



Southern African Antique Wireless Association



ZS0AWA

May 2006
Issue #5



This newsletter is sent out to all who have called in on the AWA net and who have email facility, and those who have paid for mail envelopes, with the hopes that it will encourage you to call in again and help to keep the AWA net alive and well.

Should you not want to receive any further publications of this newsletter, drop me a note and I will take you off the mailing list. Should you prefer to receive a hard copy via snail mail, please send an SASE for the period you would like to receive these and I will process for you.

Happenings:

With the SARL AGM a thing of the past now, we can look forward to a few opportunities to show off the rigs that we all work so hard at lovingly restoring and using.

The first of the RTA meetings is to be held in Port Elizabeth on the 29th April. To those of you who would like to promote the AWA in the PE area and of course the old valve rigs, please contact Al Akers ZS2U Of the PE club and say that you would like to bring a few rigs along for display purposes. I have already made contact with them and they are prepared to put up a table in a prominent area for the display of these old rigs. Try it out, we were very pleasantly surprised by the response last year at the RTA in Johannesburg. Al's contact number is (041) 360 2983.

The suggestion to move the SSB call in to 08:30 as it works a lot better with poor conditions, and then use the better conditions to run the AM group from about 09:15 is starting to pay dividends. The band has been quite favourable over the last few Saturdays.

During the month I sent out a picture of a proposed lapel badge, which Cliff ZS6BOX has been pushing for. Anyone interested in getting such a badge, can get hold of Cliff by email at csmyth@altron.co.za to place an order with him. The cost involved is R22 per badge, PLUS R6.00 postage. The bag used for postage can take up to 12 badges, so order a few and save on postage.

Lapel Badge:



Cliff's banking details are as follows:

ABSA branch code 515-205 (Northgate) account C.J. Smyth. Number 0711107967. Use your call sign as a reference number.

Later on we may look at making a few embroidered badges too.

ZS0AWA/CW.



Dave ZS6AAW, sent me some info concerning a CW group in the UK who run regular contests. I looked at the website and they run a WARC band contest for the year. They call themselves the CW Fists Club and anyone interested can have a look at their web site at the following link:

www.freewebs.com/m0bpt

CW activity has been fairly good even though conditions have not been that great, with the regular callers still coming in. I have taken to joining the Straight Key net on Monday evenings with my Bent Straight Key (Paddle) and even there, most times, 599 signals are reported. The Straight Key Net is up on Monday evenings at 19:30 on 3579.

Remember the AWA CW net on Saturday afternoons at 14:00 SAST, run at 12 wpm and so should meet the needs of all interested in CW. 7020 is the frequency.

AM Net:

We continue to get more callers on the Saturday net on AM and it seems there is a revival in interest in Amplitude Modulation. Conditions are starting to improve and every Saturday one hears more of the local callers. Keep it up gents, we are starting to improve on this each week. Remember to zero beat on the net controller's frequency. That way we can all be on the same frequency at the same time.

Some of the rigs heard:

Don – ZS5DR Johnson Viking Ranger II 20W

Rod – ZS5RK Collins 32V-1 30W

Dudley – Z22JE FT200 20W

Remember the AM group on Wednesday evenings at 07:30 SAST on 80m, freq 3615 (-5kc for QRM) Please come up and join us if you have the time and the inclination. This group is also growing slowly in numbers.

As the summer storms draw to an end, the band will become quieter and conditions in general will improve, which means that we can only get better at this.

In Last Months issue we published a picture of Brian –ZS2AB's 80m monster. Well he sent us a write up on the rig:

The TX uses a Heathkit VF1 vfo (I just built the whole vfo box and all into driver panel section), buffered by a 6CL6 and followed by a 5763 driver tube which is coupled to coax cable which feeds the final amplifier deck.

The final is an Eimac 4-400A running with 2500 volts HT, with a Pi-coupler to the antenna. The tuning cap is a Jennings 500pf vacuum variable.

The modulator comprises the usual speech amplifiers coupled into a 6SN7 phase splitter driving four 807 tubes in parallel-push-pull with 750 volts HT which drive a Kenyan T-495 modulation transformer. The screen grid of the 4-400A is self-modulating by way of a choke in the screen supply. Not ideal, but I get away with it !
The main power supply consists of a single transformer with 2850 volt secondary, rectified by four EHT diode blocks, 10H choke input filter with 8 microfarad 5 kv oil-filled paper caps, fed from the mains via a



It was a fairly drawn-out project as I had been using an ART13 TX on 80 AM but the quality of the internal modulator was not really ideal for MF's, so I built the new modulator first and used it for some time on the ART13 while I built the new power supply, which I then also soak-tested on the ART13 (at about 1100 volts) while I built the driver and final sections. The whole lot then went into the rack.

I might tell you that getting four 807's to co-exist in parallel-push-pull is a very frustrating business as they have a nasty tendency to parasitic oscillation, anyway, after selecting four tubes which were almost perfectly balanced, and adding all the necessary grid-stoppers, etc. it worked out OK. (I was lucky to have about 20 807's to select from!!)

One of these days I will build a new modulator with the normal two-tube push-pull arrangement as I want to try some different tubes and also want to wind a new modulation transformer with the correct screen-grid winding and also negative feedback winding on it which I could not fiddle satisfactorily with the Kenyan transformer.

As you will realise, the mechanical work is probably the longest part of the job. All the panels are made of 4 mm aluminium, the chassis are all 1.5mm ally. I even made the panel-handles, hot-bent from 10 mm steel rod. Quite a project, but I enjoy the building almost as much (sometimes more) than the operating!

SSB Net:

When calling in to the net, let us know what rig you are using. There are some interesting sets out there that people are using, and it's always great to know that the person you are talking to is using a blast from the past.

A hearty welcome to those newcomers to the group and we hope to see you all come back again.

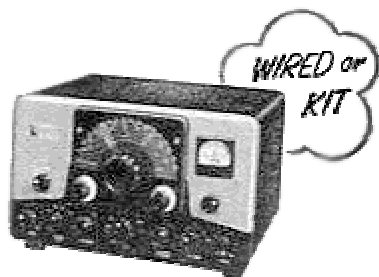
Some of the rigs heard recently:

Malcolm ZS4SM B25 on 20 watts
Ian – ZS5IAN Heathkit HW100

Gary – ZS5NK Collins S Line
Cliff – ZS6BOX Collins KWM2

E.F. Johnson

Edgar F. Johnson started his mail-order parts business in 1923, in his Wisconsin bedroom. He moved into manufacturing parts, then into making whole radios. He gained a reputation for making sturdy, reliable gear which could take commercial 2-way use. After the war, Johnson came out with the classic boat anchor transmitter. To honor his Scandinavian heritage, he named it the Viking. It became the Viking II, and then led to the Viking Valiant/ Valiant II, with three 6146s instead of two, which was made until 1965. The Valiant is still popular with pirate radio stations. Its classic design considerably influenced the Heathkit DX-100, at one time the Model T of Heath's amateur line. The Valiant also had an SSB adaptor, giving an honest 275 watts PEP input.



The Viking I and II were your typical enormous, rack-sized boxes, made like something you'd put on a bank vault, with a meter and an ominous little dial hole in the middle. They made an external VFO that was popular. Then you had two ominous little dial holes. The Valiant, and most later Johnson transmitters, went the other way, with the coolest VFO dials you'll ever see, and generally a very purposeful looking radio.

The I series used dark browns and blacks, while the IIs went to a more contemporary (in 1960) grey and tan. These are beautiful radios. Everyone should have at least one.

The Viking line was well received, and no wonder, because it was an awfully good transmitter. A smaller version of the Valiant, called the Ranger/ Ranger II, was made at the same time, having a single 6146 and no SSB adaptor. It was just about the best little rig available to novices (I liked mine, and the VFO gave me incentive to upgrade). A larger rig, the 500, had an external power supply, bigger finals, and an 811A modulator, for 500 honest AM/CW watts. I believe the sideband adaptor worked with this rig too. The "6N2," a transverter, got you up on, uh, six and two.



VIKING "PACEMAKER"

New transmitter for SSB, AM, and CW. Built-in VFO. Wired and tested. Net.....\$ 495.00

One e-mailer wanted me to put in the Thunderbolt, a 2000W PEP linear made in the 60s. Sounds good to me. Actually, I can't believe I'd forget that one. It was a true desktop kW, if you had a very strong desk, with continuous coverage from 3.5 to 30 MHz. It switched to class C for CW, where 20W in got you the legal plate input, plus a wee bit more. In AM linear mode, it did an honest 800W input, pretty good for 33% efficiency. This thing cranked.

Johnson also made a "6N2 Thunderbolt." 5 watts SSB/DSB in got you 1200W to the finals in class AB1, and six watts CW got you a happy kW of class C input on your favorite weak signal channel. Of course, you could not wear the 6N2 Thunderbolt on your belt at swap meets.

Finally, Johnson made a couple of small transmitters aimed at novices, a couple of middle-sized transmitters like the Pacemaker, a 500W desktop linear called the Courier, and a couple of huge transmitters aimed at people who, uh, wanted huge transmitters. The earliest of these was the Viking Kilowatt, an ominous, square, grey box standing some 4 feet high, 3 feet wide and 5 feet deep, with controls on top, and generally looking more like a VAX than a radio. Since it was 'only' an amplifier, Johnson made a matching, metal desk which attached to the side, and gave a place to put your exciter, receiver, and yourself.

You've heard of The Smart Desk. Well, here was The 1000 Watt Desk. This was not a kW on a desk, it was a desk on a kW. Since there was also a class B modulator in there, your desk had a kW on AM too, if it had to, using 15 watts audio drive.

Later came the Viking Invader, a modernized Valiant with internal SSB generation and 2 6146s. This was a pretty cool rig by itself, but it was also a bit like the old 32W-1, because you could put it on steroids. For about another



\$700, not chicken feed in those days, your Invader got new finals, an external box for the power supply, a new panel with some more dials, and another meter. Or, you could buy it this way in the first place. Either way, you had an Invader 2000, a self-contained rig that could make legal power, or a wee bit more, on SSB or CW.

It's hard to go wrong with old Johnson transmitters. They're immortal, if you can come by tubes and parts. They work well, and they keep your room nice and warm. Johnson also made the Match Box, a very highly regarded antenna tuner of a sort they just don't make any more, but which everyone wishes they did. There's also a kW Match Box, same thing only bigger. Everybody wants one of these, very very badly. Riots break out at swap meets. Hams sell their wives. It's not pretty, folks.

Ultimately the thriving land-mobile radio business replaced amateur as the company's core competency. Johnson became known for CBs and business radios. Today's [E.F. Johnson](#) is a leading maker of Project 25- compliant digital radios for public safety and military applications. It was purchased in 1997 by software manufacturer Transcrypt International. In 2005, its headquarters moved to Irving, Texas.

With thanks to the Ominous Valve Company website for the article.

Promotions:

The following are the dates for the Radio technology in Action, which is going around the country. This is a great time to get out your Antique's and set them up on display. We have found that there is a lot of interest drawn to the old rigs as people reminisce on what they used to operate and how many contacts they made on them. Come on guys, how about putting up a display in these areas?

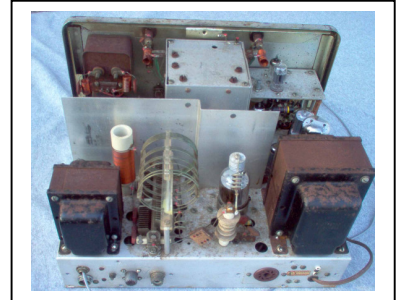
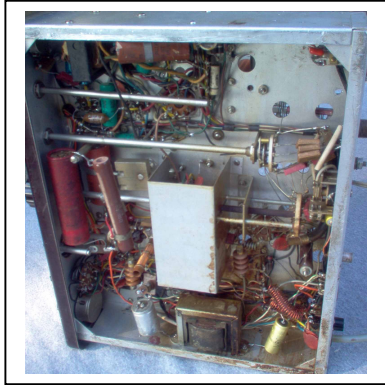
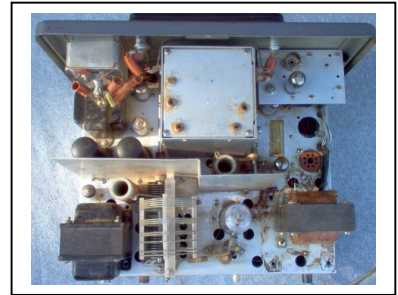
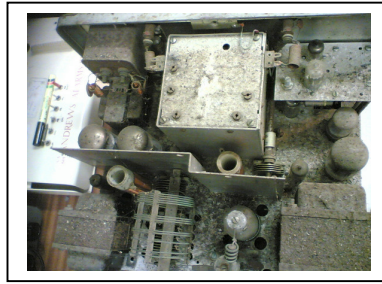
- **EASTERN CAPE** - 29 April Nelson Mandela University Port Elizabeth
- **WESTERN CAPE** - 13 May University of Stellenbosch
- **KwaZulu-Natal** - 15 July University of KwaZulu-Natal
- **GAUTENG** - 19 August SARL National Amateur Radio Centre

If anyone does set up a display, please take some photo's and email them to me for inclusion in the newsletters.

Should you feel so inclined, send us pictures of your shack that we could have them included in this newsletter.

Restoration News:

Don – ZS5DR is seriously collecting Johnson equipment. He has 2 Viking Ranger II, a Viking Ranger I, a Viking Invader and a Johnson Matchbox. So any Johnson equipment you want to dispose of, I am sure Don would appreciate a call from you.



**Some Before and Afters of
Don's Ranger II**

Antique Clubs and Sites:

<http://worleys.com/reference/hamradio/antique.htm>

Swap Column:

There is an online swap shop on the website of the Highway Amateur Radio Club for ALL amateurs and interested parties to use - it is not restricted to members only. We have been invited to make use of this facility too. Should you want to, use the link to the HARC at the end of the page to take you to their website.

If you would like to forward this newsletter to any other interested parties, please feel free to do so. Print it out and put in on your club notice board, or give it to someone interested in valve radios. If you know of any who report in on the net but don't have email, print it out and give them a copy.

Remember net days and times:

Saturday 08:30 SSB net - frequency – 7070Mhz
 Saturday 09:15 AM net – frequency 7070Mhz
 Saturday 14:00 CW net – frequency 7020Mhz
 Wednesday 19:30 AM net – frequency 3615 (-5 for QRM)

This, and past copies of the AWA Newsletter can be downloaded from <http://members.harc.org.za/newsletters/AWA/>. Our thanks to the Highway Amateur Radio Club in Durban (<http://www.harc.org.za>) for providing this service to our members and other interested parties.

Thanks for the bandwidth.

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