



AWA Newsletter

#62

February 2011

A Member
of the
SARL



Antique
Wireless Association
of Southern Africa

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AWA Committee:

- * President—Don ZS5DR
- * Technical Advisor—Rad ZS6RAD
- * Net Controller—Willem ZS6ALL
- * Secretary/PRO—
Andy ZS6ADY

Reflections:

This last month I have been quite busy around the shack, making changes, moving rigs, selling off excess equipment, basically doing a spring clean at the end of summer.

At long last, I'll embarrass myself if I say how long it's taken, my tower is up in the air and the TH3 very proudly balanced on the top. The multiband inverted V is up and ready and the 80m inverted V used for the relays is also up, both of them with an extra 2m added to the apex height.

This time at least everything is in "permanent" mode and not temporary as it was when they were all first put up.

The mast pole originally used for the inverted V's was tied to the side of my

shack with a piece of wire and has withstood the ravages of time and weather for a number of years now. The ends were tied off in trees, at differing heights, whereas now they are tied to permanent structures.

So why am I telling you all this? I just wonder to myself, how many of us actually make these temporary repairs or fixes, just to get things going, and then, because it works adequately enough, you just leave it like that? I know I'm guilty because I've just told you about it.

My shack has been filled with temporary "fixes" for many years, but because they work, I get lazy until some of the wheels fall off. Then I have to fix it properly.

The problem is, more often

than not, I have to make another temporary fix so I can get it all up and running quickly.

Either that, or I have made a temporary connection to test something out, like digital transmissions, and it has worked, so I leave it like that.

Now I know, there are not many of you out there like me, with your shiny shacks and neat and tidy wiring, not a thing out of place. All connections solidly soldered and enclosed in a suitable box. I admire you guys for what you have achieved.

But I am also sure there are some shacks out there probably worse than mine with as many, or more, temporary fixes.

Best 73

De Andy ZS6ADY

Wikipedia—The Transistor

A **transistor** is a semiconductor device used to amplify and switch electronic signals. It is made of a solid piece of semiconductor material, with at least three terminals for connection to an external circuit. A voltage or current applied to one pair of the transistor's terminals changes the current flowing through another pair of terminals. Because the controlled (output) power can be much more than the controlling (input) power, the transistor provides amplification of a signal. Today, some transistors are packaged individually, but many more are found embedded in integrated circuits.

The transistor is the fundamental building block of modern electronic devices, and is ubiquitous in modern electronic systems. Following its release in the early 1950s the transistor revolutionized the field of electronics, and paved the way for smaller and cheaper radios, calculators, and computers, among other things.



CW Activity:

Before I say anything about CW activity, let me correct an incorrect statement I made in the last newsletter.

Pierre now ZS6A achieved his WAZS in CW, but his WAGS was achieved in mixed modes. Still an outstanding achievement.

News from the QRP group is they can still be found from 06:30 every morning, except weekends on 3579.

Conditions are still very workable and the group is still well attended.

The 40m net on Saturday afternoons has been fairly well attended this last month even though conditions have not been great.

The regular bunch have been getting together though and local conditions seems

to be holding out, although it has been ages since we last heard any Div 1 stations.

Do remember the AWA CW activity day from 12:00 on Saturday 05 Feb to 12:00 on Sunday 06 Feb.

The activity day is open to all amateurs wanting to do a bit of CW again and do feel free to come up and join us on Frequency.

Bands are 80m, 40m, and 20m depending on conditions and time of day.

The idea is to make as many CW contacts as possible over this 24hr time period.

I am now running my 1962 Collins KWM2-A on CW using an ext VFO to



take up the frequency difference between Tx and Rx. Reports received have been 599 and hopefully it will do the job. The KWM2-A has never received any good reports for CW on it's own, but using the Ext VFO certainly produces good results.

Best 73,
De ZS0AWA ... --

SSB Activity:

The SARL 80m Club Championships have started off again and the AWA had a few callers out there to submit logs for us. (See the results from last year on page 4). The Awa did well in the CW sections with the amount of logs submitted, but where we did fall down, was in the SSB and Digital sections.

I know it's not that easy to do digital comms on an old valve rig, but not impossible. Besides, most of us have some form of plug and play rigs in our shacks anyway, so do come along and join us with the rest of the contest and lets see where we can end up at the end of the year. Regular reminders are sent out

about the contest.

40m activity has not been great this last month with band conditions pretty poor in the morning. Although on the SSB net, round about the time everyone has signed, the band does open for short distance contacts.

It's pretty grim, trying to run a relay when you can hardly hear many of the stations, so once again, be reminded of the 80m relay which does favour short distance communication and very often even Div 5.

Winter is fast approaching us again and who knows what 40m is going to be like. I think even the pundits are a bit stumped at the

moment about sunspots which just are not there. If you don't have an 80m antenna up yet, now's the time to be seriously considering one.



Yaesu FT200

AM:

Even though band conditions have not been that great, the AM net still keeps trundling along on Saturday mornings. Most of the time, the short distance stations have the best of it, while the Div 5 stations tend to suffer with QSB very early in the morning. Here from around 06:30, the band starts to fade and AM becomes more difficult to work.

Besides that, we still have a fairly strong contingent calling in on Saturday mornings and the MF's flow back and forward at great db's.

There is often a few listeners who will sit on the sidelines until it's almost time to close the net, before they will call in, and we do

appreciate the reports from everyone.

A call in on SSB is still made after the AM net, just in case you are a listener and don't have AM Tx ability. Let us know what conditions have been like to your part of the country.

Once again, a reminder to those who are not regular users of AM, don't try calling in while another station is transmitting. Unlike SSB, no one will be able to hear you or the transmitting station, because all that happens is a conflicting carrier appears over the transmitting station.

We do leave nice long gaps in between transmissions to allow those who switch between receiver and transmitter manually to even

break in. When given the opportunity you can call in and we will pull you in to the group immediately. You don't have to sit and wait for a turn, which may take a while if everyone is playing MF's.

Even some of the more modern rigs, still work well on AM, so give it a go.



Collins 51J4

BOATANCHOR HANDLING BY RICHARD ZS6TF

Radio hams have the somewhat undeserved reputation amongst the general population for long pockets and short arms. It stems from the expression that an engineer can do for ten bob what any fool can do for ten quid. The radio amateur version is that great things can be achieved in the absence of money if you have a highly developed sense of tidying the environment namely, scrounging.

This fortunately for me is a genetically endowed life skill endowed upon me by a childhood during the post war austerity years and a stingy father whom I otherwise adored. The skills were later honed in 4 african countries, peaking in sanctions ridden Rhodesia, and egged on by my late father-in-law George, ZS1YZ whose powers of "acquisition" I have yet to equal.

Turning to the present, as a result of a major revamp of my home facilities over Christmas and new year, I was faced with the challenge of improving the mobility of and access to the several Boatanchors that had converged on my workshop over the previous 2 years. Based on an idea I saw at Duxford where they had a rotatable frame for servicing the R1155 receiver, I toyed with the idea of adapting an engine repair stand with a clamping arrangement for the rig so that it could be rotated like a pig on a spit to gain access to top and bottom. I then reasoned that this was an unnecessary complication since if the rig was placed on its side on a stand with a small footprint, the top and bottom were easily accessible by walking around it. The clincher was the availability of free materials in the form of a discarded steel display stand from a hardware shop, 2 wheels harvested from a demised fertilizer spreader at the local dump, and some particle board panels removed from the cupboards after our kitchen was flooded last November. I confess to using new screws for assembly although most were stock on hand rather than specially Purchased.

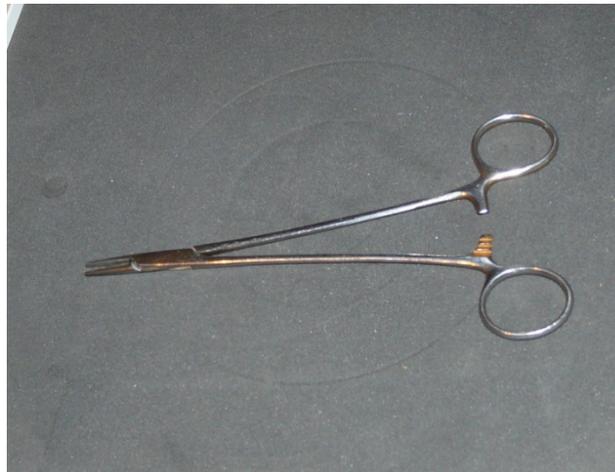


The small handles allow the unit complete with boatanchor to be "wheelbarrowed" around with ease. I intended putting a rubber mat on top, but that would have required expenditure and I use good quality cardboard cut from old packaging instead, which has the additional benefit of somewhere to write down voltage readings and calculations as one progresses. I fitted 2 shelves into the unit as a convenient place to store valves, fixing screws, cover plates, and other bits removed or dismantled during faultfinding.



I

I use cardboard beer trays lined with the bottoms cut out of 2 litre and 3 litre plastic milk bottles for dividers in the tray, to keep the screws in a logical order for re-fitting and avoid giving valves a bad dose of gravity. Another useful item is the adaptor modified with wander sockets so that I can safely meter the current and voltage on the rig.



The story would not be complete without my favourite tool for wrestling with component wires that have been wound through a tag on a tagstrip. The old surgical forcep is a like a third hand when you lock it on to a scrap of wire you want to de-solder or a component you need to hold in place.

Results of the 2010 SARL 80m Club Championship

The overall results for all six legs of the contest run in 2010 are:

1st West Rand ARC, ZS6WR, 341 points and 32 logs

2nd ZS Contest Group, ZT4T, 186 points and 7 logs

3rd the Antique Wireless Association, ZSOAWA, 166 points with 15 logs

4th Port Elizabeth ARS, ZS2PE, 63 points with 2 logs

5th Sasolburg ARC, ZS4SRK, 31 points with 1 log

6th Lichtenburg ARC, ZS6LRK, 17 points with 1 log

7th Cape Town ARC, ZS1CT, 7 points with 1 log

8th Secunda ARC, ZS6SRC, 4 points with 1 log

Well done and thanks to all those who supported us by sending in logs.

Morse Code



Morse Sounder

Morse code is a communications language created by Samuel Morse and Alfred Vail originally to be used with the telegraph. Each letter of the alphabet is made up of combinations of dots and dashes that were originally sent over telegraph wires or by radio waves from one place to another. Morse is the earliest type of digital communications, as the code is made solely from Ones and Zeros (ons and offs). It was the only way to rapidly communicate over very long distances before voice communications and two-way radios were able to do the job better. Morse Code communications can tolerate noise in the communication channel that would otherwise prevent voice (SSB, AM or FM) communications.

Perhaps the most famous "word" in Morse Code is SOS. Contrary to popular belief, SOS does not mean "save our ship," although it often did just that. Rather, it was chosen as the international Morse code distress signal, because the three dots for S and the three dashes for O (... --- ...) make a clear and distinct signal. **SOS SOUND**

Before SOS became the standard radio distress signal, there were others. CQ ("seek you") was a general call to any station. D was internationally recognized in telegraph cable traffic to precede urgent messages, thus CQD (-.-. --.- -..) meant "urgent message to any station."



Telegraph Key

At the First Congress of Wireless Telegraphy in 1903, the Italians suggested SSSDDD (... .. -.- -..) to combine the distinct three dots of the S with the urgency of the D. German radio operators used SOE (... --- .) but quickly realized that the single dot of the E could get easily lost in the static noise. For that reason they had already shifted to SOS by the time of its adoption at the International Radio Telegraphic Convention of 1906. The United States did not adopt SOS until after the Titanic disaster in 1912.

A handful Nokia engineers used morse code as their standard alert tone when short message service (SMS) messages were received, of course the morse code reads SMS. This was implemented by them circa 1985 (guess).

In 1995, the United States Coast Guard ended the use of Morse Code transmissions in its maritime communications service, signaling the end of an era in the history of communications.

While morse is nowadays commercially unused, and no longer examined for radio licenses, it does

have widespread use in Amateur Radio, and oddly the @ symbol is formally allocated as a new international Morse Code character in February 2004. The new sign, known as a "commat," consists of the signals for "A" (dot-dash) and "C" (dash-dot-dash-dot), with no space between them. In 2008 a WW2 morse code key was dropped into the Indian Ocean on 28 April as part of a remembrance service for the lost crew of HMAS Sydney which was sunk in 1941.

Wireless Morse Telegraphy

The wireless telegraphy morse code sequences are derived from the wired telegraphy code and are shown in the summary. Morse used in wireless telegraphy is colloquially known as CW (Continuous Wave). The practical use of morse code involves the use and recognition of many abbreviations, and as can be seen in the 1920's, there are 'short numerical' sequences defined. Other abbreviations used in morse include TU meaning 'thank you', 73 meaning 'goodbye', PSE meaning 'please', WX meaning 'weather', plus a whole sequence of 3 letter "Q" codes. Examples are QRZ meaning "Identify yourself", QSY meaning "Please change your operating frequency". Even other abbreviations are used that pertain to subject matter being communicated, eg K can mean "kilo" or "1,000", FNN can mean "599".

Learning Morse Code

In these modern times, why would anyone want to learn a commercially obsolete 'language'? Here is some food for thought:

- Morse code is still used widely in Amateur Radio communications, as Morse code signals can get a message through noise, whereas a voice signal often cannot.
- It is a novelty... did Klingon's use Morse code?
- More seriously, it has allowed quadriplegics to communicate with just the battering of an eyelid... in Morse.
- It can allow a listener to uncover hidden messages in some music (yes they do exist), and it can be troubling when someone is using a swear word for their phone ring-tone, and you are the only person in the room offended. Oddly, the "F" word is one of the most melodious in Morse.

The best way to learn Morse is to listen. A variety of software program can be downloaded onto iPads, Mac and PC's to facilitate this, and also there are radio beacons run by radio clubs to allow you to practice receiving Morse code off air. The following are suggestions are for the readers benefit, and not endorsed in any way.

Morse Mania software

ARRL affiliated radio clubs, and licensing Education and training at their website. <http://www.arrl.org/licensing-education-training>

(This Article was taken from http://www.iceeghn.org/wiki/index.php/Morse_Code with additions made from various articles in my possession.)

The chart that Max, G3WEZ uses to train the schoolkids at the Duxford radio society station GB2IWM, on the "Morse code in 60 seconds" program. It is better than an alphabetical list and is useful to have it on hand when you are going back on the air on CW, you are shaky on "opposites".

Morse Code Reader

International Morse Code

A ●—	G —●●	M ——	S ●●●	Y —●—	5 ●●●●●
B —●●●	H ●●●●	N —●	T —	Z —●●●	6 ●●●●●
C —●—●	I ●●	O ——	U ●●—	1 ●—	7 —●●●
D —●●	J ●—	P —●●	V ●●—	2 ●—	8 —●—●
E ●	K —●—	Q —●—	W —●—	3 ●●●	9 —●—●
F ●—●	L —●●●	R —●●	X —●●—	4 ●●●●	0 ———

Spacing: Dot=1 Dash=3
 Between Dot/Dash=1
 Between Letters/numbers=3
 Between words=7

Name _____
 School _____

AN EDDYSTONE RECEIVER by Richard ZS6TF

“The quality is remembered long after the price is forgotten” might well have been an unofficial motto for Eddystone as became apparent with the re-commissioning of my 15 valve Eddystone 680X communication receiver over the Christmas period. The full history of the company can be read and downloaded from the Eddystone user group’s website.

<http://www.eddystoneusergroup.org.uk/>

My 680X was produced in the “golden” post war years when the company made a strategic decision to move away from their war time activity when they produced over 4.5 million components for use by H.M.Forces. and just over 4,500 transmitters, 7,264 receivers and 45,000 other supplementary pieces of equipment supplied to the Police and the military, mainly Admiralty requirements. Luckily for us in the AWA they decided to concentrate on specialised communication equipment, well constructed for performance and stability and selling on these points rather than price, a policy which brought success for many years.

The 680X was produced in the years 1951 to 1961 with little change to the design with just 1,562 examples being constructed. My example is serial number 1513. The launch price was £106 rising to £125 by the end. This represents a fall in inflation adjusted price by 10% over the production period, but equivalent to a hefty R25000+ price tag today so this radio was aimed at the serious end of the SWL market.

More a “door-stop” than a “boat anchor”, the 21Kg package provides a single conversion superhet with 2 RF stages, 2 IF stages, covering 480khz to 30mhz in 5 ranges with, BFO, Noise limiter, and 4 stages of IF selectivity with crystal filter and phasing control. This unremarkable line up could be considered as old hat by this time except for the Eddystone engineers attention to detail and superb quality of manufacture. With an equivalent scale length of 32 feet, which could be covered quickly thanks to the 140 to 1 reduction fly-wheel loaded tuning at the front end, to the push-pull audio output stage at the back end, the set exudes superior quality and produces hi-fi sound on AM. The pity is that they did not include a product detector although resolution of SSB is quite passable using the BFO which is ultra stable.

The big challenge for me was to remove an extinct nest of spiders that had resided between the glass and the scale. This required a total strip of the entire front panel and tuning drive. Sadly the goo that the spiders use to fix the nest had eaten a bit of the scale paintwork leaving a slight blemish. However the stripdown revealed a single aluminium alloy casting for the front panel, a separate cast alloy sub chassis for all the RF tuned stages, the rest of the chassis is brass, and the tuning drive gears are of the bifurcated sprung anti backlash construction. During the First World War the firm manufactured parts for the famous SE5 British fighter plane and acquired much experience in the use of aluminium and duralumin alloy which shows in the beautiful way it all went back together, designed in the pre-digital era by draughtsmen using pencils and patternmakers making patterns of wood.

Needless to say the 680X is the receiver of choice in the workshop and it performs very well on a 132ft long wire antenna... just like the old days.



CONTACT US:

P.O. Box 12320
Benoryn
1504

Fax: 27 86 620 3291
Mobile: 082 448 4368
Email: andy.cairns@xsinet.co.za

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**Antique Wireless Association
of Southern Africa**

Mission Statement

Our aim is to facilitate, generate and maintain an interest in the location, acquisition, repair and use of yester-days radio transmitters and receivers. To encourage all like minded amateurs to do the same thus ensuring the maintenance and preservation of our amateur heritage.

Membership of this group is free and by association.

Notices:**For Disposal:**

Abe Zwiendelaar ZS1ZS has sent me a list of AM gear and other that he wants to dispose of: Yaesu FL/FR 200B; Heathkit DX100; Viking Ranger; Hallicrafters SX 28; Trio Receivers, National receiver; Valve tester etc. If you are interested in any of this equipment, you can either contact Andy ZS6ADY for a list or go direct to Abe at: 028-735-8161 Office hours or email abez@alcare.co.za.

NET TIMES AND FREQUENCIES:

The following are times and frequencies for the AWA nets:

AM Net—Wednesday evenings from around 18:30: Saturday mornings from around 06:00 or when band conditions allow. Frequency—3615.

SSB Net—Saturday mornings from 08:30. Frequencies—7070 with a relay on 3615.

CW Net—Saturday afternoon from 14:00. Frequency—7020.
(Times given are CAT or SAST)
