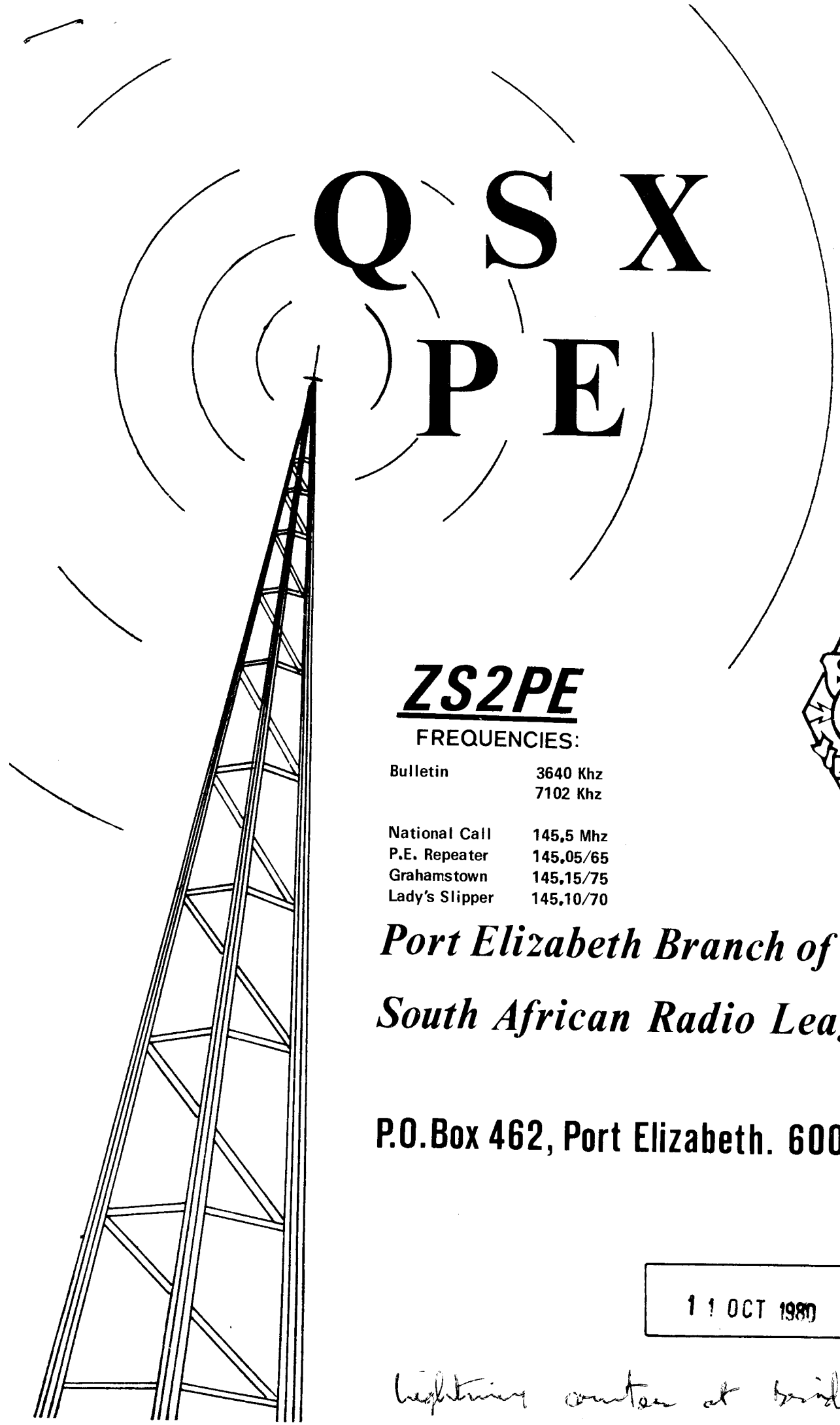
QSX PE



ZS2PE

FREQUENCIES:

Bulletin	3640 Khz
	7102 Khz
National Call	145,5 Mhz
P.E. Repeater	145,05/65
Grahamstown	145,15/75
Lady's Slipper	145,10/70

Port Elizabeth Branch of the South African Radio League

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

11 OCT 1980

lightning counter at bridgemead -

PORT ELIZABETH BRANCH.

The new Committee, as elected at the 1980 A.G.M. is as follows:

CHAIRMAN	Dick ZS2RS	Phone 541461(B)
VICE CHAIRMAN	Brian ZS2AB	" 303498
TREASURER	Frank ZS2CY	" 511259
SECRETARY	Marge ZS2OB	" 302334
MEMBERS:	Selwyn ZS2SS	" 304651
	Peter ZS2PS	" 521584 (B)
	Trevor ZR2CT	" 303591

The Bulletin Roster is as follows:

12th October	Frank ZS2CY
19th October	Peter ZS2PS
26th October	Trevor ZR2CT
2nd November	Dick ZS2RS

If you have any news or information for the bulletin reader, please give them a call - it would be appreciated.

JAMBOREE ON THE AIR.

The Jamboree this year, takes place on Saturday 18th and Sunday 19th October, and two stations have been arranged. One will be at Summerstrand at the Sea Scouts Hall, and one in 4th Avenue, Newton Park. Operation will be all day on Saturday and until lunchtime on Sunday. Special calls are being issued for these days, and operators will be needed for both days. Help with the erection of antennas would also be greatly appreciated, and if anyone is able to do either or both of these, please contact either Brian ZS2AB or Marge ZS2OB at the phone numbers listed above. Final details will also be given at the Branch meeting on 17th, so if you can help, please make an effort to be there. Thanks in anticipation.

THE NEXT MEETING OF THE PORT ELIZABETH BRANCH WILL BE HELD AT THE Y.M.C.A., HAVELOCK STREET, CENTRAL, PORT ELIZABETH ON FRIDAY 17th OCTOBER, 1980 AT 8P.M.

WE ARE HOPING TO HAVE A TALK ON THE COMPUTERISED TRAFFIC CONTROL SYSTEM IN PORT ELIZABETH, AND THIS SHOULD BE MOST INTERESTING. WE HOPE TO SEE YOU THERE - AND BRING A FRIEND. MAYBE YOU WILL FIND OUT WHY YOU ARE ALWAYS CAUGHT AT THE RED LIGHTS!

Some of the most delightful observations about electronic communications have been boldly put to paper by primary school mini-professors. On the subject of Hams and Ham Radio these were:

"The total amount of ham operators today is morefor saying than believing".
"Ham operators look something like people".
"They are one of the chief by-products of electricity".
"The meaning of them has a very short memory in my mind".
"Radio has a plural known as mass communication".
"Quite a bit of the world's supply of electricity goes into making ham radios".
"All the stuff inside a ham radio is so twisted and complicated it is really not good enough for anything but being inside a ham radio.

MINUTES OF THE MONTHLY 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 15th AUGUST, 1980.

PRESENT: 26 members and visitors.

The Chairman welcomed all to the meeting, especially the ladies, Peggy Moore, James ZS2L, Heidrun and Dieter Wasserman and Robert King. He hoped it was not the last time they would attend a meeting and said the meeting in October would be especially interesting.

APOLOGIES: were received from ZR2CF and ZR2BF.

MINUTES: The Minutes of the meeting held 18th July, 1980, having been published in QSX-PE were accepted, with the amendment of the call ZS2BI to ZS1BI, proposed by Cyril ZS2KX and seconded by Peter ZR2CJ.

ARISING: -

CORRES: Council Minutes and Financial Statement.
Letter from H.Q. re allocation of members to Branches.

ARISING: The Chairman read the letter from H.Q. to the meeting and said that there was no excuse for the mistakes.

FINANCE: The Treasurer reported an outlay of R320 for solar panels. A fixed deposit had matured and had been re -invested. A cheque of R25 was sent to Greg Roberts ZS1BI, and the H.Q. share of subs had been paid. The Chairman explained about the account for R14 received for the Lady's Slipper Repeater, and said that when the meter had been read, the Branch had a credit balance of R51.

GENERAL: The Chairman welcomed several new members to the Branch and wished them a long and happy association with the League.
The Secretary enquired if any of the members had an old Call Book with the callsign of Tiny Stephenson ZS2LU, as she is very ill and would like a copy of this. Lionel ZS2DD said he would try to help.
On thesubject of the Sunday Bulletin being transmitted on R.T.T.Y., Lionel ZS2DD said that this, as well as the satellite bulletins were not being heard in Division 2, as this area is skip on 20 metres and the Secretary was asked to write to Headquarters to find out if it were possible that these be also transmitted on 40 metres.
The Chairman reminded members of the League contests to take place on 14th September - phone section, and 26th October - c.w. section.
Peter ZR2CJ asked if anyone was interested in a mini-expedition to operate during the V.H.F. contest.
The Chairman reminded members that the next meeting, the A.G.M., would not be held at the Y.M.C.A., but in the Lecture Room at the Mount Road Police Station. Preparations for the cheese and wine party were going ahead, and involved a fair amount of work, and any ladies who would like to give a helping hand, would be most welcome. The venue is conveniently central and involves no cost to the Branch.
The Chairman thanked all those who had helped with communications at the Winterberg Enduro Rally. An amount of money had been given to the Branch to re-imburse those who had travelled long distances, and several members had donated their share to the Branch, which totalled R26.15. Many thanks to those who had been so generous.
It was time to appoint an auditor to audit the books before the A.G.M. and the Treasurer had approached Gus ZS2MC. Cyril ZS2KX proposed that this be accepted and this was seconded by Lionel ZS2DD.
An Aldis Lamp which had not been claimed after the HobbiesFair, was returned to Trevor ZR2CT.

GENERAL: contd. With regard to the V.H.F. contest, Lionel ZS2DD, asked whether 6 metres could not be included, as this is V.H.F. and the Secretary was asked to write to Headquarters in this regard.
Brian ZS2AB asked whether it was possible to acquire a crystal filter for the Lady's Slipper Repeater. After discussion regarding costs, etc, this was left for further discussion.

The Chairman reminded members of the A.G.M. in September, and said that at the October meeting, a talk would be given on the Computerised Traffic control system in Port Elizabeth, and this should prove very interesting.

The Video Tape "Hams Wide World" had not yet arrived, Trevor ZS2CT suggested that good notice be given before the showing, so that as many people as possible could attend.

The Chairman thanked all for the good turn-out at the meeting. There being no further business, the meeting was closed and tea was taken. Thereafter, a talk on Safety in the Shack and a Demonstration of Mouth-to-mouth Resusitation and treatment for cardiac arrest was given by Marge ZS2OB.

sgd:
R.W. Schönborn
ZS2RS

sgd:
M.T. Colson ZS2OB
Secretary

++++++++++++++++++++

ROUND AND ABOUT.

Congratulations to Peter ex ZR2CJ who has now acquired his ZS call and can be heard hotting up the ether with the call ZS2PS. Peter has also moved QTH to the Western Suburbs and anyone travelling up Cape Road can't fail to see the antennas!

Congratulations also to Peet van Heerden ZR2DD who passed the exam after doing all the study on his own. Peet will be getting married on 11th October and we wish you and the new XYL all the best for the future. Your tapes for c.w. practice are on their way Peet, and good luck with them too.

Quite a few members were out of town recently - Brian ZS2AB and family were on holiday at Wilderness in the caraven park and Brian did quite a lot of operating while there. Brian ZS2TY and Sheila ZS2BF were down at Hermanus where Brian was working on a thesis. Both Brians are now back in harness at their salt-mines. Foeiteg!

Trevor ZR2CT is eagerly awaiting his ZS call and has been doing quite a lot of listening on the HF bands and trying to decipher the c.w. among all the QRM which wasn't there while Cyril was doing his classes. Never mind Trevor, it will all seem so easy, soon.

Time is running short for those who are writing the November P.M.G.'s exam and we would like to thank Viv ZR2CI for his interest and trouble and wish them all the very best of luck.

FOR SALE:
2 SX-28 receivers, reconditioned and in good order. R100 each.
T.T.L. - I.C.'s - too varied and numerous to mention.
Contact Fred Hurter for details at phone no. 24585.

We would like to welcome Gordon Harris ZS2GH of Uitenhage, and Harry Stickley 3D6BP as members of the Branch and we wish them a long and happy association with the League.

According to the Australian Mazagine "Amateur Radio", two members June ZS2JJ and Mike ZS2MJ, together with some other ZS and ZE hams were involved in keeping contact with a yacht "White Wave" which had been caught in a storm off the African coast. Fortunately all the crew were saved, but had the yacht shipped back to Australia and they flew back by jet. Once caught..... Thanks to James Crichton for the Mazagine and the cuttings.

Standing Waves or VSWR (voltage standing wave ratio) is one measure of the quality of an RF transmission line. Standing waves result from reflections. If all elements in the system are perfectly matched, the VSWR is unity or 1.0, also expressed as 1.0:1. If the transmitter is 50.0 ohms, the cable 50.0 ohms and the antenna say, 75 ohms, the mismatch at the antenna will result in a VSWR of 1.5. However, we are concerned here only with the cable, so a dummy load is substituted for the antenna. A wattmeter is connected between the transmitter and the cable for a measurement of forward and reflected power of the cable and the dummy load. After allowing for the effect of the dummy load, the residual VSWR is due to the cable and connectors.

Problems and Solutions

In the following it is assumed that the antenna and the radio equipment have been tested and found to be in good order. While we are only concerning ourselves with the transmission line itself, some of the problems and solutions could well apply to the antenna.

Reduced System Coverage can occur over a long period of time or overnight. A talk with the user can sometimes be very informative to the technician. A sudden rainstorm, explosion nearby, or the hunting season opening could be a tip-off if the coverage had suddenly changed. Water getting into the cable through some new opening is a real range reducer.

Look at the connector at both ends for water signs. Even if it looks dry, taking the connector off and a look inside may reveal moisture. If signs of moisture are found, cutting the cable off a few feet and reinstalling the connector is in order. This may not be a sure cure as the water may have migrated some distance down the line and can reappear if there is a temperature or atmospheric pressure change.

If the connectors look good, inspect the complete cable for bullet holes or signs of damage during installation. Sections must be replaced that contain holes. Taping over the holes only traps the water and the trouble will remain.

If the range has decreased over a long period of time, cable aging may have taken place. Metal sheath cables usually do not age if properly installed and protected. However, "bargain basement" RG-8 type has a short life when exposed to the sun and weather and the attenuation increases slowly. A VSWR check may not reveal this condition. If RG-8 type or flexible cable is used you should specify RG-8AU type with a non-contaminating jacket and impregnated with a vapor blocking compound.

Intermittent Problems are the same as any electrical circuit. Look for an open or shorted center to outer conductor condition. This can occur in the cable or in the connector.

For High VSWR the cable should be checked with a dummy load at the antenna end of the cable. If the VSWR checks higher than when installed (20% or more) there is probably an open, short, or partial short between the inner and outer conductor. An ohmmeter check is now required and should be made with the line open and then shorted at the top.

With the top end of the cable shorted (the cable ground should be removed) the meter should show very low resistance between the inner and outer conductor. If the meter shows very high resistance, then the center or outer conductor is broken. If the cable has a protective jacket, the break in the outer conductor may be very hard to locate and complete replacement may be more economical. Otherwise, a good visual inspection may reveal the location of the problem. If you have an *unjacketed* cable, the cable could still be open even when a low resistance is shown at the bottom end. The outer sheath could be broken and completely separated but because it could be clamped tight to the tower leg, you could be reading the return through the tower itself.

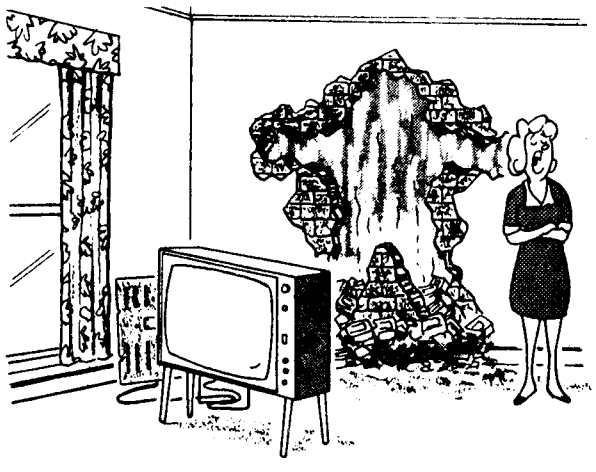
With the top end of the cable open — the meter should show very high resistance. However, one of the conductors could be open. If the meter shows very low resistance, then there is a short between the center and outer conductor. Look for a crushed cable, a bullet hole, or lightning damage. Don't overlook the connector and the workmanship of its installation. If type N connectors are pushed together at a slight angle, the male center pin can easily push the female center pin out of alignment or even break one of the small fingers, resulting in a short.

If the meter reads a thousand ohms or less, but not zero resistance, water is most likely the problem. Water may collect in the end or inside the connector.

A real problem is water vapor. During the day when the temperature is high the vapor may move along the cable away from the connector and be hard to find. However, at night when the temperature drops and the vapor condenses, it then shows up as water in the connector again.

Preventive Maintenance

Good installation procedures will minimize the need for preventive maintenance except in the most severe environments. Generally, the cable installations should be checked visually whenever it is necessary to climb the tower for relighting, painting or any other reason. Alternatively, a quarterly or semi annual inspection with a pair of high power field glasses should suffice. Reflected power should be measured at regular intervals and recorded. The elements, sun, wind, rain, salt, etc. are natural enemies of a cable system. A sensible maintenance program should be geared to the conditions prevalent at the site in question.



Okay now! Who took the fuse out of Dad's multimeter?

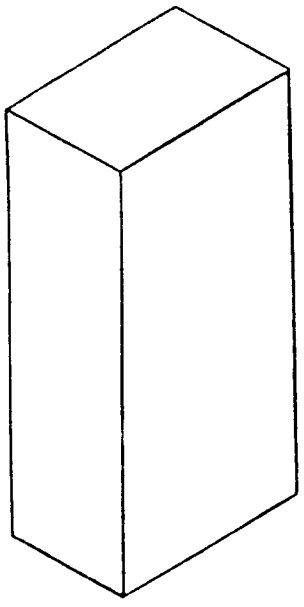
Am95XIV
FLOATING POINT ROMAN NUMERAL ARITHMETIC PROCESSOR UNIT
ANCIENT MICRO DEVICES

With apologies to Bert ZS2EA.

DISTINCTIVE CHARACTERISTICS

* XII Digit Precision
* Latin Mnemonics for Commands
* No Divide-by-zero errors
* Square roots dimensioned in cubits
* Single VV power supply
* XVI-bit viaduct interface
* Soft vertical scrolling available
* Abacus-to-Roman conversions
* Fast Divide-and-Conquer routine
* MOS/LSIV Technology
* MIL-STD-SPQR

MONOLITHIC BLOCK DIAGRAM



Standard Non-In-Line (NIL) Package

FUNCTIONAL DESCRIPTION

The Am95XIV Floating Point Roman Numeral Arithmetic Processor Unit is a complex monolithic MOS/LSIV device designed to provide high performance floating point arithmetic functions using Roman Numeral formats. In typical systems this part replaces at least VL scribes working in III shifts.

The FPRNAPU offers several interface options. Standard output is programmable for either clay tablets or for papyrus rolls with automatic vertical scrolling. Optionally available is a direct interface to a heavy duty impact printer for inscribing marble documents. Three-column outputs may be Doric, Ionic or Corinthian. The input interface is for a standard floppy discus.

The exponent field of the floating point format takes advantage of a new compact structure called Quad Extended Decimal (Q.E.D.). The mantissa uses the ad hoc rounding standard (I.E., IEEE). Overflow errors caused by Vesuvius functions are automatically processed by the Pompeii algorithm. Allowed rise and fall times are quite long; see Gibbon for details.

All parts undergo burn-in at our new Nero facility. Hannibal handles all environmental and stress tests in the field. Infant mortality is limited to the first-born of each process batch. All parts tested to MIL-STD-SPQR except those shipped to Gaul.

The internal VIII-bit Modus Operandi register is used to select operating mode options and to enter latin commands. For use as a slave processor, automatic chaining operations may be specified. The internal state of the FPRNAPU is reported in the Status Quo register.

Parts are available off-the-shelf. Et Tu Electronics has agreed to take a stab at second sourcing of this product. Users should beware since parts will not be available until mid-March. For further technical information, call AMD any time, except during July and August, using our toll-free number:

DCCC-DXXXVIII-LXXXIV-L

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With Acknowledgments to

South Continental Devices (Pty) Ltd

And thanks to Brian ZS2AB

KENWOOD

2 METER FM TRANSCEIVER TR-7800

SPECIFICATIONS

[GENERAL]

Semiconductors:	MPU 1, ICs 18, transistors 58, FETs 9, diodes 76
Frequency range:	144.000 to 145.995 MHz
Frequency synthesizer:	Digital control, phase locked VCO
Mode:	FM (F3)
Antenna impedance:	50 Ω
Power requirement:	13.8 V DC ± 15%
Grounding:	Negative
Operating temperature:	−20°C to +50°C
Current drain:	0.4 A in receive mode with no input signal 6 A in HI transmit mode (Approx.) 2.5 A in LOW transmit mode (Approx.) Less than 2.5 mA for memory backup (from power supply) Less than 3 mA for memory backup (from built-in battery)
Dimensions:	175 mm (6-7/8") wide 64 mm (2-1/2") high 206 mm (8-1/16")deep (projections not included)
Weight:	2.1 kg (4.63 lbs) approx.

[TRANSMITTER SECTION]

RF output power (at 13.8 V DC, 50 Ω load):	HI 25 W min LOW 5 W approx. (Adjustable)
Modulation:	Variable reactance direct shift
Frequency tolerance: (−20°C−+50°C)	Less than $\pm 20 \times 10^{-6}$
Spurious radiation:	HI Less than −60 dB LOW Less than −53 dB
Maximum frequency deviation: (FM)	± 5 kHz
Microphone:	Dynamic microphone with PTT switch, 500 Ω

[RECEIVER SECTION]

Circuitry:	Double conversion superheterodyne
Intermediate frequency:	1st IF.....10.695MHz 2nd IF.....455 kHz
Receiver sensitivity:	FM Better than 0.5μV for 30dB S/N Better than 0.2μV for 12dB SINAD
Receiver selectivity:	FM More than 12 kHz (−6 dB) Less than 24 kHz (−60 dB)
Spurious response:	Better than 60 dB
Squelch sensitivity:	0.16 μV (threshold)
Auto scan stop level:	Less than 0.2 μV (threshold)
Audio output:	More than 2.0 W across 8 Ω load (10% dist.)

Call: **Dick ZS2RS**

25/27 Reed Street

PORT ELIZABETH

P.O. Box 500

6000

Telephones:

541461/2

Telegraphic Address:

"SUMMIT"

SUMMIT DISTRIBUTORS (Pty.) Ltd.