

Q S X P E

ZS2PE

FREQUENCIES:

Bulletin	3640 Khz
	7107 Khz
National Call	145,5 Mhz
P.E. Repeater	145,05/65
Grahamstown	145,20/80
Lady's Slipper	145,10/70



*Port Elizabeth Branch of the
South African Radio League*

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

11 JUN 1979

PORT ELIZABETH BRANCH.

COMMITTEE MEMBERS:

	Home.	Phone.	Business.
Chairman ZS2RS Dick	324737		541461
Vice Chairman ZS2DD Lionel	321770		422041
Secretary ZS2OB Marge	302334		
Treasurer ZS2CY Frank	511259		
ZS2AB Brian	303498		21173
ZS2BK Andre	306893		28501
ZS2SS Selwyn	304651		543634

The Monthly meeting of the Port Elizabeth Branch will be held on Friday 15th June 1979 at 8p.m. at the Y.M.C.A. Havelock Street.

The weekly Bulletin of news for members and interested listeners is transmitted on Sunday mornings after Headquarters Bulletin and starts at approximately 8.45a.m. The frequency is approximately 7107 KHz and is followed by rollcall.

The Bulletin roster for the next month is as follows:

June 17th	Selwyn ZS2SS
June 24th	Dick ZS2RS
July 1st	Lionel ZS2DD
July 8th	Marge ZS2OB
July 15th	Frank ZS2CY.

If you have any items of news and interest for the Bulletin, please give the Bulletin reader a call and let him know. It will be most appreciated.

RENEWAL OF SUBS.

Local Amateurs should bear in mind that Subs are about due and they will soon be receiving reminders from Headquarters indicating when payments are due. The cards will also reflect the amount due. At this stage it is not known whether subs will be increased as possibly was indicated at the recent Annual General Meeting in Durban. A figure as high as R18 was mentioned.

Where does your allegiance lie? Does it lie with the Port Elizabeth Branch which caters for Port Elizabeth and Uitenhage members, or does it lie elsewhere? Country members are, of course, always welcome to the Port Elizabeth Branch.

TECHNICAL CLASSES: These are being run by Peter ZS2PD and take place at the Linton Grange Library on Thursday evenings at 7.30p.m. If you know anyone who is interested, or you would like to brush up your knowledge yourself, now is the time.

DID YOU KNOW?

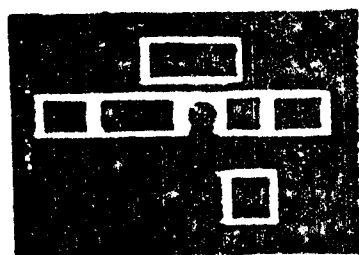
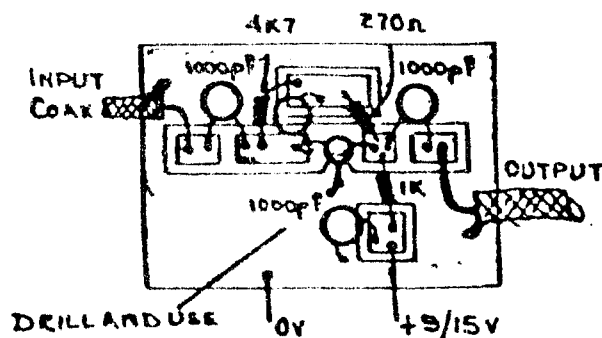
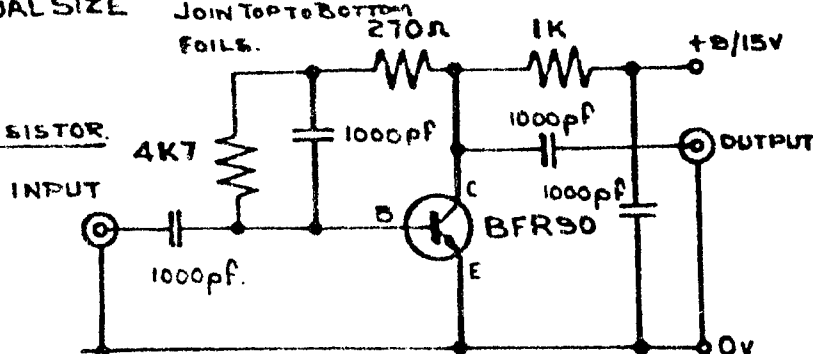
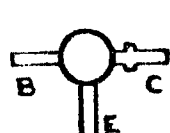
That excluding lightning bolts, the highest reported voltage electric shock survived was one of 230 000 volts by Brian Latasa, 17 years old, on the tower of an ultra-high voltage power line in Griffith Park, Los Angeles on 9 November 1967.

The most powerful electric current generated is that from the Zeus capacitor at the Los Alamos Scientific Laboratory, New Mexico, U.S.A. If fired simultaneously the 4 032 capacitors would produce for a few microseconds twice as much current as that generated elsewhere on Earth.

(Guinness Book of Records 1978).

WIDE BAND MATCHBOX PRE-AMPLIFIER.

3 to 1000 MHZ 10 db (MIN) GAIN.

P.C. BOARD. DOUBLE
SIDED. ACTUAL SIZEP.C. Board with
components mounted.TOP VIEW OF TRANSISTOR.

SCHEMATIC DIAGRAM

- COMPONENTS:
1. 1 x 45mm x 32mm Piece double-sided P.C. Board.
 2. 4 x 1000 pf Ceramic disc or plate condensers.
 3. 1 x 4K7 $\frac{1}{4}$ watt resistor.
 4. 1 x 1K $\frac{1}{4}$ watt resistor.
 5. 1 x 270 Ohm $\frac{1}{4}$ watt resistor.
 6. 1 x BFR 90, BFR 91 or VFW 32 transistor.
 7. 2 x Co-axial cable.
 8. 2 x PVC supply line wires.

This pre-amp is ideal for use with an older typr lower gain HF receiver, FM radio, Television, or even VHF rig where a moderate amount of gain is required with good stability, ease of construction and low noise figure. It will fit into a matchbox.

CONSTRUCTION: The unit is built on a small piece of double sided fibreglass copper-clad board which can be etched on and carefully cut with SHARP knife. Only one hole (apart from mounting holes) needs to be drilled as all components are soldered direct to the print.

After making the P.C.B. strip a piece of braid from coax cable and flatten. Solder the braid round the edge of the board to join the top and bottom copper surfaces. (Thin copper foil is equally effective and can be cut with scissors). Cut down the transistor collector lead and carefully solder all three leads to the correct lands on the board. Solder a small piece of component lead through the holes near the emitter lead from top to bottom of the board.. Next mount the 3 resistors as close to the print as possible. Fit the four ceramic capacitors again keeping lead lengths to a minimum. Connect two pieces of fifty ohm (or 75 ohm) coax for the input and output connections together with two wires for the supply voltage. This completes construction.

TESTING: Connect the pre-amp to a supply of between 9 and 12 volts (negative earth) and if possible check the current consumption which should be around 5 to 10 m/a. Insert the pre-amp between aerial and set and there should be an increase of around 2 "S" points between 3 and 1000 MHZ. On the original a switch was fitted to allow the pre-amo to be switched out of circuit when not required. A small toggle switch gives reasonable results up to 200 MHZ.

MINUTES OF THE GENERAL MEETING OF THE PORT ELIZABETH BRANCH OF THE S.A.R.L.
HELD AT THE Y.M.C.A., HAVELOCK STREET, PORT ELIZABETH AT 8P.M. ON 18th MAY, 1979.

PRESENT: 45 members and visitors.

APOLOGIES: ZS2CY, ZS2LR, ZS2LO.

The Chairman extended a warm welcome to all those present, especially Dudley ZS2AW from Grahamstown, the large contingent who had travelled from Uitenhage, to all members and especially to the visitors. He explained to the visitors, who were particularly interested in hearing the talk on antennas and propagation by Peter ZS2PD, that this was an ordinary monthly meeting of the P.E. Branch, but that the business would be concluded as quickly as possible. He also said that everyone would always be made welcome at any future meetings.

MINUTES OF MEETING: held 20th April, 1979 having been circulated in QSX-PE, were taken as read, proposed by Brian ZS2AB and seconded by Lionel ZS2DD.

ARISING: -

FINANCE: -

CORRES: Letter from Headquarters.
Various Branch Newsletters.

GENERAL: It was stated that Bob ZS2BJ was seriously ill in hospital and the Secretary was asked to send a get-well card.

The Chairman reported that the repeater on Lady's Slipper was repaired and ready to go back and this would be done on Saturday. He thanked all those who had given their help.

The Chairman read a short extract from a letter from the Director of Cape Hospitals, stating that amateur operation from hospitals in the Cape would not be permitted in future.

Lionel ZS2DD was thanked for his interesting and informative article on Satellites for QSX-PE.

The Chairman announced a D.F. Hunt to be held on Sunday 20th May and gave a short explanation of these to the visitors.

Members who had changed addresses or call-signs were asked to inform the Secretary of these as soon as possible, as a new Call Book was to be printed and this must be as up-to-date as possible.

The Chairman stated that Technical Classes for those who wished to attend were to be held on Thursday evenings at the Y.M.C.A. and these classes would be held by Peter ZS2PD who had all the technical know-how. There would be no charge for the classes, this was the effort and contribution of the Port Elizabeth Branch to get more hams on the air. He assured the visitors, that contrary to certain ideas, the Port Elizabeth Branch did not look down on Citizen Band, indeed quite a few members were also C.B'ers.

There being no further business, the meeting was concluded and Peter ZS2PD then gave a most interesting and informative talk and lecture on Antennas and Propagation, which raised some questions, to which the answers were given.

After the lecture, tea was taken at 10.30p.m.

sgd.
R.W. Schonborn ZS2RS
Chairman

sgd.
M.T. Colson ZS2OB
Secretary.

INDOOR 20-METER HAM ANTENNA

CONSTRUCTION

BY ROLAND J. MCMAHAN

Author pulls in overseas contacts easily with 6-ft. home-brew antenna

AMATEUR RADIO contacts from the west of North America to Europe are not unusual on 15 and 20 meters. But when they are made using a 6-ft (1.83-m) long coil of wire sitting on a desk as an antenna, that's something new and different. With just such an antenna, this author was able to contact Northern Ireland, France, and Costa Rica in a few short minutes—which is a little out of the ordinary.

Such an indoor ham antenna will be of great value to apartment dwellers and travellers who do not have the space in which to erect a more elaborate antenna. Add to this the fact that the antenna has a minimum of TVI and a high signal-to-noise ratio. It can be fabricated at a minimum of cost.

How to Make the Antenna. To fabricate the indoor antenna, wind 22 turns of #14 stranded wire around the outside of a 2-in. (5.08-cm) inner-diameter plastic pipe. (You can get the pipe at most hardware stores.) The pipe should be 6 ft (1.83 m) long. The preferred type of pipe to buy has holes through it and is used in septic-tank drain-line applications. You can use the holes to tie or hold the ends of the coil.

Other than winding the 22 turns of wire, there are two rules that must be observed when making the antenna: (1) The top turn must form a closed loop and be soldered to assure good electrical conductivity and mechanical strength. (2) When connected to the ground or counterpoise system, the antenna must resonate on the 20-meter band.

The second rule is the only difficult part of the fabrication process because not all ground systems are the same. In this step, you will have to use a dip oscillator to find the resonant frequency.

If you try to use this 20-meter antenna on 15 meters as well, you will find that the response is too sharp for this. However, you can tap the coil five turns up from the bottom to obtain 15-meter operation. Slide the first five turns together so that they are closely wound before completing the 20-meter antenna. The remaining turns can be randomly wound, some

as much as 8 or 10 in. (20.3 or 25.4 cm) apart.

To adjust the antenna to 20 meters, you might try sliding the top four turns close together, about 10 in. (25.4 cm) from the top. Sliding the turns down lowers the resonant frequency, as does close winding. Your own adjustments will depend on your ground system and the local capacity of the ground.

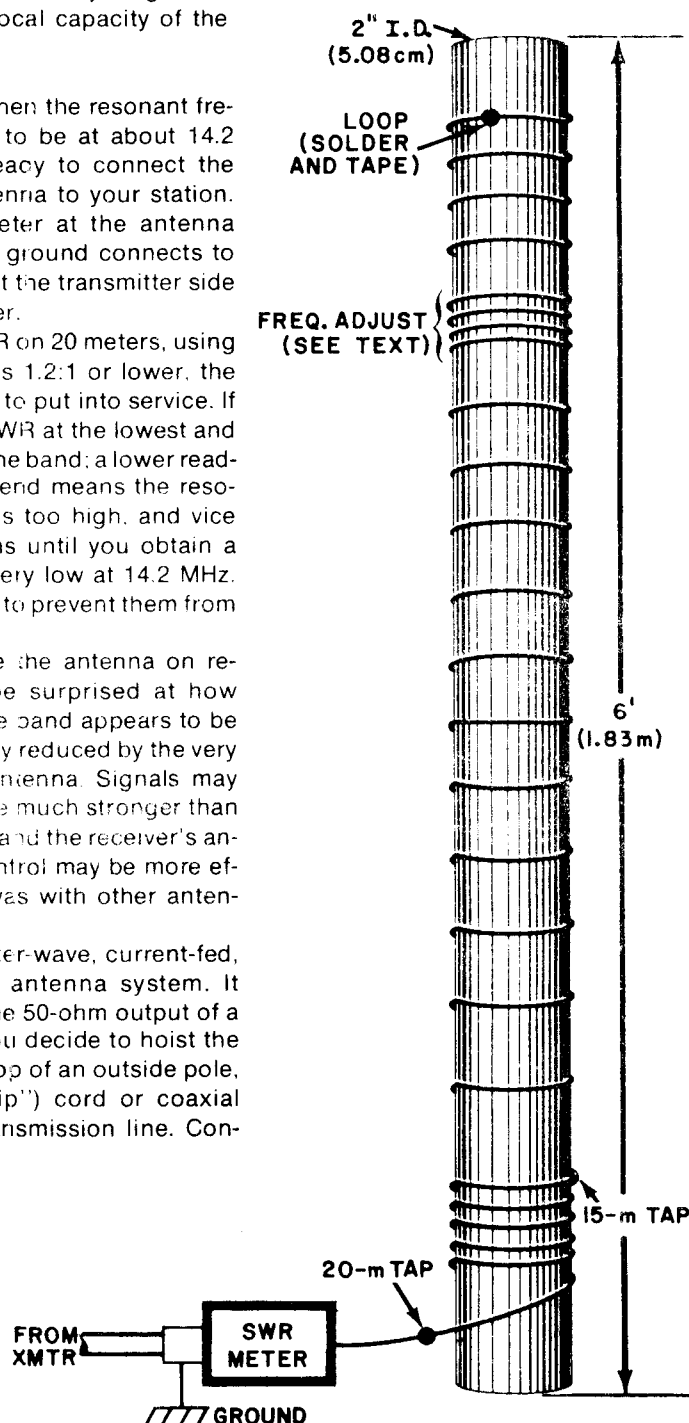
Final Steps. When the resonant frequency appears to be at about 14.2 MHz, you are ready to connect the ground and antenna to your station. Use an SWR meter at the antenna connection. The ground connects to the coax fitting at the transmitter side of the SWR meter.

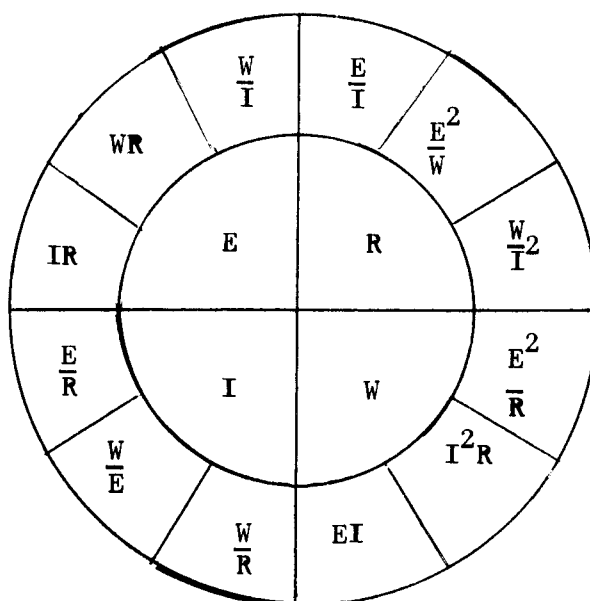
Check the SWR on 20 meters, using low power. If it is 1.2:1 or lower, the antenna is ready to put into service. If not, check the SWR at the lowest and highest ends of the band; a lower reading on the high end means the resonant frequency is too high, and vice versa. Slide turns until you obtain a reading that is very low at 14.2 MHz. Tape some turns to prevent them from slipping.

When you use the antenna on receive, do not be surprised at how much quieter the band appears to be as static is greatly reduced by the very high Q of the antenna. Signals may also appear to be much stronger than you are used to, and the receiver's antenna tuning control may be more effective than it was with other antennas.

This is a quarter-wave, current-fed, low-impedance antenna system. It works best on the 50-ohm output of a transmitter. If you decide to hoist the antenna to the top of an outside pole, use ac line ("zip") cord or coaxial cable as the transmission line. Con-

nect the ground side of the transmission line to the metal pole, and use some ground radials, making each radial long enough to total 17 ft. (5.17m) when added to the length of the pole. Resonance is all-important; so, work with the antenna until it is properly resonant. ♦



OHMS LAW.

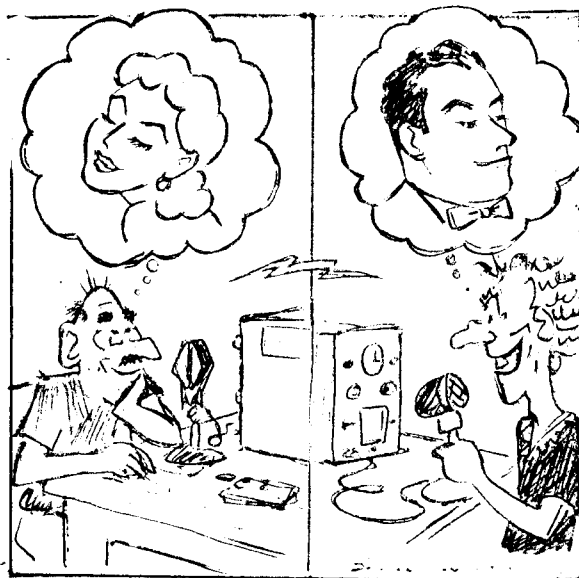
W = Watts
 R = Resistance in Ohms
 E = Volts (E.M.F.)
 I = Amps or $\frac{mA}{1000}$

DX ROUND-UP.

- 7J1 Okina Torishima. Operation will start on 13th June, and frequencies will be as follows:
- | | |
|------------------|----------------|
| <u>Transmit:</u> | <u>Listen:</u> |
| 7088 | 7170 |
| 14195 | 14200 - 225 |
| 21295 | 21300 - 400 |
| 28550 | 28600 up |
- J3 Grenada. Operation from this area in planning stage by K5KG and W5SJS. June 17th to June 30th, SSB and CW 10 thru 80 metres.
- PYØ VK9XR/mm plans to be a St. Peter and Paul Rocks June 30th to July 10th and
- CT2 Azores Aug 1st to 15th.
- VE Sable Island. A group of VE stations planning DX-pedition for July or August.
- 5N Nigeria. The ban on Amateur Radion reportedly lifted. Effective as from Jan 1st 1979. Country now divided in 10 districts 5N1 - 5NØ for ham activity.
- KH7 Kure Island. WD8/QGØ/KH7 Pete active early mornings on 20metres Phone. QSL to EM2 Y.P. Aldrich, Kure Is. c/o F.P.O. San Francisco. Calif. 96619.

WHEN WORDS WERE WORDS.....
DO YOU REMEMBER????

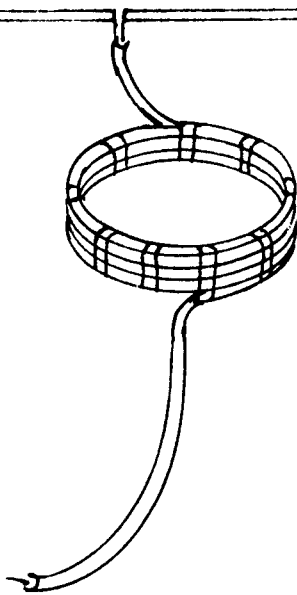
Remember when hippy meant big in the hips
And a trip involved travel in cars, planes and ships?
When pot was a vessel for cooking things in,
And hooked was what Grandmother's rug might have been?
And fix was a verb that meant mend or repair
And to be "in" meant merely existing somewhere?
When ring-a-ding-ding was the sound of a bell
And queer was when you didn't feel well?
When neat meant well organised, tidy and clean,
And grass was ground cover, normally green?
When light and not people were switched on and off,
And the pill might have been what you took for a cough?
When camp meant to quarter outdoors in a tent,
And pop was what the weasel went?
When groovy meant furrrowed with channels and hollows
And birds were winged creatures like robins and swallows?
When fuzz was a substance really fluffy like lint,
And bread came from bakers and not from the mint?
When square meant a 90 degree angular form,
And cool was a temperature, not quite warm?
When roll meant a bun, and rock was a stone,
And hang-up was something you did with the phone?
When chicken meant poultry and bag meant a sack,
And junk, trashy cast-offs and old bric-a-brac?
When jam was preserves that you spread on your bread,
And crazy meant barmy, not right in the head?
When cat was a feline - a kitten grown-up,
And tea was a liquid you drank from a cup?
When a swinger was someone who swung in a swing,
And pad was a soft sort of cushiony thing?
When way-out meant distant, and far, far away,
And a man couldn't sue you for calling him gay?
When tough described meat too unyielding to chew,
And making a scene was a rude thing to do?
Words once so sensible, sober and serious,
And making the freak scene, like psychodelirious
It's groovy, man groovy, but English it's not.
METHINKS THAT OUR LANGUAGE IS GOING TO POT!



COAXIAL-LINE RF CHOKE.

Bill ZSoKO

The unbalanced coupling which results from connecting a coaxial feeder to a balanced antenna may be nullified by choking off the current from flowing on the outside of the feeder.



The line itself can be formed into a coil at the antenna feed-point. Ten turns of coax coiled into a diameter of 152mm has been found effective for the HF bands. The turns can be secured in a tight coil with PVC insulating tape. The effectiveness drops off at the higher frequencies due to the distributed capacity among the turns.

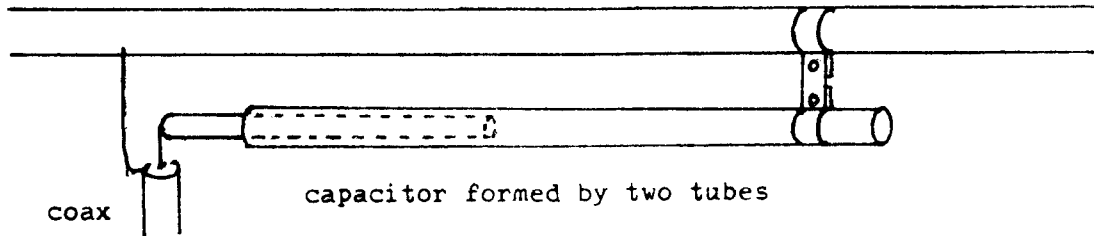
THE GAMMA MATCH

Same guy

Suitable for use with coaxial lines to all-metal parasitic beams, as it is well suited to "plumbers delight" construction, where all metal parts are electrically and mechanically connected.

It can be quite a tedious task to find the proper settings for a proper match as there are many variable factors, length of driven element, length of the gamma rod and its diameter, the spacing between the driven element and gamma rod and the value of the series capacitor.

There will be a number of combinations that will provide the desired match.



To start with, however, to match a 52 ohm coax-line, the length of the gamma rod should be 0.04 - 0.05 wavelength, its diameter being 1/3 to 1/2 of that of the driven element, the spacing between the two being approx 0.007 wavelength centre to centre.

The capacitance is approx 7pf per meter of wavelength, eg. about 140pf for 20mtr. Gamma dimensions and capacitor value depends on the radiation resistance of the driven element and whether it is resonant. The dimensions, to start with, are for an array with a feed-point impedance of about 25 ohms, and the driven element off resonance by about 3%.

In the case of the capacitor, this can be a conventional variable mounted in series with the coax and the gamma rod, or combined in one unit with the rod made of two pieces of tubing which slide into one another, having insulating material between the two, forming a capacitor. In the latter case, the gamma is adjusted by moving the tubes in or out to increase or decrease capacity, while the clamp is shifted back and forth to adjust the rod or arm length. The outer coax braiding is connected to the centre of the driven element.