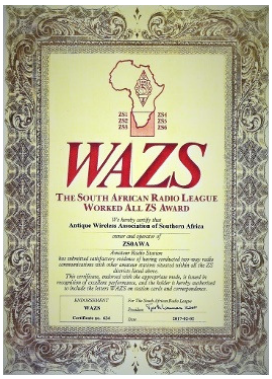
Newsletter
The Antique Wireless Association of Southern Africa
18th Anniversary

184 November 2021



Inside this issue:

AWA Committee:

* President—Renato ZS6REN
* Acting VicePresident—John ZS1WJ
* Technical Advisor—Rad ZS6RAD
* Secretary/PRO—Andy ZS6ADY
* KZN—Don ZS5DR
* WC—John ZS1WJ
* Historian—

Visit our website:

www.awasa.org.za

Reflections:

Finally the bands are returning to us. The dust has been cleared from the air and the static is back. All we can say it's been a long time coming and at last there is a definite improvement in comms of all areas.

When I think back over the last two years, it has been really tough to try and work anything on HF. But there have been those who have held out and the CW guys have probably proved to be the most active during this time.

I can remember with the last "low" we had things were not quite as bad as this last period. We kept on hoping that things would improve and I can recall that many times it felt like things were going to get better, only to drop back down to a 1 minute QSO fading away very quickly with a very short exchange.

Fortunately we did get a change in conditions in time for the last Valve QSO party, but it seemed that many were not aware of any change and left their radio's in the cupboard where they have been stored for safe keeping.

The AM section was not that well attended, but the SSB turned out to be quite good. Now we need to get some of the AWA members to take part, that would be good to hear.

Over the years the Valve QSO Party has proved to be fairly well attended and there have been some record contacts during the good band conditions. Fortunately there have always been those who are willing to give it a shot, that keep it alive. Thanks to all those who have participated over the years and continue to participate every year.

I get asked every year, why the guys using valves are favoured ? Well that's easy to answer, because I'm biased.

Just kidding. The point is there are enough contests where the synthesised rigs are top dog. We are, mostly about valves so that's why they get preference. We want to get the members who repair, refurbish and use the rigs, to use them. They are not supposed to just be resting on the shelf gathering dust.

So the guys who use the valve radios get the advantage.

Just remember our mission statement. Find them, fix them, use them.

Then a reminder to as many as possible to join us at the AGM this year. It promises to be a good one, but only if we have a turnout of as many of you as possible.

The fleamarket promises to have a lot of jewels and excellent deals for those of you looking for some old stuff. Come prepared to take something home with you for your next project. There's bound to be something that you will like enough and will suit your pocket.

Looking forward to seeing many of you again.

Best 73

DE Andy ZS6ADY

Wikipedia

Solar cycle:

Solar cycle duration is typically about eleven years, varying from just under 10 to just over 12 years. Over the solar cycle, sunspot populations rise quickly and then fall more slowly. The point of highest sunspot activity during a cycle is known as solar maximum, and the point of lowest activity as solar minimum. This period is also observed in most other solar activity and is linked to a variation in the solar magnetic field that changes polarity with this period.

Early in the cycle, sunspots appear at higher latitudes and then move towards the equator as the cycle approaches maximum, following Spörer's law. Spots from two sequential cycles co-exist for several years during the years near solar minimum. Spots from sequential cycles can be distinguished by direction of their magnetic field and their latitude.
The Wolf number sunspot index counts the average number of sunspots and groups of sunspots during specific intervals. The 11-year solar cycles are numbered sequentially, starting with the observations made in the 1750s.

George Ellery Hale first linked magnetic fields and sunspots in 1908. Hale suggested that the sunspot cycle period is 22 years, covering two periods of increased and decreased sunspot numbers, accompanied by polar reversals of the solar magnetic dipole field. Horace W. Babcock later proposed a qualitative model for the dynamics of the solar outer layers. The Babcock Model explains that magnetic fields cause the behavior described by Spörer's law, as well as other effects, which are twisted by the Sun's rotation.

What Happened to 'Real' Radio ?

The Old Newbie

We just got a new fridge in our kitchen at my Dear Wife's insistence. There was nothing wrong with the old one except that it would occasionally sound like a cement mixer loaded with rocks. The noise always stopped in a day or two. But now with the new fridge, my Dear Wife was complaining that she no longer could 'tune in' CBC radio on the internet connection to her iPad sitting on the nearby counter. Tune in ?

The problem of course was that the new fridge was bigger than the old one and was blocking the Wi-Fi signal. A simple upgrade to a more powerful router solved that, but what's with this notion of 'tuning in' a radio station on the internet ?

And while I'm at it, our Beautiful Daughters are millennials and if they don't visit us once in a while, they wouldn't have a clue what a 'real' radio looks like. Spotify does not qualify as radio.

So we find ourselves listening to radio stations on the internet. 'Streaming' them, I believe it's called. Don't get me wrong, I enjoy 'surfing' around the world as much as the next guy with one of those glitzy 'apps' on my computer that claims to show every radio station in the world with an 'on-line presence'. You want to listen to a Ukrainian radio station ? Choose from a list of 285. How about Botswana ? Another dozen. Check out http://radio.garden/visit/vancouver/Lc5d7Edp

But these aren't really 'radio'. You know, the old-fashioned kind where information is transmitted and received by electromagnetic waves. Encoded by AM, FM, FT8, whatever. And punctuated by howls, squeals, violent thumping, and musical notes sliding up and down the scale as stations were tuned across the dial.

FT8 ? I'm glad you asked. I've only just heard about it myself, although apparently, it's been around for a while and is the new 'new thing' for the amateur radio folks. It's one of the many digital modes of communication and uses frequency shift keying (FSK) as the method of modulation. Now we're back on familiar ground, right ? FSK is as old as the hills, a crude form being invented by our old friend Reginald Fessenden in 1910 as an early method to compress the transmission of morse code. Today, two tones, one representing a mark and the other a space can be transmitted as a binary string – remember the old 300 baud telephone modems ? Now FT8 transmits it's string of numbers in common base – 10 form, as a sequence of tones of eight (8) different frequencies. I find it quite amazing that these tones are separated by only 6.25 Hz ! If you decide to learn more about FT8, be aware that it has a sizeable group of distractors who feel that it's complete reliance on your laptop computer for it's digital processing magic removes it from being 'real radio' because it doesn't require any of the old time skills at receiving distant stations.

So here we were – I was beaten by my family's reliance on the internet. But I'm not going down without making a statement about the 'good old days'. The preponderance of wireless Bluetooth speakers sprinkled around the house gave me an idea – lets go right back to the early 1920's when it all started with horn speakers for the TRF sets of the day.

I've had a beautiful British Brown 1923 model Q horn speaker on display in our condo ever since my Dear Wife fell in love with it as a 'timeless work of art' (photo above). She didn't realise at first that it was part of her despised old radios. I think it's the most elegant of all the horn speakers of the period, and, thankfully, she does too. A little metal polish on the aluminium horn and kitchen chemistry to polish the silver-plated bird emblem really brought it to life.

As an aside, Sidney George Brown (1872As an aside, Sidney George Brown (1873-1948) was a brilliant British electro-mechanical engineer whose life is chronicled in a book reviewed in the May/June 2017 issue of Canadian Vintage Radios. Well worth reading.

My idea was to add a Bluetooth receiver and audio amp to the Brown speaker and turn it into a modern wireless powered speaker, while giving my Beautiful Daughters an education in what 1920's hi-fi sounded like.

Vintage horn speakers use either a permanent magnet or an electromagnet to energize a coil of wire attached to either a small metallic reed or a small flexible disc. A large horn amplifies the sound by matching the acoustic impedance of the reed or disk to the impedance of the surrounding air. Kellogg and Rice in 1925 eventually connected the coil of wire – the voice coil- directly to a large paper cone to give us the construction of our modern loudspeakers. Gotta wonder why it took so long for this innovation to come along.

The Brown horn speaker employs a permanent magnet and a reed, which is adjusted by a knob to center it in the magnetic field. I was amazed that after almost 100 years the magnet was still strong, and the speaker sounded considerably better than an electrodynamic Magnavox R3B that I compared it to, thus restoring my faith in British engineering after having it severely tested through the ownership of an Austin automobile many years ago that was often in the repair shop.

So now all I needed to demonstrate the history of 'radio' to my uninformed family was a Bluetooth receiver through which I could 'broadcast' 1920's music from the library in my smartphone, and an audio amplifier compatible with th old horn speaker.

Turned out that all this is available on a single circuit board for less than ten bucks. There are several suppliers and I got mine here: https://www.ebay.ca/itm/312780302708 .

I was a bit hesitant at first about connecting anything to this old Brown speaker as I didn't know how fragile it might be, or even what power it required. The last thing I wanted to do was burn out the coil. To demonstrate my Magnavox horn I used a transistor radio output transformer connected backwards to match the high impedance of the speaker to the low impedance of the headphone output of a transistor radio, so I thought I would start there. The Brown speaker worked well with the same configuration, i.e. a transistor radio and an output transformer connected backwards from the headphone output to the horn speaker. I also wanted a a transformer between the horn and the Bluetooth amp to provide some protection in case the amp decided to pack it in and output pure DC. I replaced the transistor radio with the Bluetooth receiver, and all worked well. The final configuration sounded best with a 33-ohm resistor in series with the amplifier output and the transformer – I have no idea why. Maybe something to do with the amp being a Class D and thus having some weird non-linear output impedance.

One other little mystery is the rated power of the amplifier and the requirement of the speaker. The amp is sold as having a 6 watt output and these old horn speakers typically require only about 100mW to operate at an acceptable volume. At first, I was hesitant about connecting them together because of the amp apparently having so much excess power, so after making the Bluetooth connection to my cell phone I started with a very low volume on the phone (playing Fats Waller – Ain't Misbehavin). Oddly, the speaker played fine at room volume with the phone turned up to about 2/3 full so that's how I've used it ever since. Again, I put it down to the quirks of a class D amplifier.

I installed two output jacks, one on each side of the transformer to accommodate speakers of various impedances.

Now, when our Beautiful Daughters come to visit, I play old-timey 1920's music for them through the horn speaker.

It sounds terrific and drives them crazy.

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HF HAPPENINGS

3Y0J Bouvet Island DXpedition News

Ken Opskar, LA7GIA, posted the following on FaceBook (www.facebook.com/groups/3093983840726129) on 20 October, "Today we have finalized the procurement of all our 3Y0J antennas. All antennas will be supplied by our sponsors InnovAntenna, DX Engineering and Spiderbeam. We have run extensive HFTA analysis that shows our signals is predicated to be STRONG all over the planet. We will bring a mix of antennas with us with different material and technology. We have prepared a main antenna farm, backup antennas and a replacement strategy. We have focused on bringing quality products with us. You can expect our 160 m top-loaded vertical to be 21 m tall and our Yagis will be 7 to 10 m up on solid antenna masts that can withstand 35 to 44 m/s wind. We have various Yagis with us.

And we plan dedicated Yagis for Asia, EU and NA/SA on a triplexer/diplexer system. We will run in band on 40 - 10 m. All this will be visible on the antenna layout drawing. InnovAntenna will launch a new product DXR-3 Bouvet - a Yagi designed for our DXpedition which you can soon buy at DX Engineering.

The antennas will soon be shipped to Norway for inspection and testing, we have a site off the west coast to test the equipment in harsh weather.

Some low band verticals will be shipped to Arizona for assembling and testing, some Yagis will be shipped to New York and finally top band antennas will be sent to Hungary. This is truly an international project where all team members contribute with a common goal to activate Bouvet to give you that much needed QSO!

Let us make it happen - support 3Y0J via PayPal bouvet@3y0j.no

Submit your log, no matter how big or small!

All contest participants, whether they are serious contesters or just casual operators, should submit their log to the contest sponsor. Submitting logs assists the contest sponsor with the scoring of the contest, as QSOs are cross-checked against the logs of stations that are worked. Additionally, contest sponsors allocate resources to contests based upon the total number of logs submitted, assisting them in gauging how much activity there is in each event.

If you do make a few casual contacts in a contest and do not submit a log, the stations you worked will not be penalized. For example, if you made a few contacts in the contest to "hand out points" to other contesters, your QSOs with them would be considered as "unique." Unyque's are call signs that appear in only a few logs that were submitted by the stations that worked you.

Lastly, you might be surprised at how well you might do in a contest, even if your QSO count is low. For example, I submitted a contest log that contained only 5 QSOs, which ended up not only being a division winner, but also scored in the top ten in W/VE in the category that I entered!

Keep those logs coming in!

DX from Africa

eSwatini, 3DA. Lionel, ZS6DPL will be back on the air as 3DA0LP between 1 and 5 November. For QSL information see qrz.com.

The Gambia, C5. Jan- Francois, F4AHV (ex-6W7RV), Gérard, F5NVF, Abdel, M0NPT (7X2TT) and Luc, F5RAV should be active as C5C from Kololi (WW Loc. IK13PK), The Gambia, until 19 November. Activity will be on 80 to 10 meters (depending on local situation and the propagation) using CW, SSB, digital modes and the QO-100 satellite if possible. The team is also planning to be active in CQ WW DX SSB Contest (30 and 31 October). QSL via F5RAV direct.

Morocco, CN46. Look for the special event call sign CN46MS to be active between 25 October and 10 November to celebrate the 46th anniversary of the Marche Verte or Green March inspired by the late Hassan 2, King of Morocco bringing together 350 000 participants in a peaceful march to recover their Saharan provinces from the protectorate. QSL via CN8WW.

Mauritius, 3B8. Denny, KX7M, will be active as 3B8/KX7M from Mauritius between 22 November and 1 December. He is there as part of the 3B8M team. Activity will be on various HF bands. QSL via F5CWU or the OQRS http://www.f5cwu.net/oqrs

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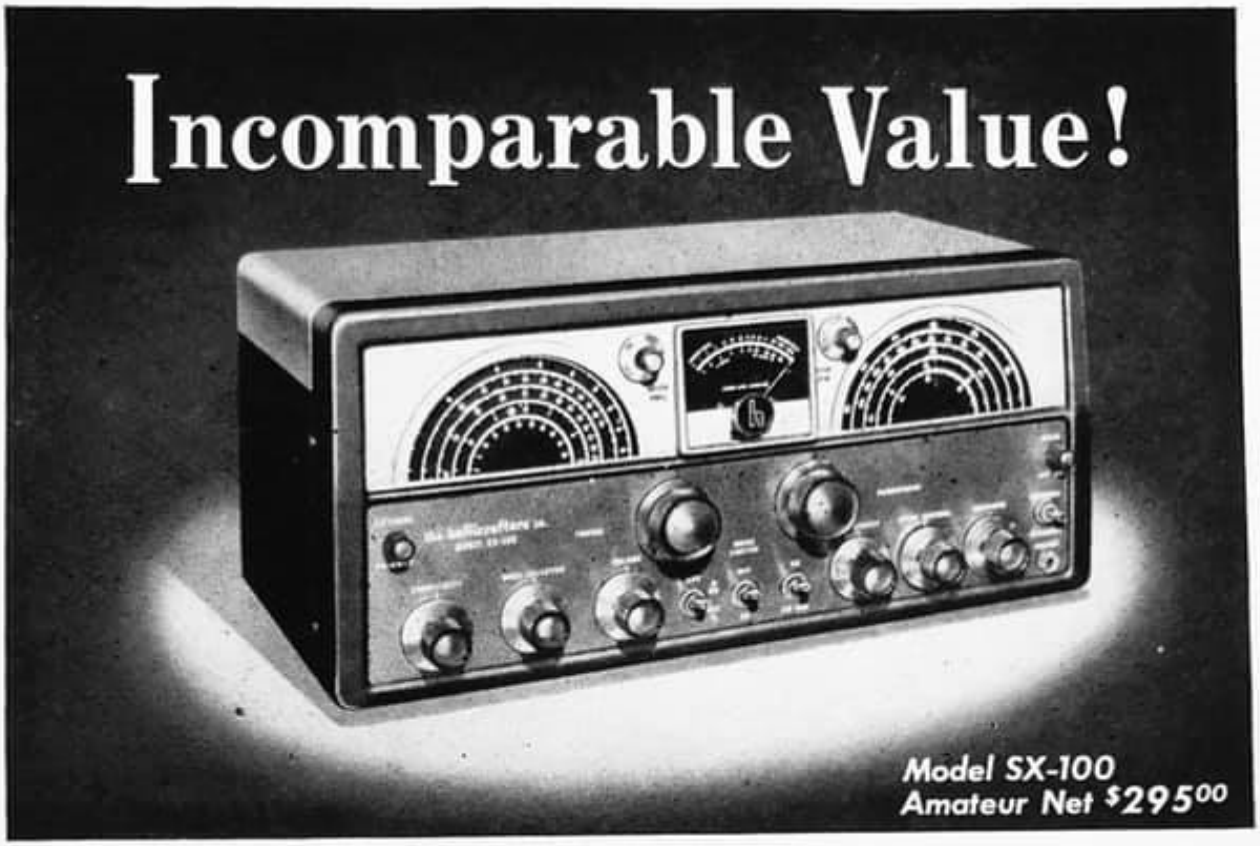

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3. Notch depth control for maximum null adjustment.

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For further information, check number 11 on page 126.

Results of the AWA QSO Party held on 02 and 03 October 2021.

Following are the results of the Valve QSO Party held in October.

Once again the AM section did not draw many entrants, but was still fair for the band conditions this time of the year. It is good to hear there are still some who can play AM and use it effectively.

AM:
1) ZS4DZ Johan van Zijl
2) ZS2TL Jerry van Zijl
3) ZR6WT Stewart Clark

No other logs were submitted, although there were 12 stations active.

In the SSB section, there were a good number of stations participating, but mostly just giving away points. It would have been good to get a few more log submissions from the stations participating.

SSB:
1) ZS6CPA Christo Avenant
2) ZS4DZ Johan van Zijl
3) ZS2TL Jerry van Zijl

There were 87 stations active and 5 logs submitted.
Congratulations to the top scorers.

Certificates will be sent by email to those in the top positions.

THE NATIONAL SOUTH AFRICAN MEGA CW QRS WEEK

This week is exclusively geared towards the new guys coming up in the ranks, and will be comfortable, with a minimum requirement of 8 wpm not exceeding 12 wpm.

MEGA QRS CW week: The idea is to make as many contacts as you can within a 7 day calendar period, the goal is to log all contacts on the RaDAR Sport Log, proudly developed by Eddie ZS6BNE www.radarops.co.za/zsportal

You will need a login PIN, which Eddie will gladly send you, in order to take part. It is a security feature which only allows YOU to edit a log of your own if you have made an error, you will not be able to fiddle with any other log except your own.

Criteria will be, CW sent with any paddle or any straight key, nothing more than 12wpm character speed or slower, will qualify you to take part. You will need to declare in the comments column on the logging system what kind of key you used, straight or paddle. The Radar system self generates the points, i.e. two QSO's confirmed will yield two points each, and a QSO without a confirmation will give you ONE point each, without a QSL confirming a match. So the idea is to make sure your friends actually log on to the system, to gain the double points. During the week anyone can at any time, spot who spoke to whom, either in text form on the RaDAR system or on a bar graph format on the same system. Everyone logs in one place; just refresh your screen to spot the latest happening.

Bands permissible during the contest are: 20m, 40m and 80m.

Rules: You may not work the same call sign more than ONCE on each band. Each day you start afresh, you can rework the same hams you did the previous day. The exchange will be the standard CW formal exchange, so long as it's a real contact, your contact may also move into a full blown QSO if you like.

Date and time:

Start date: November 14th November Start time 04:00 UTC (6:00 CAT)

End date: Saturday 20th November End time 16:00 UTC (18:00 CAT)

The Railroad Telegrapher

Volume XLI—1924

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J. E. Albright, President, Member O. R. T., Grand Div'n, Cert. 395

Notice of the Antique Wireless Association of Southern Africa 2021 AGM

Notice is hereby given for the Annual General Meeting to be held on Saturday 13th November 2021.

The AGM will be held at the premises of the SAIEE in Observatory from 09h00.

The Museum will be opened for those wishing to browse and fleamarket tables will be available for those wishing to bring any excess items to dispose of.

The Meeting will commence at 10h00 in the main auditorium of the SAIEE and all Covid protocols will be observed.

Items for discussion:

1. Presidents report.
2. Membership Figures
3. Financial Report
4. Donations
5. Feedback on QSO parties
6. Nets
7. Museum
8. Jeff Wright SK Floating Trophy
9. Election of President and Office bearers for the next two years
10. Open Discussion

A bring and braai will be held after the meeting for those wishing to stay and socialise for a while.
Braai packs and cold drinks will be available for those who wish @R70 per braai pack, or bring your own.
(Please confirm with Andy ZS6ADY should you want braai packs - 0824484368)

Directions to the SAIEE are available on the AWA website www.awasa.org.za under “Museum”.

Arrangements have been made to “Live Stream” the AGM on Zoom. If you would like to join in, email Andy for a link that will be sent out closer to the time.

Attendees of the 2019 AGM

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Get your backdated issues at
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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 yesterdays radio's and associated equipment. 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. Join by logging in to our website.

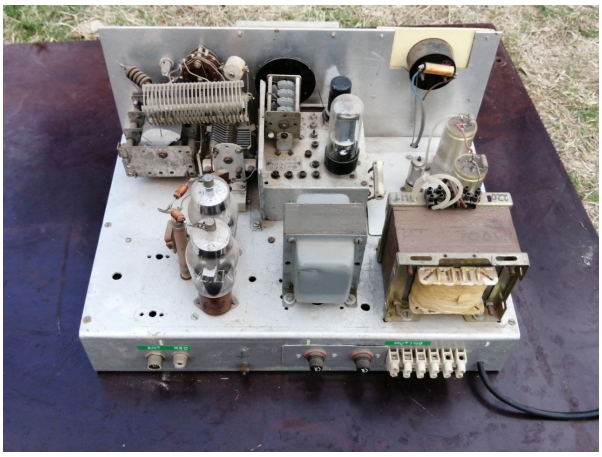
Notices:

Net Times and Frequencies (SAST):
Saturday 07:00 (05:00 UTC) —Western Cape SSB Net— 3.640
Saturday 08:30 (06:30 UTC)— National SSB Net— 7.125; Sandton repeater 145.700
Echolink—ZS0AWA-L; ZS6STN-R
Relay on 10.133; 5.380 and 14.135
Saturday 14:00 (12:00 UTC)— CW Net—7025

AWASA Telegram group:

Should you want to get on the AWA Telegram group where a lot of technical discussion takes place, send a message to Andy ZS6ADY asking to be placed on the group. This is a no-Nonsense group, only for AWA business.
+27824484368

This Homebrew linear has been donated to the AWA and will be available at the AGM Market sale. Don't forget to bring some pocket money along.



This Heathkit Apache AM Transmitter has been donated to the AWA and will be available at the AGM Market and boot sale along with some other interesting items like a homebrew linear, a Yaesu FLDX400 transmitter, test equipment, odds and sods and much, much more.