

Q S X
P E



THIS NEWSLETTER IS PUBLISHED BY THE
PORT ELIZABETH AMATEUR RADIO SOCIETY

P.O. BOX 10402
LINTON GRANGE
6015

December 1996

NO MEETING THIS MONTH

There will be **NO MONTHLY MEETING** of the **PORT ELIZABETH AMATEUR RADIO SOCIETY** during December. This is a traditional arrangement in view of the great number of other functions and activities that take place during the festive season.

We'll be back in full swing in January, however, so *watch this space!*

NOTE TO LYNNE ZS2MM— SINCE YOU FORGOT OUR MEETING LAST MONTH, YOU'LL PROBABLY FORGET THAT THERE'S *NO MEETING THIS MONTH*, SO I'LL TRY TO REMEMBER TO GIVE YOU A REMINDER ON THE DAY THAT THE MEETING *WON'T* BE. BUT DON'T BANK ON IT.

Technical Talk

For the same reason given above, there will be no tech talk during December. The next one is scheduled for 22 January 1997. Make a note in your diary to attend. These are extremely interesting as well as enlightening gatherings.



The QSX team and their families wish all readers of QSX-PE, our printers, advertisers and contributors a very blessed Christmas and so much happiness, good fortune and good health in the coming year that you grow tired of it.





A Word

from the Chair

Friends, by the time QSX-PE lands in your mailboxes, I may be regretting the decision to undertake yet another trip to the colder climes of the United Kingdom, this time in the middle of their Winter.

The duration of the trip, however, is only two weeks, so I shall be home in time to see in the new year, presumably in bright warm sunshine.

However, let us not lose sight of what Christmas is really about. Not just festivities and celebration, but a time of peace and goodwill. Hopefully the peace and goodwill will not come to a sudden end in the new year, but spill over and continue throughout 1997.

Through Amateur Radio, observation, monitoring and vigilance, we may make some small contribution to the unrelenting fight against crime and violence wracking our beautiful country.

Let us also spare a thought for those providing essential services during this traditional holiday period, namely police, doctors, nurses and firefighters, to name a few.

I take this opportunity to wish you and your families a happy and peaceful Christmas and a joyous and prosperous new year.

73,

Dick ZS2RS

HAMNET NEWS

Firstly I wish a Merry Christmas and a happy and successful new year to all Hamnet members and their families. Thank you to all who have assisted with Hamnet in one way or another. Special thanks go to Ken ZS2OC who has done much in various ways to promote Hamnet activities. Also to Mike ZS2IC who has assisted in his capacity as secretary/treasurer and to Jo ZS2W who has seen to the teas and eats at our meetings.

A special word of thanks goes to our Assistant Provincial Director in the Border area, Matt ZS2MW who so enthusiastically promotes Hamnet there. Thanks too to Colin ZS2CR who, as Chairman of the Border Radio Club, supports Hamnet. Last, but not least, thanks to PEARS for their support and Garth ZS2HB in particular for publishing Hamnet news each month in QSX and for producing the Hamnet Simulated Emergency Contest certificates.

Congratulations to André ZR2BC who has passed the first four modules with flying colours. Great work, André.

Western Districts Control Centre

The visit to this centre took place on the 19th November, with eleven members attending, and we were given a most interesting and informative talk by Mrs. Pat Reid who is in charge of this centre. She then showed us the control room and explained the functioning of all the equipment. This was followed by tea and further discussion of various aspects of Disaster Management.

Traffic Monitoring

The holiday season has already started and traffic monitoring is in progress. The East Cape headquarters station will as usual be using the callsign ZS2DCC and will monitor the Lady's Slipper repeater 145.700 MHz, 52.6 MHz FM, 7070 kHz during the daytime and 3695 kHz at night. If you do not make contact on these frequencies, try the other repeaters, 144.450 MHz simplex or 50.450 MHz simplex.

Report anything unusual to this station, such as high density traffic, accidents, etc. Give details such as traffic counts, or other relevant information. If you are first on the accident scene of an accident, assess the situation and pass the information through the control station ZS2DCC. Stay at the scene and help where possible till the emergency services arrive. When in doubt as to what to do, ask the control station.

73

Al Akers,
Provincial Director,
Hamnet East Cape

Baycom kits available

Des Herselman, of MTS Electronic World, will soon have a number of Baycom modem kits available. Phone him at 54-2911 re availability and price, and get radioactive on packet the inexpensive way.

Santa claws Mickey Mouse

Our raving photographer caught Santa Claus harassing ZS2 Mickey Mouse – Lynne – at the PEARS special general meeting in September (photo). It is thought that he was practising for his upcoming December jaunt.

As can clearly be seen, Lynne was highly distressed at whatever it was that Santa was whispering in her ear. Probably HO HO HO. But she's not planning to lay any charges.

[Actually, it's John Hugo ZS2J and Lynne ZS2MM, who were snapped chatting happily at the SGM. John's expression lent itself to a bit of computer embellishment by way of a floppy Santa hat and beard.]



Handhelds stolen

During a burglary at the QTH of the Laytons ZS2ML/ZS2SL/ZS2CNL in Uitenhage recently, two handhelds were stolen. They are an Icom ZSET serial number 011765 and Alinco DJ180T, serial 028211.

If any of these are offered to you, please grab the seller and hike him off to the nearest police station.

Was it a coincidence that, just days after we heard of the loss, an obviously inexperienced operator broke into a local QSO using the callsign ZP2JP. When asked his name and location he used some choice language but did not stay around long. Presumably he thought he was on the citizen's band, although he came close to selecting a valid ham callsign! Ω

FOR SALE ★ WANTED ★ SWOP

FOR SALE

- ★ Icom IC229H mobile FM transceiver, 5–50W in 4 steps, DTMF, mobile bracket, microphone with remote controls, power cable. In excellent condx. R1750. Will consider handheld as part settlement – Barry Jackson ZS2H, ☎ 30-3052.
- ★ Megapower 2m mobile FM transceiver, 20w, 6-channel capacity, only 5 crystallised (144,675, 145,400 and 145,500 simplex, 145,650 and 145,700 repeaters), speaker mike. Good condx. R500 – Daniel Burger ZR2B, ☎ [04212] 728.
- ★ Baycom kits available soon from MTS Electronic World – call Des or Linda Herselman ☎ 54-2911 for availability and price and add your input to the growing packet racket.

VHF/UHF QSO PARTY

This event is scheduled to take place over the weekend of Saturday 18 to Sunday 19 January 1997. Participants may operate any time during this period. This is not a contest, no prizes will be given, nor is there a need to send in logs. The main aim of the QSO Party is to create as much *simplex* activity as possible on VHF and UHF. It is, however, an opportunity to make contacts that will count towards one of the Society awards which will be publicised shortly.

All amateurs are encouraged to participate to make as many contacts as possible over as long distances as possible and to have fun doing it. Portable operation definitely adds spice to such an event, so if at all possible set up and operate a portable station. Members could organise multi-operator stations which could be either base stations or portable stations. Portable stations might take the form of a field day activity with braais, etc. included. Hamnet members note that if they operate a portable station for at least three hours, it will count towards module 5.

The likelihood of tropospheric openings and therefore long distance contacts is greatest round dawn or dusk, so listen and call particularly from 0500 to 0800 and

1700 to 2000. As by far most amateurs have FM-only equipment, the accent will be on FM operation.

Two Metres

Calling frequencies are 144,450 MHz FM and you could also try National Call 145,500 MHz. For CW and SSB use 144,200 MHz. A beam for this band is easily constructed. A two element beam can be slapped together in about an hour and provides worthwhile gain. Contact me for dimensions.

Six Metres

Calling frequencies are 50,450 MHz for FM and 50,200 MHz for CW and SSB. This band is not nearly as popular as 2m, but has advantages over the latter. If possible, try it. You may well make contacts over longer distances than 2m. A beam is a bit larger than a 2m one, but is still a reasonable size. A 2 element wire beam can be easily made.

UHF

There is likely to be very little activity here. Try 433,450 MHz. A beam should be a *piece of cake.

See you there.

73, AI ZS2U.

* We hope to bring you a recipe for a delicious 70cm beam next month. Don't miss your January QSOX-PE!



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Fiddlers' Corner

AUDIO CLIPPING

Most direct conversion receivers do not have automatic gain control and for those of you who have sat with earphones on, listening to a very weak signal when a neighbouring ham comes up will know the ringing sounds that you have in your head for the following few minutes.

Now you are saved! Use a clipper that whacks off any audio signal that exceeds some preset amplitude. The waveform is distorted and harmonics are generated, but the audio is not too bad, and you have time to adjust the audio volume.

The clipping circuit described here is a full wave, series peak clipper and works like this:

Audio from the receiver is fed through a capacitor to a pair of small silicon diodes (1N4148 or similar) in series, anodes connected together. A positive voltage is applied to the anodes, so that current flows through both diodes to ground through load resistors.

As long as the diodes conduct, they look like pieces of wire to the audio signal coming in from the receiver. But the moment a positive audio peak voltage becomes greater than the forward bias, the diode ceases to conduct, and the signal

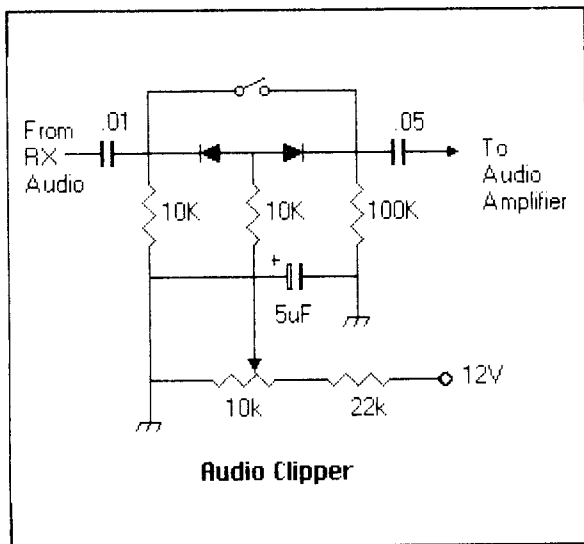
can't get any bigger in that direction. The negative half cycle, though, goes through because it only forward biases the diode even more.

But the other half cycle then collides with the second diode, with reversed polarity, and the other audio peak is clipped off too. A good sine wave applied to the clipper comes out looking much like a square wave. Noise pulses are

also clipped.

How *deeply* the signal is clipped depends on how much bias voltage is applied to the diodes by the 10k pot. The voltage can be made so high that no clipping occurs, or so low that no signal gets through at all. The clipper can also be defeated by closing SW2 which shunts the audio around the diodes completely.

In use, the clipping threshold is set at some intermediate point which the operator finds to be comfortable. The setting will be affected, of course, by the audio gain control on the receiver. Ω



Audio Clipper

Active Filters

VIV MOORE ZS2VM

In the field of speech communication it is vital to tailor the frequency response of the audio amplifier or speech processor so that the optimum response is obtained and the maximum use is made of the available audio. If this is to be achieved it is necessary to have a rapid fall in the response at either end of the required audio band.

Whilst it is sometimes possible to rely on the sideband filter in an ssb transmitter to remove the unwanted frequencies, this idea is not always good practice because the processor may be subsequently used on another transmitter which does not possess such effective filtering.

In addition to this it is also necessary to attenuate the low frequency content of the speech signal before clipping if audio clipping is to be used. The reason for this is that the lower frequencies contribute little to the intelligibility of the audio but, when clipped, they introduce harmonics into the required audio bandwidth and these cannot be filtered out.

One way of overcoming this problem is to reduce the amplitude of these low frequencies by using a low pass filter. Whilst it is possible to use the roll off caused by resistor/capacitor combinations in the coupling between various stages, sometimes it can be more convenient to use an active filter such as one shown in Figure 1 or 2.

These particular ones are known as two pole filters and ultimately give a roll off of 12dB per octave or 40dB per decade, whichever way one wants to express it.

The actual circuit realisation is simple for both the low pass and high pass filters, the difference between them being that

where there is a capacitor in one there is a resistor in the other and vice versa. In both circuits $C_1 = 2C_2$ and the ratio of these two capacitors determines the shape of the filter response. In this case the

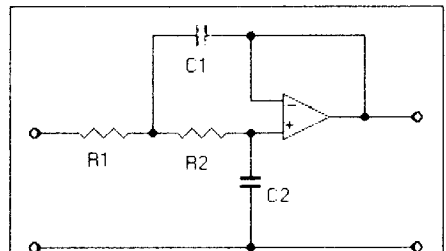


Fig. 1 - An active low pass filter

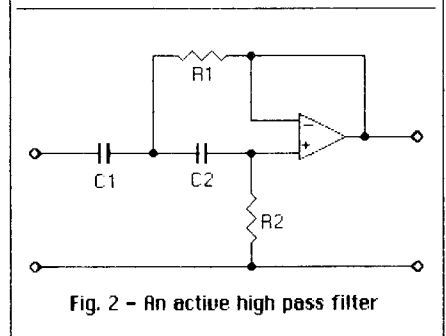


Fig. 2 - An active high pass filter

filter is known as a Butterworth Filter and this is adequate for most applications.

The formula needed to calculate the component values is fairly simple:

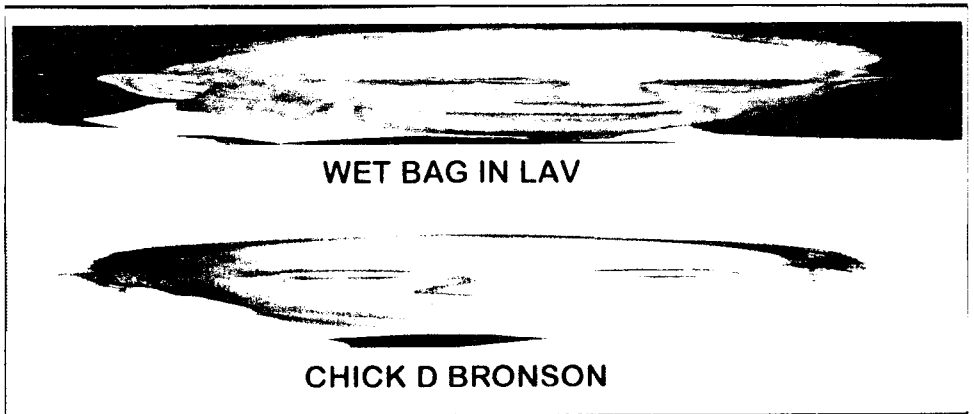
$$f = \frac{\sqrt{2}}{4\pi RC_2}$$

Usually the required cut off frequency will be known, leaving both the resistor and capacitor values as unknowns. Therefore it is normal to choose a convenient value for one component and to calculate the other from the formula. For example, if a cut off frequency of 3kHz is required, R could be chosen as 24k Ω , which would mean the value of C₁ would be 1563pF or, to take the nearest

value which would be available, 1500pF and C₂ would be 3000pF. These values could then be applied to either the low pass filter or high pass filter circuits. If the value of capacitor or resistor which has been calculated turns out to be unrealisable or is not in the parts box then it is an easy matter to choose a new starting value and repeat the calculation until suitable values are obtained. Ω

Who's Zoo in the Loo?

Borrowing the idea from a popular weekly magazine, we give you hereunder pictures of two well-known PE hams. Their names appear as anagrams under their phizogs (that's a less dangerous word to print than 'faces'). Who are they? The sender of the first correct answer will receive an error-free copy of QSX as soon as we manage to print one.



G'town Repeater gets new hut

A spacious 'new' cubicle was installed at the Grahamstown repeater site last week and Chris will soon finalise the transfer of our equipment into it from the old booth.

He had asked members to let him have any old concrete slabs they may have lying around at home to put under the cubicle, and a handful of wives sent their OMs up, thinking Chris had asked for *slobs*. Anyway, they did a good job. Thanks, fellas!

Hunting Lions in the Air

This event is scheduled for 11 and 12 January 1997. Listen to SARL and PEARS bulletins for further details as the time approaches. Ω

2 Metre network gets bigger and better

Chris ZS2AAW and Trevor ZS2AE travelled to the Southern Cape last week to pump up the Knysna repeater's output and connect the George repeater into the linked system. Results have been excellent and it is good to hear some new voices from the Garden Route on our channels.

It was announced recently that the Knysna repeater would be moved to another channel to overcome intermodulation problems at the site, but when it was learned that some of the local hams had just crystallised up for '650 it was decided to leave the repeater on 145,650 if the intermod problem did not rear its ugly head again. So far, so good.

But as the coverage of our linked system extends ever wider, it becomes increasingly necessary to use the system with discretion. Remember always that every linked repeater is occupied with your conversation and you are being heard by everyone monitoring or scanning the various repeater channels along the south-eastern seaboard.

If you intend to hold a lengthy conversation – especially a 'personal interest' type of QSO, –

- and you can work the other station direct, rather QSY to a simplex channel;
- if both of you can operate HF, consider going there – we need to populate our HF bands as much as possible; otherwise
- perhaps you can isolate the repeater or section of the linked system that you need for communicating with one another, leaving the rest available for other users.

On the other hand, a *general* type of conversation on the link may encourage other VHF operators to get in and chat too. BUT THE ESSENTIAL RULES ARE:

- KEEP YOUR OVERS SHORT, and
- LEAVE TIME FOR THE TAIL TO DROP OUT BEFORE PRESSING YOUR PTT BUTTON! This is to give anyone else – perhaps someone with an emergency – a chance to break in. CALL IN THE BREAKER AS SOON AS POSSIBLE in case there *is* an emergency.
- If you want to use a part of the system that is not actually needed for a QSO currently in progress, break in and ask the other stations to pause while you disconnect the segment that they do not need.
- When you finish your QSO, reconnect the system and announce that you have done so.

The DTMF codes for connecting and disconnecting links were made available to all and sundry in the expectation that they would be used in a mature manner. One operator has already disappointed us but hopefully he is the only overripe apple in our prestigious orchard.

If frequent problems are experienced, members might push to have the offender's repeater removed from the system or to change all the codes and furnish them to a small number of key operators only.

That would be a sad day indeed. Ω

PEARSTALK

PEARS & SARL membership

Membership of PEARS is sadly somewhat down from last year's figures, when we were an SARL branch. This might be due, in part, to erstwhile social members in other towns now finding it possible to join their local clubs at a lot less than they would have had to pay for membership of their nearest SARL branch under the old scheme.

On the other hand, there may be some who believe that renewing their subs with the SA Radio League, automatically makes them members of the PE Amateur Radio Society.

It should be noted, please, that PEARS and the SARL are now two distinctly separate bodies. Your subs for the SARL should be remitted direct to the League in Johannesburg, while your subs for membership of PEARS must be paid to the Society Treasurer here in Port Elizabeth (PO Box 10402, Linton Grange 6015 if you wish to remit by mail).

A sum of R10 fell due for interim membership of PEARS from 1 July (when the Branch ceased to exist and PEARS came into being) to 30 September 1996, and at the SGM the second interim subscription of R25 (full member) and R15 (Family or Student member) was decided upon to cover members from 1 October 1996 until the Society's newly determined financial year ends on 31 March 1997.

Please let the Treasurer have your subscription renewal if you have not already done so or, **if you do not wish to renew**, won't you let him know anyway so

that he doesn't feel bad about deleting your name from the list of very important persons?

VHF DX Season is here

Remember, its Tropo and Sporadic-E time, so watch for long-distance stations on VHF, especially FM on 50,450, 144,450 and 433,450 MHz.

Horizontally polarized antennas will be favoured on these and the normal SSB and CW frequencies in the lower portions of the VHF bands, while vertical polarization is the norm in the FM sections.

SARL Newsletter

The SARL bulletin of 17 November announced the impending posting of the first quarterly newsletter and we were told, for some reason, that it had been "compiled by the Amateur Radio Mirror International team". I wondered whether that was a boast or an apology, and am still wondering after having received the publication, which is largely a rehash of old bulletins.

Of course, not everybody listens to SARL bulletins and many members do not now subscribe to Radio ZS, so it is correct for the more important matters to be covered in the newsletter. However, some of the articles are far too verbose, while a few important details have not been mentioned. For instance, the SARL has been strangely silent on the actual

membership figures this year, something members would really like to know. Or when the new callsign book will be posted to members.

The opportunity to nominate councillors for the coming SARL year seems to have been announced extremely late, especially considering prevailing postal delays, and it virtually ensures that the current councillors will be re-elected *en bloc*. It's a bit reminiscent of the first AGM after HQ moved to Johannesburg, when the interim "council" refrained from calling for nominations to fill the three seats that had to be vacated under the Constitution. The three "retiring" councillors were thus re-elected unopposed for another three years. Hopefully the present late announcement was a genuine lapse and not a ploy.

A useful innovation by the SARL is its plan to introduce electronic newsletters to keep clubs informed more speedily on important matters. Initially they will be distributed via e-mail, and they will also be available by fax. Clubs will be able to extrace items for use in their own newsletters.

Hamnet: are they serious?

The reconstituted Hamnet permits a maximum of 30% of its membership to be non-members of the SARL. The question has been asked before: 'What happens if the loss of a SARL Hamnet member upsets the fine balance?' More important, since the chances are that a *non*-Hamnet operator will be first on the scene of an incident anyway, surely *everyone* should be welcomed with open arms. In a major disaster, Hamnet certainly needs all the experienced help they can get.

The situation reminds one of the time *Foxy Ruzg had to convey some serious news to his aunty, who was attending a heavily overcrowded church service. Foxy was stopped at the church door by usher Van. "But I just want to....", Foxy stammered. "I told you, you can't go in! The church is too full!" thundered Van. Eventually, Foxy managed to explain that he simply wanted to see his aunty and he'd come right out again. "Oh, well OK then," said Van, "but Heaven help you if I catch you praying in there!"

It should suffice if only official posts in the organisation are reserved for card-carrying SARL members. Hamnet should get on with its real purpose of developing an *efficient* and *adequately prepared* communications network of *all* interested hams to swing into action *when needed*.

* Foxy Ruzg? Newer members wouldn't know him. Nor should they want to.-Ed.

Feather in PEARS Cap

In a recent packet bulletin, Denis ZS4JDS lamented what he saw as a serious lack of motivation among South African hams. He added: "There are, of course, a few rare exceptions to the general lacklustre attitude of S.A.R.L. branches/affiliated clubs, . . . and I lift my hat in salute to the chaps in the Eastern Cape/Border area who appear to present a continuously full and interesting program of activities to their colleagues..."

Thank you, Denis. And good for you, chaps and chapesses in this neck of the woods who *make things happen!*

RAE paper fair

Eight local hopefuls wrote the RAE in November and at least three of them, as

well as a tutor, expressed the view that the paper had been a fair one.

Results are believed to be in the post by now and we look forward to hearing of eight passes in the near future. We appeal to all candidates to let the technical class convenor, Al Akers ZS2U, know as soon as they receive their results.

How to maintain interest?

All too often, once candidates have written the RAE, and even after having received their licence, little or nothing is heard of them. Are they totally lost to the Society and Ham Radio in general? Why did they take the trouble to attend the course, write the exam and perhaps pay for a licence if they do not put their efforts to some use? Could it be that they don't know where to go from there, and we have left them to their own devices?

On the other hand, even some of our older members are hardly ever heard on the air, let alone seen at meetings or other club activities.

Viv Moore ZS2VM and a group are considering the question, hoping to come up with some ideas to rope the newcomers closer into the fraternity and activate the others. Any suggestions from members would be welcomed.

The Wacky World of Litigation

From QST, September 1996: Jay, KOQBE, an ARRL volunteer counsel, recently worked with Bill Ham, WA0ACI, in his efforts to get approval for an 88-foot tower in suburban Minneapolis. The City Council's attorney was one Thomas Radio! The case thus became a matter of *Ham versus Radio!*

The good news is that Ham won out

against Radio and his application was approved.

Ham Radio exposure

Amateur radio features prominently in two recently released movies – *Independence Day*, in which invaders from space put Earth's satellite network and other communication links into disarray, and *Phenomenon*, starring John Travolta. Even the original, but now underestimated, digital mode comes back to its full glory in places.

Original digital mode? *CW, of course!*

Satellite bites the dust

AO-13, which has been orbiting the Earth for some eight years and given many hams a great deal of pleasure, was expected to burn up on re-entry into Earth's atmosphere around 3 or 4 December. A sad but not unexpected end to an outstanding piece of amateur engineering.

No DTMF?

If your 2m rig does not have the facilities for switching the repeaters in and out, you can purchase a tone generating unit quite cheaply. I saw some at Macro in Port Elizabeth priced (as I recall) around R24.



Congratulations...

on your birthdays:

December

- 23 Rachid Asmal
- 25 Brian Weller ZS2AB
Mike Bosch ZS2FM
- 28 Sam Abrahams ZS2SI
- 29 Athol Bruyns ZS2CM
Derek Colson ZS2NS

January

- 2 Morris Wyatt
- 5 Heather Holmes XYL of Neil
ZS2AI
- 10 Valies Valentyn ZR2AF
Iloncka Busse XYL of Henk-Jan
ZS2-273
- 13 Anne Morris XYL of Jock ZS2MD
- 15 Neil Fulton ZS2MG

on your anniversaries:

December

- 25 Salela & Mohammed Sayed Ahmed
Ravat
- 31 Haseena & Abdus-Samad Mall

January

- 2 Julie & Trevor Scarr ZR2EY &
ZS2AE
- 5 Megan & Keith Fensham
- 9 Pam ZU1PAM & Phil Hopper ZS2PP
- 14 Vicky & Allan Ansell ZS2AJ

on your new callsign: Ian Moore
ZR2IJ

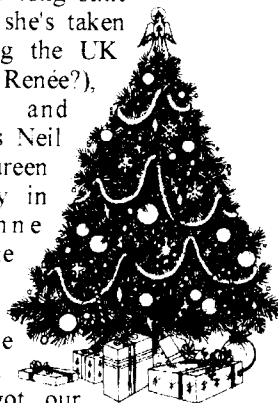
on becoming grannies again: Jo
and Al Akers, whose new grandson was
delivered prematurely following a motor
accident. All are reported to be doing
fine.

Welcome new members Anne
Olivier ZR2ABC, Richard Borello
ZR2RB, Theuns Potgieter ZR2TP, Keith
Laaks ZS6TW, Rob Salmon ZR2AAQ
(Celia ZR2RW's OM), Pam Hopper
ZU1PAM (kitchen computer of ZS2PP),
Sandy Bartlett ZS2LN, Belinda Herselman
ZR2CH (Des ZR2DH44's better half),
Brian Peckham ZS2BP, John Raven
ZR2ABH, Collette Schönborn ZR2CBS
(Dick's dötah) and Julie Scarr ZR2EY
(Trevor's baker par excellence). Good to
have you in the log!

Travellers Chairman Dick ZS2Roving
Suitor to UK once again, Sam Abrahams
ZS2SI to Australia/New Zealand to
celebrate 100th birthday in the family.
Mel Gwilt, XYL of Beavan ZS2RL, is
visiting family in the UK.

Sick list: John Magee ZS2RG had a
mild stroke but sounds great again, while
Wolf ZS2WG was due to go under the
scalpel for a spine op early this month.
We hope all goes well with you two now.

Welcome back Renée Olivier
ZR2ABD from her long stint
in the UK. Now she's taken
up diving (missing the UK
weather *that much*, Renée?),
Bryan ZS1NQ and
Bernice as well as Neil
ZS2MG and Maureen
back from holiday in
Oz, and Lynne
ZS2MM back (in the
flesh, anyway)
from Malawi but
seems to have
c o n t r a c t e d
"malawia" and forgot our
November meeting



Merry Christmas Everyone!

Your Society's Committee

Chairman; Special Events	Dick Schönborn ZS2RS	38-5070
Vice Chairman, Repeaters, Packet	Chris Scarr ZS2AAW	38-1344
Secretary	Beavan Gwilt ZS2RL	30-6968
Treasurer; Assets Control	Clive Fife ZS2RT	32-3203
assisting with Assets Control	Lynne Crothall ZS2MM	35-4671
Social, Awards	Viv Moore ZS2VM	30-4433
assisting with refreshments at meetings	Bill Hodges ZS2ABZ	51-2580
QSX Manager	Trevor Scarr ZS2AE	32-1746
assisting as QSX Editor/layout	Garth Laaks ZS2HB	38-1101
Technical Classes	Al Akers ZS2U	30-2983

PEARS' VHF & Other Services

REPEATERS

Town VHF	145.050/650	Kareedouw	145.125/725
Town UHF	431.050/438,650	Knysna	*145.050/650
Cockscomb	145.000/600	Lady's Slipper	*145.100/700
Cradock	145.050/650	Uitenhage	145.075/675
Grahamstown	*145.150/750		

* The East London 145.125/725 MHz repeater and the George repeater on 145.100/700 are linked to PE's long-range 2m repeater system.

OTHER SERVICES

Packet Bulletin Board (ZSØNTP)	144.625
Packet Rose Switch (ZSØGHT-3.046101/046102)	144.675
2m Beacon (ZS2VHF CW ID)	144.910
6m Beacon (ZS2SIX CW ID)	50.005
6m Link with Lady's Slipper 2m Repeater	51.400
Wetax Relay (Meteosat)	145.350

Sunday Bulletins

PEARS bulletins are transmitted on Sundays immediately after the SARL English transmission, i.e. at about 08:15, on 7098 kHz as well as the 2 metre linked network that provides coverage from East London to George and environs via repeaters on 145,750 MHz (Grahamstown), 145,700 (PE Slipper), 145,650 (Knysna), George's 145,700 and East London's 145,725. PEARS' 7098 or 3640 kHz transceive facilities are also remotely linked as needed. In addition, the SARL's 40m transmissions on 7082 or 7066 kHz can be remotely patched into the 2m network.

Date	Prepare and Read on 145,750	DIARY DATES
15 Dec	ZS2AAW	DECEMBER No Meeting or Tech evening Monitor bands for visitors' calls, route assistance etc.
22	ZS2AE	
29	ZS2RS	JANUARY 17 Monthly general meeting 22 Technical evening
5 Jan	ZS2RT	
12	ZS2VM	
19	ZS2U	

★ We Like Being Your Society! ★