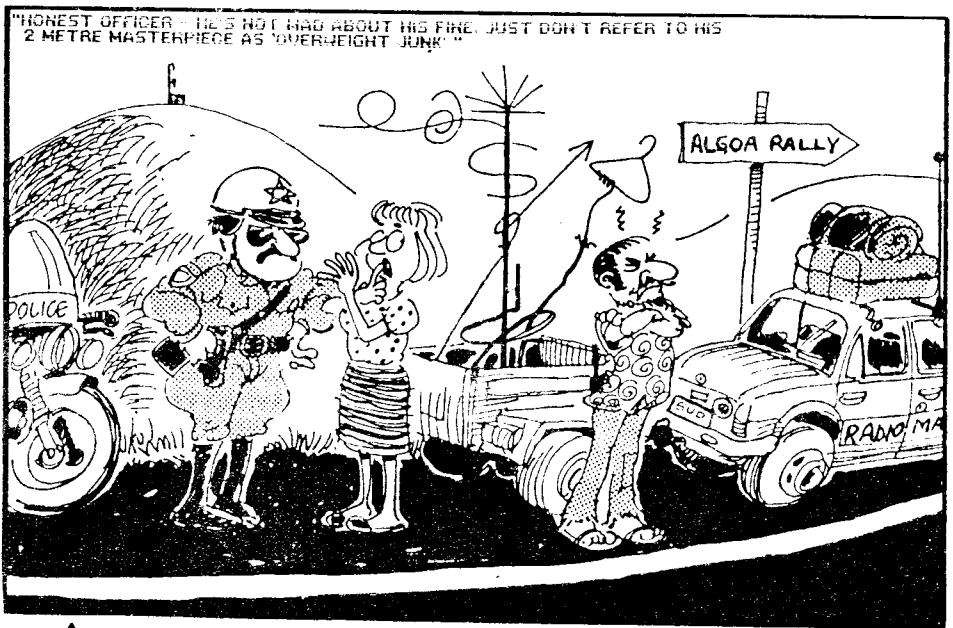


The New Look
July 1993
Q S X
Port Elizabeth



The Port Elizabeth Branch of the
South African Radio League
P O Box 10402
Linton Grange 6015

NOTICE OF MEETING

The next meeting of the Port Elizabeth Branch will be held on Friday, 16 July 1993, commencing at 8.00 pm. (20:00) in the Civil Defence Centre, Westview Drive, Mill Park, Port Elizabeth.

This will be an informal meeting (no business) with Al ZS2U giving us the final briefing on the forthcoming Algoa Motor Rally. The Clerk of the Course, Joe Fourie, will be present to answer questions. If you are assisting with rally comms then it will definitely be in your interests to attend this meeting. There are insurance forms to be filled in and various arrangements discussed, such as the time and place for mobile operators to meet rally marshalls, directions for stage operators to find their positions, etc.

Additionally, if time permits, Vic ZS2SZ will be telling us about his recent trip to Australia. Knowing the way Vic puts things across, this should be most interesting. See you there!

ANNUAL SUBSCRIPTIONS

A reminder that annual subscriptions to the SARL are now due and payable as per the remittance form forwarded to you by Headquarters.

Although the remittance form states "Branch Levy R0.00", in order for us to maintain the monthly production of QSX, it would be appreciated if you could include a **voluntary** contribution of R5.00 (or more !) in addition to your subscription renewal.

Donations included towards the Branch 1994 AGM Fund will always be welcome, too!

To make the job of our Branch Treasurer that easier, please remit your subscription payment direct to the SARL HQ, PO Box 807, Houghton, 2041. Thank you.

ZS2CTR

on Frequency

- * The success of the informal meetings held by our members in the Uitenhage/Despatch Informal Group and the positive response received from the introduction of bi-monthly business meeting proves the point that a lot of our members do not want to be bothered by the business and minor matters we have had in the past with the traditional format of general meetings. One keeps hearing "Ham radio is a hobby to be enjoyed!" On the other hand there are members who take a keen interest in the "business" side of the Branch.

Being a constituted organisation there will always be administration which has to be attended to and often far-reaching decisions to be made. Because of this an informal group compliments our activities locally very well.

Your Committee has been listening and recognises the fact that whilst business must remain a necessity at General Meetings, it definitely needs to be limited.

In the light of this, the Committee recommends:

- That business at monthly meetings be limited to a period of 15 minutes only. After this period, matters raised by members should be put in writing and addressed to the Secretary.
- That the Committee should dispose of as much business as possible at its meetings, and similarly as much business of interest to members should be published in QSX or on Sunday bulletins.

Please would you consider this recommendation as you will be asked to vote on it.

- * Intechnet on Sunday 27th June proved to be a great success locally. The telephone line quality from the USA via Johannesburg was excellent, and the talk presented by Lyle Johnson on Packet Radio was probably the most interesting and informative Intechnet organised to date. It was also great to receive such a good response from PE listeners at the conclusion of the talk, and we mustn't forget to thank the SARL HQ for providing this service.
- * Thanks to Ken ZS20C and Al ZS2U and other helpers for recently overhauling the Kareedouw Repeater in preparation for the Algoa Rally.

Regrettably, the re-installed Stutterheim repeater, which is on the same frequency as Kareedouw, has at times resulted in reception problems for many stations in PE - even in a low-lying area like Algoa Park - with the Stutterheim signal overriding that of the Kareedouw repeater. East London is not prepared to change the frequency of their repeater, so it's over to us to overcome this hassle! The only standard repeater frequencies available as alternatives to 145.725 are 145.625 or possibly 145.600 MHZ (that of the Cockscomb unit **when** it is moved). After the Algoa Rally no doubt the Committee and Repeater Working Groups can sort this one out.

- * This is the first issue of the "New QSX" and we hope you like it. My thanks to Martin ZS2ABN for his fine technical articles. Any suggestions for improvement, and more importantly your articles for inclusion in it, will be most welcome.

The cover cartoon, by the way, is with apologies to the "Weekend Post" - the resemblance was too good to resist!

73 de Colin ZS2CTR



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RAE RESULTS

The results of the May Radio Amateur Examinations were released by the Dept of P & T just 3 weeks after the exam was written (they must be after more licencing revenue!) and brought good news to the following candidates:

Class-B Exam:

Cedric Boast of Port Alfred (Age 76!)
Mark Kensley of the Westering High School

Class-A Exam:

Arthur Baynes of Adelaide
Cheryl Pelsler, YL of Gary ZR2AGR
Charl Marais ZUIYB of Uitenhage (Age 15!)
Sean Olivier - the 5th ham in the Olivier family! (Is this the largest single-generation ham-family in ZS?)
Sakkie Greef
Karl Stone
Johannes Jooritsma

CONGRATULATIONS TO YOU ALL !!

Cedric Boast's C-aggregate pass is a particularly remarkable achievement and an example to his younger peers. The SARL news broadcast team "Amateur Radio International" interviewed him just after he received the good news and we noted that Cedric will confidently be going for his CW test soon. (Come on the other Class-B RAE Certificate holders!)

Arthur Baynes' pass is also good news. Arthur has proved that the old adage of "if at first you dont succeed,"

And its great to be getting another YL onto the air. The growing number of YL's in PE will be taking over the repeaters soon guys!

Most of the other candidates who didnt pass did well with the regulations. November is just around the corner ... go for it !

To the Branch Technical Training Group, Keith ZR2AAX, Al ZS2U, Gerhard ZS2UM and Garth ZS2HB, the results must be most rewarding. Congratulations on the credit that you have brought to our Branch, and thanks for giving up so much time for the cause of our hobby.

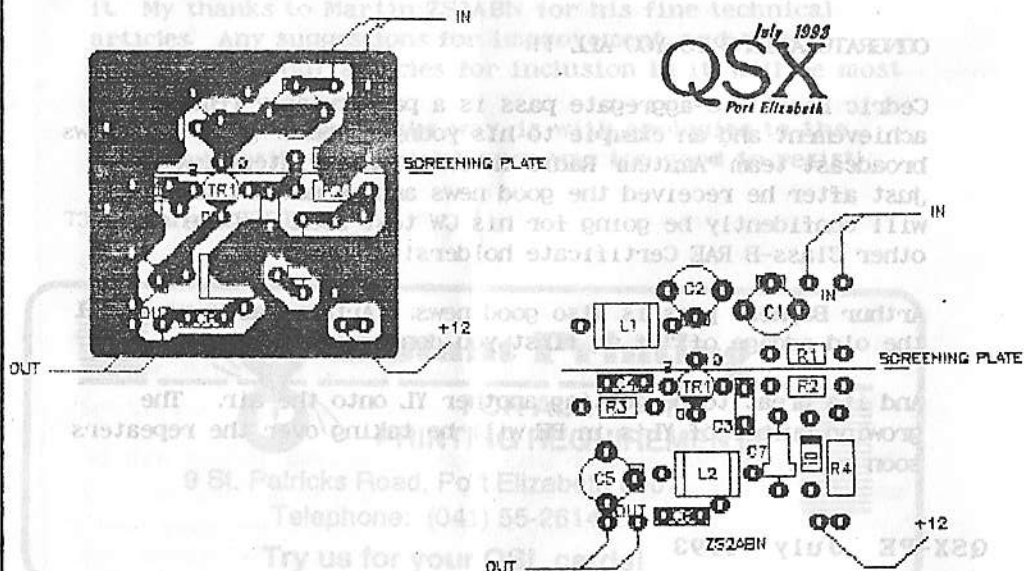
NOVEMBER RAE CLASSES TO START :

Technical classes for the November 1993 RAE get off to a start on Monday 26 July at 7pm with a meeting of students at the Civil Defence Centre, Mill Park. If you know of someone interested in becoming a ham please tell them about these classes and this meeting.

PRE-AMP FOR 2 METRES

We inadvertently omitted to publish the overlay for the Pre-amp circuit featured in last month's QSX and now have it for you.

Ed ZR2EKT can supply the PC board for this unit and can be contacted on 041-9922450



THE WALLBROG

Martin Layton ZS2ABN
2m Transceiver

Part One

With all the interest in 2 metres and the lack of projects, it was felt a complete transceiver, easy to assemble and " get going " would not go amiss. The aim of the project was to stimulate construction (homebrewing) on the VHF bands as well as to provide comms within the primary contours of local repeaters.

THE TRANSMITTER

Circuit Description

Tr1 forms an Osc tripler using 12 MHz crystals and this is tripled to 36 MHz by tuning the collector circuit to the frequency by means of C5 and L2. The output of the Osc is further filtered by L3 and fed to Tr2 which acts as a doubler to 72 MHz. Tr3, again a doubler multiplies the 72 MHz signal to 144 MHz and this is further amplified by Tr4. The output network L6, L7, C18, C19 and C20 form the output filter and impedance matching network to feed a normal 50 ohm load. Modulation is applied to audio (mic) amp Tr5 and Tr6 with R17 being adjusted for suitable deviation or audio quality. The modulating signal feeds D2 via R18 (100K) which acts as a varicap diode pulling the crystal (Y1) to frequency modulate the oscillator.

THE RECEIVER

Circuit Description

The receiver is built around a NE604 IC which is a complete FM Subsystem in itself. This device contains the IF amplifier, Limiter, Detector, Mute (Squelch) circuit, Audio Pre amp and S-meter option, the latter not being used in this circuit. The front end uses dual gate Mosfets as RF amp and mixer, fed by a single stage Osc/tripler. The Osc uses third overtone crystals cut for 45 MHz, the received frequency being Crystal Frequency x 3, + 10.7 MHz, which is the IF.

ie : $44.9916 \times 3 = 134.9748$

$134.9748 + 10.7 = 145.67498 \text{ MHz (} 145.675 \text{)}$

The final frequency being, in this example, the receive frequency of the Uitenhage Repeater.

The received signal is amplified by Tr7 and fed to the mixer, Tr8, together with the Osc output. The product of the two signals then passes through the IF filter, L14, L15, L16 and L17 which are tuned to 10.7 MHz. This is then amplified by the NE504. Audio output is taken from Pin 6 and, via the volume control, fed to the audio output stage IC2. Here the signal is amplified further and fed to the speaker. Muting is by means of Vr1 with Vr2 serving as the preset level.

CONSTRUCTION

Construction is fairly straight forward. Before mounting the components, cut suitable pieces of tin (an empty coffee tin is fine) +- 1cm high to serve as the screening as detailed on the component overlay. Solder these into position making sure to leave enough clearance for close fitting components.

Next mount the coil formers for the slug tuned coils.

This is done by drilling the board so that the formers are a snug fit. Cut off any bases on the formers, press through the holes you have just made, and fix into position with superglue.

The filter adaptor is made in the same way, add the supply, input and output leads which then match the pads on the main PCB. Fit this unit to the main PCB when all the other

components have been placed. If a crystal filter is on hand, an adaptor can be made to fit this if desired. Note : necessary

matching would have to be included to suit the filter

concerned. With the expense of crystal filters, it was felt

this be left to the individual. Once the final assembly of the board is complete (don't forget the jumper wires - see overlay) the board can be mounted in a suitable box. Keep the crystal switching wires as short as possible and make provision for this when mounting the switch.

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To be continued

FEEDBACK

- * The financial position of the branch as at 30 June 1993 was as follows:-

Savings Account	R 2 308, 96	General Fund	R1 142, 67
Fixed Deposit	7 888, 33	Repeater Dev Fund	3 285, 06
Total	R10 197, 29	1994 AGM Fund	5 769, 56

- * Grateful thanks to Raphy ZS2SP for accomadating Farrell Segall ZS6RW, guest speaker at our June meeting, at his QTH, and for hosting a very entertaining get-together and tea-party at his QTH the following morning. 10 members turned up and thoroughly enjoyed listening to Farrell talking about League affairs and his trip to Russia last year where he visited his family and several ham radio clubs and shacks.
- * Raphy is also to be thanked for a donation of R100 to our Repeater Development Fund
- * We must also thank Farrell for the most entertaining talk he presented at our last meeting - it went on 'till past 11pm and had most present glued to their seats right to the end!
- * Rad ZS6RAD reported on an Amateur Radio International broadcast that during mid-June our 6-meter beacon was heard pounding into Division 6. He tried unsuccessfully to alert the main local operators telephonically and has since asked that we compile and provide him with a list of names and contact numbers of all 6-meter operators in ZS2. This should avoid a repetition of openings being missed. Any takers?
- * The portable repeater with a new filter to be used for the W Rally on 145.025/625 MHz has been given a major tune-up by Chris ZS2AAW. Many thanks, Chris.
- * The Conference Centre at the Port Elizabeth Technicon in Summerstrand has been booked as the venue for next year's SARL National AGM in March. It is a magnificent complex which will stand us proud

- * Uitenhage can boast a DF Champion. A stray RF signal was plaguing the 2-meter band in Uitenhage. A lot of discussion took place about it, but the "do-er" was Andries ZS2P who borrowed a spectrum analyser and in no time tracked it down to a faulty alarm transmitter operating around 143 MHz on the premises of a shop. The shopowner took some convincing that it was faulty but finally called in the alarm company. After a return of the PA stage all was well again. Congratulations on your success, Andries.

- * The Voortrekkers "CQ Hou Koers" takes place on Saturday 21 August from 9-12:30. This year the theme will be "Jeug tot Jeug", with the accent on young people speaking to each other on HF under licenced supervision. Would anyone like to represent the Branch for this event? If so, please would they contact the Branch Chairman.

- * Thanks to all present at our June meeting who responded to the request for a donation of at least R1,00 for tea/coffee and biscuits. Over R50 was donated! Up until last month the expenditure for providing refreshments exceeded the donations received. As someone said: Try and buy a cuppa with biscuits for a Rand today!

- * The July meeting of the U/D Informal Group of our members held at the fb QIH of Louis ZS2CB in Despatch was the best attended to date with over 40 present. There was a very good turnout of members from PE and even Gideon ZS2ZS and a friend ran the gauntlet on the road from Humansdorp. Unfortunately Gideon was unable to avoid riding over some large branches placed across the roadway on their way in, and his mobile took some damage. Colin ZS2AO presented a talk and demonstration on Satellite TV which was most interesting. A walk into Louis' spotless shack was quite an eye-opener. Louis had on the bench a recently completed homebrew "U/D Walkie" transceiver (as featured in this issue of QSX) and it was working a treat on the Uitenhage repeater. Also, the drilled PC board with overlay for this project produced by Ed ZR2EKT at R65,00 is definitely a bargain at the price. Many thanks once again to the U/D Group for arranging a most pleasant evening!

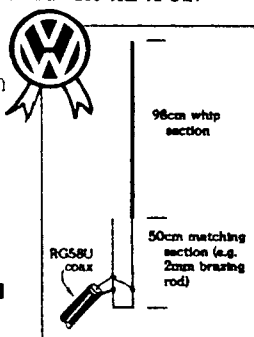
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Portable 2 metre J-antenna

Al Akers ZS2U

The Volkswagen Alfoa Rally is coming up, and it is essential that each rally operator have a suitably good antenna system for the comms to be successful. Not so long ago I published this article in QSX, but I think this is a good time to have it republished. [So do we, Ed] The antenna described here is a 2m J-pole which can easily fit into your car boot and can quickly be erected to a height of four to seven metres.

The antenna is as shown in the diagram. The quarter-wave matching section is 50cm long and fits into a length of white PVC pipe 20mm in diameter. The matching section would normally be 51,5cm long, but the pipe lowers the resonant frequency somewhat and I found that 50cm works fine. Use the **WHITE PVC pipe**, **NOT** the black type, which contains carbon and has a greater effect on the antenna.



The 98cm section is the half-wave element and this could be a stainless steel whip or, as in my case, a telescopic whip. The whip section has a banana plug soldered to the bottom, and the top of the PVC pipe has a banana socket fitted into it and connected to the top of the matching section.

The coaxial (co-ax) feedline is tapped up the matching section to effect a match. A good point to start is about 5cm up from the bottom, then shift the tap point up or down until you get the lowest SWR. My antenna has an SWR of less than 1,4:1 over the frequency range I require, that is 145 to 146 MHz.

I used 2mm diameter brazing rod for the matching section. Discs cut from polyethylene rod and drilled holes with 10mm apart act as spacers, keeping the matching section spacing constant and holding it in place with the pipe, into which the discs fit snugly.

SWOP SHOP

Dennis ZS2DVB in East London has the following items for disposal:

Kenwood TS-830S HF transceiver
Kenwood AT-230 Antenna tuner
Mosley 3-element tri-band beam
10-metre galvanised lattice tower

Interested? You can contact him on 0431-473961

Al ZS2U has surplus to requirements a brand new C11 HF transmitter and some 220 volt single phase motors, etc. You can of course contact Al on 302983.

WISE WORDS : LIFT YOUR HAT TO THE PAST,
ROLL UP YOUR SLEEVES FOR THE FUTURE.

FOCUS ON MEMBERS

Viv ZS2VM and Peggy spent some time in Division 1 recently and paid a visit to Bud ZS1B at his new QTH in Tokai. Viv was very impressed with Bud's new well laid-out shack. Bud will be in PE at the end of July especially for the VW Rally. Stand-by for his visit!

We often hear "fishy" stories on the 700 repeater from Alan ZR2BL while he's on his boat on the Gamtoos River, but the latest one has a funny turn to it. Alan had a strike and had hardly turned around to take the rod when he got another strike - not another fish but of all things, a bird turned up in the nylon! He carefully reeled in the line to find a small tern somehow well entangled in the line. All turned out happily, however - the bird was saved and the fish landed. What you call a turn-up for the books, Alan!

Our hearts go out to **Owen ZS2AZ** whose yacht "Fortress", which we all got to know very well through Owen's fascinating talks on its travels - only recently to Rio, sank off Danger Point last month. Owen was aboard at the time and made an attempt to salvage equipment, including his HF rig, but this was thwarted when the crew was rescued by helicopter and couldn't retrieve the rig. Fortunately Owen was not injured, but his loss is quite a setback.

Welcome back to **Vic ZS2SZ** and **Anne ZS2ABC** from their visit to the land of Oz. From what we've already heard on the air Vic, it sounds like you had a great time and could go back tomorrow!

Back from a holiday in Mauritius is **Andre ZS2BK**. Andre was nominated "Best Achiever of the Year" at his saltmine and the trip was the prize. Well done, Andre.

Our deepest sympathies to **Gary ZR2AGR** on the loss of his grandfather and also the loss of a close friend from work on the same day. We are thinking of you at this time, Gary.

Great to hear **Grobbie ZS2JO** back on the air after a short spell in hospital. Grobbie sounds just as "op-en-wakker" as ever again.

Congratulations to **Sel ZS6SS** and **Rietjie** on the marriage of their eldest daughter in Cape Town recently.

Roger ZS5L has bought a farm in the Harkerville area (the other side of Plett) and is talking of joining the branch again. 'Will be good to have you aboard, Roger.

Glenn S63X and **Danie ZS2CX** have both gone in for "Pactor" (the latest mode of transmission) and can be heard rather distinctively in QSO on the HF bands. They are looking out to make contact with other local Pactor users.

We wish **Hani Baum ZR2JB**, **XYL** of **Gerhard ZS2UM** a speedy recovery after a recent minor operation.

Alan ZS5AG has recently returned from a trip to the United States where he had a most pleasant stay, visiting friends and brought back a new HF transceiver with him. Lucky fellow!

Port Elizabeth Branch Committee

<u>CHAIRMAN</u> , <u>TREASURER</u>	Collin Robertson	ZS2CTR	30-0570
<u>SECRETARY</u>	Fred Bonthuys	ZS2BQ	63-3804
<u>HAMNET</u> , <u>SPECIAL EVENTS</u> , <u>CLUB STATION</u> , <u>RALLIES</u>	Al Akers	ZS2U	30-2983
<u>SPECIAL EVENTS/RALLIES WG</u> ..	Peter Flynn	ZR2PF	46-4096
<u>PROJECTS</u> , <u>DIGITAL SERVICES</u>	Wolf Gerstle	ZS2WG	30-1510
<u>CONTESTS</u> , <u>AWARDS</u>	Donovan van Loggerenberg	ZS2DL	992-2374
<u>TRAINING LIAISON</u>	Keith Olivier	ZR2AAX	30-2440
<u>SOCIAL</u> , <u>GUEST SPEAKERS</u>	Dudley Rache	ZS2DR	33-2255

EXTRA-COMMITTEE APPOINTMENTS

<u>SA AMSAT LIAISON</u>	Lionel Coombe- Davis	ZS2DD	32-1770
<u>LIBRARY</u> , <u>DE</u> , <u>IPHA</u>	Vic Olivier	ZS2SZ	30-2440
<u>YAS LIAISON</u>	Mike Bentley	ZR2MEM	30-1498

Sunday Bulletins

Bulletins are transmitted on Sundays at 08h45 on :

7098 kHz	:	<u>40m</u>	<u>2m Net</u>		<u>40m</u>	<u>2m Net</u>
145-700 MHz	:	25/07 ZS2BQ	ZS2DL	08/08	ZS2DR	ZR2PF
145-750 MHz	:	01/08 ZS2U	ZS2CTR	15/08	ZS2WG	ZS2BQ

Branch VHF & HF Services

Repeaters :

Town VHF	145-050/650	Kareedouw	145-125/725
Town HF ...	431-050/438-650	Lady's Slipper ..	145-100/700
Cockscomb	145-000/600	Uitenhage	145-025/625
Grahamstown	145-150/750	University	145-175/775

Other Services :

2m Beacon (ZS2PE CW ID)	144-910 MHz
Packet Bulletin Board (ZSOPEL)	144-675 & 14-109 MHz
Digipeater (Grahamstown (ZSOGHT))	144-675 MHz
6m Link with Lady's Slipper	51-400 MHz simplex
6m Beacon (ZS2SIX CW ID)	50-005 MHz