the merits and demerits of quarter-wave whip versus mobile gain antennæ a few years ago the following may be of interest.

Soon after my first retirement in 1983, I joined the then Dias Divisional Council as a radio technician. This co-incided with a major expansion of the ambulance/rescue service, where the area of operation expanded from a purely local service covering the rural areas of PE and Uitenhage to a wide area system with its western boundary 30 km from Beaufort West, eastern end at East London and northern boundary on the Fish River. Ten repeaters covered the area and all the vehicles were fitted with quarter wave whips. Needless to say, there were dead spots and bad communication areas.

At this stage we acquired a new Chief Ambulance Officer from the Transvaal, who lost no time in advising me that

they had doubled the range of their vehicles by fitting gain antennæ. While not quite agreeing with this sweeping statement, I did admit that there might be an improvement and set out to do tests to verify this. A radio was modified so that the limiter current could be monitored, and a vehicle was fitted with three antennæ: quarter wave, 3dB gain ASP type, and 2dB gain Katrein type. That's the one with the open series coil, while the ASP has a tapped coil in a plastic housing.

Three areas were picked for the tests. The "Karoo vlaktes" around Steytlerville, the undulating hills in the Grahamstown, Somerset East, Fort Beaufort vicinity and the rugged terrain of the Baviaans Kloof, with its deep valleys and high mountains.

While in most areas we found that the signal into the repeater improved by some 3dB on either of the two gain

antenna, the reception was only marginally improved. The best improvement was in the flat Karroo area, while hilly and mountainous areas sometimes gave a decrease in signal. There was a slight improvement in flutter fading, however.

With the exception of the Baviaanskloof, where the gain antenna didn't perform at all and the vehicles operating in that area retained their short whips, the rest of the fleet was changed. The drivers found a small improvement and the signals into the repeaters were definitely better.

As we operate on split frequencies 7 MHz apart, the SWR on the receiver leg is high. This was worse on the ASP type antenna; the Katrein type has a broader bandwidth. Another finding was that in areas of high intermod, such as around Five Ways in Cape Road, the gain antenna picked up considerably more QRM than the quarter wave. In all instances the antenna was mounted in the centre of the roof, which definitely gives the best all-round coverage.

Practical considerations - the roof mount rusts through the roof of the vehicle in about two years - now have us mounting the antenna on one of the door pillars. This degrades the performance back to that of a quarter wave. However, we have in the meantime increased the number of

repeaters to fourteen, the old 20-watt crystal-controlled radios having been replaced with 40-watt synthesised radios, and the channels used have been increased from five to ten.

Our findings were very much in line with antenna theory. The lower angle of radiation of the gain antenna favours flat open country; in hilly areas all the power goes into the side of the hill, while the higher radiation angle of the quarter wave allows some signal to trickle over the top. The bigger capture area of the gain antenna also tends to pick up more QRM from strong adjacent signals. And, incidentally, the gain antenna improved the range by less than 5%.

So, for two metres, stick to the small unobtrusive quarter wave, which works well anywhere on the car, even the boot lid. Leave the gain antenna to the guy who wants to impress the plebs. And, also, a magnetic or gutter clip antenna is quite a bit down on one that is mounted through the car body - unless you want to mount a set of radials under your whip when the performance will equal a solidly mounted one.

All the above was summed up by Colin, who thought that the gain antenna wasn't worthwhile and he was going back to his quarter-wave whip. HI! Ω

2-METRE VSWR BRIDGE

M.H. TOOLEY BA 6BCKT & D. WHITFIELD BA 6BFTB
ADAPTED AND ABRIDGED FROM 'OUT OF THIN AIR'

In order to transfer the maximum output from a transmitter to the antenna, it is essential that the two items be correctly matched to one another. This is especially true of the modern wide-band transmitters without output tuning facilities. Therefore, the closer the SWR on your antenna system is to unity, the greater the proportion of transmitter power that will actually be transferred. Although the SWR only approaches unity under ideal conditions, in practical situations its measurement will provide a very useful evaluation of your system's performance.

An antenna matching unit (ATU) helps to match your antenna and transmitter, but you must have some means of knowing when the best match is obtained and, for this, a *standing wave ratio meter* is needed during the tuning-up procedure. Commercial ATU's usually have them built in, but not all home-brew units do.

The instrument described here is an SWR bridge which will provide a constant, on-the-air reading whilst allowing meaningful measurements to be made on the relative merits of different aeri-als and aerial sites. It is suitable for use in the feeders of VHF transmitters having outputs of between 1W and 100W.

Circuit Description

An SWR bridge works by sampling the amount of power flowing in each direction along the aerial feeder. This is achieved by the use of a Maxwell bridge transmission line coupler, as shown in Fig. 1. The reactive arms of the bridge are formed by the distributed capacitance and mutual inductance of the coupled lines. The two sampling lines L1 and L2, shown in the circuit diagram of Fig. 2, are coupled to the main aerial feeder and respectively terminated at opposite ends by R1 and R2, thus providing two outputs which are proportional to the forward and reflected signals present. Diodes D1, D2 and capacitors C1, C2 convert the sampled signals to DC for measurement on a conventional meter M1. Potentiometer VR1 adjusts the sensitivity of the circuit, and ferrite beads prevent stray RF pickup in the wiring.

In practice, the bridge can be used either way round due to the symmetry of the circuit, but for convenience, SK1 is assigned to the transmitter and SK2 to the load; this allows S1 to be designated "forward" and "reflected"

tinuous high-power operation of the SWR bridge without a load may cause the 100 Ω resistors and the diodes to be destroyed. The bridge may be left permanently in-line with the feeder between transmitter and aerial, as it intro-

Calibration

Using the recommended meter movement, the instrument may be calibrated simply by copying the scale shown full size in Fig. 5. For alternative types of movement a table of calibration points is given. The new meter scale is best marked with the scale plate detached from the movement, using a fine pen and drawing ink, pencil or dry transfers.

SWR	Reverse Reading (μ A)	SWR	Reverse Reading (μ A)
1:1	0	2.5:1	43
1.1:1	5	3:1	50
1.2:1	9	3.5:1	56
1.3:1	13	4:1	60
1.4:1	17	4.5:1	64
1.5:1	20	5:1	67
1.6:1	23	6:1	71
1.7:1	26	7:1	75
1.8:1	29	8:1	78
1.9:1	31	9:1	80
2:1	33	10:1	82

Using the SWR Bridge

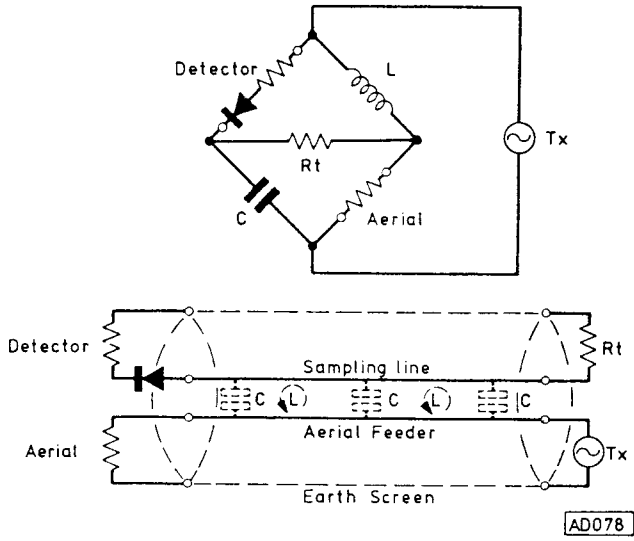
Attach the output of the VHF transmitter to SK1 and the aerial system or some other form of load to SK2, using matched feeder. Set S1 to read forward power and turn VR1 fully anticlockwise for minimum meter sensitivity. Apply RF power from the transmitter and adjust VR1 for a full-scale meter reading. Leaving the setting of VR1 unchanged, set S1 to read reverse power: the meter will now indicate SWR directly.

duces no significant signal degradation in either direction.

Constructors should be wary of placing too much importance on absolute SWR readings. The real value of the bridge lies in its ability to indicate relative forward and reverse power levels. It will be found invaluable as a general aid in the adjustment of transmitters and aeri-

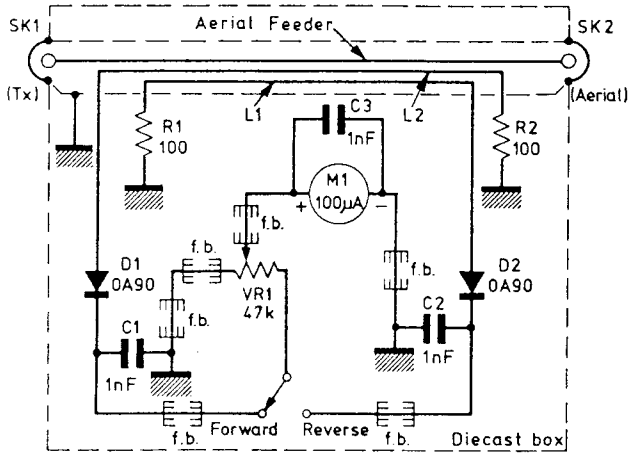
It should be noted that con-

(See next pages for circuit diagrams and components list)



AD078

Fig. 1: Theoretical diagram of the Maxwell Bridge transmission line coupler



AD080

Fig. 2: Complete circuit diagram of the 2m VSWR bridge

Capacitors

- C1 1nF disc ceramic
- C2 1nF disc ceramic
- C3 1nF disc ceramic

Resistors

- R1 100 ohms $\frac{1}{4}$ W 2%
- R2 100 ohms $\frac{1}{4}$ W 2%
- VR1 47k Ω linear carbon

Lines

- L1 250mm 26 s.w.g. enamelled copper wire.
- L2 250mm 26 s.w.g. enamelled copper wire.
- 140mm low-loss 50 Ω coaxial cable of capacitance 56pF/m (UR203).

Miscellaneous

- Diecast box approximately 120mm x 60mm x 44mm.
- 100 μ A 2in panel meter.
- Miniature single pole c/o toggle switch. Control knob with position indicator. Miniature 8-way horizontal tag strip. Earth tags, 5 required. Ferrite beads, 6 required (from TMP Electronic Supplies, Britannia Stores, Leeswood, Mold, Clwydd CH7 4SD N. Wales).

Diodes

- D1 OA90
- D2 OA90 (See text)

Sockets

- SK1 50 Ω BNC
- SK2 50 Ω BNC

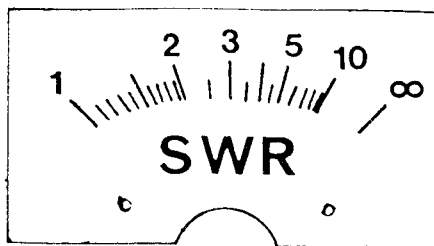
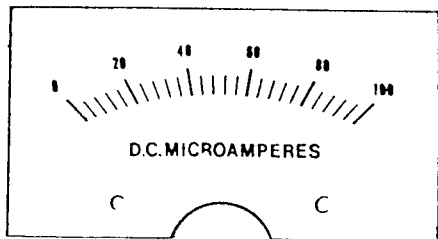
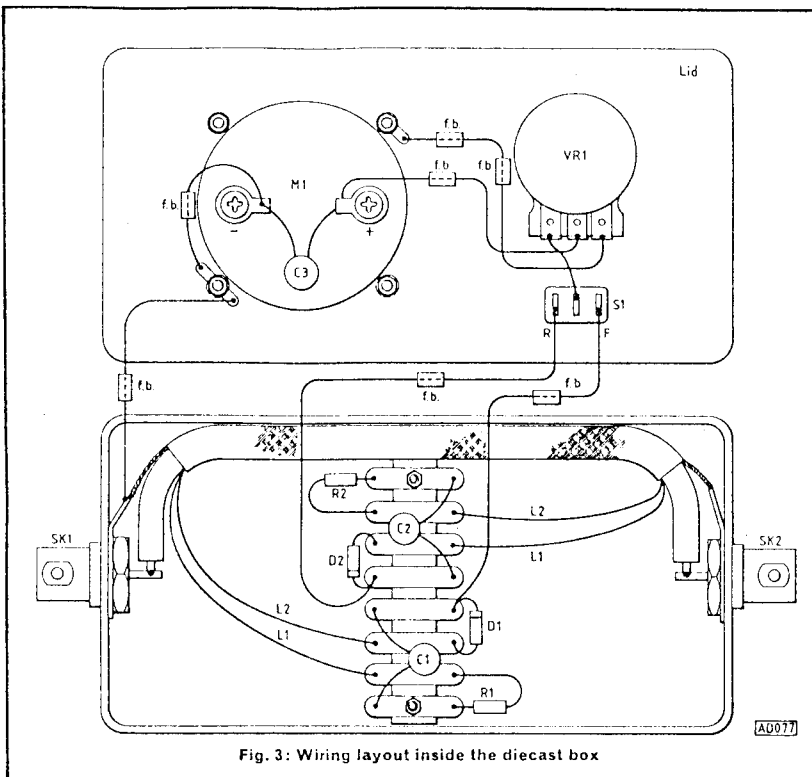


Fig. 5: Meter calibration scale for use with Maplin type '2 in PAN' meter. The original 100 μ A meter scale (left). Replacement scale for s.w.r. measurement (right). Both shown actual size

VHF QSO PARTY RESULTS

Al Akers ZS2U

There is no doubt that the VHF QSO Party was a success here in the East Cape. There were at least 43 stations in the East Cape who either participated or gave points to those who did. It is a pity that only a few stations from other divisions were active.

As has been experienced in the past, the spice of the contests is the portable operations and hopefully we will see more portable stations active in future events.

CONTEST RESULTS

There were no Class 1 entrants.

Class 2

Callsign	6M Simplex			6M Rptr Cross-band		
	ZR2AAN	ZS2CA	ZS2U	ZR2AAN	ZS2CA	ZS2U
Contacts	-	6	10	-	-	3
Locator Squares	-	1	3	-	-	2
Total Distance	-	101	970	-	-	377
Longest Distance	-	77	197	-	-	136
Station Worked	-	ZS2U	ZS2EF	-	-	ZR2AAN

Callsign	2M Simplex			2M Repeater		
	ZR2AAN	ZS2CA	ZS2U	ZR2AAN	ZS2CA	ZS2U
Contacts	4	8	33	3	12	2
Locator Squares	1	2	4	1	3	1
Total Distance	356	194	3035	305	812	1213
Longest Distance	134	77	204	136	163	616
Station Worked	ZS2U	ZS2U	ZS2CI	ZS2U	ZS2EQ	ZS5AAK

WINNERS : Class 2

	6M Simplx	6M Rptr	2M Simplx	2M Rptr
Most Contacts	ZS2U	ZS2U	ZS2U	ZS2CA
Most Grid Squares	ZS2U	ZS2U	ZS2U	ZS2CA
Greatest Total Dist.	ZS2U	ZS2U	ZS2U	ZS2U
Longest Distance	ZS2U	ZS2U	ZS2U	ZS2U

Class 3

Callsign	6M Simplex		6M Rptr Cross-band	
	ZS2AH	ZS2FM	ZS2AH	ZS2FM
Contacts	-	10	-	3
Locator Squares	-	5	-	2
Total Distance	-	1548	-	338
Longest Distance	-	896	-	183
Station Worked	-	ZS6XL	-	ZS2J

Callsign	2M Simplex		2M Repeater	
	ZS2AH	ZS2FM	ZS2AH	ZS2FM
Contacts	3	28	13	12
Locator Squares	2	3	4	4
Total Distance	325	630	3099	2285
Longest Distance	201	124	527	328
Station Worked	ZS2U	ZS2J	ZS5AAK	ZS2EQ

WINNERS : Class 3

	6M Simplx	6M Rptr	2M Simplx	2M Rptr
Most Contacts	ZS2FM	ZS2FM	ZS2FM	ZS2AH
Most Grid Squares	ZS2FM	ZS2FM	ZS2FM	2FM+2AH
Greatest Total Dist.	ZS2FM	ZS2FM	ZS2FM	ZS2AH
Longest Distance	ZS2FM	ZS2FM	ZS2AH	ZS2AH

COMMENT FROM JOHN BRYSON ZS2AH (East London): Thanks for organising a most enjoyable contest.

COMMENT FROM EDITOR: Congratulations to the winners, and especially to Al and Mike for their excellent performances!





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DITS AND DAHS

Viv Moore ZS2VM and his helpers have started the first 1992 series of RAE classes and I saw a good dozen or more pupils of all ages at the first session. Good luck, and stick with it, all of you!

Martin Layton ZS2ABN and Louis Saunders ZS2CB are running RAE classes in Uitenhage. Our good wishes to you and your pupils on this venture. Keep us informed of the progress, chaps.

Marge will be representing us at the League's AGM on Saturday, 14 March 1992, with associated events laid on from Friday 13th to Sunday 15th. Apart from the natural beauty of the deep South, the Capetonians are renowned for their down-to-earth friendliness, so a happy visit is assured.

The 1992 RAE examinations will be held on 14 May. Applications should be submitted to reach the Department of Posts & Telecommunications by the end of February to be on the safe side.

Al Akers ZS2U is setting up a ZS2PE field station at his favourite Zuurberg mountain site in the next few weeks, going all-out to net a DXCC for the Branch. He will probably set up a similar station at a closer site a little later to enable members to participate more easily. Listen to the bulletins.

Thanks to Trevor ZS2AE for acquiring five 2-metre transceivers for the Branch and also to Viv ZS2VM for the trouble he has taken to repair 2m transceivers and convert CB sets to operate on 10m for loan to our new ZR/ZS licensees and Novices respectively. The Novices are set up on 28,465 MHz, and all members are invited to listen for them on this spot to keep their interest up.

Trevor ZS2AE is looking for a 400 MHz base or mobile transceiver that he can use for linking two Branch repeaters. Anybody out there who can help?

Thanks to Ben Schilder ZR2ABE for donating four very novel morse keys that he made. These are being sold to swell the AGM Fund. Thanks also to Gerald Taylor ZS2AAX for his donation of a morse key, ingeniously hand-made from brass window fittings. He clearly takes panes to help his fellow-hams latch onto CW!

Just to prove it wasn't a fluke last time, Colin ZS2CTR did it again and came in first in the DF hunt held on Sunday, 2 February 1992. He was followed into second place by one of our newest licensees, Novice David Butcher ZU1AAW who, taking it all in his stride, still

found time to coach his father in the finer art of the game. And believe it or not, Bud ZS2CA didn't get his feet wet this time. True, he had our other two Novices, Mike Bentley ZU1MBM and Damian Wright ZU1DW as well as Viv ZS2VM helping him!

PE Branch is currently the sixth-largest branch in the RSA with a membership of 166. We have 99 Ordinary, 39 Pensioner, 5 Spouse, 12 Student, 3 Incapacitated and 8 Social class members. And still we grow...

BULLETINS - QSX will in future carry a bulletin roster for the ensuing five or six weeks. The first call sign column indicates the person responsible for compiling and transmitting the bulletin on 40 metres, while the second column shows whose turn it is to relay on 2m. Operators who for any reason cannot perform should arrange with others to stand in for them, please.

BULLETIN ROSTER		
	BULLETIN (40 m)	RELAY (2 m)
Feb 16	ZS2HB	ZS2AZ
23	ZS2AZ	ZS2U
Mar 1	ZS2U	ZS2CA
8	ZS2CA	ZS2SZ
15	ZS2SZ	ZS2VM
22	ZS2VM	ZS2CTR

1994 AGM FUND NEEDS YOUR HELP

A year after its establishment, the fund stands at a mere R1306,70 - and we need something like R7 000 before March 1994 if we are to make the SARL's AGM '94 in Port Elizabeth the outstanding event that we all hope it will be.

Just R3 a month per member would help us to reach our target. Of course, the earlier we receive donations the more interest will accrue and thus further swell the fund.

We appreciate all contributions made to date - some members have given, and are still regularly giving, handsome sums, for which we thank them.

Don't you know of any possible sponsors? Are you any good with a jemmy or pistol?

★ ★ PERSONAL NEWS ★ ★

CONGRATULATIONS ... to the following members and/or their spouses as well as other friends who will be celebrating in the coming weeks:

Birthdays – February: Sannie Vorster (ZS2BE) (25th); Waldie Bartie ZS2WM (26th) (got the names right way around this time, Waldie!); Wolf Gerstle ZS2WG (29th). **March:** Susanna Bosch (ZS2FM) (15th); Mervyn Akers ZS2F (20th); Andrew Gray ZS2G (21st).

Anniversaries – February: Doris and Arthur Edwards ZS2DJ (24th); Ria and Garth Laaks (29th). **March:** Sandra and Phil Bothma ZS2B (3rd); Vaun and Bud Voortman ZS2CA (15th); Maureen and Neil Fulton ZS2MG (21st).

... to our new licensees Hani Baum ZR2JB, Rosemary Robertson ZR2RR, Dudley Radue ZR2RD, Damian Wright ZU1DW, Dick van der Bergh (Cradock) ZR2ABH, Des Pettit ZR2ABI, Ewald Bower ZR2ABN, Paul de Vos ZR2ABM (Humansdorp), Gideon Grobler ZR2ABL, Martin Layton ZS2ABN, Michael Schwenkert ZR2ABJ. Are there any others about whom we haven't heard?

WELCOME to new members Ewald Bower ZR2ABN, Martin Layton ZS2ABN, Desmond Pettit ZR2ABI, Dennis Flynn ZR2XXX (*Oh! Extra Strong*), Mike Bentley ZU1MBM, Robert Bosch ZS2-277, Philip Mac Geoghegan ZS2-279, Dudley Radue ZR2RD Marc Schaefer ZS2-278.

HOME AGAIN: OM Harry 3DAOAU is back home again after his trip to Australia. Welcome home, Harry!

RUNNING AROUND... Vic and Ann Olivier are taking a slow coast-wise drive with the Saldanha Bay area as their ultimate destination to revisit places they haven't seen for a decade or so. Enjoy your trip, you two, and come back safely.

Hamads # Hamads # Hamads # Hamads # Hamads # Hamads # Hamads

FOR SALE: Kenwood Receiver model R1000, 50kHz - 30MHz R800; Commodore 64 computer with tape drive and a few games, as well as plug-in modules: Offers? - Viv Moore ZS2VM, tel. [041] 30-4433 (home)

WANTED: 100pF Variable capacitor suitable for GDO; also ARRL Handbook (any edition) - Peter Lunow [0422] 99-44265

PORT ELIZABETH BRANCH COMMITTEE

CHAIRMAN & PUBLICITY	Marge Weller	ZS2OB	31-1639
VICE CHAIRMAN, TREASURER	Colin Robertson	ZS2CTR	30-0570
SECRETARY	Fred Bonthuys	ZS2EQ	63-3804
SPECIAL EVENTS, CONTESTS, HAMNET	Al Akers	ZS2U	30-2983
AWARDS, RALLIES	Bud Voortman	ZS2CA	34-2770
PROJECTS, TRAINING & QSX COMMITTEE	Yiv Moore	ZS2YM	30-4433
EDITOR: QSX-PE	Garth Laaks	ZS2HB	38-1101
LIBRARIAN, DF HUNTS, IPHA	Vic Olivier	ZS2SZ	30-2440
SOCIAL, GUEST SPEAKERS	Owen Thomas	ZS2AZ	54-2177

DIGITAL TECHNICAL LIAISON	Lionel Coombe- Davis	ZS2DD	32-1770
REPEATER WORKING GROUP CO-ORDINATOR	Trevor Scarr	ZS2AE	32-1746

BULLETIN ROSTER

Bulletin readers please refer to your roster sheet.

SUNDAY BULLETINS

Bulletins are transmitted on Sundays at about 08:40
(after the Headquarters bulletin) on -

- 7,098 MHz (40 metre band SSB)
- 145,700 MHz (2 metre band FM - Lady's Slipper)
- 51,400 MHz (automatic link with 2 m Lady's Slipper)
- 14,130 MHz (20 metres SSB) when conditions require.

BRANCH VHF & HF SERVICES

Town Repeater (PE Central)	145,050	/	145,650	MHz
Grahamstown Repeater	145,150	/	145,750	MHz
Lady's Slipper Repeater	145,100	/	145,700	MHz
6 metre link with Lady's Slipper	51,400	MHz (simplex)		
Cockscomb Repeater	145,000	/	145,600	MHz
Kareedouw Repeater	145,075	/	145,675	MHz
University Repeater	145,175	/	145,775	MHz
6 metre beacon (ZS2SIX CW ID)	50,005	MHz		
2 metre beacon (ZS2PE CW ID)	144,910	MHz		
Packet Bulletin Board	ZU8KCD	-	144,675 & 14,109	MHz,
	KAM		Version 3.0	software

BRANCH MEETINGS

20:15 (8.15pm) on the third Friday of the month in the
Civil Defence Centre, Westview Drive, Mill Park

**** We like being your branch ****