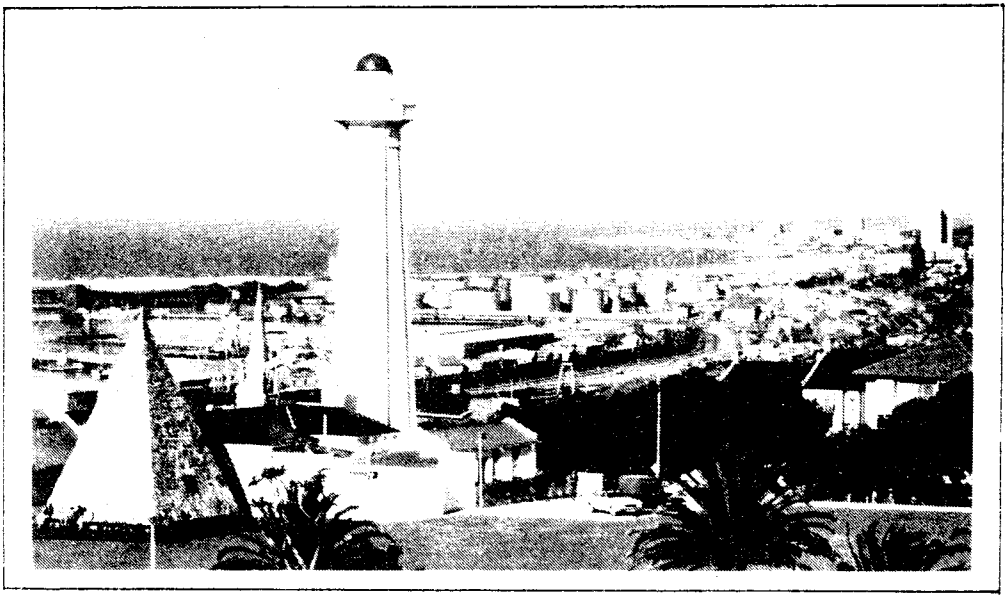
Q S X
P E



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

P.O. BOX 10402
LINTON GRANGE
6015

NOTICE OF MEETING

Members are reminded that the next general meeting of the Branch will be held on Friday 17th August, 1990, at St. Martins Church, Kabega Park at 8.15p.m.

If anyone has a memorable, funny, embarrassing or any other moment they would like to share with us (remember the Old Timers who gave us such a laugh) they are invited to share them with us after the business of the meeting.

NOTICE OF ANNUAL GENERAL MEETING

Notice is hereby given that the Annual General Meeting of the Port Elizabeth Branch will be held on Saturday 22nd September. The time and venue of the meeting will be announced in next month's QSX and on bulletins.

NEW COMMITTEE

Several members of the present Committee will be standing down, so please give a thought to a new Committee. What about some new blood for a change?

PERSONAL NEWS

Welcome

Welcome to Louis Saunders ZS2CB of Despatch and Garth Moore ZS2AAR of East London who have joined the League and we wish you a long and happy association with the Branch and the League.

Permanent Loafers Club

Al Akers ZS2U will be joining this Club at the end of the month and has already decided that he is going to be busier than he ever was at work??!! Enjoy your retirement Al and Jo and do all the things you ever wanted to.

Golden Wedding Anniversary

Heartiest congratulations to Tom and Shirley Cockbain on reaching this momentous milestone. We hope you enjoy many more together. God bless and keep well.

JAMBOREE OF THE AIR

For the first time, Scouts, Cubs and Guides will be able to actually participate in this event, and the Branch will be setting up a station - we will need YOUR help.

SUBSCRIPTIONS

These are now overdue. If you do not intend to renew, please let us know and return your account form so marked. Remember, Eendrag maak Mag.

WANTED

A short wave receiver on loan or donation for use at the Quadraplegic Home in Newton Park. There are several people there who have shown an interest in qualifying for the Novice Licence. Vic ZS2SZ is the person to contact if you can help. He will be helping them in the future. Perhaps if anyone is able and willing to help out with lectures for the licence, please also contact Vic.

OLD VALVES

Al ZS2U has 3 6GT5 valves (for use in amplifiers?) which he has no use for. They can be got from him in return for a donation to the Branch.

OTHER DONATIONS TO THE BRANCH

At the Committee meeting this month, our Treasurer pointed out to us that the Branch receives only R5 from the subs paid by Pensioners, and this does not cover the cost of QSX-PE and the postage. If anyone feels they would like to make a cash donation to the Branch, it will be gratefully received. There was also talk that QSX be discontinued completely or drastically reduced in size. What do members think? Can we have a new Editor please? The present Editor has done the job for 10 years and is just getting too busy!!!!

BIRTHDAY AND ANNIVERSARY WISHES FOR AUGUST

Happy birthday to:

1st Mandy Masters	3rd Louisa Taljaard
5th Avril Guthrie ZS2NU	11th John Watson ZS2KD
12th Trevor Elliott ZS2TJ	15th Annamarie Barnard
17th Sandra Bothma	18th Al Akers ZS2U
19th Charles Thwaites ZS2PA	20th Piet Fourie
21st Ben Crouse ZS2NC	23rd Norman Perelson ZS2RI
	Owen Thomas ZS2AZ

26th Lynn Hardie. Vic Plumridge ZS2VP
27th Alan Smith ZS5AG

Happy Anniversary to:

5th Tom and Shirley Cockbain 9th Attie and Annamarie Barnard.

Many happy returns to all.

More dangerous than ignorance is not knowing that you do not know.

If it weren't for the octopus, seawater wouldn't be blue.

(Courtesy Al ZS2U)

MINUTES OF GENERAL MEETING OF THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN RADIO LEAGUE HELD AT ST. MARTINS CHURCH, KABEGA PARK ON FRIDAY 20th JULY, 1990.

PRESENT: 30 members

APOLOGIES: as per register.

The Chairman extended a welcome to all and especially to Joan, Julie, Lynne, Shaun and Arno.
A message was passed from Owen G0NCE who had been in QSO with Lynne shortly before the meeting.

MINUTES: The Minutes of the meeting held 15th June, 1990 having been published and circulated in QSX-PE were taken as read, proposed by Lynne ZS2MM and seconded by Julian ZS2AAV.

ARISING: (1)Marge said that the rules for future DF hunts had been handed to her and would appear in QSX before long. Vic said that the next Hunt would be held on Saturday 21st July and the following on the 26th August.

(2)Vic ZS2SZ proposed a vote of thanks and congratulations to Beavan ZS2RL for his organisation and the maps for the Algoa Rally. Members said that they had enjoyed the outing and Marge also congratulated Lionel ZS2DD and Dick ZS2RS and Beavan ZS2RL who had manned the base stations, which was a tricky job.

FINANCE: Colin ZS2CTR the treasurer reported that the money held by the Branch at the close of the financial year totalled R3970.50. The books had been audited by Gus ZS2MC. Van ZS2Y and Lionel ZS2DD were thanked for donations to the Branch. To date 35 subs had been received.

CORRES: Branch Newsletters.
Application for Algoa CW Merit Award ZS6AEA
Examination application forms from HQ.

GENERAL: (1)Raphy ZS2SP had brought a copy of the new radio regulations with him and gave his feelings on several.
(a) Amateur Radio Listeners Licence. - Garth ZS2HB explained the purpose of this licence.

(b) Class B licence. What influence would it have on membership - if any. He felt the authorities still treated the amateurs as naughty boys and wanted to control them rigidly. (c) He felt 3rd party traffic was too restricted. ZS2HB felt people tended to forget what Amateur Licences were really about. The Regulations were fairly standard world wide and should be primarily for technical people and experimentation. He felt discipline was necessary. Raphy ZS2SP felt we were too restricted and that unlicenced persons should be allowed to talk under the supervision of the licencee.

(2) Colin ZS2CTR reported that the East London Branch had a new committee under the Chairmanship of Phil ZS2NP.

(3)Vic ZS2SZ reported that his saltmine ran a sponsored winter school for youngsters who were interested in electronics. It was hoped to steer some of them in the direction of Amateur Radio.

(4)CW tests for the Novice licence were to be given by Amateurs in the regions and the nominations from the Branch were Al ZS2U and Garth ZS2HB.

(5)Trevor ZS2AE reported that the PE unit would be removed for attention. He would be visiting the Karreedouw site soon to attend to that repeater.

(6)Jamboree of the Air. Dick ZS2RS appealed to members to assist this year as it would be the first time that we would have participation by the scouts. We would require members to assist with tuition of the Morse Code.

(7)Marge read a report written in 1975 about the first Radio Broadcasting Concerts in the Eastern Province which took place in 1922.

At this time, the meeting was closed and tea was taken. Thereafter a general rag chew took place.

sgd: M.T. Weller ZS2OB
Chairman

sgd: R.W. Schonborn ZS2RS
Secretary

TWO WAY RADIO

The commercial radio activity most closely allied to amateur radio is two way radio, or land mobile radio. It uses almost the same frequency bands, 2 to 960 mHz. The same modes, AM, FM, SSB, RTTY, FAX, Packet and Satellites. The transceivers also use low power and incorporate, especially on HF, a lot of the developments pioneered by amateurs.

It all started in the late twenties, when American police departments fitted receivers to their cars operating around 1800 kHz. A medium power (250 watt) transmitter was installed at HQ and calls were broadcast to the cars. This is where the "Calling all Cars" originated. The next step was to put an FM transmitter, operating around 24 mHz in the car so that it could talk back, and this was the start of two way radio. The next step was FM transmitters/receivers of about 100 watts operating above 30 mHz. They were massive affairs and took up nearly the whole trunk of the car. To power this brute a 110 volt AC alternator was driven from the cars motor.

Most of these radios were supplied by Federal radio and Motorola. Incidentally do you know how the name Motorola originated? During the American broadcast boom of the mid 20s most of the receivers were built by the RCA Victor Corp. They were called Victrolas, and when the Galvin Corp. built a car radio, what other name to call it but a Motorola. The name stuck and by the 80s, Motorola was the worlds largest supplier of two way radio equipment. The situation has changed somewhat with the Japanese making large inroads into the American electronics and semiconductor market.

Before WW2, apart from a few Federal radios in use by the SAP there were hardly any two way radios in ZS. The war of course saw a revolution in radio communications, especially on VHF and it wasn't long after the war that two way radio hit South Africa. Again the SAP was in the lead, and in PE the Traffic Dept and Fire Brigade were early users. They were 10 watt PYE AM sets. Powered by genemotors their power drain was 10 amps off the 6 volt battery used in the vehicles at that time. Frequency was around 80 mHz, while private business (there were two taxi companies and an electrician) were allocated 160 mHz. Subsequently the radios got smaller and more efficient and portable radios were introduced in the 50s They were quite bulky and used mainly dry LT and HT batteries

or sealed two volt lead acid batteries driving a vibrator supply.The development of the transistor in the 60s heralded the advent of the hand held transceiver and the pager.

Todays radios are mostly all FM and use microprocessors, with their attendant bells and whistles. Amateur transceivers are much more complex and have more features at this stage.

SSB has not been used much on VHF due mainly to difficulties in tuning and clarifying by unskilled operators. In 1980 Amplitude Compandored SSB (ACSSB) was introduced. A pilot carrier is transmitted and the receiver local oscillator locks onto this. Range is a little better than FM, but its main advantage is that its bandwidth is only 5 kHz compared with the 25 kHz presently used by FM. In todays crowded bands this is a big advantage.

This is about to change. The SAPO has decreed that as from 1991 to 1994 all systems will have to be changed to operate on 12.5 kHz bandwidth and 2.5 kHz deviation. This may be an opportunity for the Repeater sub-committee to acquire a few American built repeaters, as the narrow band conversion of these may be complicated by a lack of the necessary filters. In the States, low band uses 20 kHz and high band and UHF 30 kHz.

by Van van der Merwe ZS2Y

SOMETHING FOR OUR ZR'S
You can do it too.

Think Morse code is a difficult hurdle that takes weeks and months of hard work to master? Think again!! Guy Mitchell, WD0DVX of Buckingham Iowa, picked up Morse code from tapes his parents were using for their Novice class.Soon he began studying on his own, and mastered the alphabet and numbers with little difficulty.What makes this story unique is that Guy Mitchell was four years old when he passed the 5 words per minute code test! He had had another birthday when he passed the written test, however. At five years of age, Guy was the youngest licensed amateur radio operator in the U.S. and perhaps the world! Guy Mitchell started kinder-garten five months after he passed the Novice Code test.

Lifted from the 1990 ARRL Handbook.

See its all childs play!!

A TWO METER J ANTENNA

We haven't heard much about this antenna lately. But take a careful look. Current information shows that it still has a lot to offer in the way of performance.

By W.B. Freely K6HMS

In the early 1950s, Oliver Wright W6GD described the design and construction of several types of vhf antennas, including the J antenna. Adaptations of the basic design and construction techniques used in Wright's antenna have since been made by the author, using traditional amateur ingenuity and with varying degrees of success. This article presents some historical background, design information and suggestions derived from personal experience. While the J antenna is not a cure-all to problems associated with 2-meter antennas, it does offer some significant advantages over some other designs. The antenna yield approximately 2 -dB gain over a quarter-wavelength whip, but the angle of radiation is higher. Its physical length may be undesirable. A J antenna exhibits low Q and may be used across the entire 2-meter band with little deterioration of performance.

Mechanical considerations In mobile service an antenna must be rigid enough to minimize detuning caused by bending while in motion, yet it should be flexible enough to resist hitting low-hanging branches without breaking. It must withstand exposure to rain, dirt and air pollution. The design described by Wright was easy to construct and tune, but performance deteriorated quickly. My antenna design evolved from a number of changes made over the years in an attempt to improve the electrical performance and mechanical durability. An overall view of the final design is shown in Fig. 1. A 23.43cm long whip (a) is cut from the bottom of a 42.52cm stainless steel mobile whip.The shorter whip (b) is cut from the same material. A shorting block (C) is made from a 0.15 X 0.15 X 1cm piece of brass, drilled as shown in Fig. 2A. The two outer holes in the block are reamed out to provide a tight fit to the stainless steel whips. The brass block is heated by means of a torch and the whips are pressed into the block. The dimensions according to operating frequency are given in Table 1. Once in position, the whips are silver-soldered to the block, assuring mechanical rigidity. A top spacer (D in Fig 1) is made from Teflon block, as shown in Fig 2B.

Balun and Feed System Further improvements were made in the balun and feed design. I had experienced difficulty with baluns constructed from flexible coaxial cable, such as RG-59/U. Smaller designs using ferrite-bead transformers and TV type baluns (used to match 72 ohm cable to the 300-ohm input of a TV receiver), exhibited excessive loss although some did provide a close impedance match. A balun made from semi-rigid coaxial cable (the outer shield is solid copper tubing) was found to be mechanically suitable. This cable (Amphenol no. 421-668) has an outside diameter of 0.06 cm and a solid Teflon dielectric. Its velocity factor is 0.695. Balun length was calculated to be 11.22 cm and a section of cable this long was prepared, leaving 1/16th inch of dielectric and 1/4 of the centre conductor protruding at each end. This balun was found to resonate at 145 mHz, close enough in frequency to eliminate the need for trimming. The cable is easy to work with and seems very resistant to moisture.

The Q bars shown in Fig. 3. perform two functions. They provide a convenient method of tapping onto the vertical elements, while their spacing is such that they act like a transmission line of 200-ohms characteristic impendance, allowing the balun to be installed beneath the antenna proper. Construction is from 0.05 diameter brazing rod which is formed initially as shown in Fig. 3A. Spacing between the bars should be 0.14 cm. To evaluate the effects of different lengths and spacings of the Q bars, adjustable bars were used to determine the dimensions. The units shown were constructed from this data. Silver solder and rosin-flux solder were used in the assembly of the shorting block and Q bars. In Fig. 3B the points marked A were secured with silver solder, and rosin-core (soft) solder was used at points marked B.
A Teflon cover may be placed over the brass block to protect the connections from rain and dirt, if desired. A BNC female connector (UG-89/U) is attached to the input end of the feedline stub. The connector body must be slightly enlarged to accept the 0.06cm OD of the rigid coaxial cable.

Excellent service results Several antennas built in the manner described here have given excellent service while withstanding the rigors of mobile operation. The author hopes that reads will construct J antennas based on this information and perhaps some will continue to experiment and develop even better versions.

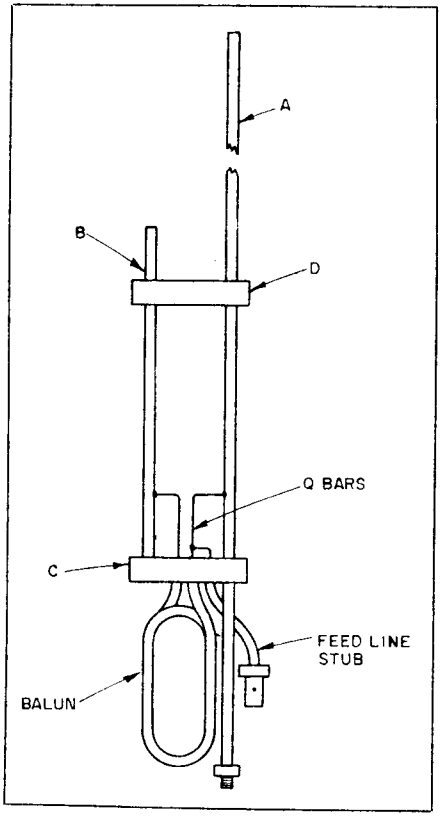


Fig. 1 — An overall view of the J antenna, showing the component parts. Dimensions are given in the text.

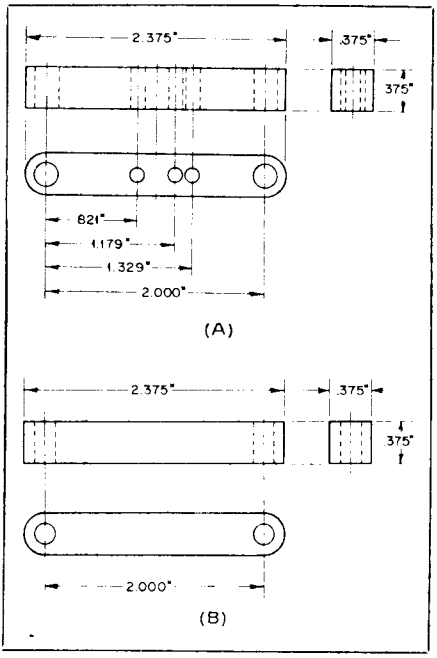


Fig. 2 — At A, dimensions of the brass shorting block. Hole diameters are (a) 0.144 inch (0.06 cm), (b) ream for tight fit to the long whip, (c) ream for tight fit to the short whip (see text). At B, dimensions for the Teflon spacing block. To prevent the spacer from slipping, the holes should be only large enough to provide a snug fit to the two whips.

Table 1
Whip dimensions vs. operating frequency for the J antenna.

FREQUENCY	*LONG WHIP ABOVE SHORT*	*SHORT WHIP ABOVE SHORT*
144 MHz	59.95 in.	18.63 in.
146 MHz	59.15 in.	18.34 in.
148 MHz	58.34 in.	18.12 in.

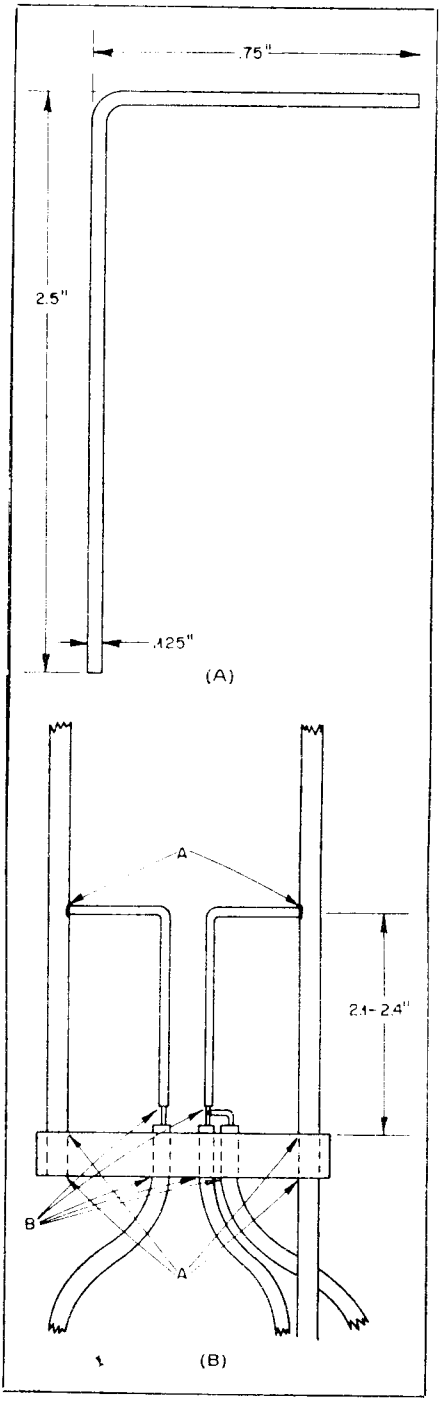
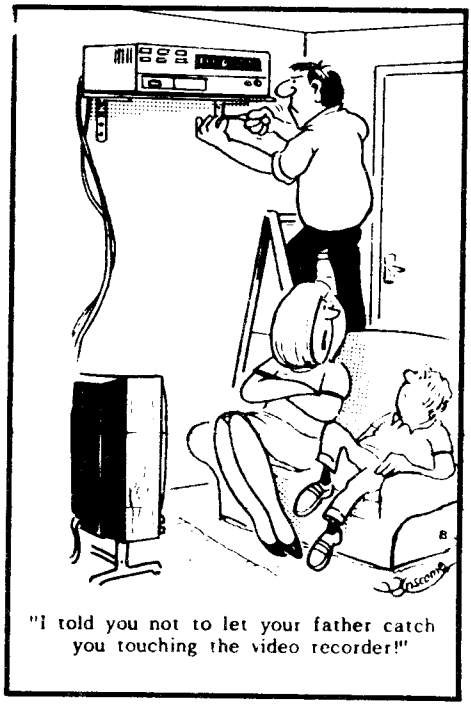


Fig. 3 – At A, bending dimensions for the *Q* bars, and at B, the details of the mounting of the *Q* bars and 4:1 balun. Points marked A are secured with silver solder, and rosin-core solder is used at points marked B.



P O R T E L I Z A B E T H B R A N C H

COMMITTEE

CHAIRMAN	Marge Weller	ZS2OB	30-4597
VICE CHAIRMAN	Brian Weller	ZS2AB	30-3498
SECRETARY(Minuting)	Dick Schonborn	ZS2RS	55-2244
SECRETARY(Corres)	Colin Ashwell	ZS2AO	31-2471
TREASURER	Colin Robertson	ZS2CTR	30-0570
RALLIES/SOCIAL	Beavan Gwilt	ZS2RL	30-6968
SPECIAL EVENTS	Dick Schonborn	ZS2RS	55-2244
AWARDS	Bill Hodges	ZR2AAN	51-2580
HAMNET	Al Akers	ZS2U	30-2983
EDITOR - QSX-PE	Marge Weller	ZS2OB	30-4597
REPEATER WORKING GROUP - CHAIRMAN	Trevor Scarr	ZS2AE	32-1746
LIBRARIAN	Colin Ashwell	ZS2AO	31-2471
PACKET WORKING GROUP CO-ORDINATOR	Lionel Coombe-Davis	ZS2DD	32-1770

BULLETIN ROSTER

Bulletin readers please refer to your Roster Sheet.

SUNDAY BULLETIN INFORMATION

Primary Frequencies for bulletins at approximately 08.40a.m. H.F.7098 kHz in 40 metre band. VHF 145,100 MHz - Ladies Slipper Repeater

BRANCH V.H.F. SERVICES PROVIDED

Town Repeater (P.E. Central)	145,050 / 145,650 MHz
Grahamstown Repeater	145,150 / 145,750 MHz
Ladys Slipper Repeater	145,100 / 145,700 MHz
6 meter link with above	51,400Mhz (simplex)
Cockscomb Repeater	145,000 / 145,600 MHz
Kareedown Repeater	145,075 / 145,675 MHz
University Repeater	145,175 / 145,775 MHz
6 meter beacon (ZS2SIX CW Id)	50,005 MHz
2 meter beacon (ZS2PE CW Id)	144,910 MHz

******* WE LIKE BEING YOUR BRANCH *******