



we wish you a  
**Q**uite **S**uperb **X**mas!  
from **P E** - the Premier Branch



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

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

**FAX (041) 35-1309**



**December, 1991**

## NOTICE : NO MEETING

There will be NO monthly general meeting of the Branch during December. However, you have no reason to mope about it. Just remember that we'll probably have our usual Christmas Get-together some time around the middle of next year. If that goes down well, we might even have a New Year's Eve party in the second half of 1992.

Now isn't that something to look forward to?

PE. Your go-ahead Branch. Not bound by outmoded concepts of time

### **\*\* Top RAE Marks in RSA \*\***

Hearty congratulations to DAMIAN WRIGHT, one of our local students for the Novice class RAE, who didn't merely pass the November examination at his first attempt but gained the highest marks in the Republic!

Well done, Damian. Frankly, we never thought any of you Novice class hooligans would make it but we're proud of you all, and especially you!

And, of course, congrats to Viv and Vic not only for getting the message through those thick skulls but also for putting up with the racket all those months. I don't know who did the most talking - the lecturers or the lecturees.

HATS OFF ALSO TO HANI BAUM, who scored an A for Regulations, B for Technical and - get this - an A on aggregate. Her Technical marks must have been bordering on an A in order to attain an A aggregate, and I expect that she may well have had top marks in the Republic among the ladies. We doff our hats to you, Hani.

And don't forget Ernst Neumann, who attained three A's!! What can we say?

We're also proud of all our other candidates who passed (see Personal News, p11), especially the ladies. Someone suggested that, with all the new YL operators, we will be able to form a YL club. It would be fine if the YLRL (Young Ladies' Radio League) could be resuscitated. It had to go into recess many years ago due to a serious drop in their ranks, an outflow of the reduction in the number of YL's taking out ham licences after the introduction of the technical examination.

If memory serves me well, SA's YLRL was the second such organisation in the world. It would be really something to get it re-activated. How about it, girls?

---

## **Christmas Message from the Chairman**

Without any frills about coming to the end of another year, and Oh how quickly it has gone, etc., I will get on with my message!



I would like to wish all the members and families a very blessed and happy Christmas and/or Chanukah.

If you will be travelling away, please take care on the roads - we really would like to have you back again with us next year. Make sure that you lock up securely, cancel the papers and the milk and above all, don't tell everyone on the air that you are going away - these days you never can tell who is listening!!

So, have a lovely restful time, enjoy the special Season and on behalf of the Committee and myself, I wish you a very happy, healthy and more prosperous 1992 and success in everything you do. Let's make 1992 a bumper year for the Branch as well - not only in membership numbers, but in friendship, social activities and other achievements.

Marge, ZS20B

---

## **TOWER STANDS 600 METRES HIGH** from Al Akers ZS2U

The Keloland FM radio and TV tower situated near Sioux Falls, South Dakota in the USA has a height of 610 metres above ground and is one of the world's tallest structures. The top reaches 1 050 metres above sea level.

It has a 2,75 metre triangular cross-section, weighs 227 273 kg and is guyed with numerous stout steel cables\*. The combined total length of the guy cables is 12,8 km.

Hot dip galvanizing of the tower used 2 910 kg of zinc, while 546 litres of colour marking paint is needed whenever the structure requires repainting.

Ascension time by elevator is 20 minutes. To climb the tower manually takes 2 hours\*\*.

\* If all the guy cables were laid end to end, the tower would fall down - Ed.

\*\* Speak for yourself - Ed.

# CHRISTMAS CROSSWORD COMPETITION

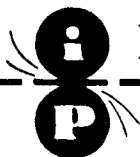
Here's your chance to win nearly FIVE HUNDRED RAND in our Christmas crossword competition. The actual prize will be R499,99, but you get to become the first (and, for a while, the only) member of our newly-established Club 499. Membership of this exclusive club is reserved for those who never quite make it to the top.

The rules are also simple. The competition is open to approved contestants and this is all you have to do:

- complete the whole puzzle fully and correctly. No errors, omissions or corrections will be allowed;
  - ensure that your entry reaches the Editor at noon on or before 14 December 1991.
- NB- All decisions of the Editor are final and no correspondence will be entered into.

Now see page 11 and get to work on the puzzle. Good luck!

*Q* **QX-PE** wishes you a *Merry Christmas & a Whole Year of Happy Moments ahead...*  
...like anticipating QX's arrival every month... and then reading it



## Instant Printing

FOR ALL YOUR  
PRINTING REQUIREMENTS

9 St. Patrick's Road, Port Elizabeth 6001  
Telephone (041) 55-2614

Try us for your QSL cards!



## ERRATUM - VARIABLE VOLTAGE, CURRENT UNIT (November)

In the November issue of QX-PE we provided a circuit for an add-on unit to vary the voltage and current from your CB-type power supply. According to the designer, the circuit as it stands will only deliver a maximum of 1 Amp but this can be increased to 2 Amps by short-circuiting diodes D1 and D2 (i.e. omitting them and connecting R8 direct to the + line).

The warning about connecting an external voltage to the output terminals was intended for the case where the diodes are not in circuit. The diodes, of course, provide some protection against the application of an external voltage.

## AGM 1994 FUND TOPS KILORAND

The good news is that the fund has topped the R1 000 mark and we thank all contributors for the part they are playing towards making the 1994 AGM of the League in Port Elizabeth one of the best ever, and one that the average member (the majority) will be able to afford to attend.

The bad news is that our AGM organiser, Dick ZS2RS, believes we will need about R7 500 well before March 1994 as we will need to know how far we can commit ourselves in advance. So keep those donations rolling, please!

---

## SUCCESS ALREADY WITH OUR MOTIONS TO NEXT YEAR'S SARL AGM

Various members have submitted private motions for the SARL AGM to be held in Cape Town next year. Because of the time factor at our October meeting the motions were not submitted for consideration as Branch items. However, they had to reach HQ by 31 October, hence the decision to submit them privately.

At least two of them have already reaped results. Within a week or so of HQ receiving the motions, they had introduced 'test' transmissions carrying the HQ bulletins on 30 metres, and they successfully approached the PMG's office to allow Novice candidates to do their morse tests after the RAE examination if they so preferred (as in the case of ZR/ZS candidates).

The HQ bulletin intimated that Council had tried for two years to get this concession. Such is the power of a motion from Port Elizabeth!

The HQ bulletin transmissions on 30 metres saved the day on 1 December, when important announcements about the RAE results were announced - and Port Elizabeth featured prominently therein. The relays on 20 and 40 metres were totally inaudible. Had our request for 30 metre bulletins not been put into effect, members here and in many other areas would not have heard this important news. Reception on the 'traditional' bands has been marginal to non-existent in the Eastern Cape and Border for some time and is gradually worsening, while the 30 metre signals have come in at S9+ !!

Which raises the question: If the IARU still doesn't recognize and understand our problems, and after past and present Councils have written to them, and after our representatives have addressed them in person at various meetings overseas, is the IARU really concerned with our interests in Southern Africa? Do we really need to send delegates to their meetings or will we simply be throwing good money after bad as the IARU Region I continues to see things from a blinkered European point of view? (We pay the IARU an annual fee for each and every member of the SARL).

# 6 to 10 metre CONVERTER

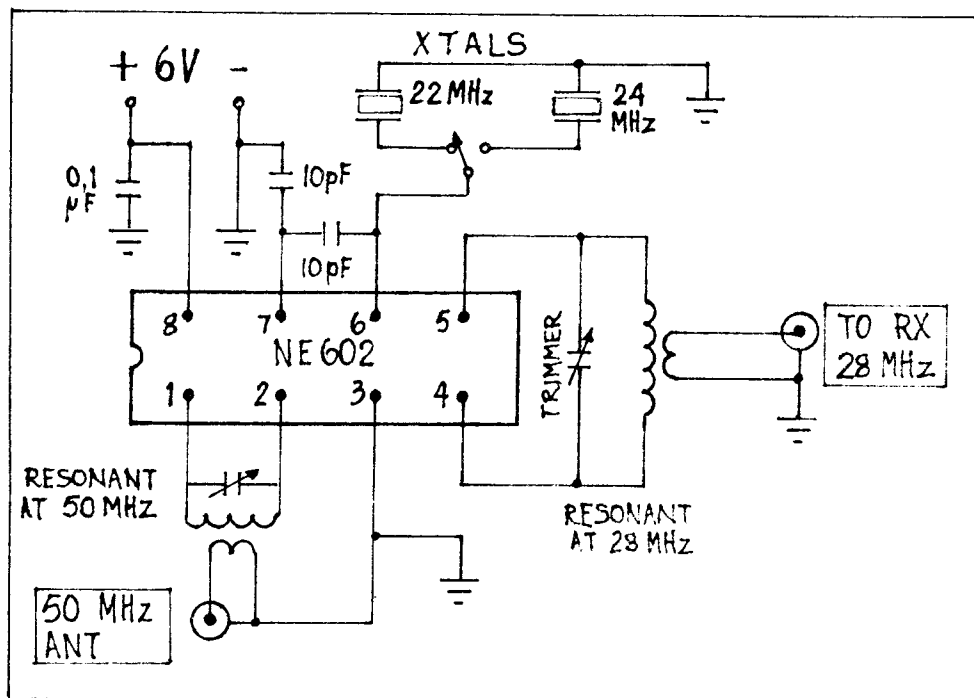
from Bud ZS2CA's scrapbook

You can construct this converter for less than R60 (R85 if you choose to use two crystals). Installed between your 6 metre antenna and a receiver that can tune the 10 metre band, you will be able to hear stations operating in the 6 metre band.

To receive FM signals, your receiver should be equipped for this mode, although you may be able to make out something by using the AM mode on your RX. Reception of CW and SSB naturally also requires that the receiver be able to resolve these types of signals.

## NOTES ON OPERATION & ADJUSTMENT

1. With a 22 MHz crystal, tuning the receiver from 28 to 30 MHz will cover 50 to 52 MHz.
2. Tune the converter circuits to 50 MHz in and 28 MHz out to cover the CW and SSB part of the 6m band (50,000 to 50,150)
3. Tune the converter to 51 MHz / 29 MHz for FM frequencies (51,4 MHz calling channel)
4. The 24 MHz crystal is only required if you wish to receive in the 52 to 54 MHz range. If not, you can omit this crystal and the switch.
5. To tune European TV carriers on  $\pm 49$  MHz you can fit a 21 MHz crystal.
6. NE602 devices are obtainable from a source in Johannesburg for under R10 each, and crystals can be obtained for about R25 each.





# DX NEWS

by Al ZS2U

I notice that some bulletin readers refer to our Branch as the premier branch. This may be so in some aspects, but certainly not when it comes to DXing. It used to be, in the late forties and fifties. In those days, QRM from local amateurs on the DX bands was a problem most of the time, whereas now it is almost unknown.

The DXCC is the most popular award, so let's use it as a yardstick for activity. In the early fifties the leader, not only in Port Elizabeth but in South Africa, was Rex ZS2X. Rex was a prominent DXer worldwide even. For instance, he held WAZ certificate number eight, the first to be issued outside the United States of America. His DX score at that stage must have been just over 200 confirmed. Countries were scarcer those days.

DXCC holders, in order of score after Rex, were Piet ZS2AG, Wally ZS2CR, Lass ZS2EC, Ron ZS2FH, Al ZS2U and Ken ZS2HI. After Ken there were more, but I am not sure just when they obtained their DXCC certificates. They were Hal ZS2LB, Eileen ZS2MH and Percy ZS2RM and in Uitenhage we had Eric ZS2CV, who received his in 1962.

Among other DXers in those days, who may even have worked enough countries but did not apply for DXCC, were Reg ZS2A, Bert ZS2AH, Dudley ZS2AW, Bob ZS2BJ, Edgar ZS2CB, Frank ZS2CY, Frank ZS2DJ, Tommy ZS2DK, Arthur ZS2DX, Sam ZS2EW, Norman ZS2F, Bob ZS2FA, Pop ZS2FR, Steve ZS2GU, Harry ZS2HX, Cyril ZS2KX, Benny ZS2NC, Marge ZS2OB and Ken ZS2OC. Quite an imposing list. Reg ZS2A did not do much DXing normally, but was a top-notch CW contester. Percy ZS2RM went on to achieve a confirmed total of over 300 countries which, to my knowledge, makes him the first and only one to do this in the Eastern Cape.

Sad to say, most of these amateurs have passed away and at present the only DXCC holder I know of in PE is myself and, in Uitenhage, Eric ZS2CV. This signifies a drop from well above world average to well below. I have given some thought as to the reasons for this and I have come to the conclusion that it is simply a case of the present day amateurs not having the same motivation as their predecessors.

# NOVICE CW AWARD RULES

The aims and rules for the Port Elizabeth Branch's newly-created Algoa Bay Novice CW Award have been released and are as follows:

## AIMS

- a. To encourage novice licensees to make use of morse code, thereby promoting the acquisition of CW skills with the aim of obtaining a subsequent Class A licence.
- b. To set an attainable target for new novice amateurs to obtain a certificate to display in their shacks.
- c. To encourage other amateur radio operators to use CW to contact novices.
- d. To promote local, national and international contacts between novices and other stations, including novices.

## RULES

- a. The award is available to all licensed novice amateurs worldwide.
- b. Contacts after 1 January 1991 are valid.
- c. Novices must submit proof of two-way CW contacts with 50 different stations.
- d. No QSL cards are necessary. Proof of contact can be established by log entry.
- e. Submit either photocopies of log entries marking the applicable contacts, or a certificate verifying that the log has been checked by two licensed amateurs or the Chairman or Secretary of an Amateur Radio Club.
- f. There is no charge for the award.
- g. Applications to be submitted to:

The Awards Manager  
Port Elizabeth Branch  
SA Radio League  
PO Box 10402  
6015 Port Elizabeth  
Republic of South Africa.

(NOTE: Rule c means manual morse, not morse by computer! Applicants for any award, and anyone certifying their logs for them, should bear the spirit of the rules in mind if the awards are not to be cheapened - Ed.)

---

* MEGACYCLE	: Bike with a million wheels
* KILOCYCLE	: Bike with no saddle
* GIGACYCLE	: Bike with ticklish saddle
* MULTIVIBRATOR	: Exotic dancer
* NUCLEONICS	: Updated Oldcleonics
* THERMAL RUNAWAY	: Fire escape
* I.C.	: Uh huh!
* GAIN CONTROL	: Income tax
* C.W.	: Stereoscopic view
* RESISTOR	: But it might be more fun to yield

(Thanks to Pretoria Branch's WATTS for some of these 'definitions')



## Communicating thru a Satellite - part 2

Rehashed/adapted from SA AMSAT'S Satellite Guide

### DOPPLER SHIFT

This frequency and velocity-related effect is readily noticeable in the rise in pitch of a train whistle as the vehicle approaches, and a drop in pitch as it passes and then recedes from the observer. It also occurs in satellite radio observations, giving the listener the impression that the satellite signal is drifting in frequency. Unlike a train, the typical speed of a satellite in low orbit is about 27 000 km/h, although OSCAR 13, for example, has a long, elliptical orbit and its speed at apogee, some 36 000 km from Earth, is less than 7 000 km/h.

OSCAR 13 swings in to about 2 500 km above the surface of the Earth, gathering momentum as it does so but losing it again on the way out to perigee. Its long outward journey and back affords stations on that face of the Earth beneath it at the time greatly increased operating periods on each orbit. The least shift occurs around apogee, increasing as the satellite moves through perigee and then decreasing again towards apogee.

Doppler shift on the up-link usually adds, via a linear transponder, to that on the down-link to give a cumulative 'drift' of several kHz. Moreover, as frequency increases, so does the degree of doppler shift, and so the use of high frequencies such as 435 and 1270 MHz results in a fairly large total shift. The shift is less severe, of course, if you are only observing beacon transmissions generated on board the satellite itself since only one path is affected.

One-way doppler shifts for stations located at the latitude of APOGEE have maximum values of about:

2 KHz	on	2 m
6 KHz	on	70 cm
18 KHz	on	24 cm
34 KHz	on	13 cm

One-way doppler shifts for stations located at the latitude of PERIGEE have maximum values of about:

3 KHz	on	2 m
9 KHz	on	70 cm
26 KHz	on	24 cm
50 KHz	on	13 cm.

However, the design of transponders can sometimes be cunning and it is relatively easy, in a mixer stage, to extract a negative component rather than a positive one (in other words, turn it upside down) so that one doppler shift is subtracted from another. Using Mode B as an example, doppler shift on the 70cm up-link (6 KHz) is subtracted from that on the 2m down-link (2 KHz) resulting in a total shift of only about 4 KHz instead of the 8 KHz that would result if the positive component were used.

Such a transponder is dubbed 'inverting' because frequencies at the top of the up-link band come out at the bottom of the down-link band and vice versa. Inverting the signal in this way also results in an USB signal on the up-link being reproduced as a LSB signal on the down-link.

(So far so good. Even I can understand this, but wait for the next bit! - Ed.)

# This 'n That

Chairman Marge has donated a new cup for the Branch's Ham Spirit floating trophy. I guess the previous one floated away or something. Thanks, Marge.

Talking of Marge, she and Brian are now permanently and unequivocally residing and saltmining at their new multi-purpose QTH at 35 Pickering Street, Newton Park (between 3rd and 4th Avenues).

There were 3106 members of the SA Radio League at the time of the last report that we received.

Although Donovan van Loggerenberg ZS2DL has received his 'phone' ticket, he continues to use CW. Show 'em how it's done, Donovan!

Colin ZS2CTR is sporting a nice new rig - a TS690 with lots of bells and whistles, HF and 6 metres and a general coverage RX. Was it all the arm-twisting that landed Rosemarie in the White House? (see Personal News).

Congrats to Pam and Phil Hopper ZS2PP on the recent marriage of their daughter, Sharon, in Durban. I hear that Phil asked the minister whether, instead of giving the bride away, he could swap her for radio components. Our congratulations and best wishes also to Sharon and her OM.

---

## Digital Electricity: a New Theory

Mike Boyd N7DKQ

Today's scientific question is: What in the world is electricity? And where does it go when it leaves the toaster? Here is a simple experiment that will teach you an important electrical lesson. On a cool, dry day, scuff your feet along a carpet, then reach your hand into a friend's mouth and touch one of his dental fillings. Did you notice how your friend twitched violently and cried out in pain? This teaches us that electricity can be a very powerful force, but we must never use it to hurt others unless they need to learn an important electrical lesson.

It also teaches us how an electrical circuit works. When you scuffed your feet, you picked up a batch of electrons, which are very small objects that carpet manufacturers weave into carpets so they will attract dirt. The electrons travel through your bloodstream and collect in your finger, where they form a spark that leaps to your friend's filling. It then travels down to his feet and back into the carpet, thus completing the circuit.

Amazing electronic fact: If you scuffed your feet long enough without touching anything, you would build up enough electrons to explode your finger! But this is nothing to worry about unless you have carpets. Although we modern people tend to take our electric lights, radios, mixers etc. for granted, hundreds of years ago people did not have any of these things, which is just as well because there was no place to plug them in.

**Condolences**

to Yvonne and Fred Bonthuys ZS2EQ, whose brother/brother-in-law passed away in November after some months in a coma. Our sympathy to you both and your family, Yvonne.

**Congratulations**

to the following members and/or their spouses who will be celebrating birthdays or anniversaries during the next month or so:

**Birthdays - December:** Mike Bosch ZS2FM and Brian Weller ZS2AB (Christmas Day, 25th), Sam Abrahams ZS2SI (28th), Athol Bruyns ZS2CM and Derek Colson ZS2NS (29th).  
**January:** Mike Robertson (10th), Anne Morris (ZS2MD) (13th), Neil Fulton ZS2MG (15th), Bud Voortman ZS2CA (16th).

**Anniversaries - December:** None? **January:** Julie and Trevor Scarr ZS2AE (2nd), Pam and Phil Hopper ZS2PP (9th), Vicky and Allan Ansell ZS2AJ (14th).

... to Hani Baum, Karin Bowles, Rosemary Robertson, Collett Schonborn, Anthony Adler, Seween Bosman, Paul de Vos, Ewalt Bower, Dennis Flynn, Gideon Grobler, Joseph Jasson, Peter Lunow, Ernst Neumann, Richard Patrick, Desmond Pettit, Richard Potgieter, Dudley Radue, Michael Schwenkert, Philip Stunden, Andries van Wyk, Damian Wright, Mike Bentley and 'Butch' Butcher on passing their RAE exams (the three latter-named sat the Novice exam). Twenty-three new licences coming up! Fantastic! We await news of the call signs. (\*\* See 'Top Marks' elsewhere in this issue).

**Get Well Wishes**

to Peter ZS2PL, who has had a triple by-pass operation; Jock Morris ZS2MD who had a leg amputated but hopes to be back in action soon; Bernard Tyler ZS4CW, who has had the 'balloon' treatment to rectify an artery problem; Theunis Potgieter, who has been in hospital with a stomach problem; Ann Olivier ZR2ABC, who injured her back in a fall and has been laid up; Rosemarie Robertson (ZS2CTR) who had a few pieces of bone removed from her shoulder and other surgery following a fall and is undergoing therapy to recover full use of the arm. (Strange, all this falling about, and we haven't even started our parties yet!)

**Globe-trotters**

Bill Browne ZS2BY, is back home after a visit to Switzerland, while Bud Voortman ZS2CA has gone to Switzerland for a saltmine task, returning 24 December. Owen ZS2AZ is due back from his visit to the USA on 28 December.

---

---

**HERE'S YOUR R499.99 CROSSWORD PUZZLE!**

(Unfortunately, due to pressure on space this month, we only have room to print the top row of the crossword puzzle. Sorry! - Ed.)



**DOWN:**

## **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 Yoortman	ZS2CA	34-2770
PROJECTS, TRAINING & QSO COMMITTEE	Yiv Moore	ZS2YM	30-4433
EDITOR: QSO-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 \*\***