Newsletter
The Antique Wireless Association of Southern Africa
18th Anniversary

179 June 2021

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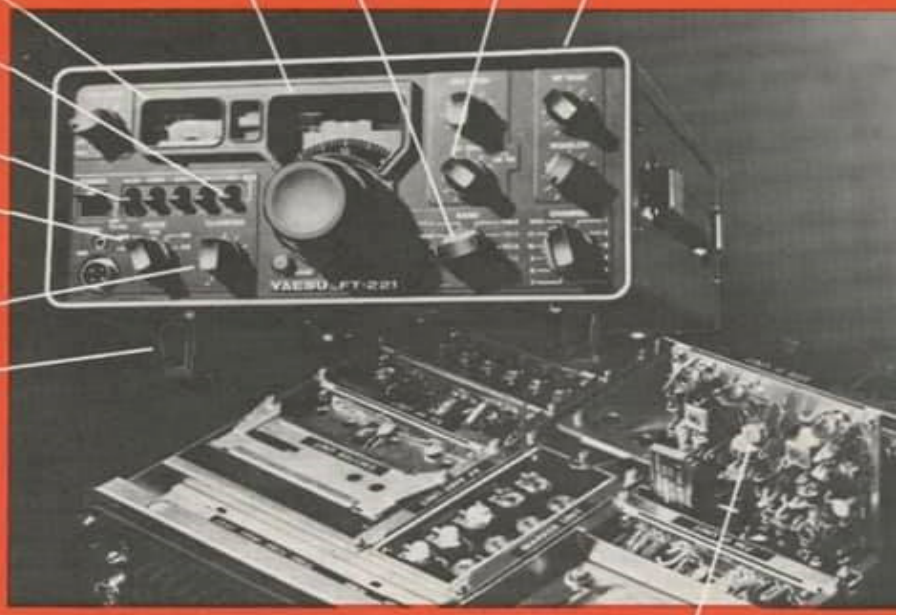

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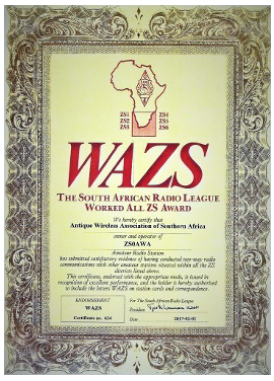


Inside this issue:

AWA Committee:

* President—Renato ZS6REN
* Acting VicePresident—John ZS1WJ
* Technical Advisor—Rad ZS6RAD
* Secretary/PRO—Andy ZS6ADY
* KZN—Don ZS5DR
* WC—John ZS1WJ
* Historian—Oliver ZS6OG

Visit our website:

www.awasa.org.za

Reflections:

I sometimes wonder what we can do to try and increase the activity in the AWA Valve QSO Party that we host twice a year ?

In the early days of the QSO party, it was really well attended with something like 20 logs per mode being submitted and attendance of 100 plus stations.

These days it's a battle to get more than 10 ten stations on AM. The SSB was well attended with 90 stations taking part. (See the full results in this issue).

With the fading bands these days I suppose it's difficult enough to try and make contacts on SSB, never mind AM. Yet the few stations I had contact with were quite audible. I must say though that the weekend, band conditions were quite good for a change. We usually hit it on the really down cycle.

When we first started the AM net, it was a Saturday morning before the 08;30 net and was for half an hour. That was on 80m, and what a blast it was. Everybody was trying to get their rigs to work on AM again and it really was a learning curve as everyone had forgotten what AM sounded like.

But we had some fundi's there, the likes of Om Rod ZS5RK, Willem ZS6ALL, Om Bushy ZS6YQ and some others. But these were the guys who had cut their teeth on AM, before SSB came into being.

Makes it hard to believe there was life before SSB, but all QSO's were in AM and CW when these guys were in their heyday.

There is new life being breathed into the CW groups these days thanks to the hard work of some, but now it seems like AM has really died a death.

I listened with interest to one of the inserts on the Amateur Radio Today programme that is presented every Sunday by Hans ZS6AKV, of AM stations in the US. It's amazing how many there are that are still fully operational and how many hams still do AM tests.

Richard F4CWD (ZS6TF) often reports about the AM stations and nets that are still going in the UK and Europe.

Another fact is that SA is the only country that has rights to transmit Music in the 80m band. What an advantage we have, that is no longer used.

I'm holding thumbs that the Streeter Challenge, also in this issue, will breathe some new life into AM transmissions and we will be fighting for a place in the queue on a net.

That would be another feather in the caps of all the AWA members who can help in reviving another dying mode.

Personally, I would not try to build a one valve Tx, I would end up losing a lot of smoke to the detriment of the environment. But I do have rigs that are quite capable of operating AM.

Best 73

DE Andy ZS6ADY

Wikipedia

Sunspots:

Sunspots are temporary phenomena on the Sun's photosphere that appear as spots darker than the surrounding areas. They are regions of reduced surface temperature caused by concentrations of magnetic field flux that inhibit convection. Sunspots usually appear in pairs of opposite magnetic polarity. Their number varies according to the approximately 11-year solar cycle.

Individual sunspots or groups of sunspots may last anywhere from a few days to a few months, but eventually decay. Sunspots expand and contract as they move across the surface of the Sun, with diameters ranging from 16 km (10 mi) to 160,000 km (100,000 mi). Larger sunspots can be visible from Earth without the aid of a telescope. They may travel at relative speeds, or proper motions, of a few hundred meters per second when they first emerge.

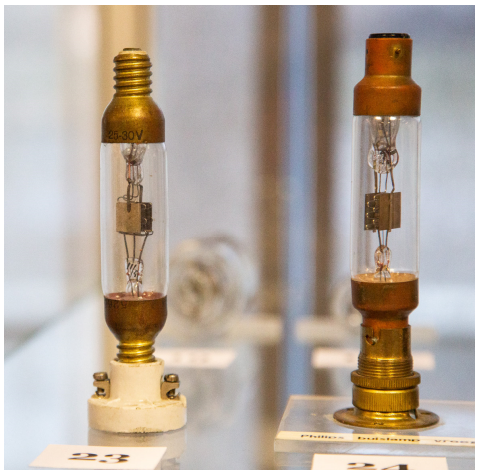
Indicating intense magnetic activity, sunspots accompany secondary phenomena such as coronal loops, prominences, and reconnection events. Most solar flares and coronal mass ejections originate in magnetically active regions around visible sunspot groupings. Similar phenomena indirectly observed on stars other than the Sun are commonly called starspots, and both light and dark spots have been measured.

Hanso (Hans) Henricus Schotanus à Steringa Idzerda

By Paul Aerts ZS6PMS

Hanso (Hans) Henricus Schotanus à Steringa Idzerda (*26-9-1885 †3-11-1944) was born in Weidum, Friesland, The Netherlands. He was the son of Henrikus Idzerda, a countryside general practitioner. Although his paternal ancestors were all medical doctors he decided to study electrical engineering. He graduated at the Rheinisches Technikum of Bingen am Rhein in 1909 and started to work for Siemens in the Hague. Subsequently, in 1913 he established himself in Scheveningen (The Hague) and as an independent consulting engineer "for the application of electricity in every field".

However, his passion was radio. He started the *"Technisch Bureau Wireless"* specializing in direction finding locating German zeppelins for the Dutch army during the Great War. This gave him an entrance into the War Department and high circles of the government. He also managed to develop a triode thermionic valve similar to the one invented by Lee De Forest in 1906, but suited for mass production. Philips of Eindhoven started production by the alias of PH-IDZ (Philips Ideezet) in March 1918. In these early days he has brought in the Trojan horse with Philips.



Ideezet triode valve

Idzerda worked passionately with Philips to develop a more powerful version of the Ideezet. After a number of improved samples he demonstrated radiotelephonic transmissions over a distance of 1200 meters at the Utrecht National Fair successfully, by the end of February 1919. The public went wild about it and even queen Wilhelmina came to listen.

By the end of July 1919 a power full 100W transmitting triode went into production with Philips of Eindhoven engineered and patented by Philips, but based on the Ideezet. No technical details of this 100W valve are known today. This valve was still experimental.

Hanso Idzerda gets into gear. He asks for an official license to transmit "audio over radio" aiming to broadcast this to anyone. The license was granted in August 1919 call sign PCGG. It might have been possible that his government connections favoured him. No one was granted licenses at this time, not even to listen to radio.

By the 6th of November the die was cast.

From his new "studio" in his commercial building Beukstraat 6-10 The Hague, his now newly established *"Ned. Radio Industry" (pic)* performed between 8-11PM a *Radio Soireé-Musicale* which was announced the day before in the newspaper NRC (Nieuwe Rotterdamse Courant).

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Because of the advance notice of the transmissions later to be called "broadcasting", in a nationwide newspaper this was the

first commercial broadcasting in the world.

The Canadian Reginald Fessenden, on Christmas Eve 1906 probably became the first. But in any case if it might have happened it was accidental. The factual and scientific proof of that transmission has never been reconciled.

The same counts as well for the Belgian engineer Robert Goldschmidt transmitting incidentally from the Royal Palace in Laken (Belgium) from March till July 1914.

No listeners reports have ever been received about both of them and neither have any details or schematics of their apparatus been published in any scientific forum.

6 November RADIO 1919

Soireé-Musicale.

(Donderdagavond 8—11 uur n.m.)

PROGRAMMA:

1. Surf in je ranzel — Parademarsch.
2. Valse Bauffy — Cagane.
3. Rigoletto — Quatuor.
4. Een meisje dat men nooit vergeet — Speechhoff.
5. Los Bandoleros — Marche Espagnol
6. The holy City — Cornet Solo.
7. Le Barbier de Séville — Air de Rosine.
8. Ave Maria — par Violino.
9. Carmen — Marsch.
10. De Erlenis — Soiree en Hesse.

en andere nummers.

Programma wordt gegeven met behulp van een pathefoon door middel van een 'Philips-Iduret-Generatorlamp, gemonteerd in een Radio-Telefonie Zendstation der „Ned. Radio-Industrie" op een golflengte van 670 Meter.

Announcement for first entertainment transmissions in the NRC Newspaper

How did Hanso Idzerda manage to do it from a technical and operational point of view ?

The technical information is beyond the scope of this article. I will get back to my readers soon about this. Hanso used FM-modulation to start with. In 1919 this was unheard of. A very crude FM, but at least it saved him the use of a second TA4/125 in case he modulated in AM. The Class-C amplifier and the constant current AM modulation of Raymond A. Heising became to nought in these days as it was not widely applied at that time.

Hanso kept publishing announcements in daily newspapers about the content of his transmissions a few days ahead of the actual transmission date informing the public well beforehand what would be on air.
He acted as anchor-announcer himself and played records on his “pathefoon” with the horn cut off and a carbon mic installed in the remaining venturi-tube.
He was the first radio disk jockey so to speak.

He soon became dissatisfied with this as he considered record playing far too dull. So to overcome this he directed live radio transmissions.

Unfortunately none of these have been preserved.

A replica of Idzerda’s first transmitter 1919. In the horn speaker arm of the “Pathefoon” is a carbon mic. The transmitting triode as well as a huge antenna loading coil is on the left hand side (on the trolley table).

The next step was even far more challenging: the live broadcast of an orchestra!

Small chamber orchestra. Idzerda is standing behind the piano.

The range of PCGG, when the frequency was changed from 670m to 1050 and 1070m long wave, was exceptional. Reports from all over Europe kept coming in. The station could be heard in a 600 km radius reliably.
For most in the Thames estuary, London and eastern UK, reception was remarkably good. Newspapers started to report about *"The Dutch Radio Concerts"*. People flocked to pubs and other public places to experience this new phenomenon helped of course by former military WWI radio operators able to build receivers.

The BBC did not even exist by that time. Only on 14 November 1922, Arthur Burrows, Director of the British Broadcasting Cooperation speaking clearly, with the authoritative intonation that would become iconic, opened the transmission at 18.00 with: "*This is 2LO, Marconi House, London calling"*.

All of this was to happen at a later stage. In 1919, the *"Daily Mail"* paid a very comfortable monthly grant to Hanso Idzerda for the publishing rights and exclusive promotion in the UK.
Idzerda had a clear idea of how to earn money by producing radio receivers. He had to create a broadcasting station before the public would ask for receivers in greater numbers. However, it did not work out this way.

Unfortunately the downfall came, hitting hard, very hard indeed. In 1924 once the BBC was solidly anchored the *Daily Mail* terminated the agreement with Idzerda. The UK had its own broadcasting entity now, soon spreading worldwide over the empire. There was no need any more for a foreign station like PCGG to provide information, entertainment, education and culture.

Hanso was a brilliant engineer but not so much of a businessman. He lost his PCGG broadcasting license in early 1924. Due to "*lack of financial stability"*. It looked like a political decapitation.
Hanso was a Frisian and a hard nut to crack. Once he went bankrupt in November 1924. He tried again with a new entity *"Idzerda Radio plc"* He got involved in a year's long legal battle with Philips about patent rights.

He eventually won, but his patent went void. He did not keep up with the annual instalments. Meanwhile Philips and their then minority daughter NSF (Dutch Signal Equipment Factory) obtained his broadcasting

license and produced receivers for a fraction of his retail price until part of the man hours could be recovered.

Beautiful handcrafted and machined Idzerda 3-valve receiver 1920/21; Courtesy by Piet Blaas NVHR

The curtain finally fell on May 8th 1935. Idzerda realized he could not carry on like this and sold all his movable assets on auction that day.

Assisted and financed by his uncle Arnoldus over the years he luckily obtained his guesthouse out of his heritage in Scheveningen (The Hague) very close to the dunes and the sea. His final enterprise was therefore *"Guesthouse Idzerda"* a private enterprise managed by his wife. His affection and curiosity for technical matters however, remained strong.

On November 2nd 1944, a German V2 rocket had malfunctioned and landed in the dunes leaving a huge crater. It was very close to his house, so he went out to examine it. He was caught by a German patrol and told to leave the area. The next day he returned and found an almost intact gyroscope of the crashed missile.

He took it with and was caught by the same patrol again.
The Germans took him and shot him next to the crater swiftly burying him in a shallow grave.
It was not until March 1946 that his wife and four children became aware of his whereabouts.
He was not a resistance fighter as has been claimed by others.

He just was a radio enthusiast like we all are.

Antique Wireless Association Valve QSO Party

The results of the AWA Valve QSO party:

Considering the band conditions were not great, it was surprising to have the number of contestants that there were. AM of course was really poorly attended, but hopefully after the “Challenge” being presented in this issue, in October there will be a lot more many willing participants wanting to try out their AM rigs.

The AM party only had a total of 7 participants and one log submission:
1st place went to Chris ZS6ACP, being the only log submitted.

SSB, there were a total of 90 participants and 8 log submissions:

1st place Ludwig ZS5CN—190 points (Collins all valve)
2nd Place Chris ZS6ACP—50 points
3rd place Helmar ZS1H—42
4th place Theunis ZS2EC—36
5th place Keith ZS6HI—29
6th place Guy ZS6GUY— 27
7th place Dylan ZS2MAC—14
8th place Heather ZS5YH—11

Our thanks to those who took the time to participate in the QSO Party and to those who used valve rigs, once again it proves that to get the points, a valve rig is the way to go.

Look forward to seeing you all in October for the second leg.

Personal Opinions of Radio's I have Had
Andy ZS6ADY

After the FT200, came the Yaesu FT901DM, also purchased from Roger at Lima Electronics on one of my working spree's to Durban.

The rig had two 6146B finals and a 12BY7 driver which pushed it along most times at around 100w. One of the things that later proved to be a good point was the built in Curtis keyer. It was around this time that the AWA started up and a few years in to this that I was coaxed into getting a CW net going, I approached Rod ZS5RK, our then president and tried to convince him that CW had a part in AWA. Rod agreed and said "seeing you have the vision, you get the job". So I had to try getting back into CW after several years of not touching a key.
I found it quite difficult to get the hang of the straight key as it hurt my hands, and one day whilst chatting with Mossie ZS4XJ, he offered me a Bencher paddle that was surplus to his needs. I jumped at the offer and all I had to pay was the postage to Benoni from Weppener. From the time I plugged it into the 901, I was in love with CW again.

One of the cons with the 901, was the VFO. It drifted terribly and never really settled down at all whilst in use. This was quite disturbing as one had to continuously bring it back on to frequency. The solution, I found, was an external VFO which I picked up at a flea market in Pretoria. Once that was plugged in, the frequency was rock stable.

Before I started on my HF journey, I had a Kenwood/Trio TS700G. This was only a 10w rig and I only realised it 's limitations after buying it from Liebermans in Johannesburg. Living in the Northern Cape, there was no 2m comms within 165km. I soon realised I would have to do something about increasing the output if I wanted to do anything with it. I don't know where I got it, but I laid my hands on a 10 to 50 VHF linear which was duly put in line and with that and a homebrew 12 element ZL special yagi, I could hit the repeater in Kimberley and even on a good day the Bloemfontein repeater almost 300km away.
I would take this rig in a fibreglass case with me on trips to the Macouvlei Training centre near Vereeniging whenever I went there, and it was there one day calling on the 2m repeater, using a homebrew ribbon slim jim, I made contact with one ZS6BOX. Whoever would have thought our paths would end up in the AWA so many years later. It was there too that Cliff took me to meet Gary ZS6YI, this was in the early 80's.

The 700g was later replaced in my shack in Benoni with a Yaesu FT225RD that had 25w output and a digital readout. I was slowly making progress from all the analogue radio's . The RD had space to have crystals put in and with the assistance of Wim ZS6XRL, who made crystals, I had most of the repeater frequencies on board and just a click away. It was actually a bit of a waste, because I very rarely used 2m. Where this rig did come in handy was for packet radio. It ran almost 24 hours a day connected to the packet system via my pc in the shack, and never

died on me. I only once had to replace the meter globe.

My very humble shack in 2004 consisted of the FT901Dm, FT225RD, the Hallicrafters SX100, an MFJ Ant tuner and a Yaesu external speaker, that I have no idea where it came from. Behind me was my shack pc which had limited software but ran an electronic log book for me. My writing is terrible and there was many a time I could not read what I had written in my haste to get call signs down in the book. I was very keen on Dx ing here after having put up a tri band yagi and discovered what a boon it was. The controller can be seen in the top right of the picture.

It wasn't too long after this that I found an advert in the Radio ZS for a ham in Bloemfontein who was selling up his shack after moving into a retirement village. He was not allowed to put up any HF antennas and wanted to sell all his HF equipment. It was a Yaesu FT902DM with ant tuner. 6m, 2m 70cm transverter, and a station monitor multiscope. A trip to Bloemfontein was made and I returned with all of the equipment in hand. Shortly after this we moved to a new QTH which became necessary as I needed a bigger shack. A FL2100B which I had acquired to work with the 901DM was swopped for a 2100Z to enable WARC band operation.

Amazingly I found a similar problem on the 902 with the drifting of the VFO as I had on the 901. Once again the external VFO proved to be the saving grace for stability while in use. I used this setup in all areas of my amateur operations , including doing MF transmissions on AM using the FL2100Z to put a bit of steam behind the signal.
The 902 was similarly equipped with two 6146B's in the finals with a 12BY7 driver and Curtis keyer, and worked faultlessly.

Things were starting to warm up in the AWA, we started to get serious about doing AM transmissions. Every Wednesday evening and Saturday morning were dedicated to doing AM transmissions and there were anything from 7 to 10 stations on every time. I was chastised on the odd occasion for using my FT901 to run AM, but still had one of the best signals around. It was shortly after this I acquired my first Collins set, a 32V-3 AM/CW transmitter and a 75A-4 receiver.
The 32V-3 had had the VFO removed for some reason and it took all of my skills to put it back together, after reading all of the manuals on the V-3 saying that one should never strip the VFO because without specialised equipment you could never get it to function properly. Well I can attest to that. Anyway, I managed to assemble it as

best I could and get it operational, but I would always have to zero beat the transmit to the 75A-4 receiver as the transmitter was never accurate enough.
The 32V-3 was an all valve transmitter with a 4D32 in the final Tx and put out a solid 60 to 70w of pure AM. You don't get it more pure than that. Coupled with the 75A-4 and a Turner mic, it made a perfect working station for doing AM and MF transmissions.
The 75A-4 had also been modified, why I will never understand, but it still worked perfectly on the AM bands. The next recipient of this fine receiver managed to reverse engineer it back to original specs, and the 32V-3 is still living happily in its new home, waiting to be used on AM again.

The Streeter Challenge

The "Streeter" one valve AM Transmitter challenge so named as he was the first amateur to contact the USA in 1925 with 100% homebrew gear.

Objective. To homebrew, test, document and operate a one valve AM (amplitude modulated) transmitter. The spinoffs are, entrant satisfaction, a learning opportunity, AWA member cooperation, and material for the AWA newsletter.

Specifications.
Single valve of any type which may contain multiple devices within the envelope.
No active solid state devices permitted (ie that can produce gain) but passive devices permitted (eg diodes zeners etc).
Crystal controlled on 80M, near to but ideally on 3615kHz
Maximum DC input 250 volts, 15 watts CAUTION, VOLTAGE INVOLVED COULD BE LETHAL.
Output impedance to match 50 ohms resistive.
Audio input: Microphone of choice without built-in amplifier.
Physical construction. Single chassis or a pair of plug-in PSU with front panel controls, rear chassis connectors and components underneath (ie not breadboard for safety).

Guidelines
The idea is to use junk box bits, readily available components, and old valve receiver parts in particular. Most old valve radio receiver transformers can deliver a 250 volt HT at up to 60 mA. ie 15 watts DC input so say 6 to 7 watts RF upper limit. At that sort of power level you can use receiver type variable capacitors in the Pi tank output matching. Coils and chokes can be hand wound with enamelled wire harvested from an old transformer secondary.
For the audio level the answer is the most you can get from a microphone. Carbon microphones are high output and you can transform the audio up with a transformer for screen modulation which is one practical method. Other high output mikes are crystal and rocking armature. The transmitter must match into a 50 ohm load for testing. That will automatically make it usable with conventional antennas. Self-powered, means preferably on-chassis or separate plug in psu built for the purpose (part of the judging so external general purpose PSU's are OK for entrant's private testing but not for entry) or batteries can be used.
The single valve to be used may have multiple devices within the valve envelope for example a triode-Hexode or a triode-beam tetrode. Entrants have a free choice of architecture.
An old receiver chassis could be repurposed for a chassis, ex tower computer ATX PSU enclosures are ideal and free and come with a switch and mains input socket. Neat chassis can be purpose made using zinc dipped steel sheet, tin snips, hardwood blocks for folding and pop rivets or soldering for the corners. This is not a personal or RF power game. There are many scoring factors so there are plenty of possibilities for capturing points such that an inexperienced entrant could win.

Rules
Entry to the challenge is free but intention to participate should be notified by email to the AWA PRO by 12th June 2021.
The challenge will run until the closing date 31st October 2021.
One entry per member but may contain several iterations, developments or improvements to an initial transmitter produced.
Submissions for judging will be in the form of documentation in the format given below submitted to Andy ZS6ADY, AWA PRO on or before the closing date.
The prize money will be allocated by the judges in line with the quality and quantity of entrant's submissions.
Prize winners will be announced at the AWA AGM in November 2021.
The judges decision will be final.

Testing for judging
Testing for judging purposes will be conducted by the entrant in the presence of and if necessary the help of another AWA member. The results must be incorporated into the documentation.
The transmitter is to be tuned up into a 50 ohm dummy load. Testing is to be effected by a sine wave audio oscillator connected via an amplifier if required, to a loud speaker at frequencies representative of the audio bandwith intended, 800 and 2400 Hz suggested. The microphone is to be set to the best distance consistent with the fullest modulation without distortion found by trial and error. Measurements are to be taken as follows.

- RF output power into a 50 ohm dummy load without modulation to measure carrier level. (Use meter or oscilloscope)
- RF output power into a 50 ohm dummy load with full modulation. to measure peak envelope power. (Use meter or oscilloscope)
- Photograph of oscilloscope trace of full modulation envelope.
- Photograph of oscilloscope trace of trapezium using audio from microphone on X input and RF across dummy load as Y signal.
- Photographs of the completed transmitter with valve in situ are to be taken at the same time, minimum of 4 shots, front panel, vertical top, complete under chassis and back view of chassis.
- The attending member must sign the entrants documentation as verification before submission.

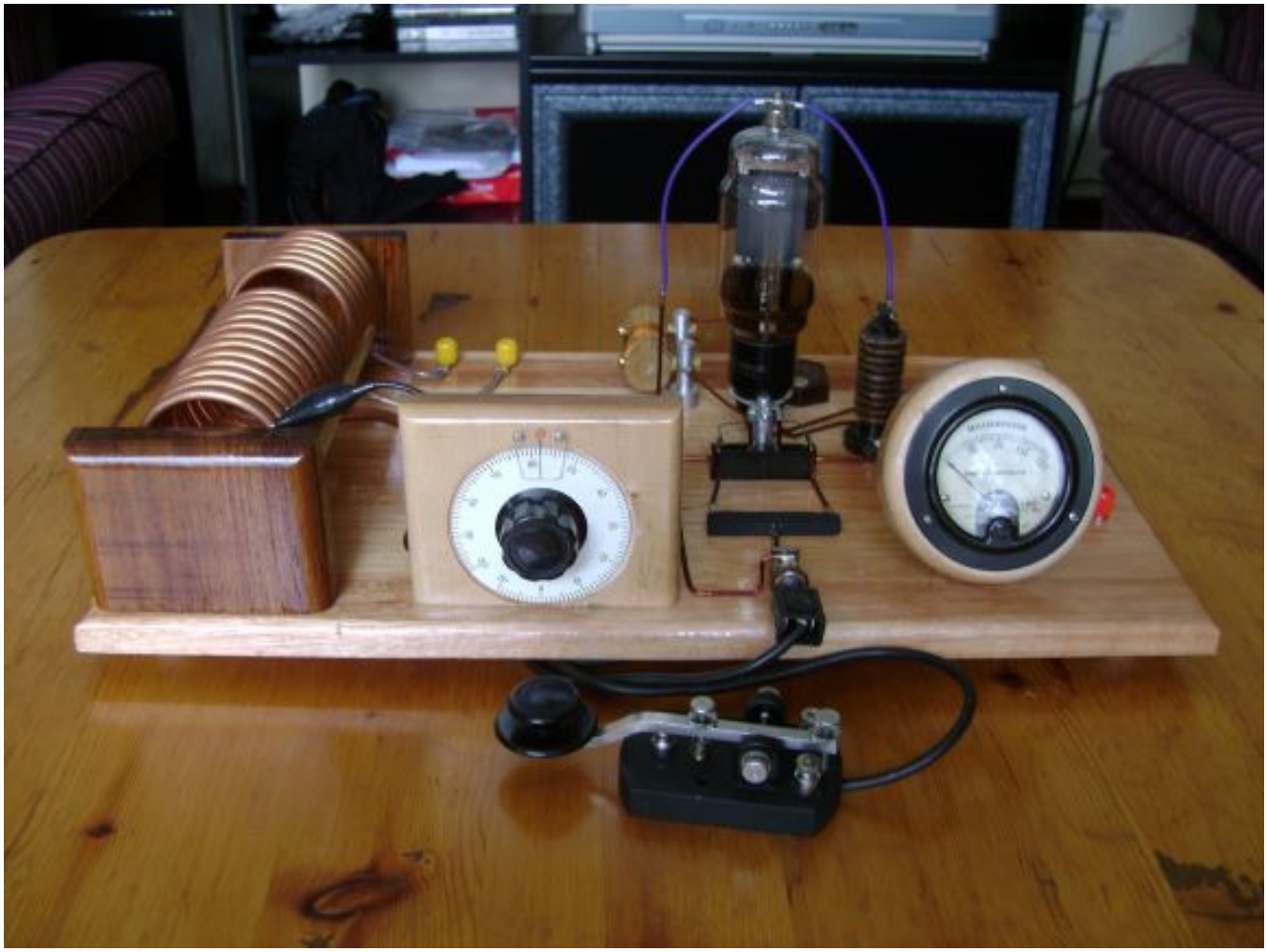
Documentation and scoring
The challenge will be judged on the documentation. Long essays are not necessary, bullet points in sentence form will be acceptable.
The documentation must include:

Schematic including power supply.
Your choice of valve and its data
Principles of operation.
Tune up procedure
Results of tests
Photographs of scope traces
Photographs of the transmitter minimum 4 as above
Commentary and conclusions on the project

80 of the 100 scoring points will relate to these 8 aspects and will rate construction technique, modulation depth achieved, RF output power, linearity, and presentation of documentation.
The remaining 20 points are at the judges discretion and may be awarded for % junkbox vs bought components, previous attempts, trials and tribulations, description and photos of interesting details, logged QSO's with the transmitter, reception SDR photos, remote recording clips, and any innovation by the entrant, recorded in the commentary.

Entries to the AWA PRO andyzs6ady@vodamail.co.za by 12th June 2021.

I would recommend that if you are considering doing this project, you join our Telegram group as there is a lot of information being passed around on this subject. If you want to join, send Andy a message on Telegram and you will be added. Contact number is on the last page—Andy.



A 1929 style TNT transmitter by VE7SL, built by Tim ZS6IM

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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— 3640
Saturday 08:30 (06:30 UTC)— National SSB Net— 7140; Sandton repeater 145.700
Echolink—ZS0AWA-L; ZS6STN-R
Relay on 10.135 and 3615
Saturday 14:00 (12:00 UTC)— CW Net—7020

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

Electronics Old and New:

Here is a link to a You Tube channel by Manuel Caldeira with some interesting bits and pieces.
This channel is a showcase for vintage electronics as his hobby, and not a professional venture.
The link has also been placed on the AWA Website under " Helpful and Interesting Links"….(you can copy and paste this link into your browser)

https://www.youtube.com/channel/UC1czABA87SroDeBAqsk1TDA

For Disposal:

I have a spare Heathkit SB-301 I want to sell, payed equivalent of R 5000 in 2019 for buying, shipping and the upgrade kit from Hamseed Hamfest LLC .
Etienne Grobler ZS4EG 083 895 5658

Do you know anyone who would be interested in some old radios?

A 1967 Blaupunkt Radiogram, transistor.
A GEC BC5739 tabletop valve radio circa 1957.
A Pioneer Rondo 3000 music centre circa 1980s.
About 8 old portable transistor radios.
Some 1960/1970s Philips Electronic Engineer Kit items, an E8 kit and EE1051 add on kit.
Any reasonable offer accepted. John Austin-Williams 0834597802