

AWA Newsletter

Issue 27

Antique Wireless Association of Southern Africa

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AWA Committee:

- * President—Rad ZS6RAD
- * Treasurer—Willie ZS5WI
- * Technical—Don ZS5DR
- * Net Controller—Willem ZS6ALL
- * Newsletter/PRO— Andy ZS6ADY

Barter, the Amateur Way:

It seems to me that there is a growing interest in antique wireless again in SA. Quite often I see rigs advertised on the SARL swop shop and by the time I get around to trying to find out about them, they are sold.

Now a few years ago, that would never have happened. So I think to myself. "Can it be that the AWA is actually playing a role in this revival of valve radio's ?". Now that may really be stretching things a bit far, but it is quite a pleasant thought. I am sure that somewhere, we must be pricking the interests again of some of the old timers who cut their teeth on valve technology and when they hear a lot of the conversation on the air around these old radio's, they would become addicted once again to something they understand so well.

Of course it may just also be pig headed to think that way, but if not, why not. It's really great to be associated with an organisation like this.

The bartering and buying of old valve rigs is so much more interesting than that surrounding the modern equipment. With the old boat anchors, one can still barter and settle on a price that is amicable to both parties. That is why flea markets are so interesting. Just listen to all the chatter around the tables with a lot of old equipment up for grabs



Dick ZS1AQD with a restoration project

and you'll see what I mean. So the plug and play stuff costs you an arm and half your leg, but the old valve stuff is still going reasonably cheap.

Adopt a valve radio next time you're at a flea market and bring it back to life. One thing for sure, if you want to do that, you better get there early.

Andy ZS6ADY

US Early Radio History-Thomas H White

After Heinrich Hertz demonstrated the existence of radio waves, some were enchanted by the idea that this remarkable scientific advance could be used for personal, mobile communication. But it would take decades before the technology would catch up with the idea.

WILLIAM CROOKES AND DAVID HUGHES

Both the telegraph and the telephone transformed communications in the 1800s, and, at the close of the cen-

tury, radio was poised to start a third revolution. Some of the earliest speculation about radio's future centered on the almost mystical idea of portable individual communication. In the February, 1892 issue of Fortnightly Review, Sir William Crookes' Some Possibilities of Electricity looked forward to the day when two persons could use radio signals to privately communicate with each other. Crookes' review included one particularly arresting sentence: "...some years ago I assisted at experiments where messages were transmitted from one part of a house to another without an intervening wire by almost the identical means here described". J. J. Fahie contacted Crookes about this intriguing statement, and was told that the unidentified experimenter was David Hughes, who beginning in 1879 apparently had transmitted and received radio signals, although he was discouraged from further research by reviewers who thought he had

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CW Net:

No one was able to identify the bug in the last newsletter, but I did find this one which is reasonably close to it.

There have been a good number of guys calling in on the CW net which really sounds promising. Last Saturday I could copy Om John ZS6JBJ 599 for the first time in ages. I keep hearing comments like the band has been good this last week on 40m and it certainly seems like there is an improvement.

There have been a few new call signs on CW again and it seems as though some of the newcomers are trying out CW just for the fun of it. A word of warning to those who are new to CW or are coming back, be careful, it's addictive. But as Ian always says, "The gentleman's art of communication".

So whether you're a 5, 10 or 15 wpm communicator, come along and join us on 7020 on Saturday's at 14:00 SAST an get back in to the swing of some CW.

The interesting part is that it can be fun, depending on your mind set. I am certainly enjoying using CW again after a long break from the paddle, as do the guys who call in on the net. We just want to encourage you to try using it again.

Listen out for us and get your name in the ZSOAWA/CW log. Who knows the bug might just bite again.

Best 73

De ZS0AWA/CW—SK



An interesting Valiant Vibrator

SSB activity:

Wouldn't you believe it. Just when we thought things could only get better, we have a day like the one experienced a short while ago. 40m was absolutely pathetic. But even with band conditions the way they were, we still managed 17 call signs logged in the book.

Skip conditions still seem to prevail for the Div 6 callers, but the rest of the area's come in quite well.

Please remember, if you are going to

call in on 80m, wait until you are given the opportunity to do so, because the rest of the time we are in Tx mode and cannot hear if you try calling in. It would be nice to hear a few more stations on 80m, as it always works so well.

For local stations, try using the 80m relay.

Don't forget that in May, the AWA valve QSO Party will be on the air. The details have already been published in the new Contest Manual which will be available on the SARL website soon. Anyone wanting a copy is able to get it there. If you don't have internet, I'm sure we can make a plan for you to get a copy. Simply write us or tell us on air and we will see what can be done.

AM:

Am still seems to be a bit elusive to those of us who enjoy a good evening working the old valve rigs. With the last few evenings being hampered by heavy storms across the country, band conditions have not been that great.

For the local stations, it always is a lot easier and through the noise I even managed to copy Garth ZR6SUN, running low power on his little Icom 703. So things can still

work for you if you want them to. Am just has the ability to surprise you any time.

Pictured opposite is an old RME receiver from 1940's. Louis ZS6AKD had this fine specimen on display at the AWA open day last year.

Come up and join us on the AM net on Wednesday evening from around 18:00 and Saturday morning from 05:45 on 3615.



RME Model 69

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RESTORING THE HAMMARLUND SUPER-PRO SP-400-X **RECEIVER**

By Stan Zway ZS6SDZ

Technical description;

18 tube superheterodyne AM receiver freq. range .540 to 10 metres with separate bandspread control on all bands.. Year of manufacture; 1946/47. Supplied with separate power supply, Power consumption 180 watts, filaments

6.3 volts 6.25 amps! Receiver weight only 147 kg. (67 lbs.)

The above Receiver was offered to me some years ago without the power supply & I was in two minds to restore or not. As you can see from the above description this baby needed one heck of a lot of juice!!

I also noted that the 1st. R.F. stage had been "rearranged". An EF 50 tube had replaced the original 6K7. The EF50 is a H.F. tube used in early Radar sets, certainly an over kill as a RF tube in this old timer!!

After a lot deliberation I decided to restore the SP-400. One reason, the cabinet was in good condition & only needed a good wash. The chassis was very clean & apart from the RF stage, was original. The chassis is constructed like a Battleship, beautiful bandswitch, anphenol tube sockets, push pull output, all mechanical parts well machined. Another plus, the wiring was in perfect condition.

Normally when I restore a Radio of this vintage, I replace all resistors & capacitors due the fact most of the resistors have changed value & the capacitors are all leaking, but in this case I decided to first build the power supply.

I found an old Geloso public address amplifier cabinet, ideal as a chassis for the P/S. I was also fortunate in finding an old SX28 power transformer which has the same rating as the SP-400, also found a pair of 200 ma. HT chokes. Finally finished the power supply. Also had to add a separate negative supply (15v.) for bias. When finished it weighed at least 60 kgs. !!

Had to make up a connecting cable between P/S & Radio which was capable

of carrying 6.3 amps so had to kept as short as possible.

The moment of truth had arrived. Hooked up a Variac & the sweet sound of static plus a station in the background, what a pleasure. Recapped the Radio, replaced all the resistors & realigned.

The SP 400 takes pride of place in my Shack & I always get a thrill when I switch on, very stable & good Audio

Although not very portable it has certainly been a very worthwhile restoration.

Best 73 Stan. ZS6SDZ.

(To the right is a few of Stan's collection of boatanchors that he has restored. Quite an achievement)

(Continued from page 1)

not done anything unusual. In 1899, Fahie convinced Hughes to write a short memoir of what he had accomplished twenty years previously, which was included in the Researches of Prof. D. E. Hughes appendix of A History of Wireless Telegraphy. A few months later Hughes was dead -- his obituary appeared in the January 26, 1900 issue of The Electrician. Two decades after that, the March 31, 1922 issue of The Electrician carried an announcement in Wireless Notes (Hughes Equipment) that the inventor's original instruments had been found in a storage area, and put on display at the Science Museum in South Kensington. A photograph of some of this equipment appeared in World's First Wireless Outfit Found in London Tenement, from the August, 1922 issue of Popular Science Monthly. It is interesting to speculate how history might have been changed had Hughes been encouraged to continue his original research. ©

















RME MOD. 69







YAESU FRG - 7







HAMMARLUND MOD. SP 400X





MAMMARIUND MOD HQ-129X





HALLICRAFTERS MOD SX - 43



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AMATEUR RADIO IN THE 1950'S: ROMANCE AND REALITY

by Ronald R. Thomas 6415 Chastain Dr. NE Atlanta, GA 30342

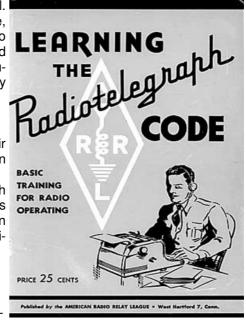
In the 1950s, amateur radio or "ham radio" seemed almost magical. There was no Internet, long distance telephone calls were expensive, and international air travel was limited. People knew that Hams talked to each other all over the world, which was perceived as glamorous and exciting. They also knew that Hams often provided emergency communications during disasters and had played an important role in military communications during World War II.

Most people were pleased to have a ham radio operator in their neighbourhood. They were often even quite willing to allow a ham to run a long wire antenna across their backyard.

During that era, many home radios covered shortwave bands, which enabled people to listen to hams talking to each other. Some listeners decided to become hams themselves so that they could participate in this exciting hobby. Their first step would be to begin studying for a license.

Licensing

In the 1950s, the Federal Communications Commission (FCC) ruled supreme over the airwaves. The agency totally controlled radio broadcasting, commercial radio communications and, of course, amateur radio. Obtaining a ham radio license required passing Morse code receiving and sending tests and a stringent written exam.



1951 edition of the ARRL's Learning the Radiotelegraph Code.

Every aspiring radio amateur quickly acquired a copy of the American Relay League (ARRL) publications related to licensing. These included *How to Become a Radio Amateur*, *The Radio Amateur's License Manual*, and *Learning the Radiotelegraph Code*. The prospective applicant worked with these self-study aids and practiced Morse code until he or she felt ready to take the exam at an FCC office.

Larger cities, like Buffalo, Detroit, Boston and New York had FCC offices where amateur exams were given on a regular basis. In addition, FCC personnel gave examinations in other cities, like Cleveland and Pittsburgh, on a quarterly basis. Sitting for the examination often involved time away from work or school, and it sometimes required a long drive to an FCC examination location.

By the mid 1950s, the General class amateur radio license conferred operating privileges on many modes and bands. Higher license classes (Advanced or Extra), were required for voice privileges on some of the more crowded band segments. Later in the decade, General licensees were given full operating privileges. The license was issued for five years and was renewable.

Passing the exam for a General class license was not easy. First, the applicant took a 13 word-per-minute Morse code receiving test. If that test was passed, a 13-wpm sending test followed. The applicant was allowed to take the written test only after he or she passed the sending and receiving tests.

The prospective ham who had passed the written test went home and waited until the mail brought the coveted license. Anyone who failed any portion of the examination had to wait 30 days before trying again. Many failed some part of the exam on the first attempt.

Also, in that era, the FCC introduced a Novice class license. It was a one-year, non-renewable, license that offered limited Morse code operating privileges on special Novice shortwave frequencies plus voice privileges on two meters. The Novice class license required only a five-wpm code test and a very basic written exam. Also in-



Early Heath Company kits featured simple electronics and test gear, including their famous oscilloscope. Ham eauloment soon followed.

exam given for the General class license. This license was good for five years, could be renewed, and provided operating privileges only on the very high frequency Ham bands, where there was relatively limited activity.

Ham Equipment

Once a new ham had obtained a license, he set about acquiring the necessary equipment to assemble his station. In the 1950s, most hams operated primarily on the shortwave (3 to 30 MHz) amateur bands and used separate receivers and transmitters. Hams usually bought a commercially built receiver from companies like Hallicrafters and National Radio and, quite often, built their own transmitters.

A wide variety of receivers was available ranging in price from \$50 for a Hallicrafters S-38 to \$359 for a National HRO-50. The selection of commercially built ham transmitters was somewhat more limited. A popular commercially built ham transmitter was the Viking Ranger offered by the E. F. Johnson Company for \$293. It had an input power of 75 watts using CW and 65 watts using AM phone. It also had a built in variable frequency oscillator. A variety of low-powered, low-priced, crystal-controlled, CW rigs--tailored for the limited Novice operating privileges --were also on the market.

Hams desiring to build a transmitter would find a construction article in a magazine or the ARRL *Radio Amateur's Handbook*. Then they would search for the necessary parts, do the metal work on the

chassis and cabinet, and solder in all the components and wiring. Unfortunately, no matter how good the final product, the builder had created a transmitter that had little resale value.

Those who wanted equipment with a commercial look yet wished to do their own building might shop for a transmitter kit. Companies like E. F. Johnson offered their equipment in kit form at a significant cost savings. For example, a \$293 Viking Ranger transmitter sold for \$215 in kit form.

The builder would receive a pre-drilled chassis, pre-painted cabinet, and all of the necessary components. He would then do all of the assembly, working from what was usually a very sketchy construction manual. It would have been a real challenge for a beginning ham to assemble one of those kits. It was a job for those with advanced skills.

The Heath Company changed the world of electronic kits, including ham radio kits, with their "Heathkit" line. Heath's great success was due in large part to the world-class assembly manual supplied with every kit. Those manuals made it possible even for beginners to successful assemble a Heathkit.

The Heathkit DX-100 transmitter was extremely popular in the 1950s. It had an input power of 120 watts on CW and 100 watts on AM phone and had a built in VFO. It sold for \$190 in kit form. Heathkits were often less expensive than other kits, because Heath frequently used new, military surplus parts and bought many other components in large quantities at discount prices.

All of the equipment in that era used vacuum tubes, and the glow from those tubes was a sight never to be forgotten. Unfortunately, the equipment was large and heavy. A Heathkit DX-100 transmitter weighed 107 pounds and a National HRO-50 receiver weighed 84 pounds. Today, such a radio is often referred to (sometimes fondly, sometimes sarcastically) as a "boat anchor."

The final ingredient for getting on the air was the installation of an antenna. Wire antennas were widely used on all of the shortwave Ham bands. Also, some Hams used beam antennas on the higher frequency Ham bands.

On the Air at Last!

Every ham remembers his or her first on the air contact. It truly seemed like a magical moment to talk to someone via radio. The conversations included station equipment, occupations, the weather, and other non-controversial topics. In that era, hams did not talk about religion, politics, or anything that might be the least bit offensive. Nevertheless, the conversations were enjoyable.



The S-38 (left) and S-40, low-end receivers of the Hallicrafters line, were popular entry-level sets for new amateurs.

As the QSL cards confirming contacts began to accumulate, they were proudly displayed for the admiration of

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(from P 6)

friends, visitors, and neighbours. It was hard for someone to not be impressed when seeing the colourful cards from faraway places.

End of an Era

As the 1950s progressed, amateur radio began to change significantly. For example, vacuum tubes were replaced by transistors; AM phone was replaced by single sideband; separate transmitters and receivers became transceivers; and Hallicrafters, National, and Heath disappeared. Society changed also, and the ham radio operator no longer seemed to be a glamorous figure.

However, hams have always changed with the times. By the 1960s and 1970s, they accepted SSB, began using repeaters on the VHF Ham bands, and learned how to integrate computers into amateur radio. Nevertheless, those who first experienced ham radio in the 1950s will always remember the magic and romance of that era. ©

EMAIL CORNER FROM OUR MEMBERS

Hi Andy,

TNX fer the newsletter. (Currently my only contact with the AWA as HF does not work between me and the controlling stations due to SDS (Short Distance Skip)

A usefully tip for restorers of boat anchors with tarnished engraved legends;

Fill the engraved grooves with a tipex pen. The latest type is eminently suitable and works nicely. Do not worry about over covering the surrounding area. Then use a small square block made from an eraser or balsa wood. Cover the block with a piece of cloth salvaged from an old -but not too old- underpants, pyjamas or something you can scale from the scullery. Moisten with a bit of methylated spirits or bottled RF of the distilled type. Now 'erase' the unwanted tipex with the block until crisp and clear lettering appears. Sit back and enjoy your restorative skills. The enjoyment can be enhanced by calling the XYL or suitable family member to admire your art work in parallel with yourself but do not divulge the source of the cloth. 73 de Pine, ZS6GST

Hi Andy

Many thanks for your email & pleased to meet with someone with a common interest.

My association with the Radio Industry goes back to 1946 when I apprenticed myself to the Philco Reps. in Pretoria & after a few years was appointed the technical foreman for the whole group. At this time I also joined the S.A.R.L. but was not interested in going on the air, but helped many a Ham to build up their Rigs (at that time no self respecting Ham would think of buying his equipment everything was hand built). Contraction of Ham equipment was my scene. About 1950 I gave up my job & went over to America by invitation to visit the Philco factory & for medical treatment having, had as a child. After a year in the States, having learned a lot about the latest Radio technology especially TV, I returned to S.A.& opened my own Service Centre together with a Mr R. Schelling trading under the name of Schelling & Zway Certified Radio Engineers.

Due to medical reasons closed the business in the 70's but continued my passion in restoring old radios, having built up a collection of over 100 ham & domestic valve radios.

Approx 12 years ago my SW persuaded me to rejoin the SARL & apply for my ham licence which I successfully obtained. When I think of the old rigs we used compared with the modern rigs leaves me "gob smacked "! Regretfully due to poor health both the SW & myself decided to sell our home & move to a retirement home. I had to dispose of the bulk of my collection & only kept the few as per the photos.

I was fortunate to obtain a spare room at the Home where I house my collection & my Shack. My rig consists of a Kenwood TS 570 S & TL 922 Linear using a R7 Vertical mounted on the roof of the building.

My passion for old valve radios will never cease, my greatest thrill is to fire up on of the Oldies & listen to distant stations through all the static, at the same time basking in the glow of its tubes & smell the from the transformer as it heats up

There is a saying that I saw in some magazine which sums it all up "Forget the net switch on the set. Warm it up slow & go. Light the tubes, bask units glow. Surf shortwave on your old radio!"

Please excuse an old man "waxing lyrical" about old radios, its in the blood", do not often get the chance of talking about the subject, my son always says come out of the 19th centaury & join the new world!!!!!!!!! By all means use the pictures, they could stir up someone's memories.

Yes I would appreciate receiving your news letter

Hope you find above interesting.

73 Stan. ZS6 SDZ.

Hi Andy,

I have been given a set, it is transistorised (ac186/ac187's in the Audio)

I can't find any info on it, maybe someone from AWA remembers it or can give circuit Or spec of the set. I think it is 2 meters and not HF (crystal controlled)

See attached PIC

Ron ZS5ABD richmort@telkomsa.net



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Mission Statement

Our aim is to facilitate, generate and maintain an interest in the location, acquisition, repair and use of yesterdays 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.

Wanted / for Disposal / Notices

Munro ZS5IN, is looking for the VFO cover for a Johnson Viking Valiant/Ranger. Anyone that can help him should contact him at 039 695 0997.

The following rigs have been made available to me for disposal for the AWA. Suitable donations to the coffers would be considered:

Hallicrafters SX42 receiver for restoration. The transformer is u/s but otherwise in fairly good condition.

Hallicrafters SX43 receiver for restoration. Rig complete in fair condition.

Contact Andy at 0824484368 or email if you are interested at all.

Rad ZS6RAD is looking for a meter for an AF Signal Generator. The dimensions you can see on the ruler and its FSD is 600uA. If anybody has a 500uA (600 is rare) or even a direct replacement that would be great. (See picture below)



Contact Rad on 0825578459 or email at rad.handfield-jones@pixie.co.za

SWAZILAND DX TRIP

Don't forget the Swaziland DX trip from the 10th to 13th April. Details in the Feb Newsletter or contact Cliff ZS6BOX—csmyth@altron.co.za.

AWA OPEN DAY 05 April 2008

The AWA open day will once again be held at the TAC at Rand Airport.

Last year was a great turnout and we hope to have a similar response this year.

There will of course be the Flea Market, boerrie rolls, hamburgers etc and the use of the Restaurant at the TAC with Bar Facilities.

AWA Valve QSO Party 3 & 4 May 2008

Start getting your rigs in good operating order for the Valve QSO party. On Saturday 03 May from 16:00 to 18:00 SAST is the AM session and then on Sunday 04 May 16:00 to 18:00 the SSB session. More details will be made available closer to the time.