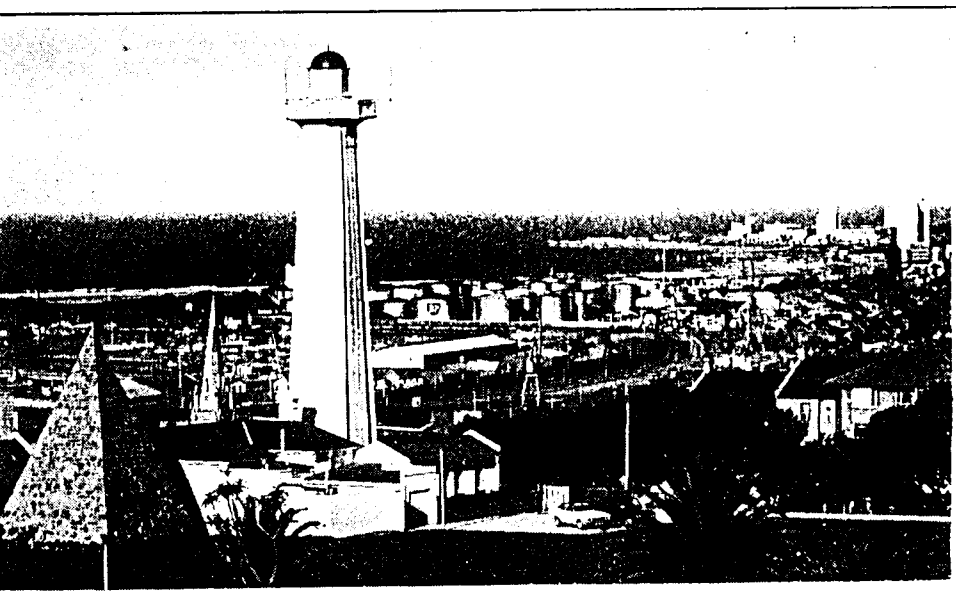


Q S X
P E



THIS NEWSLETTER IS PUBLISHED BY THE
PORT ELIZABETH AMATEUR RADIO SOCIETY

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May 2001

ANNUAL GENERAL MEETING

The Annual General Meeting of the Port Elizabeth Amateur Radio Society will be held in the Scout Hall, in van Plettenberg Road, Kabega on **Saturday, 19 May 2001**. Preliminary activities will commence at **15:00 (3.00 pm)**, and the AGM itself will start at **16:00 (4pm)**.

Please see last month's issue of QSX for the agenda. The Committee has submitted a motion to formalize the issuing of our "Old Toppie" award. The text of the motion appears on page 8.

Starting at 15:00, and continuing after the meeting if necessary while the braaiing is going on, there will be a **boot sale** in the grounds of the scout hall. Anyone who wishes to dispose of his usable but unwanted electronic/radio 'junk' is welcome to bring it along and flog or swap it. Roger Davis ZS1J is bringing a large load of desirable goodies, mostly at give-away prices or free, but a few items for normal sale too - see the "For Sale" notice elsewhere.

The meeting will be followed by a **bring-and-braai**, for which the Society will provide the fires as well as a few cartons of wine, fruit juice, ice cream and bread rolls.

Please bring your own eats, including salads, and other liquid refreshments as well as utensils, drinking glasses, stools etc. **NOTE THE DIFFERENT ADDRESS (KABEGA) PLEASE!**

All members and other hams and their families are welcome, but only paid-up members of PEARS will be allowed to vote, of course.

Wrinkly Ravers

The next rave will be on **Thursday, 7 June**, once again at the old Zwartkops Yacht Club Clubhouse. Join us from about noon, place your order and enjoy the ambience while the chef does his thing.

We had a lovely turnout of about 18 at the May rave and it was great to see Peggy and Viv there again after a long absence. Smoothie Greg brought his fiancée, smoothie Morag too, which was also great.

VW RALLY APPROACHING

The 2001 Rally will take place on 6 and 7 July. Included in this issue is a questionnaire and those who are able to help with comms are asked to complete one and return it to Chris ZS2AAW as soon as possible - perhaps at the AGM or, at the latest, the June meeting.

The questionnaire has not been included for those more remote members who are not expected to be able to assist.

URGENT REMINDER - Subs are now a little overdue and this should be the last issue of QSX for defaulters. Please remit your subs right away if you have not already done so. You can, of course, hand them to the Treasurer before the start of the AGM, which will then also entitle you to vote.



The Chairman's Chat

It seems that last month's QSX stirred up some dust concerning operating practices! I often have to remind myself that it is only a hobby, and that at the end of the day there is no substitute for courtesy and common sense. Amen.

Well, it is that time of the year again. The time when we review the past year, hand out awards, exchange junk albeit with a small handling fee, have ourselves a *lekker braai*, and members come to blows about who will get to serve on the committee. If only! Seriously, Trevor ZS2AE for one has indicated that he would like a break from being on the committee, so there will be at least one vacancy – so please put brain in gear and cajole/bully/bribe suitable individuals to make themselves available. How about you?

Unfortunately the current RAE classes have fizzled out – not much fun lecturing when you are the only one there! On the other hand, it is most gratifying to hear so many of the previous candidates on the air, and also to see them at meetings.

Our membership stats are very encouraging, our numbers having grown from 103 to 143 over the past year. Wish my bank balance would show such growth!

Congratulations to Mike ZS2FM and André ZS2ACP for the awards received at the SARL AGM.

All that remains is to thank the outgoing committee members (Trevor ZS2AE, Chris ZS2AAW, Clive ZS2RT, Garth ZS2HB, Bill ZS2ABZ, Ewalt ZS2EHB, Greg ZS2RE) for their enthusiasm and support. And also all those members who voluntarily undertook some or other activity to make PEARS what it is.

All in all, it was a good year.

73,

Beavan ZS2RL

HAMNET / ECARES NEWS

ARE YOU READY?

The Boy Scouts have a motto which applies equally well to Hamnet/ECARES members: *BE PREPARED*. We probably fall short more when it comes to mobiling than when at home.

What could be considered the bare minimum to have in your vehicle is *medication* (if you need it), *spectacles*, *basic medical kit*, *raincoat*, *some form of communication*, *tools and emergency information*.

What could prove useful is a torch or some other form of light, warm clothing, water, jumper leads and a tow-rope. Other items for consideration are binoculars, multimeter, crowbar and small spade. The list seems endless, but you need to decide what you feel is necessary.

Listed under emergency information is telephone numbers of emergency organisations (notably SA Police Services) and Hamnet/ECARES office bearers, street map of town you are in, writing paper and pen and Hazkem and flashing light information.

Hazkem signs are displayed on vehicles transporting dangerous materials and I can supply full information on this, or maybe Garth can do a reprint of the information which appeared previously in QSX.

Alternatively, when faced with an accident involving one of these vehicles, make a note of the Hazkem details displayed and pass on with other information when reporting the accident.

Flashing lights signify the following:

RED: Medical and fire emergency services

BLUE: SA Police Services and traffic police

ORANGE: Warning of obstructions

GREEN: Disaster management control points.

You may wonder why binoculars was mentioned. If a situation such as the above exists that is potentially dangerous it would be safer to assess the situation through binoculars at a distance rather than close-up. Or maybe a vehicle has fallen down an embankment where it would be difficult and time-consuming to get there.

Social

We are very pleased to welcome Colin Whitehead ZR2CU and Alan Whitehead ZR2WH to ECARES. It is particularly good that we now have representatives from the Elandsrivier area.

73,

Al Akers ZS2U
Provincial Director,
Hamnet East Cape/ECARES

SARL AWARDS FOR TWO PEARS MEMBERS

The Arthur Hemsley 2 metre Trophy was awarded to Mike Bosch ZS2FM for his ongoing efforts to keep VHF and UHF actively in the forefront, while the Tinus Lange 7066 Technical Award, a framed certificate and a cheque for R350 was awarded to André Botes ZS2ACP for his impressive conversion of a CB set into a multi-band HF transceiver.

Congratulations to you both.

CHAIRMAN'S ANNUAL REPORT

The past year has been a reasonably successful one for PEARS. Membership grew from 103 at the close of 1999/2000, to 143 at the close of this year. Which means that we must have been doing something right. And our finances, as the Treasurer's report will show, are nothing to be ashamed of.

Our VHF repeater network served us well, with very few problems if one considers its extent. In this regard full credit must go to our "repeater maintenance team", Chris ZS2AAW and Trevor ZS2AE, for their ongoing effort in extending and maintaining the network. Thanks are also due to Roger ZS1J and Trevor ZS2AZR for maintenance work done on the Knysna repeater.

Chris ZS2AAW is also to be commended for the fine job he has done on our website.

QSX maintained its reputation as THE amateur radio newsletter, and is in no small way responsible for attracting out-of-town members. Our editor, Garth ZS2HB, has consistently (and stubbornly!) refused further awards for his dedication to this task – so the lack of a formal PEARS award does not suggest lack of appreciation by the members.

The social scene has been a bit of a mixed bag. Two attempts at organising a get-together at the QTH of Roger ZS1J in Plettenberg Bay had to be aborted because of heavy rain. As has become customary, the November monthly meeting took the form of an end-of-year cheese and wine party which was enthusiastically supported.

The Christmas Party, organised by Greg ZS2RE, was held at the Swartkops Yacht Club and was well attended – the festive mood being helped along by the excellent music provided by Ewalt ZS2EHB. The monthly Wrinkly Raves continue unabated, with a dedicated and well nourished core of some 15 Ravers.

The PEARS VHF/UHF contest, organised and co-ordinated by Mike ZS2FM and Al ZS2U, was still popular but did not attract as many entries as in past years.

The annual VW Rally, held during July of every year, has become an institution with PEARS – or conversely and perhaps more accurately, PEARS has become an integral part of the rally. Members once again distinguished themselves with accurate and disciplined radio comms., so much so that an appreciative rally participant donated two cases of excellent red wine.

Greg ZS2RE did the organising for the SciFest 2001, and while the event could be considered successful from our point of view, there are three considerations which are troublesome: the less-than-enthusiastic support from members, the relative unavailability of equipment for demonstration and display, and the cost of participation (fuel being the major component). Some members have questioned whether we should get involved in future SciFests.

On-the-air CW classes were revived, Isaac ZS2ZG having taken the initiative earlier this year. Unhappily, Bryan ZS2BH, who had previously run CW classes on the air, had contracted cancer and was unable to continue. I am sure that all members will join me in thanking Bryan for his contribution, and Isaac for picking up the ball.

The RAE classes were most fruitful, producing 15 new ZR's, most of whom can frequently be heard on the air.

Unfortunately, the classes conducted during the first half of 2001 were disappointing: only two candidates attended at the start, but by the half-way mark the lecturer was the only one that arrived for a lecture one evening: at that point the Committee decided to abandon the lectures, and took the decision that in future a course would only be run if there were at least six candidates starting the course.

The RAE courses were organised by Greg ZS2RE, who was also the driving force behind the recompiled RAE manual. It is a feather in PEARS' cap that the manual has been adopted without alteration by the SARL, as the official RAE manual.

The technical meetings, organised by Al ZS2U and Viv ZS2VM, proved to be popular and were well attended.

If there is an unsung hero in our Society it must be Jim van Loggerenberg, who is almost never seen or heard, yet he performs an outstanding job for our members every day: Jim is the Sysop of ZS0NTP, the Society's packet bulletin board, and sees to the smooth flow of traffic in and out of the area every day with hardly a hitch.

A club or society is what the members make of it. Even though radio hams are an 'ornery' bunch at the best of times (!), it was gratifying to see the spontaneity with which gaps were filled. Not to mention the good old-fashioned camaraderie.

In conclusion, my thanks to the outgoing committee for all their effort and support, and to the members in general, without whom PEARS would not exist.

Beavan, ZS2RL

OMISSION

Last month we published an article on APRS which Colin Robertson ZS2CR wrote and e-mailed to us.

Unfortunately, when editing out the e-mail headers etc I forgot to insert an appropriate credit to Colin in the final draft. *He's* the man to contact for more information on APRS!

MORSE PRACTICE

Isaac ZS2ZG seems to have a number of regular listeners to his morse tuition transmissions every Monday to Thursday evening.

The transmissions can be heard from 18:30 to 19:15 on 3640 kHz in the 80 metre band. Isaac does a call-in on the linked repeater system after the session to ascertain how users of the service are progressing.

Incidentally, it came to light recently that PE had *no* authorized morse examiners. The SARL ruled a while ago

that examiners have to *apply every year to give their services*. None of the local examiners was aware of it and naturally did not apply.


Beavan has in the meantime applied on behalf of the volunteers, including Ken Tremeer ZS2BWB who has agreed to join the team of examiners and conduct tests when required.

PIC PROGRAMMING GROUP

Neil Thomas ZR2NT has initiated a nightly net on the 145,700 repeater to explore the interesting world of the PIC.

The group will deal first with the PIC as the heart of a frequency counter.

Listen on 145,700 at 20:45 every evening. This should be interesting as well as educational.

Neil proposes to disengage the repeater from the link, but there could be a number of other operators along the link who would find these discussions interesting too. 

NEWS FROM THE SARL AGM

A PLEASANT AGM IN THE FAIREST CAPE

The clubs that hosted the AGM must be congratulated on a stout effort and smooth running of all the arrangements for the recent AGM. There was a relaxed and friendly atmosphere at the Friday evening braai as well as the AGM, both of which enjoyed large attendances.

There were no contentious items for discussion and all the proposed changes to the Rules were accepted except that, on a proposal by PE, the periods of notice to members mentioned in Rules 8.2 and 8.8 were

extended to six weeks rather than shortened to three.

A provision in the proposed rules governing Honorary Life Membership stipulated that the recipient "shall at all times have fully supported the South African Radio League in matters pertaining to it." Yours Truly obtained confirmation that this does not preclude freedom of thought and differences of opinion. The last thing one needs, of course, is "yes-manship".

Subs have unfortunately risen again – by about 10% in all categories.

HANS & SID RE-ELECTED

Congratulations to Hans Potgieter ZS6ALJ and Sid Tyler ZS6AYC on their re-election as President and Vice-President respectively for the year ahead. Both were re-elected for another term of office at the special Council meeting immediately following the Annual General Meeting.

Newcomer to the Council, Fritz Sutherland ZS6ASF has been appointed as Editor and Publisher of the new look Radio ZS. Fritz has already started work on the May edition which, it is expected, will be mailed before the end of the month.

INVOLVE THE YOUTH

In an interesting and thought-provoking address at the SARL AGM Dinner, Chairman of the Parliamentary Portfolio Committee for Communication, Ned Kekana said: "Kids must experience science and technology in order to develop a liking and an interest. With the whole country being electrified, there is a strong move to acquiring electronic equipment.

"This is an opportune moment for SARL and all of us to demystify radio, make radio attractive to youngsters. Let them develop a hobby; let us give them an opportunity to understand radio not only as a uni-directional

gadget where they receive news and entertainment, but as a tool of two-way communication, reaching out and developing friendship.

"Amateur radio has a lot of history behind it. You all know the ITU definition of Amateur Service, as a *radio-communication service for the purpose of self-training, inter-communication, and technical investigations* carried out by amateurs.

"The service has a vital role to play in the education of engineers and technologists in the field of telecommunications. It is important that the service attracts young people,

especially from the previously disadvantaged communities."

Mr. Kekana concluded his address with a clear message for all amateurs: "My important message to you is to

embrace the young people coming from all the diverse cultures that make up the people of South Africa. Share your knowledge generously and help us build a technology-rich nation."

FEW RECEIVED AGM DOCUMENTS IN GOOD TIME

It seems that few members received the notice of meeting and relevant documents, including motions and financial statements, until a few days before the AGM. It was consequently impossible for clubs to discuss the items and exchange views. Those who left for Cape Town early in the week had no insight into the motions from Council or financial state of the League.

The Post Office was given the blame. Apparently an organisation known as Royal Mail was charged with handling the

distribution, and they claim they "received the notices on April 6 and handed them in at Witspos, the central mail despatch centre for Gauteng, on April 8".

The Post Office must have something against the SARL – this kind of thing has happened before and, of course, we know how much correspondence addressed to the League is also never received.

On the other hand, perhaps it would be better if Royal Mail refrained from handing stuff in at Witspos on a *Sunday!*

MOTION FOR THE PEARS AGM

Motion by the PEARS Committee—

That the "Ou Toppie Award" shall be awarded to a member who –

- a) has attained the age of 80 years or older, and
- b) has had 10 years' unbroken membership of PEARS at the time of the award.

The recipient of the award shall be exempt from further annual subscription fees.

[Comment: this means that a person who joins at the age of 80, will qualify at age 90, which is OK because the intention of the award is to recognise both age and length of membership]

FOR SALE ★ WANTED ★ SWOP

FOR SALE

* Complete station including radios etc. also Mini-quad beam, tower, rotator, coax etc.
— John Masters ZS2AAN, 27 Murrell Crescent, Framesby, tel. 360 5751 or 082 258 0075.

* TH3 Jr Yagi; 14AVQ vertical antenna; Yamota Rotator and some other stuff to flog. Plenty bargains — See Roger Davis ZS1J at the PEARS AGM boot sale.

* Ranger 16-channel commercial transceiver with all local repeaters, packet and common simplex frequencies, R400; Similar Midland transceiver but with scanning feature, R450 — André Botes ZS2ACP, tel. (041) 379 2058.

* Kenwood 70cm transceiver, R500; 10m transceiver (converted CB set) 28-29MHz, R200; CB set converted to 40m, R200; CB set converted to 6m, R200 – Viv Moore tel. (041) 368-1340.

CTCSS, DTMF – What are they?

BY CHARLES CARR (ZS5QR)

CTCSS, DTMF and 1750 Hz tone are three types of tones used on the VHF and UHF bands for various purposes.

In Europe the 1750 Hz tone is used to access repeaters by transmitting a 1750 Hz tone when first accessing the repeater, to open the squelch on the repeater. This is done to limit interference problems. The 145.600 Pinetown repeater has this facility, and if it receives a valid tone it will beep back to you to let you know your tone is correct.

CTCSS tones (Continuous Tone Coded Squelch System) are tones which are transmitted all the time while you are talking to open the squelch on the repeater, but because they are low frequency tones, they are not passed through your receiver's audio filters. Amateur equipment is designed to have an audio pass-band of approximately 300 to 2700 Hz, and the CTCSS tones are below that.


There are 38 frequencies in the CTCSS standard, ranging from 67,0 Hz to 250,3 Hz. CTCSS tones can be added to your output with a small board which Highway branch is busy making. Some repeaters also have a CTCSS tone on their output, so that suitably equipped receivers can have selective squelch that only opens when a valid tone is received – useful if you are plagued by local interference. The tone used by amateur repeaters is 88.5 Hz, and we already have the boards to put this tone on our repeaters. This modification will not affect receivers that do not have a CTCSS decoder.

DTMF (Dual Tone Multi Frequency) are the same tones that are used by the telephone system. Two tones are sent when a button is pressed on the keypad. There are actually 16 pairs recognized of the eight tones, and a separate tone is assigned to each row

and column of the keypad. The "123" row sends a tone of 697 Hz, the "456" row a tone of 770 Hz, the "789" row a tone of 852 Hz, and the "* 0 #" row a tone of 941 Hz.

On the column side, the "147*" column sends a tone of 1209 Hz, the "2580" column a tone of 1336 Hz, the "369#" column a tone of 1477 Hz, and there is an extra column which uses a tone of 1633 Hz. So, when you press "1", a tone is sent from the row of 697 Hz and at the same time a tone is sent from the column of 1209 Hz. These tones have been carefully chosen so that accidental switching is unlikely.

Again, cheap integrated circuits are available which do the decoding, and these can be built into remote controlled repeaters to control various functions, such as re-setting digipeaters, aerial switching, frequency switching, and squelch adjustment. One could conceivably wire up your home base 2m receiver so that you could open your driveway gates or garage door, or link in a UHF set to do remote cross-band, or even sound an alarm to call you to the receiver if your friend wants to have a QSO.

CTCSS tones are going to become a way of life as the spectrum becomes more crowded and QRM problems proliferate. 

WHAT CAN YOU EXPECT ON VHF?

MIKE BOSCH ZS2FM

It is not often realized that the 50 MHz and 144 MHz bands, i.e. the VHF twins, are actually complementary to each other: where one band may excel via a certain type of propagation the other may yield poor results or vice versa.

We are currently at the peak of Solar Cycle 23, an event that occurs every eleven years, when the 50 MHz band literally becomes an extension of the 28 MHz band and world-wide DX via the F2 layer can be worked even on a smell of an oil rag.

The world record of 19305 Km lasted for 21 years and was established by ZS6LN and KH6IAA, but was broken recently by ZS6PJS and K6MIO/KH6. However, their new 19355 Km record was very short-lived when EH7KW worked a ZL station over a distance of 19800 Km.

When it comes to Tropo propagation then the 144 MHz band completely overshadows 50 MHz and even the UHF bands. The IARU Region 1 Tropo record stands at 3264 Km, set up between EA8BML and GMØKAE, whereas only 1197 Km has been achieved on 50 MHz. This puts Reunion Island well within the range of 144 MHz during favourable Tropo ducting conditions. The Region 3 record exceeds 4000 Km on this band.

There are also some modes of propagation shared by these two bands which could make country-wide communication possible. Sporadic-E (Es) and Meteor Scatter (MS) are common to both bands. The former is mainly a summertime phenomenon while the latter peaks during the colder months when the Earth passes through a number of meteor streams.

In Region 1 the 50 MHz Sporadic-E record stands at 9779 Km (JY7SIX - WD4KPD) and 4281 Km on 144 MHz

(OE1XLU - RI8TA), while on Meteor Scatter the roles have been reversed: 3101 Km on 144 MHz (GW4CQT - UW6MA) and 2542 on 50 MHz (G4IGO - SW1OE).

Then there are also the extremely reliable but high power scatter modes which provide continuous communications. Ionospheric scatter propagation appears on both bands and could cover a range up to 2500 Km, but tropospheric scatter propagation favours the 144 MHz band.

Tropospheric and Ionospheric Propagation

The main difference between these two bands could be summed up as follows: 144 MHz is very sensitive to the ever-changing weather conditions in the Troposphere that occur frequently throughout the year, while 50 MHz is affected by the degree of ionization in the ionosphere, which is seasonal.

Tropo propagation is of course weather related and a high pressure system followed by a cold front will cause a temperature inversion, which could result in a long distance opening on 144 MHz, provided that the inversion is formed at the correct height above earth (see Fig. 1). Hot and humid conditions in the summer months from November to February are responsible for Tropo ducting over thousands of kilometres.

Propagation on 50 MHz via the F2 layer in the ionosphere occurs around equinox time twice a year during the

peak of the Solar Cycle, but it is non-existent on 144 MHz. Trans-Equatorial (TE) propagation precedes the F2 openings by about two months but may appear on both bands: 50 MHz = 9096 Km (ZS6AXT - OZ3ZW) and 144 MHz = 7843 Km (ZS3B - I4EAT). Its footprint mainly favours stations in Division 6, Namibia and Zimbabwe and very rarely occurs as far south as Division 2.

Efficient Equipment

A lesson that we have learnt from the above is that, if one is properly equipped for 50 and 144 MHz, then you could benefit from all the propagation modes possible throughout the year. It is a fact that these two bands do provide the longest terrestrial distances possible in the entire VHF/UHF/SHF spectrum. Even high mountains are no longer obstacles as proved by ZS4NS and ZS5AV when they worked each other over the Drakensberg on 144 MHz.

Please note that if you are really interested in achieving the remarkable long distances possible on VHF, especially on 144 MHz, then you cannot do it with "Mickey Mouse" equipment such as ten watts and a Slim Jim antenna. You do not have to run excessively high power but you could make up your losses with the aid of an efficient high gain horizontally polarized antenna and low noise pre-amplifier (LNA).

It is a well known fact that a Yagi antenna produces the highest gain when compared with the physical size

of any other antenna system. Therefore, if you could stack two Yagis for optimum low angle radiation, then you could expect fantastic results on both transmission and reception. A list of minimum antenna gain requirements for serious VHF/UHF DX work was published on page 7 of the June 2000 issue of RADIO ZS.

As Solar Cycle 23 starts to decline so DX activity on 50 MHz will wane, but 144 MHz could offer some exciting opportunities during the interim period. There is still a lot of pioneering to be done on 144 MHz as its full possibilities have not yet been realized in the RSA and, of course, there is always some satellite activity.

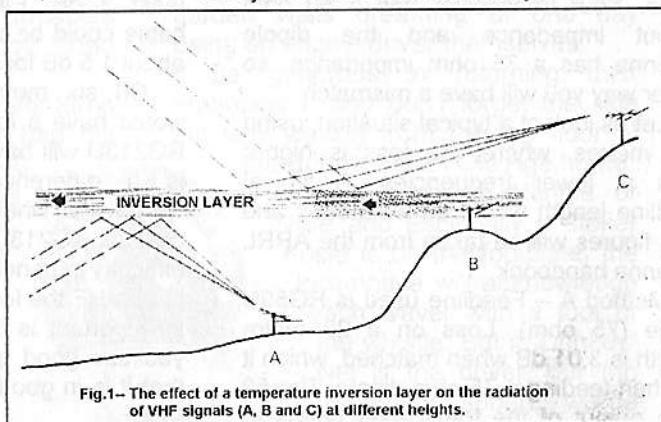


Fig.1-- The effect of a temperature inversion layer on the radiation of VHF signals (A, B and C) at different heights.

At night time we have a well developed long distance FM net going along the seaboard linking Divisions 1, 2 and 5, and even Divisions 3 and 4 are getting interested. It starts around 2100 SAST on a frequency of 144,400 MHz. If you are limited to 2 Metre FM equipment only, like most hams, then this is the net to join and squeeze the most out of your equipment. All you need to start with is a horizontally polarized Yagi!

*PO Box 1614, Port Elizabeth 6000; Tel. (041) 581-2425. Cell 082 654 0623

Antennas

BY AL AKERS ZS2U

This is Part 1 in a series of articles on a subject close to Al's heart, and on which he is something of a specialist. Apart from his imaginative construction techniques, he has recently been obtaining good results with a new experimental antenna that he has designed.

I have been using 75 ohm coaxial cables to feed mainly dipole antennas, but also other antennas, for many years. Among the types used was low loss TV cable, which was cheaper than RG58U cable and had a loss figure only slightly higher than RG8U, and it was easier to work with than RG8U. I also tried good quality computer cable off-cuts which I obtained at a reasonable price.

Using 75 ohm cable may cause some raised eyebrows, but consider this: Equivalent quality 75 ohm cable appears to have slightly lower loss than 50 ohm cable. Your transceiver has a 50 ohm output impedance and the dipole antenna has a 75 ohm impedance, so either way you will have a mismatch.

Let us look at a typical situation, using two metres, where line loss is higher than at lower frequencies. A typical feedline length would be 20 metres and loss figures will be taken from the ARRL antenna handbook.

Method A – Feedline used is RG59U cable (75 ohm). Loss on a 20 metre length is 3,01 dB when matched, which it is when feeding a 75 ohm dipole. The 50 ohm output of the transceiver needs to be matched to the 75 ohm line.

Method B – Feedline is RG58U with a loss of 3,35 dB when matched. There is however a 1,5:1 SWR on the line and total loss will be 3,49 dB. A matching system will be needed between transceiver and line.

Method C – Feedline is RG58U and a matching system is used at the antenna-feedline junction. This results in a line loss of 3,35 dB.

From this it can be seen that a matching system is required to obtain a perfect match for all three feed methods. Method A is the best, though the

difference is only half a dB. One dB makes a hardly noticeable difference in signal level.

What is significant is that the loss is at least 3 dB. Either RG8U or RG213U cable could be used, which will result in about 1,5 dB loss.

On six metres, the three methods would have a loss of about 1,7 dB and RG213U will have a loss of 0,9 dB. This is a difference of 0,8 dB, hardly worthwhile when considering the extra cost of RG213U cable and the greater difficulty in handling the bulkier cable.

On HF the losses do not figure. What is important is that you make sure that you use good quality coaxial cable and that it is in good condition, especially for VHF.

Some coaxial cables can best be described as junk.

To check a length of cable, make sure that the further end is a good open circuit and measure the SWR at the input end at the frequency which you want to use it for.

Use the lowest power from your transmitter that is needed to obtain a full scale deflection for the "forward" reading and do not keep the transmission on for more than a few seconds at a time.

The loss will be:

$$\text{Loss} = \text{Log} (\text{SWR} + 1 / \text{SWR} - 1) \text{ dB. } \text{Ⓚ}$$

The APPLE EXPRESS STEAM TRAIN

Humewood Road to Thornhill

BY CLIVE FIFE ZS2RT

At 9,30am, with a belch of black smoke and white steam, the train slowly moves out of Humewood Road station. Sitting in our turn-of-the-century (that's 19/20th century!—Ed.) coach that has been lovingly restored, we slowly pass the loco sheds on the left and catch sight of the world's oldest working Garrett loco No. 54 in her red livery. She was built in 1925 by the Beyer Peacock company.

Rounding the first bend on the bridge over the Humewood Road is an open piece of ground between the houses and the railway line. This used to be the site of a turning triangle. These triangles, like the one still in use at the Van Staden's Station, were used to turn locomotives around. Turntables were also used but Humewood Road never had one.

Opening the throttle, the driver turns on the power to enable him to haul his load up the steep 1 in 40 gradient past the narrow gauge diesel depot on the left. A short distance further on, on the right hand side of the train, passengers can still see the remains of the original line following the contours of the cliff and hills until it rejoins the line just past the cemetery.

Look for the old telephone poles. The line was relaid when the road over the rail bridge was built. Somewhere opposite the Victoria Park High School the old Walmer branch line curved away down 2nd Avenue, Walmer, before turning left into Villiers Road, down 5th Avenue and left again into Water Road.

After passing the Airport on the left, the train winds its way through the suburbs of Port Elizabeth. The residents of suburbia are always ready

to acknowledge a wave from the passengers. Housewives waving from the kitchen window, nannies with babies in arms, fathers following the train in their cars with their excited children waving animatedly from the back seat, little boys leaning over garden walls dreaming of one day being an engine driver themselves.

Be generous in returning their enthusiasm, and don't forget the little old lady waving from the top floor of the Buffelsfontein Old Age home.

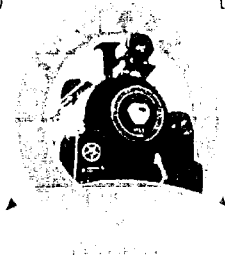
If the driver is Hennie or Willie and especially if stoker Kosie is on the footplate, the locomotive will acknowledge each waver with a toot of the whistle. But if "Donkey"

Nel is the driver, our trip through the suburbs will be more sedate. He sticks rigidly to the rules and regulations and only whistles when required.

After passing the outskirts of Sherwood we head off into the country and through the only "tunnel" en route. This is the bridge under the N2 highway to Cape Town.

Shortly afterwards we pass the "Chelsea Dam" on the right-hand side and make our first stop (15 minutes) at Chelsea Station for a leg stretch and possibly a trip to the Apple Tavern.

<< To be continued next month >>



MINUTES OF THE ANNUAL GENERAL MEETING OF THE PORT ELIZABETH AMATEUR RADIO SOCIETY held in the Walmer Scout Hall, Port Elizabeth on Saturday 13 May 2000

Opening and Welcome

The chairman Beavan, ZS2RL opened the meeting and welcomed all, especially those who traveled from afar – Trevor ZS2AZR, Roger ZS1J and the members from J-Bay

Present and apologies

As per register (attached)

Minutes of the AGM held on 16 May 1999

Proposed by: Fred ZS2JS; Seconded by Roger ZS1J

Matters arising:

None

Chairman's report:

Adopted as published in the May 2000 edition of QSX – Proposed by Dick ZS2RS, Seconded by Bill ZS2ABZ

Treasurer's report

As circulated at the meeting. Clive, ZS2RT explained certain items in the financial report. Proposed by Bill ZS2ABZ, Seconded by Colin ZS2CR

Roger, ZS1J asked for what reason the society grew wealthier each year – were there any long term plans. A club house was raised as a goal, to which Neil, ZR2NT replied that he had land available for a clubhouse building if the society so desired.

The meeting expressed their thanks to the honorary auditor, Gus, ZS2MC.

Awards

Trophies were awarded as follows:

- ZS2OB DX Trophy – Isaac Greeff ZS2ZG
- ZS2AB Constructors Trophy – André Botes ZS2ACP
- Ham Spirit Trophy – Bill Hodges ZS2ABZ

Appreciation Certificates were presented to:

- The South Cape Amateur Radio Club for the work done in extending the repeater network to Cape Town;
- Jim Miller ZS2JM of East London for his personal labours in extending the repeater system eastwards;
- Border Radio Club for their involvement in the extension of the linked repeater system;
- André Mulder ZR2A for providing accommodation for three PE operators during

the SciFest in Grahamstown.

An *Achievement Certificate* was awarded to Mike Bosch ZS2FM in recognition of his promotion of VHF communications in particular and amateur radio in general.

The Vice Chairman then presented a *merit certificate* to Chris Scarr ZS2AAW recognising his development of the East Cape's linked repeater network, especially his Y2K initiative.

Election of chairman

Lionel, ZS2DD took the chair on request of the outgoing chairman and conducted proceedings. He called for proposals for chairman:

Beavan, ZS2RL proposed by Garth ZS2HB seconded by Dick ZS2RS

Beavan was elected unopposed, there being no other nominations.

Election of Committee

Cyril ZR2H was not available for re-election to committee. Ewald Bouwer ZS2EHB accepted election on a proposal by ZS2CR, seconded by ZS2HB. In the absence of further volunteers, ZS2JS proposed the re-election of all the remaining committee members *en bloc*. This was accepted unanimously, producing the following committee for 2000/2001:

<u>Elected</u>	<u>Proposer</u>	<u>Secunder</u>
ZS2EHB	ZS2CR	ZS2HB
ZS2HB	ZS2JS	ZS1J
ZS2RT	ZS2JS	ZS1J
ZS2AE	ZS2JS	ZS1J

Motions

No motions had been tabled for discussion

General

VW Rally. Members were reminded to pass their details to the committee if they were keen to assist in the upcoming event, which was to be held in July.

The chairman asked the committee to gather to discuss portfolios briefly at the close of proceedings.

SARL membership applications at reduced rates – Garth, ZS2HB asked for persons to please pass those forms on to him.

Closure

The meeting was closed at 16h32. The braai fires were then put under severe test!

PEARS VHF/UHF CONTEST 2001 RESULTS

Despite poor conditions, a lot of activity was recorded in some divisions over the 48 hour period of the contest held from 19 to 21 January 2001, report Mike Bosch ZS2FM and Al Akers ZS2U.

Here are the results:

LONG DISTANCE WINNERS

6M: ZS1AGF & ZS6SS	1234 Km	70 cm: ZS4SRK & ZS6GMJ	150 Km
2M: ZS2AH & ZR5ADQ	428 Km	23 cm: ZS6HS & ZS6DDG	37 Km

DIVISIONAL WINNERS

6M Fixed:		2M Fixed:		70 cm Fixed:	
ZS1AGF	6433	ZS11	1684	ZS2CH	24
ZS2FM	909	ZS2IV	4265	ZS4SRK	2190
ZS4SRK	6486	ZS4SRK	5873	ZS6EGB	963
ZS6HS	1251	ZR5DK	422		
		ZS6PDK	3004	70 cm Field:	
6M Field:		2M Field:		ZS1ESC	86
ZS1ESC	754	ZS1ESC	1510		
ZS2U	528	ZR2A	3625	23 cm Field:	
		2M FM QRP:		ZS6HS	55
		ZS6XT	1080		

THOSE OPERATING HABITS BY GARTH LAAKS ZS2HB

The article on page 13 last month about leaving sufficient clearance from an occupied frequency seems to have touched a sensitive nerve, but regretfully did not have the effect that one might reasonably have expected. Instead, it elicited an arguably libellous and most certainly regrettable ongoing tirade from one operator.

The incident to which I referred might have arisen *in part* from a misunderstanding about the status of IARU Recommendations vis-à-vis the Radio Regulations. Unfortunately, ignorance of the Radio Regulations is quite common and one often hears stations giving totally incorrect personal interpretations of them.

For example, an operator who is in the habit of holding long, chatty exchanges, giving his call sign very infrequently if at all, was apparently reminded of proper ham procedure. Instead of accepting the reminder in the spirit in which it was given and observing legal requirements, the chap can often be heard mocking about it. He says the Regulations only require you to give your call sign once every 15 minutes.

In fact, Regulation G1 says clearly that "the call sign must be transmitted at least once during each separate transmission."

At the recent SARL AGM, members were reminded that the Authorities regard us as self-policing. Unfortunately, few amateurs bother to help others right when they act incorrectly, or when the quality of their signals leaves much to be desired. The reason is often the fear of flak from the offending operator, a common experience today. As a result, our respected hobby is in danger of degenerating to a level unacceptable even to the Authorities.

With this in mind, an appeal was made at the AGM to "help others right" in a friendly manner, which includes giving honest reports on signal quality. 📍



PEARSTALK

WORLD TELECOMMUNICATION DAY 17 MAY

The ITU will be celebrating World Telecommunication Day on May 17. The theme for this year is "The Internet: challenges, opportunities and prospects".

The SARL will be celebrating the day by "taking Amateur Radio to schools and demonstrating how Amateur Radio can contribute to technology education and influence future career decisions."

INTECNET ON MAY 27

The next SARL Intecnet will be held on 27 May. The programme will start at 20:00 and be relayed over the Eastern Cape repeater network as well as by Sentech on 3215 kHz in the 90 metre band.

Abel G3ZHI will talk about linking repeaters via the Internet.

But is it Ham Radio? We'll have to wait and see.

NEW REGULATIONS DELAYED BY LEGAL DEPARTMENT

The promulgation of the amendments to the Radio Regulations making provision for a new HF access licence requiring only 5 words per minute Morse code and the new Amateur Radio Learners Licence have been delayed further, now due to a wording disagreement between the Department of Communications and ICASA.

BACAR TO FLY AGAIN

A BACAR flight will take place in Johannesburg on 19 May with a mode J transponder, telemetry and recovery

beacons and an APRS transmitter on board. The uplink will be on 70 cm and the downlink on 2 m. The balloon is expected to reach an impressive height, providing a very large footprint for those following its progress.

SARL SERVES NON-MEMBERS TOO

An agreement was reached between SARL and ICASA recently concerning the issuing of call signs. In terms of this agreement the SARL will issue call signs on behalf of ICASA. The SARL report says: "The struggle of RAE students to obtain their call signs is now a thing of the past as, when students receive their results having passed the RAE, the report will include their call signs."

Guest, reciprocal and special event licences and upgrading from a ZR to a ZS call sign are included in the agreement and will be handled by the SARL.

"This brings the facilities that the SARL offers to the amateur community in South Africa almost a full circle, as the only outstanding item to be included to complete the circle is the issue of the actual radio licence," the report added.

This means that the League, already under constant fire for delays and inattention to members' requirements, has volunteered to place a still greater load on the hard-pressed office staff, including the provision of services to non-members as well.

The President explained at the AGM that ICASA says it is no longer able to carry out these tasks itself for some reason – probably a staff-related problem. That being the case, one

might expect that the major portion of the licence fee should accrue to the League, and it should not be necessary for the SARL to add a further charge of R8 for its part in the process.

ON THE OTHER HAND...

The SARL has congratulated the team involved in recent restructuring of HAMNET. The restructuring, the report says, "brings it back to the purpose for which it was meant to be, i.e. emergency communication."

We understand, however, that the SARL Council sticks to its incomprehensible ruling that non-League members may not provide their services to Hamnet. This means that would-be helpers in a disaster are being denied the opportunity to hone their emergency operating skills.

- Current members of Hamnet were asked to apply to remain members. The cut-off date for applications was 30 April 2001. The e-mail address for applications is francois@overflow.co.za or, if you wish to respond by fax, the number is 011 475 5946.

PEARS SUGGESTION FINDS FAVOUR

Following a suggestion from PE, the SARL submitted a request to the Regulator that non-amateurs be allowed to communicate on amateur frequencies under supervision of registered clubs and branches while they study for the RAE. This will be on lines similar to ARISAS, Yana, CQ Hou Koers, Jamboree on the Air and other events.

When the request is approved, clubs and branches can register with the SARL as educational facilities and special events can be arranged between clubs in consultation with the SARL. Rules governing these events will be announced as soon as approval

has been received.

ICASA has asked the SARL to make provision for the concession in the revised Regulations which are to be submitted to the Minister.

ILLEGAL NETS

The threat to our frequency spectrum is a real one, says SARL President Hans Potgieter, and as we battle to secure it some South African amateurs find it necessary to work on unallocated commercial frequencies in the region of 7,333 MHz and 6,950 MHz.

Obtaining amateur and ex military equipment and supplying it to friends and family seems to be the general code of conduct of this group.

He warned that an investigation is on the go concerning the operation and some of the operators are already identified. These operators bring the amateurs in South Africa into disrepute and make it more and more difficult for the others to enjoy their hobby. He added that, when they are brought to justice, they will be severely dealt with.

PASTE YOUR SWOPS

Chris ZS6COG on the East Rand is looking for swops to paste on his Club's swapshop webpage. If you have something to get rid of, or are looking for something, then feel free to send swops to zs6cog@freemail.absa.co.za

RAE

The SARL RAE examiner reports that 140 candidates enrolled for the May examination which took place on Thursday 10 May.

There were 16 examination centres throughout South Africa for this event.

We trust that our candidates had no difficulty with the paper and that we will soon hear good news of their success – and their new call signs! 📡

Condolences: We were extremely sorry to hear of the passing of a dear old friend of PEARS, OM Owen Thomas, ZS2AZ. Owen had been in poor health for some years. Our thoughts go to his family and friends, and our thanks to Trevor ZS2AE in particular for his frequent visits to Owen and his help in various ways.

Congratulations...

on your birthdays:

May

- 20 Marjorie Forsyth XYL of ZS2AW
- 21 Neville Roebert ZS2NR
- 22 Saney Martin ZR1S
- 22 Bill Hodges ZS2ABZ
- 24 Vicky Ansell XYL of Allan
- 26 Daleen Hall ZR2DOL
- 31 Shirley Carr XYL of ZS2C
- 31 Joe Jasson ZS2JLJ
- 31 Dennis Flynn ZS2DB

June

- 2 Vernon (Genis) van der Watt
- 5 June Jones ZS2JJ
- 7 Maria Marran XYL of ZR2AI
- 9 Gus Winter ZS2MC
- 10 Ken Victor ZS2OC
- 10 Magda van der Merwe XYL of ZS2JC
- 11 Maureen Fulton XYL of ZS2MG
- 13 Jimmy Hoole ZS2ABM
- 15 Neville Vroom ZS2NV

on your anniversaries:

May

- 23 Rouhe & Henry Danielson ZR2HPD
- 24 Denny & Tom Davies
- 25 Merle ZR2MP & Neil Thomas ZR2NT

29 Magda & Albrecht van der Merwe ZS2JC

June

14 Heather & James Hoole ZS2ABM
16 Peggy & Viv Moore ZS2VM



Sick List: Joey Pettit, XYL of Des ZS2ABU, has not been well lately. Our thoughts are with you, Joey and we hope you will soon be fully recovered.

Moved: Des ZR2DH and Belinda ZR2CH Herselman moved their business MTS Electronic World to the first floor, Commercial Centre in Sydenham, opposite the KFC. The phone number is 453 0700. Des started a PIC16 practical electronics course on 17 April and plans to run various other training courses at the premises.

Welcome New Members: Chum Rhodes ZS2VU of Sedgfield, Theunis Potgieter ZR2TP of Port Elizabeth, and Graham Griggs ZS2ABK and his XYL Barry of Cradock. We hope – nay, we're sure – your stay with us will be happy! ☺

Your Society's Committee

Chairman - Awards.....	Bevan Gwill /ZS2RI	360-6968
Vice Chairman - QSX collation & mailing.....	Trevor Scarr /ZS2M	367-1746
Secretary - repeaters, packet.....	Chris Scarr /ZS2AAW	368-1344
Treasurer - Assets Control.....	Clive Lile /ZS2RI	367-3203
Social, Retirements.....	Bill Hodges /ZS2ABZ	581-2580
QXSX Editor.....	Gaith Liala /ZS2HB	368-1101
e-mail the Editor at.....
Technical Classes, RAI.....	Greg Maynard /ZS2RE	581-0991
Librarian.....	Neil Thomas /ZR2NF	487-2403
Special Events.....	Ewald Bouwer /ZS2EHB	933-3482
Youth Affairs.....	Greg Maynard /ZS2RE	581-0991

PEARS' VHF/UHF & Other Services

REPEATERS

Town VHF.....	# 145,050/650	Knysna.....	* 145,075/675
Town UHF.....	# 431,050/438,650	Lady's Slipper.....	* 145,100/700
Cockscomb.....	145,000/600	Neupoort.....	* 131,150/438,750
Colesberg.....	* 431,075/438,675	Uitenhage.....	# 145,075/675
Cradock.....	* 145,050/650		
Grahamstown.....	* 145,150/750		

* These form PE's long-range 2 metre repeater system, also linked to which are East London 145,775 MHz repeater, George 145,700, Danabani 145,600, Sullbaai 145,750, Butterworth 145,725, King Williams Town 145,625 and Umfata (438,725 duplex). It is further extendable to Cape Town via the WCRWG system. # These can also be linked as required.

OTHER SERVICES

Packet Bulletin Board (ZSONTP).....	144,625
Packet Rose Switch ZSOGIT-3,046101 (144,675 in out) or 016102 (UHF out to BBS).....	144,675
2m Beacon (ZS2VHF CW ID, FSK) (horizontally polarized, 160W ERP).....	144,415
6m Beacon (ZS2SIX CW ID) (horizontally polarized, 25W ERP).....	50,005
6m Simplex Link with Lady's Slipper 2m Repeater (vertically polarized).....	51,400
Wefax Relay (Metecosat).....	145,350

Sunday Bulletins

PEARS bulletins are transmitted on Sundays immediately after the SARI, English transmission, i.e. at about 08:45, on 7098 kHz as well as the 2 metre linked network that provides coverage from East London to George as well as Cradock and environs. PEARS' 7098 or 3640 kHz transceive facilities are also remotely linked as needed. In addition the SARI's 40m operations on 7082 or 7066 kHz or Hammet's 7070 kHz can be remotely patched into the 2m network, in receive-only mode or with full transceive capability for interactive events.

Date	Prepare and Read on 2m Repeater link
13 May	ZS2ABZ Chairman
20	
27	Vice Chairman
3 June	Secretary
10	Treasurer
17	
24	

<u>DIARY DATES</u>	
<u>MAY</u>	
17	World Telecom Day & ARISAS
19	PEARS AGM
<u>JUNE</u>	
7	Wrinkly Rave @ Zwartkops
15	Monthly meeting

! We Like Being Your Society! *