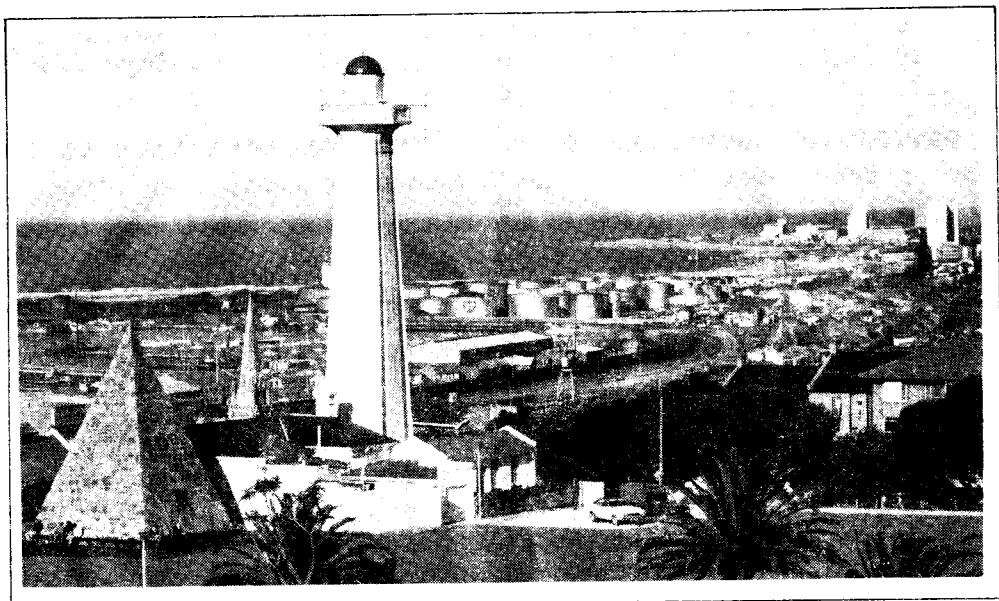




Q S X P E



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

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NOTICE OF MEETING

The next monthly general meeting of the Port Elizabeth Branch will be held on **Friday, 15 May 1992**, commencing at 20:15, in the Civil Defence Centre, Westview Drive, Mill Park, Port Elizabeth.

After the business has been attended to, during which Bud will no doubt update us on

arrangements and requirements for the forthcoming VW Algoa Rally, we will break for tea and munchies and spend the rest of the evening chit-chatting to one another.

We'll also be able to hear from our latest batch of RAE candidates how things went the previous evening.

Experience is yesterday's answer to today's problems.

HAMNET SIMULATED EMERGENCY CONTEST

This event is scheduled to take place on 14 June 1992 from 14:00 to 16:00. Yes, only two hours, but that does not mean that you have to go to all the trouble of putting up a field station for just two hours' operating. You can use the rest of the weekend working DX from your favourite outdoor site.

Last year, this event — which is, I think, the brain-child of, and is certainly

organised by, none other than our own Al ZS2U — was greatly enjoyed by all who participated. So get your portable gear sorted and checked over, and make your plans NOW for entering the contest this year.

The rules appeared in the December 1990 issue of Q5X.

WHAT?! You didn't file it away safely for posterity? Well, then, you'd better contact Al ZS2U pronto!

AGM FUND NEEDS A SHOVE

Our AGM fund seems to be making very slow progress at present and is hovering around the R1690 mark. Any suggestions for boosting this important fund will be welcome. Come on, guys and gals — put those brain cells to work and come up with some ideas

**MINUTES OF THE GENERAL MEETING OF THE PORT ELIZABETH
BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE HELD AT THE
CIVIL DEFENCE CENTRE, MILL PARK ON FRIDAY, 10
APRIL 1992**

PRESENT: 43 members and visitors, apologies as per register.

WELCOME: The Chairman, Marge ZS2OB, welcomed all, especially ZS2OC, Ken; ZS2FM, Mike; ZS2MG, Neil; and all the others we have not seen for a while. Congratulations also to Garth for a really good issue of QSX.

MINUTES OF THE PREVIOUS MEETING: The minutes of the meeting of 20th March, 1992, as printed in QSX, were approved: proposed by Colin ZS2CTR and seconded by Viv ZS2VM.

MATTERS ARISING:

- 1 Hobbies Fair: The proposed dates have been revised to Thursday 16th July to Sunday 19th July.
- 2 The Bathurst Show. Congratulations to Phil, ZS2PP for a job well done. Al ZS2U gave a resumé of the events at the show as well as the lovely turnout at the braai held after the show at the QTH of John, ZS2J — 27 hams and friends from the surrounding towns. Marge ZS2OB read a letter written to Phil ZS2PP congratulating him on his efforts, refunding the expenses of R180 and asking Phil to consider running the stand at the Hobbies Fair.

FINANCE: Our Treasurer, Colin ZS2CTR reported that the Branch funds stood at R4269,65 and the AGM fund at R1650,00. Major expenses had been the Bathurst Show and the purchase of crystals.

FUND RAISING: Colin ZS2CTR suggested that a supper be organised to raise funds for the AGM FUND.

CORRESPONDENCE:

- 1 Other Branch newsletters tabled.
- 2 Voting recorded for motions at the AGM.
- 3 Letter for EDITOR of QSX.

GENERAL:

- 1 The Branch has received an invitation to visit the SABC transmitters at Greenbushes on Saturday, May 9th, 1992. Those wanting to go to hand names and ID numbers to Owen, ZS2AZ no later than 6th May 1992.
- 2 A special station is to be set up and operated at the NSRI to celebrate their 25th anniversary on Saturday 18th April, 1992. Anyone wanting to assist to contact either Al, ZS2U or Bud, ZS2CA ASAP.
- 3 Bud ZS2CA gave a few details concerning the VW Algoa Rally to

be held from Friday 17th July approx. 10pm and finishing Saturday 18th July at approx 4pm. Approximately 40 operators will be needed to provide communications and if you wish to participate in this prestigious event contact Bud ZS2CA without delay on 342770. We received very high praise indeed for the standard of comms. provided last year.

- 4 Al ZS2U reminded the meeting of the HAMNET simulated emergency contest scheduled for Sunday 14th June 1400-1600 hrs.
- 5 Raphy ZS2SP enquired whether the sequence of events at meetings could be changed i.e. have the break for tea after the Guest Speaker and then the business part of the meeting. Marge ZS2OB explained that this matter had been raised several times in the past and each time the members felt that no changes should be made.

CONCLUSION

There being no further business, the meeting was closed and all adjourned for tea and biscuits and more lively, enjoyable natters.

After the break, Mike ZS2FM gave an interesting talk on the Dolby Noise Reduction Systems as used in the cinemas and in the process covered the development of the system as it is used today.

CHAIRMAN

SECRETARY

RAE LOOMS LARGE

If you are writing the RAE on 14 May and you have done your homework, you should have nothing to worry about. Just read the questions carefully to ensure that you really understand what they are asking you, then *equally carefully* consider each of the answers provided.

When you have finished, *read through each question again and check your answer.*

Come to the Branch meeting the following evening and tell us all about it! **Good luck!**

BULLETIN ROSTER

	40 METRE BULLETIN	2 MTR NET
May 10	ZS2CA	ZS2VM
17	ZS2SZ	ZS2CTR
24	ZS2VM	ZS2EQ
31	ZS2OB	ZS2HB
Jun 7	ZS2CTR	ZS2AZ
14	ZS2EQ	ZS2U
21	ZS2HB	ZS2CA

SIMPLE SIMON 7 Double Sideband TX

PHIL HOFFER, ZS2PP

The SS/7 is a double sideband, suppressed carrier transmitter, and was developed as a companion to the *Simple Simon Seven direct conversion receiver*. (This excellent receiver was featured in *QEX* in February 1991, with an update in the July 1991 issue, and even today is still stirring up a great deal of interest all over the country — Ed). Together with the necessary switching module it will provide complete transceive operation on the forty metre band.

1) The unit presented here will deliver approximately one watt of RF into a 50Ω antenna.

None of the circuitry can be claimed to be entirely original but was developed from tried and proved building blocks taken straight from the ARRL Handbook. The linear amplifier is a modified version of the popular PW Dart. The project was undertaken jointly by ZS2CX and ZS2PP, with Danie tackling the linear amp. and yours truly, the DSB generator. A complete station has been built by ZS2CX with very exciting results.

range of microphones available to the experimenter the extra expense seemed prudent.

The next and final building block in the chain is the **Balanced Modulator**. The choice of the MC1496 chip was twofold, firstly the cost of the unit is considerably lower than the SL640, and secondly those of you who have constructed the Simple Simon receiver will already be familiar with the unit. Using the SL640 would result in a lower component count, and for the experimentally minded I would encourage you to try it.

DSB GENERATOR MODULE

Description

The circuitry requires very little explanation. Simple "Audio Tailoring" is provided at the input by the 470pF capacitors and the 1k resistor. The choice of a field effect transistor in the microphone amplifier allows the use of high or low impedance devices. A 741 operational amplifier lifts the low audio voltage to a more realistic level. At this point a mic. gain potentiometer was inserted. Consideration was given to omitting this control, but with the wide

A balanced modulator is simply a mixer that is balanced in such a way that, with no *audio input*, there is no *RF output*. In other words, the carrier is suppressed. It is here where the audio signal, which is applied to pins 1 and 4, is mixed with the RF carrier (output from the VFO) applied to pins 8 and 10. With no audio input the device is balanced (no output) but, as soon as you speak into the mic, the audio then unbalances the system with res-

ulting RF output at the VFO frequency.

Construction

A PCB layout is shown in Fig. 2 and a parts overlay has been provided. Using this layout should result in a first-time starter. The board is single-sided, and therefore easier to work with. As in the receiver, remember to get all the bits and pieces the right way round. Check the polarity of the electrolytic capacitors!!

Setting Up

As there are only two adjusting pots on the board, setting up is extremely simple. Start by checking the board for faults and solder splashes. It helps to get a friend to double check your work!!! With the VFO connected to the RF INPUT and a short length of wire soldered to the DSB OUTPUT terminal, apply 12 volts to the board. Using the station receiver as a monitor, tune in the 7MHz signal. While watching the S meter, adjust the 50k

BALANCE POT for minimum RF output. Because the VFO is at the same frequency as our DSB signal, be sure to screen the VFO as carefully as possible.

An even simpler way is with an OSCILLOSCOPE. The probe is simply attached to the DSB OUTPUT and the balance pot is adjusted for minimum amplitude on the screen. With the microphone connected it should be possible to talk to yourself (I do that all the time) via the station receiver. Get someone to listen to the signal, preferably while wearing a pair of headphones, and determine that the signal is pure. Adjust the MIC GAIN control well below the point where distortion occurs.

Note that both UPPER and LOWER sidebands can be resolved. This is quite normal - it is, after all, a double sideband transmitter.

You are now ready to start the construction of the linear amplifier, which will be the technical feature in next month's QSX.

COMPONENT CALL-OUT

DSB GENERATOR

RESISTORS

100 Ω	2
1k	10
2,2k	1
3,3k	1
4,7k	1
6,8k	1
10k	2
100k	2

(All above are 1/4 watt 5%)

10K preset PCB mounted pot	1
50k " " " "	1

CAPACITORS

470 pF disc ceramic	3
0,1 μF disc ceramic	2
1 μF 16v Electrolytic	4
4,7 μF 16v "	1
10 μF 16v "	3
22 μF 16v "	1
100 μF 16v "	1

SEMICONDUCTORS

2N3819 FET	1
741 OP-AMP	1
MC1496 IC	1

AMATEUR RADIO AND THE 90'S

I have often said that we are attracting new blood into our hobby with the wrong bait. We place too much emphasis on talking to the world, as if that is the be-all and end-all of the hobby, a kind of super-up Citizens Band. We consistently overlook the real purposes, technological experimentation and self-education, in consideration of which we enjoy the respect of the International Telecommunications Union and the large chunks of radio spectrum that the Union allocates to us - which commercial users would urgently like to get their hands on.

If we fail to maintain a suitable balance, control of the hobby could, in as little as a decade, pass into the hands of those whose sole interest is in chatting - and the ITU could well be forced by commercial users to chop our frequency allocations.

The following article is from SpaceNews, published in Lindcroft, New Jersey. The arguments regarding the retention of our VHF and higher bands are equally relevant to our HF bands.

Amateur radio operators have always been an innovative group of experimenters. The basis and purpose of the Amateur Radio Service as defined by the FCC places a lot of emphasis on advancing communications technology. As we head through the 90's, it is becoming increasingly important that all amateurs help advance the art of wireless communications, or risk losing valuable frequency spectrum to commercial interests.

With each passing day, our world is becoming more digitally oriented. Digital communications require wide bandwidths, and wide bandwidths require UHF and microwave frequency spectrum use. Lately, the Amateur Radio Service has seen a marked increase in commercial interests fighting to overtake our valuable UHF and microwave bands. The recent loss in the 220 MHz band to the United Parcel Service is a perfect example of how easily an under-utilized amateur band can be lost to commercial inter-

ests.

In order that we may prevent further losses to our valuable frequency spectrum, it is important that amateur radio justify its UHF and microwave frequency allocations. "Populate or perish" has always been the rule to live by. However, populating a band with FM voice repeaters does not justify keeping a frequency allocation. It didn't work for 220 MHz, and it won't work for any of our other bands either. "Populate", in this case, means taking serious advantage of our UHF spectrum to develop new modes of communications not possible, practical, or legal on lower frequencies. It means advanced communications technology, such as high speed packet switching, TCP/IP networking, satellite communications, moonbounce, digital audio, and image communications, just to name a few.

All these modern communications techniques are held together by one common thread: the digital computer. The

"Codeless Technician" class license was adopted by the FCC to attract computer enthusiasts to amateur radio and encourage experimentation above 50 MHz. Unfortunately, most of the new licensees never aspire to anything beyond simple 2-meter FM voice repeater operation, adding further congestion to an already overcrowded band.

Growth has never really been a problem in the Amateur Radio Service. Retention, however, is the real problem. Only about 20 percent of amateur radio operators are "active", where "active" is defined as tuning a receiver at least once every two weeks. If 80 percent of the already licensed amateurs have lost interest in amateur radio, how can we expect to attract new blood?

Perhaps the answer lies in the way we, as amateurs, communicate. Most of us are perfectly content in focusing our activities on simple voice communications, which is something that can just as easily be carried on CB or the telephone. The plain truth is that amateur radio is *much* more than 2-meter voice communications. And while most agree this is true, few are bold enough to explore anything beyond the established "norm".

Innovation requires a break from tradition and the estab-

lished "norm". It is only through innovation that amateur radio can truly grow and prosper. The greatest potential for advancement currently can be found in areas such as:

- OSCAR Satellites
- Shuttle Amateur Radio Experiments
- Packet Radio Networking
- Image Communication

Claims that these areas are "too complicated" to be given consideration are simply absurd. Junior high school students have collected spacecraft telemetry from OSCAR-17 and have studied its spin rate. College students, such as those from Weber State College in Utah, and the University of Surrey in England have designed and built their own amateur satellites, and have had them launched into Earth orbit. Other college groups have designed amateur radio experiments for launching into Earth orbit or operation from the Space Shuttle.

As we head into the 90's, it is becoming increasingly important that these advanced areas be explored. Only then can we realistically aid the growth and prosperity of amateur radio.

So, BE a part of history, and explore the new frontiers amateur radio has to offer. You'll be glad you did!



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PE RALLY COMS BEST IN SA?

The organisers of the VW Algoa Rally have said that the communications provided by this Branch are "probably the best in the country", says Bud ZS2CA, our rallycoms convenor.

Impressed with the accuracy of our operators' reports from around the course they will, this year, not only use the information for provisional reports to the Press and broadcasters: they will also feed it into the computer as they receive it from us rather than wait for the rally time cards.

Normally, because of experiences elsewhere, they prefer to hold the data received by radio for use merely as a back-up for that which they get from the rally time cards as and when the latter come in.

Some 40 to 50 operators will be needed around the course this year (17 and 18 July) and HF equipment will be required at certain points because of the limitations of VHF. If a questionnaire is enclosed with your copy of QSX, please complete it and pass it to Al ZS2U — or 'phone him at 30-2983. Al and the other rallycom team members are hard at it, preparing another top notch emergency communications network for the VW Rally.

Isn't that what you'd *expect* from ... the *Premier Branch*?

SUBS DUE AGAIN SOON

Annual subscriptions for the 1992/93 League year will fall due on 1 July, a little less than two months from now, so I hope you have started saving up already. The Branch offers an instalment facility for those who find it difficult to cough up in one knock, allowing them

to pay the amount off over two or three months, or maybe a little longer, depending on the mood our Treasurer is in when you approach him.

The following subscriptions and entrance fee apply for the coming year:

Entrance Fee:	R20.00
Ordinary member	R85.00
Spouse	R26.00
Incapacitated	R46.00
Pensioner	R46.00
Student	R32.00

Persons joining *before* July 1992 will not be charged for the remaining period of the current League year.

And tell your friends about the special **Social Membership** facility that the Premier Branch offers to members of other branches. For a paltry R20.00 a year they can receive **QX** every month and, as if that isn't enough to have them falling over one another to sign up, they can also enjoy more fully the unique friendliness of the Bay of Pigs — or the Hams of Algoa, or whatever.

THAT'S HAM SPIRIT!

It's not every day that someone, out of the blue, **volunteers** to take over one of your most mundane tasks, but a couple of months ago Dudley ZR2RD and Theuns Potgieter (one of our RAE students) offered to handle the boring part of getting QX to you every month. This team, which now includes Peter Flynn ZR2PF and Dennis Flynn ZR2XXX, has turned the collating, stapling, folding, enveloping and addressing — several hours' work when performed single-handed — into a pleasant social hour. Thanks, QM's. It's people like you who make the duties of committee members worthwhile.

★ ★ PERSONAL NEWS ★ ★

CONGRATULATIONS ... to the following members, members' spouses and other friends who are celebrating in the coming weeks:

Birthdays - May: Keith Olivier ZR2AAX (17th); Robin Gatley ZR2A (18th); Chick Henderson ZS1ABY (20th); Bill Hodges ZR2AAN (22nd); Vicky Ansell (ZS2AJ) (24th); Darrell Andersson ZS2CZ (27th); Grobbie Grobbelaar ZS2JO (30th); Shirley Carr (ZS2C) and Dennis Flynn ZR2XXX (both on 31st).

June: Geoff Bowes-Taylor ZS1VS (1st); Claire Smailes (ZS2SM) (4th); June Jones ZS2JJ and Royden Thompson ZR2ABF (5th); Andre le Roux ZS2AL, Sakkie Viljoen ZS2ID and Gus Winter ZS2MG (all on 9th - this surely calls for a big makiti!); Magda van der Merwe (ZS2JC) and Ken Victor ZS2OC (10th); Maureen Fulton (ZS2MG) (11th); Jimmy Hoole ZS2ABM (13th); Fred Bonthuys our worthy Hon. Sec. (16th) and Natalie Akers (ZS2F) (19th).

Anniversaries - May: Shirley and Paddy Furlong ZS1GPF (18th); Magda and Al van der Merwe ZS2JC (29th); Doris ZS2TL and Owen Thomas ZS2AZ (30th). **June:** Marge and Jim van Loggerenberg ZS2LR (4th); Pat and Trevor Elliott ZS2IJ (5th); Heather and Neil Holmes ZS2AI (8th); Heather and Jimmy Hoole ZS2ABM (14th) and finally Peggy and Viv Moore ZS2VM (16th).

... to Dot and Ron Clarke ZS2MF on the recent engagement of their daughter,

... to Werner Ahlers ZS2WA on the engagement of his son last month.

WHITE HOUSE NEWS: Sorry to hear that Teresa, XYL of Andy ZS1AM, and Rosemary Robertson, ZR2RR, XYL of Colin ZS2CTR, have had spells in hospital recently. We hope that all is well again with you both.

WELCOME to Paul Huckle ZR5ABM, who has transferred to The Premier Branch from Durban. Also to Graham Pearson ZR2ABQ, who we welcomed in the March issue but without knowing his first name. Graham was previously ZR6ATF.

TRAVELLING: Ron and Dot Clarke ZS2MF have left for a month's visit to New Zealand. Hope they have a happy stay in ZL.

PORT ELIZABETH BRANCH COMMITTEE

CHAIRMAN & PUBLICITY	Marge Weller	ZS20B	31-1639
VICE CHAIRMAN, TREASURER	Colin Robertson	ZS2CTR	30-0570
SECRETARY	Fred Bonthuys	ZS2EQ	63-3804
SPECIAL EVENTS, CONTESTS, HAMNET	Al Akers	ZS2U	30-2983
AWARDS, RALLIES	Bud Voortman	ZS2CA	34-2770
PROJECTS, TRAINING & QSX COMMITTEE	Viv Moore	ZS2VM	30-4433
EDITOR: QSX-PE	Garth Laaks	ZS2HB	38-1101
LIBRARIAN, DF HUNTS, IPHA	Vic Olivier	ZS2SZ	30-2440
SOCIAL, GUEST SPEAKERS	Owen Thomas	ZS2AZ	54-2177
<hr/>			
DIGITAL TECHNICAL LIAISON	Lionel Coombe- Davis	ZS2DD	32-1770
REPEATER WORKING GROUP CO-ORDINATOR	Trevor Scarr	ZS2AE	32-1746

BULLETIN ROSTER

Bulletin readers please refer to your roster sheet.

SUNDAY BULLETINS

Bulletins are transmitted on Sundays at about 08:40
(after the Headquarters bulletin) on -

- 7,098 MHz (40 metre band SSB)
- 145,700 MHz (2 metre band FM - Lady's Slipper)
- 51,400 MHz (automatic link with 2 m Lady's Slipper)
- 14,130 MHz (20 metres SSB) when conditions require.

BRANCH VHF & HF SERVICES

Town Repeater (PE Central)	145,050	/	145,650 MHz
Grahamstown Repeater	145,150	/	145,750 MHz
Lady's Slipper Repeater	145,100	/	145,700 MHz
6 metre link with Lady's Slipper	51,400		MHz (simplex)
Cockscomb Repeater	145,000	/	145,600 MHz
Kareedouw Repeater	145,075	/	145,675 MHz
University Repeater	145,175	/	145,775 MHz
6 metre beacon (ZS2SIX CW ID)	50,005		MHz
2 metre beacon (ZS2PE CW ID)	144,910		MHz
Packet Bulletin Board	ZU8KCD -	144,675	& 14,109 MHz,
	KAM		Version 3.0 software

BRANCH MEETINGS

20:15 (8.15pm) on the third Friday of the month in the
Civil Defence Centre, Westview Drive, Mill Park

**** We like being your branch ****