

8/5/70
WHL 10TH AVE
Grahamstown
LIT.

ZS2 JAM
ZS2 PE
ZS2 NDS
ZS2 UIT

170/2m - 5.3m
9m - 5m

SCARL

88TBS
88ST
88XK

14.290 KHz
1500

7040 KHz
1500

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.

October

MINUTES OF THE GENERAL MEETING OF THE PORT ELIZABETH BRANCH OF THE SOUTH AFRICAN
RADIO LEAGUE HELD AT THE Y.M.C.A., HAVELOCK STREET, PORT ELIZABETH ON FRIDAY, 17th
AUGUST, 1979 AT 8P.M.

PRESENT: 24 members and visitors.

APOLOGIES: ZS2CY, ZS2KT, ZS2BF, ZS2HU, ZR2AR, ZS2CT, ZS2CJ.

The Chairman welcomed all to the meeting and extended a special welcome to ZS2RI Norman Perelson and his XYL Celeste, Doris, XYL of Lionel ZS2DD, Marlene, XYL of Colin ZS2AO, Fred Strutt ZS2JS, Leon ZS2AM, Peter Tiedt and Peter Wilken.

MINUTES: The Minutes of the meeting held 20th July, 1979, having been published in QSX-PE were taken as read, proposed by Brian ZS2AB and seconded by Brian ZS2TY.

ARISING: -

FINANCE: -

GENERAL: Trevor ZS2AE proposed that a letter of protest be sent to the Municipality with regard to the inclusion of Ham antennas in the regulations for C.B. antennas. The Chairman explained that previously when the question of T.V. antennas arose, Ham antennas had been exempt.

The Chairman said that the Branch has been offered a 6dB gain commercial colinear for 2 meters at a very reasonable price. After a trial, this would be erected on the Lady's Slipper Repeater, + a number of willing hands would be needed one weekend. He suggested that the members could make a day's outing of it.

There being no further business, the meeting closed and tea was taken. After tea a very interesting and informative talk and demonstration was given by Norman ZS2RI on the Apple II Microprocessor. Thereafter, the Chairman thanked Norman for attending the meeting and the demonstration.

sgd.

R.W. Schönborn ZS2RS
Chairman

sgd.

M.T. Colson ZS2OB
Secretary.

PORT ELIZABETH BRANCH.

COMMITTEE MEMBERS:

	Home.	Phone.	Business.
Chairman ZS2RS Dick	324737		541461
ViceChairman ZS2BK Andre	306893		28501
Secretary Marge ZS2OB	302334		
Treasurer Frank ZS2CY	511259		
ZS2AB ~ Brian	303498		21173
ZS2KX Cyril	23639		
ZR2BS Roger	323758		541461

THE NEXT MEETING OF THE PORT ELIZABETH BRANCH WILL BE HELD ON FRIDAY 19th OCTOBER, 1979, AT 8P.M. AT THE Y.M.C.A. HAVELOCK STREET, PORT ELIZABETH.

The Bulletin roster for the next month is as follows:

14th October	Frank ZS2CY
21st October	Brian ZS2AB
28th October	Cyril ZS2KX
4th November	Roger ZR2BS
11th November	Dick ZS2RS

SCIENCE TACKLES ITS MOST SWEEPING PROJECT.

THE most deeply involved tests in the history of science, tests in which electronics in general and radio communication in particular are essentially a part are in progress while you read these lines.

They are a world-wide operation, appropriately enough launched by an organisation which officially is known as the World Meteorological Office. And the project itself is titled the Global Weather Experiment.

Tied up in all this are nine satellites, 7000 ships at sea, upward of 100 aircraft on regular scheduled commercial flights, 300 buoys at sea, 320 met. balloons and a number of meteorologists which no one has really started counting.

For instance, there are 100 000 met. men in the Soviet Union alone!

Global Weather Experiment also is the most costly scientific project ever undertaken. Estimates are in the region of 400 million dollars.

So what's happening?

The aim is to improve the quality of weather forecasting worldwide, both short term and long.

The buoys are floating near the Antarctic ice pack. They are radioing temperatures and pressures to a French satellite and thence to Paris. The balloons are adrift around the equatorial belt. They are self-destructing if they happen to blow too far off course, too high or too low. A satellite receives wind information from them.

There are five geo-stationary satellites. The US has put up three, Japan and Europe one apiece. And there are four more orbiting the poles.

They are assisted by 7000 ships at sea, 100 commercial planes on regular routes taking readings which are recorded straight onto cassettes or transmitted direct to a satellite.

To complete the picture - almost - there are 40 observation ships in the region of the equator. They are in constant radio contact too.

The thousands of readings go straight into computers. What "comes out at the other end" is calculated to improve importantly the accuracy of worldwide weather prediction.

The economics of all this is mind-boggling. In Britain alone the present cost of the meteorological service is of the order of some 65 millions rands a year. Global Weather Experiment is costing a whole heap more.

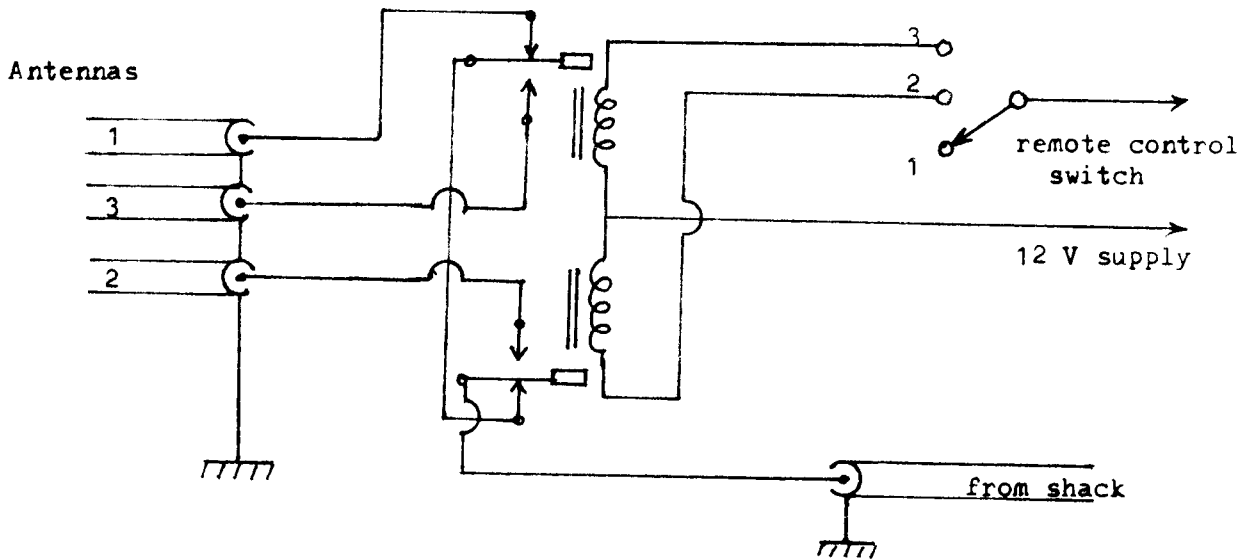
Frankly, I don't need or want to know whether it is "ah raining not in Tokyo". If it's raining (or not raining) in Port Elizabeth, that's about all the info I really need. And I can see it through the window.....

(Thanks to Reg ZS5CO).

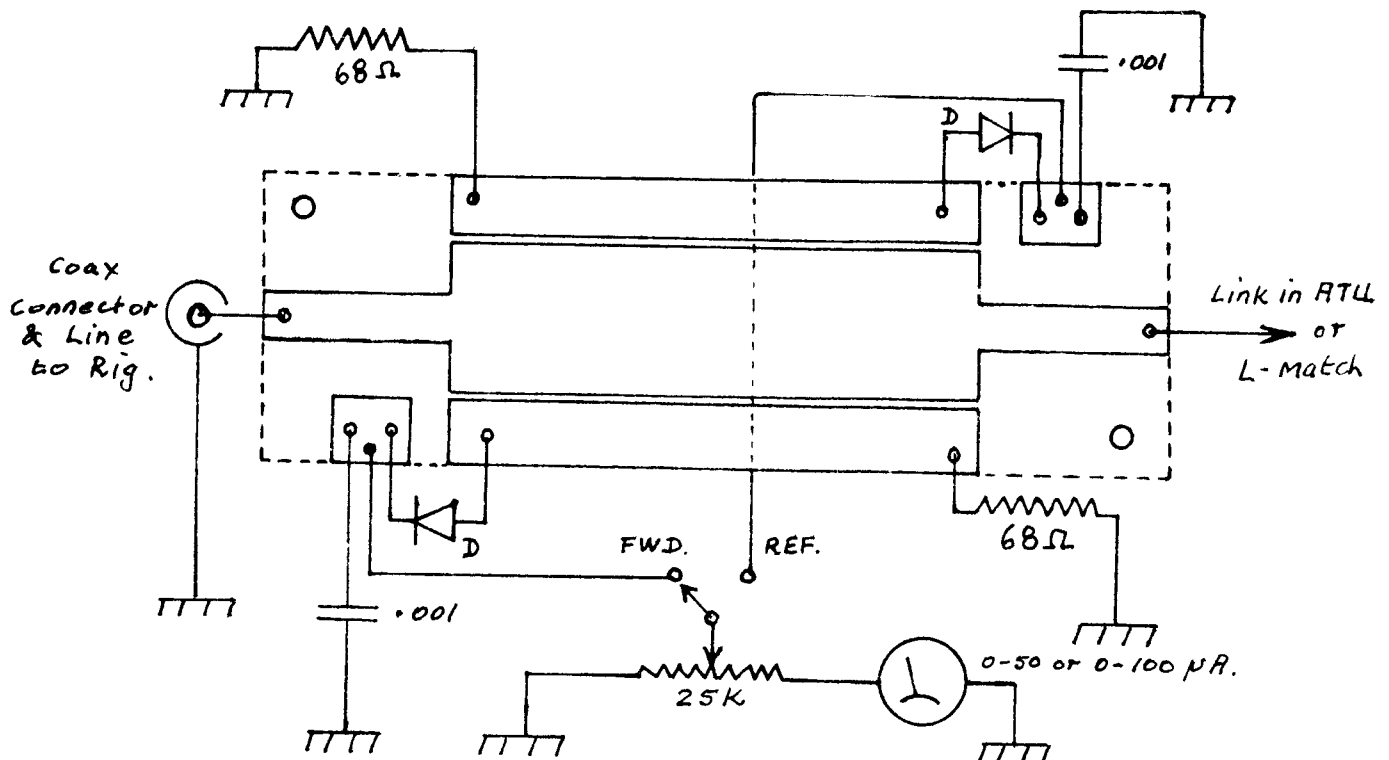
Three position switching with two relays.

Bill ZS6KO

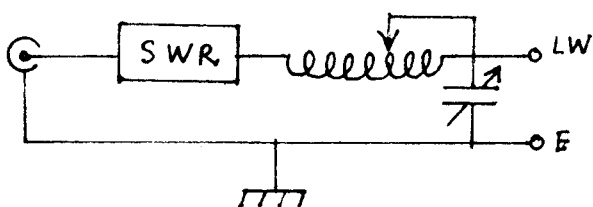
By using two single or double pole, double throw relays, three positions can be switched, eg., a single coax feeder from the shack to three separate on a Quad beam antenna.



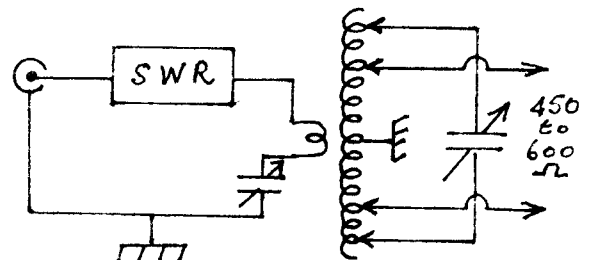
A template for an etched-circuit board for an SWR meter which can be built into an antenna tuner or L-match.



The solid lines show the etched board in full size.



L-Matching network.



ATU for open feedlines.

FORECASTING THE NEXT SUNSPOT MAXIMUM

The last maximum of the solar activity cycle was in 1968, when the annual average sunspot number was unusually high at 105. Minimum activity came in July, 1976, and the sun's spottedness is again increasing steadily. How high will the next maximum be and when?

The latest forecast is by R. P. Kane, working at the World Data Center-A for Solar-Terrestrial Physics, Boulder, Colorado. His predictions are based upon the fact that the amount of disturbance of the geomagnetic field at the time of sunspot minimum is a good indicator of the properties of the following maximum.

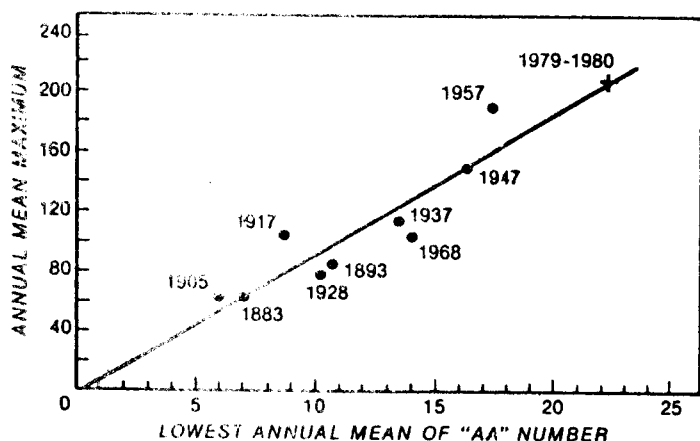
At any one observing station, the earth's magnetic field is unceasingly undergoing slight changes, and it is customary to describe by an index number K the range of such changes in each three-hour interval. The French geophysicist P. R. Mayaud had the ingenious idea of combining the K numbers obtained simultaneously at two observatories located at nearly opposite points of the earth's surface, to derive a new index number that he calls aa . This combination has the advantages of practically canceling out the diurnal and annual changes in K . And especially when yearly means of aa are taken, it is strongly correlated with the course of the sunspot cycle.

One of these correlations is summarized for the past 100 years by Dr. Kane in the diagram below. Each dot represents the highest annual mean sunspot number, plotted against the lowest annual mean of aa during the preceding solar minimum. From the trend line and the aa average of 22.2 in 1976, he predicts that at the coming maximum the annual sunspot number will be approximately 206. Taking into account the spread in the correla-

tion, there is a 66 percent chance that the actual value will be in the range from 160 to 250.

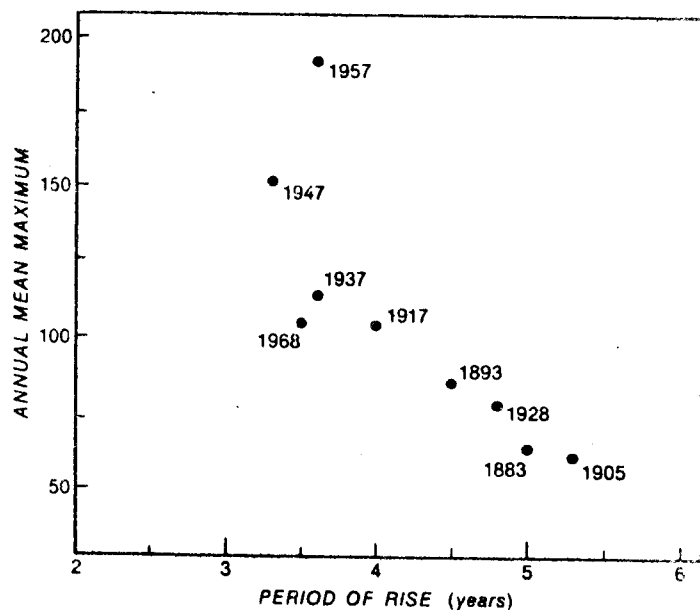
It has long been recognized that high sunspot maxima tend to have short rise times. The second of Dr. Kane's diagrams shows this relation over the past century. Since he anticipates a very high coming maximum, it should follow 3.0 to 3.5 years after the July, 1976, minimum, so the next peak should be sometime near the end of 1979.

Several other astronomers and geophysicists have made predictions for the coming cycle by a variety of statistical methods, with diverse results. H. H. Sargent, who used aa data in another way, has predicted that the peak will be 150 or higher. "What actually happens remains to be seen," says Dr. Kane in *Nature* for July 13, 1978.



In both diagrams by R. P. Kane and adapted from *Nature*, the vertical scale is the highest annual-mean sunspot number in a solar activity cycle. Above: The aa relation (see text) forecasts the next sunspot maximum as high (cross).

Right: Rapid rises precede high maxima.



With acknowledgements to *Sky & Telescope*. (Sept. '78)

SOLUTION TO CROSSWORD.

- | | |
|-----------------|--------------|
| 1. Ampere | 1. Angstrom |
| 4. Harmonic | 2. Prisms |
| 10. Gridcap | 3. Rack |
| 11. Antenna. | 5. Amateur |
| 12. Time | 6. Muted |
| 13. Zener Diode | 7. Nan |
| 16. Od | 8. Crater |
| 17. Tone | 9. Sphere |
| 18. Radian | 14. Oval |
| 22. Static | 15. Volt |
| 24. Flat | 19. Di al |
| 25. PL | 20. Stub. |
| 28. Tube Tester | 21. Klystron |
| 30. Iris. | 23. Cascade |
| 32. Navarho | 24. Feeder |
| 34. Emitter | 26. Stands |
| 35. Squawker | 27. Trited. |
| 36. Newton | 29. Throw |
| | 31. Size |
| | 33. VFU |

THE TROUBLE.....

....with government of the people, by the people, and for the people is that we get billed for it in triplicate.

....running a house is that I can't get anyone to do an honest day's work anymore -including, unfortunately, myself.

...with instalment buying is that by the time you own the thing you're sick and tired of it.

...with TV dinners is that a man has to listen to his wife's commercial as to why she's serving them.

...with jogging is that by the time you realize you're in no condition for it, you've got a long walk to get back.

Sometimes I wish
that he drank or
chased other women
like most men do!

