

**Q S X**  
**P E**

*Port Elizabeth Branch of the  
South African Radio League*

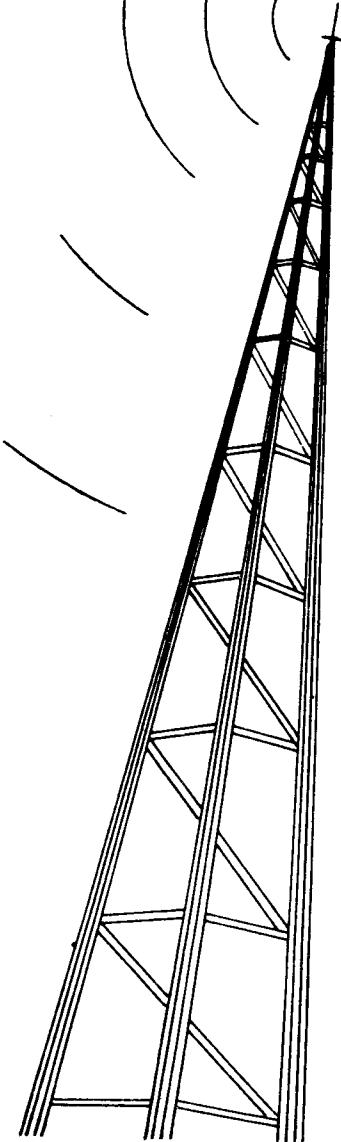
**P.O.Box 462, Port Elizabeth. 6000.**



National Call	145.5 Mhz
P.E. Repeater	145.05/65
Grahamstown	145.15/75
Lady's Slipper	145.10/70

**ZS2PE**

**Bulletin: Sunday 08h40**  
**HF: 40m – 7098 KHz**  
**VHF: FM-145,700 MHz**



# Port Elizabeth Branch

## >NOTICE OF MONTHLY MEETING<

THE MONTHLY MEETING OF THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE WILL BE HELD AT THE SCOUT HALL, BROADWAY AVENUE, SUNRIDGE PARK ON FRIDAY 20TH JULY, 1984 AT 8P.M. LOVE TO SEE YOU ALL THERE!

### \*\*\*\*\* COMMITTEE

CHAIRMAN: Dick ZS2RS (32111) - VICE CHAIRMAN: Trevor ZS2AE (321746)  
SECRETARY: Marge ZS2OB (303498) TREASURER: Brian ZS2AB (303498)  
PROJECTS: Lionel ZS2DD (321770) SPECIAL EVENTS: Colin ZS2AO (312471)  
P.R.O.: Pete ZS2PJ (301493) AWARDS: Attie ZR2DY (611318)  
QSOX - P.E - ZS2OB and ZS2AB.

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## NEWS

**Welcome** A warm welcome is extended to Brian ZS2BG and Sheila ZS2BF who have rejoined the Branch on their return to P.E. and to several new members: Jimmy Levay ZS2QK, Steffie Schoeman of Uitenhage and Sarel Roussouw ZR2EM, formerly of Boland Branch.

Congratulations to Gordon Knapp who passed the PMG exam he wrote in May and not to be outdone, passed the CW test within the same week he heard his results. Well done Gordon. Congratulations also to Lynn Crothall who received her call of ZR2FE and acquired a 2 metre rig.



**CONGRATULATIONS:** are also extended to Gordon and Joan Knapp on the birth of a grandson and it looks like it's Gordon's month - he is representing Eastern Province in the South African Chess Championships.

**Welcome** Also to Joan Knapp who became a member of the Branch at the last meeting and acquired the call sign of ZS2Cup Washer Up! Welcome back also to Peter Wilken ZS2GW who has returned to the Eastern Cape and rejoined the Branch.

A small correction on some of last month's news - Hugh ZS2RB did not visit Italy with Annamarie his wife - but it wasn't with anyone else's wife either! Something he learnt was that AlItalia meant 'wing of Italy'!

**Hobbies Fair** By the time you receive this newsletter, the Hobbies Fair will be a thing of the past. Very many willing helpers turned up at the hall on Friday, Saturday and Sunday to help with the erection of the stand which is by far the best and most professional looking we have ever had. On exhibition is SSTV, a very smart set-up belonging to Colin ZS2AO, the weather station and pictures from MeteorSat belonging to Brian ZS2AB (the rig - not the satellite) a computer and RTTY/CW package belonging to Alan ZR2DF, a video show of the Ham in Space and various pieces of equipment old and new loaned by people too numerous to mention. Thanks to Dick ZS2RS and Trevor ZS2AE for their stout effort in arranging and erecting the smart Amateur Radio sign over the stand. Many thanks to all those who helped with things like painting Rembrandt Pete Smith, Michealangelo Brian Weller, Gainsborough Dick Hardy, all the electricians, the carpenters and willing hands whose names would fill the whole page, but without whose help we could not have done.

**CONGRATULATIONS:** also to Trevor ZS2AE and xyl Julie on the marriage of their daughter Alison.

**AIR RALLY:** The Branch will be providing communications on Sunday July 22nd and if you can help please contact Colin ZS2AO: phone number above.

MINUTES OF THE GENERAL MEETING OF THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE HELD AT THE SCOUT HALL, SUNRIDGE PARK, PORT ELIZABETH ON FRIDAY 15th JUNE, 1984.

PRESENT: 25 members and visitors.

APOLOGIES: Lynn Crothall, Langley Lockwhy and John Magee.

The Chairman extended a warm welcome to everyone in spite of the cold weather. A special welcome to Peter Wilken who had rejoined the Branch and had also received his new callsign.

MINUTES: The Minutes of the meeting held 18th May, 1984, having been published and circulated in QSX-PE were taken as read, proposed by Gus ZS2MC and Brian ZS2AB and seconded by Trevor ZS2AE.

ARISING: It was noted that the Hobbies Fair was only one month away and final details were still to be worked out.

FINANCE: Brian ZS2AB reported that 19 subs had been received. There was no change in the financial situation. All the cheques for the A.G.M. had been sent off.

ARISING: Dick said that subs time was here again and it was vital to keep our membership and if possible improve the numbers. The Branch needs its members and the members need the League. At this stage Dick welcomed two new members Peter Wilken ZS2GW and Joan Knapp.

CORRES: The following letters were tabled:

- (1) re Hobbies Fair.
- (2) re Call signs for the Jamboree of the Air.
- (3) re Voortrekkers Houkoers on 25th August.

GENERAL: The Branch would once again be setting up a JOTA station and the call ZS2JAM would be applied for. It was felt that a more professional looking stand at the Hobbies Fair would attract more attention. We could afford to spend some money to make it more presentable. Dick said that it was always the same small group of members who became involved and he invited more members to take part in manning and erecting the stand. It was hoped to have a Hobbies Fair meeting and anyone who could lend equipment was asked to do so. Colin ZS2AO said that he would be able to borrow several display cases from the Museum. Bill ZS2BY offered the loan of a 1928 FBX receiver. Dick then welcomed Ken Biggs to the meeting. Ken was on holiday from the U.K. He had formerly been a member of the Branch. It was decided in view of the fact that antennas were too difficult to erect, there would be no working HF station and in any case, most onlookers ears were not attuned to SSB. It was hoped to have a dish antenna and a mockup of a satellite. Bill ZS2BY suggested that it was a good time to recruit new members as it was a showcase for Amateur Radio and suggested that QSL cards could be prepared to hand out to those interested. Gordon Knapp enquired about licence requirements for someone who was officially classed blind and Bill Browne replied that there was a special oral exam for these people. He suggested that the Branch make the necessary applications.

There being no further business the meeting was closed and tea was taken. Thereafter Lionel ZS2DD gave a very interesting and informative talk on Oscar satellites. Thanks were extended to Lionel and to the kitchen staff and for the eats.

sgd:  
R.W. Schönborn ZS2RS  
Chairman

sgd:  
M.T. Weller ZS2OB  
Secretary

# S.A.R.L. H.F CONTESTS.

## NEW RULES:

MULTI-OPERATOR STATIONS. This year for the first time the HF contests will include this important new category.

It will enable two amateurs to operate a station jointly under one call sign and allow many of our OM/XYL combinations to team up and take part in the League's HF contests possibly to play a key role in the Branch Participation Award.

BRANCH PARTICIPATION AWARD. In the past the method of scoring - the ratio of points scored by Branch members participating in the HF contests to total Branch membership had made it a little difficult for the larger Branches to compete successfully with the small more contest-minded Branches. With this in mind, the rules this year have been changed in order to give ALL Branches equal opportunities. And, in order to promote this NEW LOOK award the 3 Natal Branches are offering R100 towards Branch Funds to the winner of this competition. We look forward to increased interest and participation from the larger Branches. Thank you for your support.

Dates: Fone - 26th August CW - 30th September.

Period: 1400 - 1800 hours S.A.S.T.

Bands: 20, 40 and 80 metres.

Categories: (a) Single Operator  
(b) Multi-operator  
(c) QRPP

Definitions: (a) Single operator stations are those at which one person performs all of the operating and logging functions.

(b) Multi-operator stations are those where a single transmitter is used but where two people share the operating and logging functions.

(c) QRPP. (Single operator only) Power must not exceed 5 watts. Stations in this category will only be competing with other QRPP stations for awards.

Exchange: RS(T) plus serial commencing with 001.

Points: (a) One point for each contact in same call area e.g. ZS2 to ZS2.  
(b) Two points for each contact in other call area including H5, S42 and S83.

Exceptions: (c) Three points for each contact in ZS2MI, ZS3, C9, Z, 3D6, 7Q7, 9J2, A22, B2, ZD9 and 7P8 all of which will be classified as DX call areas.

Scoring: (a) The sum of scores for each band will be the total all band score.

(b) A station may be worked once on each band for points credit.

(c) All contestants MUST compute their own scores.

(d) There are no multipliers.

Local Awards: Certificates will be awarded to the first three in each contest - Fone and CW.

DX Awards: Certificates will be awarded for the highest score in each contest and to the winners in each country provided that a minimum of three logs are received from that country.

QRPP Awards: Provided that sufficient entries are received, a certificate will be awarded to the contestant whose log reflects the most meritorious achievement. For this award pertinent details of station are required.

First Year CW Award: A special certificate will be awarded to the contestant in his first year CW who achieves the highest score. Contestant to show date of issue of licence.

Logs for SPECIAL AWARDS as detailed above to be clearly marked as such.

Branch Participation Award: It shall be obligatory for each competing Branch to operate a station under their Branch call sign in BOTH the Fone and CW Contests - this station may be either a single

OR multi-operator station. In addition for the FONE CONTEST each Branch shall also operate TWO multi-operator stations and up to a maximum of Four single operator stations - all scores to count. Maximum of 7 Fone Logs.

For the CW CONTEST and, in addition to the mandatory station operating under the Branch call-sign, each Branch shall be allowed up to a MAXIMUM of 2 stations either of which may be a single or multi-operation station - all scores to count. Maximum of three logs.

The Branch whose logs reflect the highest aggregate score will be declared the winner of this Branch Participation Award.

Name of members chosen to represent the Branch MUST be notified in writing to the Contest Committee BEFORE the relevant Contest.

Log Instructions: (a)Uniform logs are required and should be made out as follows:

Time	Station	Serial Number	Band	Points
SAST	Worked	Sent	Received	Worked
				Claimed

(b)Logs must be checked for correct QSO points and duplicate contacts which must be shown and be clearly marked as such.

(c)A separate sheet (use one side only) is required for each band.

(d)Each entry must be accompanied by a summary sheet showing all scoring information, category, call sign, contestant's name, full address, Branch (where applicable) and a signed declaration that all contest rules and radio regulations have been observed.

(e)QRPP stations must indicate the same information on their summary sheets and state actual maximum power input used with a signed declaration.

(f)Listener logs: Must be made up as follows:

Time	Station	Station	Serial
SAST	Heard	Being Contacted	Given

each contact to count one point.

Disqualification: Violation of the Radio Regulations or the rules of the contest, unsportsmanlike conduct, taking credit for excessive duplicate contacts may be considered sufficient cause for disqualification.

Judging of entries will rest with the Contest Committee whose decision will be final.

A stamped self-addressed envelope will ensure you receive a copy of the results as soon as they are available.

All entries must be post-marked not later than fifteen days after the contest and addressed to:

S.A.R.L. HF CONTEST  
P.O. Box 382 PIETERMARITZBURG 3200.

GOOD LUCK!

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## bulletin roster

22nd July	Marge ZS20B
29th July	Brian ZS2AB
5th August	Lionel ZS2DD
12th August	Colin ZS2AO
19th August	Pete ZS2PJ

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"...so I said to him: "As a mature, responsible adult, are you going to stand idly by and watch the country's morals deteriorate - or are you going to pitch in and help"...."

"....I have no trouble in meeting my expenses. In fact I am having trouble avoiding them....."

# Radio Frequency Interference

(Continuation of the address by Brian Austin ZS6BKW transmitted on the TTCC Repeater Link on 28 Feb. 1984).

Let's not forget what the ultimate topic of this address was - that is the interference, RFI and its possible causes).

The question which is often asked is:

What about balanced and unbalanced lines and loads? What about Baluns?

If we use baluns are we likely to cause radio frequency interference?

Let's look at the theory. So far the system under discussion has been perfectly balanced or symmetrical. For example, the antenna was a dipole rather than a monopole. The feedline consisted of two similar parallel conductors rather than coaxial cable and the Z match network had symmetrical inputs and outputs. What is the significance of all this. Let's visualise three common antenna-feedline configurations:

The first a horizontal dipole fed with twin lead. The second a horizontal dipole fed with coax. The third a mobile whip fed with coax.

In your mind's eye, picture these three antennas. Clearly the first is entirely symmetrical and we say the system is balanced. Both the second and third are not symmetrical and are clearly unbalanced. If you sketched them, this should become obvious because the inherent symmetry indicates balance in the first, and the lack of inherent symmetry indicates unbalance in the second and third.

No mention, you will notice, has been made of the relative impedances of the load or of the line because balance or unbalance and S.W.R. are not related. From the point of view of radiation and energy, however, the effect of mixing balanced and unbalanced loads and lines can be significant and any unbalance rather than mismatch can cause unwanted radiation which may lead to, but I emphasize, will not cause RFI.

Firstly, let's consider a halfwave dipole antenna fed with a balanced line. The antenna must support a significant standing wave of current and an equally significant standing wave voltage, otherwise it could not work. If you think about it, you will remember from the text books that the standing wave of current we refer to has a maximum value at the centre of the antenna, falling roughly sinusoidally to zero at its ends. That current which comes from the transmitter is supplied or fed to the antenna via the balanced feedline and is made up of two equal opposite components in the two conductors of the transmission line. These two conductors are, of course, close together. What we really mean is that electrically the distance between the two conductors is very much less than the wave length at which the system is operating. So any radiation from the one conductor must be cancelled out by the equal and opposite radiation of the other. Therefore, all the radiation of energy comes purely from the antenna, which of course is its prime purpose anyway. Thus, and this is the important point, perfectly balanced, closely coupled, out of phase systems do not radiate even though they support a substantial standing wave. Put more simply, the two conductors of the transmission line which is balanced carry equal and opposite currents, and therefore the fields which they produce must be equal and hence opposite. Clearly therefore they cancel each other out regardless of whether those fields alternate or fluctuate in the form of a wave on the length of the line as in a standing wave.

Secondly, let's consider the coaxially fed antenna. A common halfwave dipole, if you like, fed with 50 ohm coax or 70 ohm coax. Again in this case, a current standing wave exists on the antenna and as before this current reaches the antenna via the transmission line but note that the system is unbalanced because, whereas the antenna is symmetrical, the transmission line is not. The result of this imbalance is that the current

is not equally distributed between the inner and outer conductors of the coaxial cable. Some flows on the inside of the braid and some on the outside. There are thus three currents and not two in the transmission line and thus complete field cancellation does not occur. The result is that both the antenna and the transmission line now radiate and this may well be undesirable for two reasons: Firstly, the polar diagram of the radiated field should normally be determined only by the particular antenna configuration in use and not by any other radiating source. It must be mentioned that the ideal polar diagram very seldom exists because the antenna itself excites current in any conductors in the immediate vicinity which then re-radiates and so disturbs the primary field. Think of your towers, the masts and any other metalwork in the vicinity of the antenna. Clearly the fields will generate currents in those conductors. Those conductors will then re-radiate fields. Those fields will interact or interfere with the primary fields from the antenna and so change or distort the polar pattern of the structures. This incidental coupling is extremely difficult to predict and even more difficult to control. It tends then to be almost a fact of life.

Secondly, and this is the important one in the present context, any unwanted or uncontrolled radiation can be a cause or a source at least, of RFI. If a transmission line is carrying unbalanced current, and if this line happens to pass close to some sensitive or susceptible piece of electronic apparatus, then the radiated fields can lead to RFI in that device. Not WILL lead, but CAN lead. When both the near and far fields are considered, there can never be complete cancellation of fields around any current carrying conductor by those from a neighbouring conductor and so no transmission line should ever be allowed to run close to sensitive equipment or indeed to other cables such as power cables, telephone cables and so on for fear of conducting unwanted signals which clearly have interference in them.

Where unbalanced situations cannot be avoided then a balun may be used to interconnect the two systems and so present the ideal termination to each. But a word of warning: in practice it is a moot point whether a balun is really worth the extra effort particularly at HF, because of the incidental couplings which were referred to earlier. At VHF and UHF the balun is a well proven device that is most effective. One must though question whether it is quite as effective at HF because of the incidental coupling which occurs so readily at the lower frequencies.

Let's now turn our attention away from the antenna system as such and look at some of the causes of Radio Frequency Interference or RFI.

We will mention two specific examples, both of them involving apparatus or equipment found in the home, and those will be grouped under two headings:

The first will be the Audio Systems and the second will be the TV receiver. If interference occurs in any Audio system whether it be a Hi Fi amplifier tape recorder or even a telephone, then without any doubt, one can conclude that the fault is in that equipment and not in the transmitting apparatus. The reason for this statement should be obvious. An audio amplifier by its very nature, by its very name, is designed only to process audio frequency signals. It is not a radio receiver. No means was intentionally provided by the designer for it to detect, or if you like, demodulate radio frequency energy. Therefore, such signals should never be heard. However, in practice many audio systems do demodulate RF signals and particularly if they happen to be in close proximity to radio transmitting operators. A common problem in amateur radio, existing between neighbours or between the ham and the other members of his family.

What happens is that one or more semiconductor components such as diodes,

transistors, integrated circuits are caused to function in a non-linear manner by the intense radio frequency signal from the nearby transmitter. Either the modulation present in the RF signal is detected in exactly the same way as a crystal set functions, and then amplified along with or maybe even instead of the normal audio signal. Or two or more unwanted signals will mix together in the non linear device and produce a whole host of unwanted so-called intermodulation products in the affected equipment.

The first problem, in other words, the crystal set effect is more common and in fact can be cured by the equipment designer himself and even by the repairman, simply by paying attention to such things as RF filtering and shielding in the equipment. The presence of a nearby radio transmitter is not the problem. The inadequate design of the audio equipment is.

Now what about interference to television reception. Since a TV receiver is designed to receive RF signals the alleged offending transmitter must be tested to ensure that no significant harmonics, or spurious signals are being generated which fall in or near the pass band of the TV receiver. If this is the case and the only signal radiated is in a specific amateur band, then the TV receiver itself is at fault. This fault could be cured in a manner very similar to the cures affected on the audio equipment such as by installing a suitable filter in the TV antenna transmission line or maybe in addition to a suitable mains filter in the power cable to the television receiver. Again in all well designed TV receiving systems this type of protection should be built in. Unfortunately economic considerations and the competition of the capitalist would probably suggest that they are not.

If we summarize everything said here, we can probably take one significant lesson away with us and that is this -

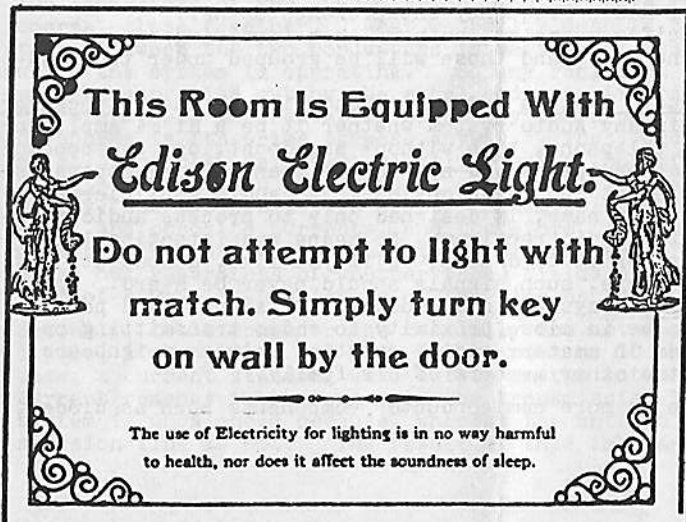
WE, THE RADIO AMATEURS MUST TAKE NOTE OF THE FACT THAT THE INCIDENCE OF R.F.I. WILL MOST CERTAINLY INCREASE WITH THE PROLIFERATION OF ELECTRONIC APPARATUS INTO VIRTUALLY EVERY ASPECT OF DAILY LIFE. THE ONLY SOLUTIONS ARE SOUND ENGINEERING PRACTICES AND A THOROUGH UNDERSTANDING OF THE CAUSES OF THE PROBLEM.

RADIO AMATEURS HAVE A RESPONSIBILITY TO THEMSELVES AND TO THEIR NEIGHBOURS TO ENSURE THAT THEIR INSTALLATIONS AND OPERATING PRACTICES ARE BEYOND REPROACH.

ZS6BKW Brian Austin.

Senior Lecturer at the Department of Electronics, University of the Witwatersrand.

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Copy of a bronze plaque frequently seen installed in American hotels at the turn of the century.

Thanks to Dudley ZS2AW for this gem.



# SLOW SCAN TELEVISION

An update of the latest Black and white SSTV technology with some advice for those who may be contemplating entering this field of amateur radio.

On seeing SSTV for the first time and being bitten by the bug, the first inclination is to run out and acquire the first system that you can lay your hands on. As slow scan technology is growing in leaps and bounds one could find oneself with an overpriced, outdated system in no time. So if you have the time to read this article, I will try to point out what is available today that will still be around tomorrow.

I first became hooked on SSTV in 1981 after Brian ZS2AB loaned me his homebuilt receive-only converter. This was a beautifully made converter which Brian had built some years before and it used a long persistence (P7) tube to retain the image. This system had an aspect ratio of 1-1 and scanned 120 lines in 8 seconds. The resolution of this early system was very good because the picture was truly analogue without the digitizing effect of the later systems.

The drawback was that the tube had to be viewed in a darkened room as the image faded rapidly. I started gathering the bits and pieces to build a similar monitor and also subscribed to various specialized magazines (notably A5 mag) on the subject.

Lucky for me I did as it slowly sank in that in the years since Brian had built his system the fully digitized converter had become the rule. This utilized 64k of memory to be able to receive, store and transmit a full 128 line by 128 pixel by 16 grey level picture. With similar aspect ratio (1-1) and scan time to be compatible with the earlier P7 systems it could also be viewed on a normal TV monitor for as long as you liked.

It also enabled an ordinary B/W TV camera to be used to snatch a picture live, store it, transmit it or commit it to tape in the form of audio tones. I had to have one! The cheapest and one of the best (Robot 400) was unfortunately over R1200 in S.A.

I settled on a semi-kit system which I imported from DL2RZ in Germany (the SC-160). This eventually cost me about R385.00 landed here and gave excellent results using a tatty used CCTV camera. Just to digress a bit I must mention that there was also a lot of development taking place in colour SSTV using 3 frames of red, green and blue taken separately, stored separately, transmitted separately but viewed simultaneously on a red-green-blue monitor to give outstanding colour. This was done using Robots, SC160's etc. by simply adding more memory, switching etc.

However I won't go into that side as this article is meant to encourage the beginner not scare him off. Black and white slow scan TV has developed today into 3 distinct modes or resolutions. Firstly there is the low resolution 128 line by 64 pixel by 8 shades of grey using computers such as the TRS 80, Apple, etc with appropriate software. This is mainly receive only.

There is in fact a software package for the TRS 80 which enables you to receive SSTV with no interface other than a line from the speaker to the computer. This retails (Stateside) for less than \$20.00.

Secondly there is the medium resolution type of converters using 128 lines by 128 pixels by 16 shades of grey (industry standard) such as the SC160, Robot 400, etc. At present there are about 15 000 hams using this resolution in the world today (about 95%). This is by far the most popular system in use today and will be with us for many years to come.

Lastly there are the new high resolution scan converters which are appearing in increasing numbers. These use 6 x 64k of memory to give a resolution of 256 lines x 256 pixels with each pixel quantized to 64 levels of grey. This rivals commercial TV quality and it seems that B/W SSTV has reached the ideal. The scan rate for this resolution however is 16 seconds per frame with a 3/4 sec frame rate being used for high QRM conditions.

All of the present Hi-res systems are capable of receiving and transmitting in the 8 sec medium resolution as well so you won't have to look for hi-res contacts only to exchange pictures if you own one of these rigs.

The 2 most popular hi-res systems in use today are the SC-1 by DL2RZ at \$1295 (States) which by the way has a host of features such as the capability of storing up to 6 x 8 sec frames, 2 x 16 sec frames and colour using the R.G.B. method. It has a Pal converter so you can just plug it into your colour TV set! It can also receive and transmit fax such as weather satellite pictures etc. An incredible machine but very expensive. There there is the Videoscan 1000 by Microcraft which is my present system. Cost \$695 (U.S.A.)

This unit offers the most for the least as it is also sold in kit form for \$495. It can store 2 x 8 sec frames of 1 x 16 sec frame and/or 1 x 32 second frame. It also has a split screen facility where up to 4 complete 128x128 pictures can be viewed on the screen at once. The system is microprocessor controlled and there is even a built-in grey scale generator for monitor alignment. There are 3 of these rigs in S.A. at the moment and they all worked first time with no problems whatsoever. After completion the alignment takes 5 minutes using only a frequency counter.

The Microcraft Corp. have a colour board under development at the moment as an add-on. Both the hi-res systems described have the capability of using either a 1 - 1 aspect ratio or the full 4 by 3 ratio as per normal TV. The only other bits required are a good cassette recorder (look for good tape speed regulation) and a C.C.T.V. camera. There is no easy answer here as it all depends on the surplus C.C.T.V. market in your area. Prices vary from R50 to R150 depending on who you know.

In any case, a camera is not essential as you could always get someone (like myself) to make up an audio tape of all the pictures that you would need for the average QSO. Mugshot, shack, equipment, family, etc. These could be taken with a B/W still camera and given to someone with a video camera and converter to put on tape for you.

Lastly there is the monitor. I am using a 12" B/W portable modified to receive video direct (simple) or you could use a modulator to connect to the antenna input. Of course, you may already have a monitor for your computer. (green phosphors don't do much for the complexion)

Operating SSTV is a lot more personal and it's not unusual for a QSO to last for over an hour while you exchange pictures. You will find that your family can also get involved especially the younger ones. Kids love to see themselves on T.V.

I don't think that I could ever go back to just talking on ham radio (DX). It's like there's something missing and you can't quite put your finger on it. All of a sudden it hits you-you don't really know the person on the other side of the mike. Visual communications put you right there in his or her shack and it's something you can't quite describe to someone who hasn't experienced it. I hope my experiences have been of some help to those who are contemplating SSTV and don't know which way to go. If in doubt what to get or do please contact me as I keep in regular touch with some of those in the forefront of SSTV development. The same goes for any information on the systems mentioned in this article.

Colin ZS2AO.

# S.A.R.L. CODE PRO- FICIENCY AWARD.

Morse code proficiency test transmissions will be conducted by the Western Transvaal Branch of the S.A.R.L. initially at six monthly intervals but could be more frequent later, depending on demand. Qualifying runs will be at the following speeds: 15, 20, 25 and 30 w.p.m. Letters, numbers, punctuation marks and spaces between words will count as "character units". Six "character units" = one word; 90 units/minute = 15w.p.m. 120 units/minute = 20 wpm. etc. Transmission will run for five minutes at each speed and will be in plain language.

Certificates will be awarded for each speed and endorsement stickers issued for advances to a higher speed.

Transmissions will be made from station ZS6WRT on a Sunday at 1400 hours SAST on 7020 KHz and 14020 KHz approximately.

Dates for transmissions will be announced timeously in "Radio ZS" and on HQ bulletins.

## RULES.

1. Anyone may participate, including non-members of the S.A.R.L. and non amateur licencees.
2. The full five minute transmission at a particular speed must be copied. One minute of the copy must be underlined by the participant as the portion on which he wishes to be tested. This must be error free.
3. The original unaltered copy must be submitted for judging, but may be accompanied by a re-written copy if the original is difficult to decipher.
4. Copy must be accompanied by a note giving the date and time of run, the station and frequency copied, and whether an initial certificate or endorsement is required.
5. A statement must also be submitted, over the applicant's signature, stating that the run was copied without assistance, either personal, mechanical or electronic. (The use of a typewriter will not be considered to be mechanical assistance). Furnish complete name, callsign (if any) and mailing address.
6. The service is free to members of the S.A.R.L. Non-members should enclose a postal order or cheque for R2.00 to cover handling charges.
7. Applications must be postmarked not later than five days after the run, marked "Code Proficiency Test" and addressed to The Chairman, Western Transvaal Branch, S.A.R.L. P.O. Box 899, Klerksdorp, 2570. The inclusion of a self-addressed envelope (A4 size for initial certificate, or 150mm x 90mm for endorsements) will ensure prompt delivery of certificate.
8. The decision of the Committee will be final and no correspondence will be entered into.

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TELEPHONE 22614

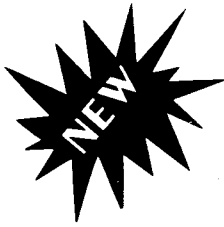
## Instant Printing

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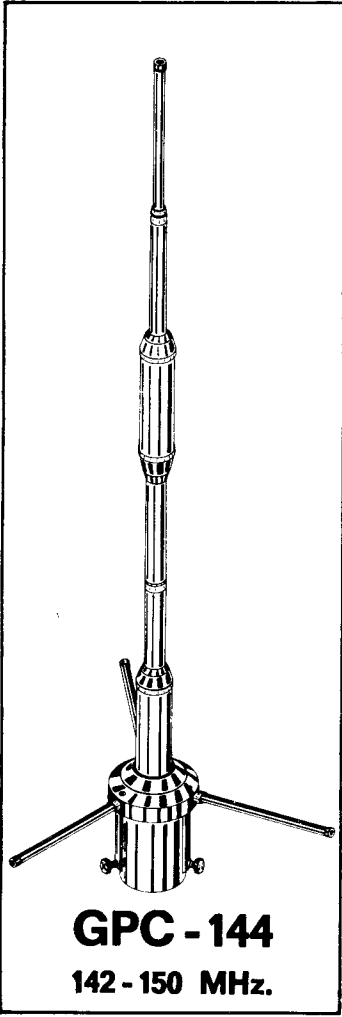
9 ST. PATRICK'S ROAD  
PORT ELIZABETH  
6001



**FOR ALL YOUR COMMERCIAL PRINTING REQUIREMENTS  
TRY US FOR YOUR QSL CARDS!**



**EXCLUSIVE  
TO READERS  
OF THIS MAGAZINE  
SPECIAL OFFER!**



**GPC - 144**  
**142 - 150 MHz.**

Band Width for $S \ll 2$ <i>Largueur de Bande pour <math>S \ll 2</math></i>	Gain <i>Gain</i>	Material <i>Materiel</i>	Maximum Power <i>Puissance Maxime</i>	Type Connection <i>Conexion Type</i>
8 MHz	Ref. Rad. isot.: 5'5 dB Ref. dip. $\lambda/2$ : 3'3 dB	Aluminio Aluminium Aluminium	500 W.	U.H.F.

MODEL <i>MODELE</i>	Type <i>Type</i>	Impedance <i>Impedance</i>	Frequency Range <i>Gamme de Frequence</i>	Polarization <i>Polarisation</i>	S.W.R. <i>T.O.S.</i>
GPC-144	Colineal	50 $\Omega$ aprox.	142-150 MHz	Vertical Vertical Verticale	$\leq 1.1$

Radiator Length <i>Longeur Radiant</i>	Radials Length <i>Longeur Radial</i>	Mast of Mounting <i>Mat de Montage</i>	Net Weight <i>Poids Net</i>
2833 mm.	502 mm.	30 a 45 mm.	2065 g.



Antennas made with high strength, aluminium, corrosion-free.

Only  
**R99,50\***

**CONTACT DICK ZS2RS**

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