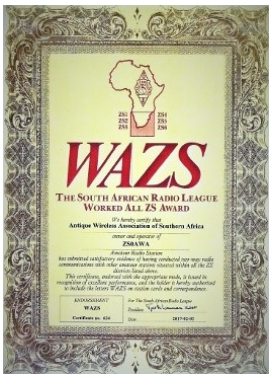
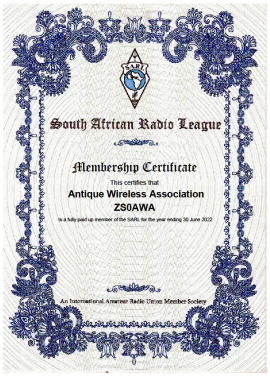
Antique Wireless Association of Southern Africa

208 November 2023





Inside this issue:

AWA Committee:

* President—Renato ZS6REN
* Vice President—Jacques ZS6JPS
* Technical Advisor—Rad ZS6RAD
* Secretary/PRO—Andy ZS6ADY
* KZN—Don ZS5DR
* WC—John ZS1WJ
* Historian—Oliver ZS6OG
* Member—Wally ZS6WLY

Visit our website: www.awasa.org.za

Reflections:

What an exciting month October was. The Valve QSO Party. The AGM and the last of the open days for this year.

The results of the Valve QSO party can be found in this issue of the Newsletter, as well as a report on the AGM.

With all of this happening, we were still feverishly packing for our move down to the Northern Cape and were still busy with the last bits and pieces while our furniture and boxes (many of them) were all being loaded into the furniture removal truck.

We had a rather eventful trip with my trailer breaking away from the towbar in the middle of Vryburg and crashing into a parked bakkie and spending hours sorting that out with the SAPS Insurance etc, having to leave the trailer there and return the next day to fetch it. Another 800km round trip to do that. All in all 22 hours spent travelling what would normally be a 9 hour trip.

But, we are here and settled in with many of the many boxes already unpacked, with still many to go, we had our baptism of fire to taste a bit of the usual NC weather with a 38c and then 42c two days.

It seems that it was not too long ago when we lived not far from where we are now, working on the diamond mines with very similar temperatures and my first taste of amateur radio.

My first call sign, ZR4AC. After a year of working VHF, then doing my CW test and getting a full call of ZS4AC. Then another year of operating CW to get my 200 contacts and go on to phone.

It was not too difficult in those days to get 200 CW contacts as there were still a lot of ops around who took great pride and enjoyed operating CW. I was a member of the CWOG which had about 200 members, many of them from the Western Cape. There were also a good few ops from FS and GT, so the numbers were not that difficult to get.

Even though I had obtained the right to use phone, it still did not appeal to me as much as CW did. There is something about having a 1 hour ragchew in CW that does something a phone QSO cannot do.

The Northern Cape holds a special place in my heart, and yes I know that not everybody wants to live here. That's why it's the biggest province with the least people in it.

Most people want to retire at a seaside haven and take walks on the beach every day. Others want to be in a lush country manor. Me, I'm happy to be where I am at the moment. Yes it gets hot, yes it can be extremely dry, but it has a beauty of it's own that you can't explain unless you have experienced it.

Remember, we are only a PTT away.

Best 73

DE Andy ZS3ADY

Wikipedia

Coronal Mass Ejection (CME)

Coronal Signatures:

The early evolution of CMEs is frequently associated with other solar phenomena observed in the low corona, such as eruptive prominences and solar flares. CMEs that have no observed signatures are sometimes referred to as *stealth CMEs*.
Prominences embedded in some CME pre-eruption structures may erupt with the CME as eruptive prominences. Eruptive prominences are associated with at least 70% of all CMEs and are often embedded within the bases of CME flux ropes. When observed in white-light coronagraphs, the eruptive prominence material, if present, corresponds to the observed bright core of dense material.

When magnetic reconnection is excited along a current sheet of a rising CME core structure, the downward reconnection outflows can collide with loops below to form a cusp-shaped, two-ribbon solar flare.
CME eruptions can also produce EUV waves, also known as *EIT waves* after the Extreme ultraviolet Imaging Telescope or as *Moreton waves* when observed in the chromosphere, which are fast-mode MHD wave fronts that emanate from the site of the CME.
A coronal dimming is a localized decrease in extreme ultraviolet and soft X-ray emissions in the lower corona. When associated with a CME, coronal dimmings are thought to occur predominantly due to a decrease in plasma density caused by mass outflows during the expansion of the associated CME. They often occur either in pairs located within regions of opposite magnetic polarity, a core dimming, or in a more widespread area, a secondary dimming. Core dimmings are interpreted as the footpoint locations of the erupting flux rope; secondary dimmings are interpreted as the result of the expansion of the overall CME structure and are generally more diffuse and shallow. Coronal dimming was first reported in 1974, and, due to their appearance resembling that of coronal holes, they were sometimes referred to as *transient coronal holes*.

Minutes of the Antique Wireless Association AGM
21st October 2023

ATTENDANCE.

See register at end of the minutes.

APOLOGIES.
Rad ZS6RAD
John ZS1WJ
Paul ZS1S

OPENING BY RENATO ZS6REN, PRESIDENT.

Use of the Kempton Park repeater because of problems incurred with the Sandton repeater. Due to the breakup of the signal on the Sandton repeater, it became necessary to seek another source for our 2m relay and the KARTS club came to our rescue without any hesitation. However, the repeater was not accessible to many who used 2m from the northern and north western side of Johannesburg, so it did not prove to be a big success.
The Sandton repeater was repaired, although mainly accessible in the immediate area, but once again proved to be the repeater to be used by most.
Thanks to the KARTS club for allowing the use of their repeater during this time.

Open day that has been initiated at SAIEE.
This has also been quite successful with a good few numbers of people joining us on a Saturday morning.
It was well advertised via the SARL and Newsletter.

Renato's highlights for the three years has been the Saturday nets.
Topics are free and easy and have not always aligned to AWA mission statement, ie just on antique wireless, but also on topics related to ham radio in general. Topics should be balanced to include everyone being able to participate. Modern technology has also been a part of net topics.
The introduction of guest speakers has also been included in the topics.
Leon on Batteries. Angus on Noise cancellers. Richard and Chris on various topics, and always a good input from them.
Personal thanks to Chris for his input on many of the topics.

Andy relocating to the NC.

Renato's term of office coming to an end and Jacques to be taking over as president in January 2024.

MEMBERSHIP FIGURES

Membership has grown from 416 in 2022 to 428. There have been a few SK's and then quite a few redundant email addresses have been removed thus not a true reflection of growth.

FINANCES.

Finances remain steady with a good positive balance.
There were a few unexpected expenses like the purchasing of a new licence for the bulk

email programme.
The website license fee is twice per year.

DONATIONS

Several donations were made to the AWA during the year by people purchasing valves and excess equipment donated to the AWA. This is our main source of income and has provided well for the year.

FEEDBACK ON QSO PARTIES

The QSO parties in May and October were fairly well attended.
AM Is still not a favourite mode for most, but attracts a few attendees.

Ludwig ZS5CN achieved the highest points in May and October, using all valve AM equipment.

Nico ZS4N achieved the highest points in the May and October SSB party using an FT101.

NETS
Unfortunately, Rad was not able to attend the meeting this year, but Renato did mention the highlights of the nets in his opening.
Chris has also been instrumental in taking on the 20m relay from Hoedspruit and often a 30 m relay included. These have proved to be really successful for those who cannot join on Echolink and when band conditions do not allow the use of 40m.
Renato took on the task of running the Echolink server from his QTH, and after a few teething problems manages to keep the system going on a Saturday net.
The Saturday morning net still goes out on 2m, 40m, 20m and Echolink giving a really wide area of coverage all the way up in to Zambia, Zimbabwe and Namibia as well as down to the Western and Eastern Cape.

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MUSEUM
A group under leading of Jacques has been formed to perform regular duties at the Museum in order to keep things in hand and liaise with the SAIEE.

GEOFF WRIGHT SK CW FLOATING TROPHY

The CW trophy this year is awarded to Ed ZS6UT, who achieved the highest points in the CW QSO Party and has been a regular attendee on the AWA CW nets on Saturday afternoons.

NEW APPOINTMENTS – VOTING
Nomination for Chris Turner as Vice president for 2024 and accepted by him.
Andy Secretary
Rad Technical Advisor
Wally Member

OPEN DISCUSSION – FURTHER ITEMS
Proposed thanks to John Fielding for his input in the AWA before relocating back to the UK, suggested by Cliff.
Renato mentioned that John was invited to be a member of the Vintage Facebook group by Renato and has become a well-respected member with his input in the group.

13.THANKS

Our thanks once again to the SAIEE for their support in allowing us to use the auditorium for the AGM.

To all the members who make up this organization and support it.

To Renato for taking on the task of President for an additional year.

Thanks for the Newsletter from Wally.

CLOSING:

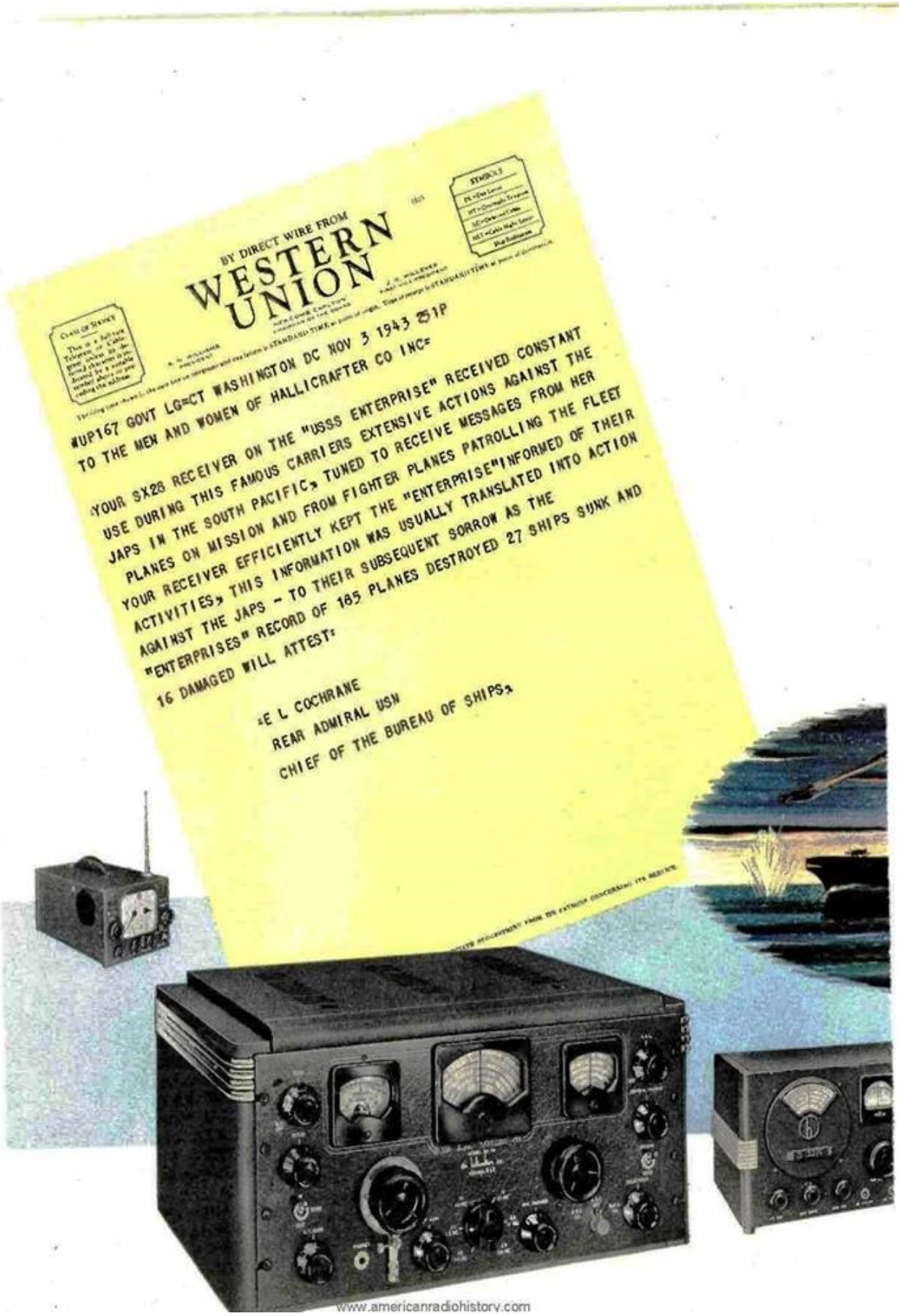
The meeting was closed after an open discussion time which was felt need not be minuted.

Andy ZS6ADY
PRO/SEC

Attendance register:

Renato ZS6REN
Andy ZS6ADY
Rodney ZS6RHZ
Louis De Wet ZS6SK
Cliff ZS6BOX
Roger ZS6YX
Jacques ZS6JPS
Gilles ZR6GDC
Bruce ZS6BK
Wally ZS6WLY
Mario ZS6MAR
Silla ZS6OSB
Kobie ZS6KVZ

On Zoom:
Richard F4WCD
Dimitri ZR6GND
Jerry 9J2BS
Berridge ZS6BFL
Mike ZS6MNG
Henry ZS6MC
One other on a Samsung (?)



RESULTS OF THE AWA VALVE QSO PARTY

Following are the results of the AWA Valve QSO Party held on 07 and 08 October 2023

AM:

Ludwig Combrinck ZS5CN – Collins 32V-1
Dylan Macdonald ZS2MAC – FT101
Theunis Potgieter ZS2EC – TS570

Andy ZS0AWA—FT102

No other logs were submitted, although there were 9 stations active.

SSB:

Nico Oelofse ZS4N – FT101
Renato Bordin ZS6REN – FT200
Andre Botes ZS2ACP – FT102
Dylan Macdonald ZS2MC - FT101
Theunis Potgieter ZS2EC—TS570

Andy ZS0AWA—FT102

There were 57 stations active and 6 logs submitted.
Congratulations to the top scorers.

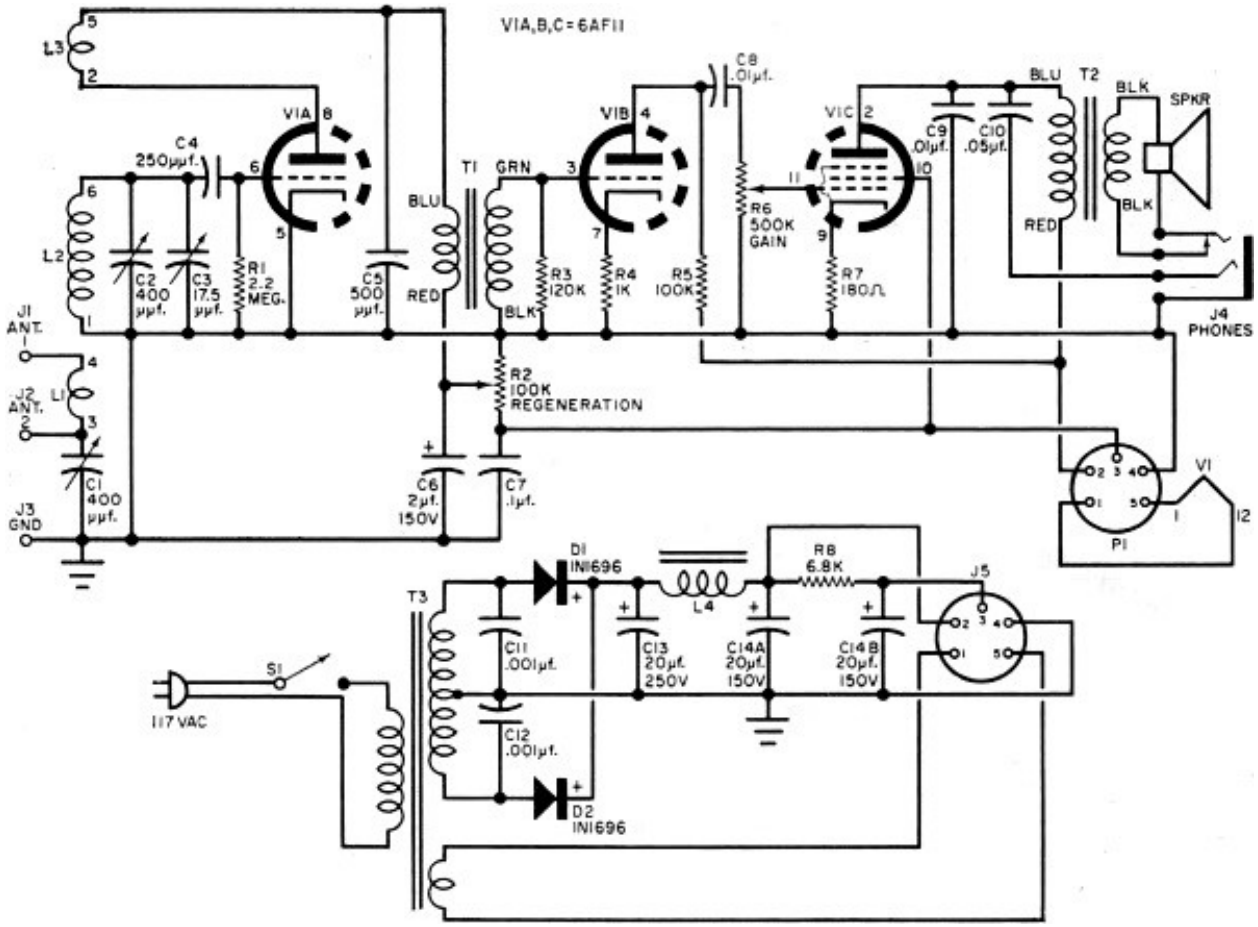
It was great to hear the number of valve rigs and Hybrids that were being used this time around and that all of the top places went to a valve radio operator.

Compactron tubes

by Daniel Romila VE7LCG

In June 1960 General Electric announced a new tube in a desperate attempt to somehow compete with transistors. The compactron tubes were designed to have 12 pins, a glass enclosure with a kind of extension in the pins side. There were necessary such a big number of pins because the intention was to pack inside one single glass enclosure even 3 tubes, eventually completely different ones.

The tube 6BD11 had inside a Hi-Mu triode, a medium-mu triode, and a sharp cutoff pentode. Taking advantage of so much components packed in one device, radio amateurs boasted home built radios with “one tube”. For example, in the January 1963 edition of Popular Electronics, Philip E. Hatfield, W9GFS published a receiver with a single tube for 5 bands, where the switching of the bands was made by replacing coils specially made for sockets. The schematic:



The first triode is a regenerative detector. The next triode is an audio pre-amplifier and the final audio amplification is made with a pentode. Everything is inside the compactron tube 6AF11. The full article is available at:

https://www.rfcafe.com/references/popular-electronics/one-receiver-all-bands-jan-1963-popular-electronics.htm

I verified and there are still available online to buy compactron tubes, in July 2023. Prices vary from website to website, so it would not make sense to give figures here; it makes sense to write compactron tubes have similar prices with ECC82 or EL 84 tubes, which are in noval sockets.

As a personal preference, I would say that 12 pins for a single tube is not something that I would consider an advantage for a project I would eventually build in 2023. Too many pins, too many devices to be soldered in close vicinity. If one tube component has to be replaced, the whole compactron has to be replaced. I like to experiment, improve, and eventually change a tube with a different type. Maybe a different final audio? Maybe a lower noise triode in RF? This kind of experiments cannot be done when using compactrons.

Jeff Duntemann has an extensive website with info about types of compactron tubes, specifications and some projects at:

https://www.junkbox.com/electronics/CompactronTubesIndex.shtml

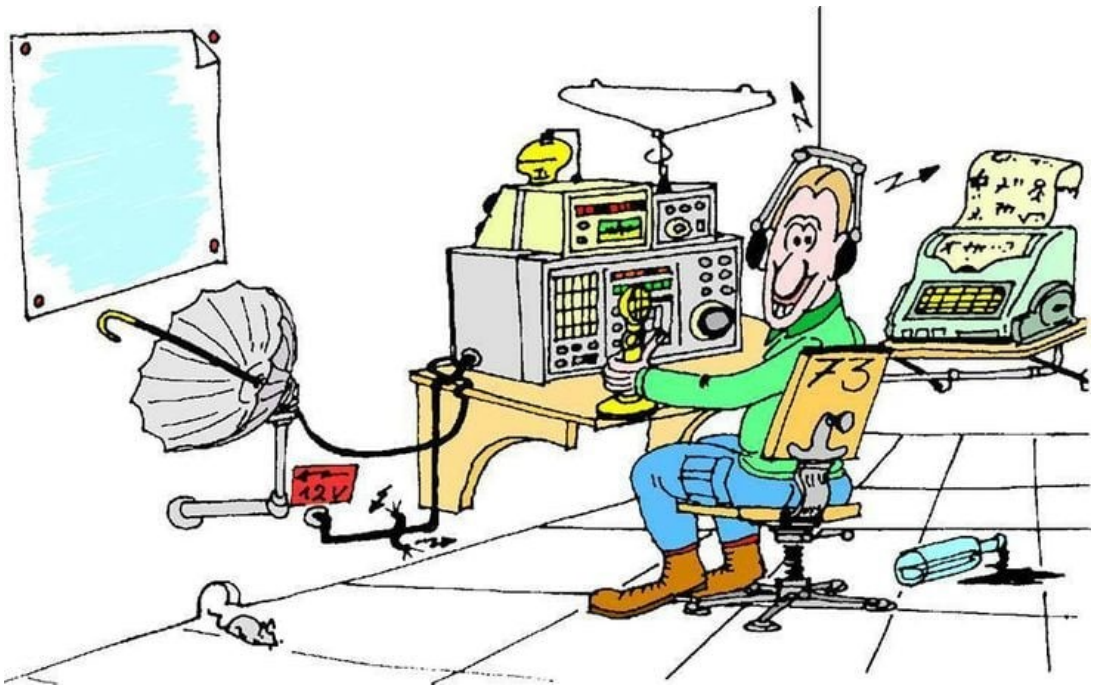
Another website with pages about compactron tubes:

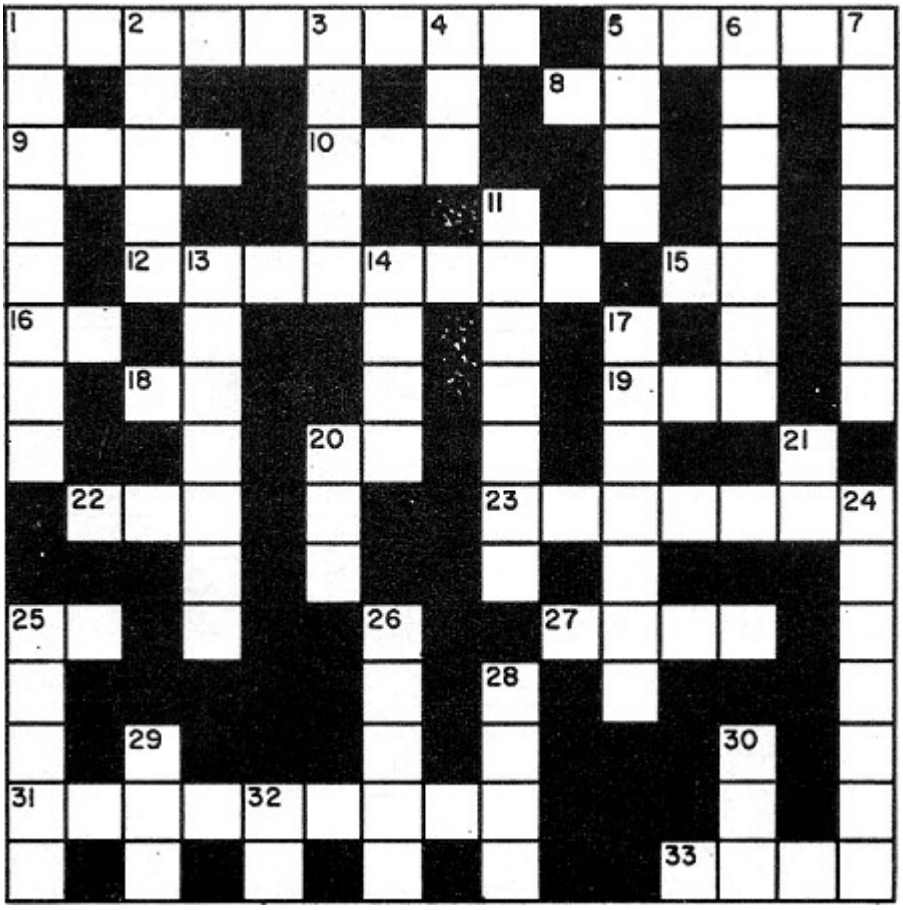
https://www.tropicalfishvintage.com/blog/2019/5/31/vintage-component-spotlight-compactron-tubes

I indeed found on youtube.com projects made with compactron tubes, for example:

https://www.youtube.com/watch?v=A7GXlv86lJw

Unfortunately, everything I saw in those videos just confirmed to me to stay away from such tubes, and to prefer separate tubes, in separate glass enclosures, put on separate sockets.



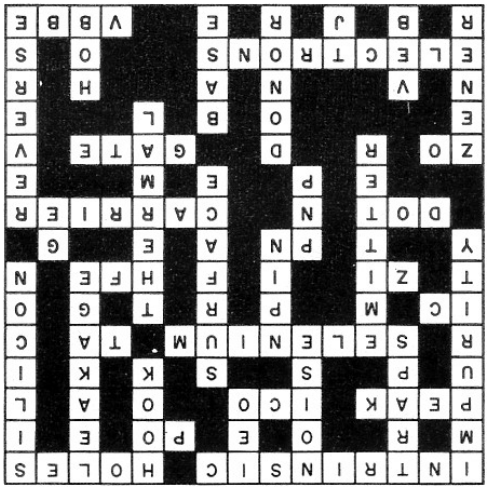


Across

1. Semiconductor which is neither "p" nor "n," containing roughly an equal number of electrons and holes.
5. Current carriers in a semiconductor which are positively charged.
8. Parameter letters symbol representing a transistor's power output.
9. Maximum inverse voltage rating which a transistor can withstand without breakdown.
10. Collector cut-off current.
12. Semiconductor material found most often in rectifiers.
15. Symbol for transistor operating temperature.
16. D.C. collector current.
18. Transistor input impedance.
19. Forward current ratio (input a.c. open-circuited) .
20. Junction of "n" and "p" areas in a semiconductor.
22. Metal button alloyed into base wafer of an alloy-type transistor.
23. A number of these particles carry current, specifically electrons and holes.
25. Parameter letters symbol for transistor output impedance.
27. One of the electrodes of a field-effect transistor.
31. Current carriers of a negative polarity.
32. Letters symbol for d.c. supply voltage base-to-emitter.

Down

1. Small addition to semiconductor, usually a donor or an acceptor.
2. Imperfections in a crystal which snare current carriers.
3. A transistorized preamp should generate minimum _____.
4. Parameter symbol for emitter cut-off current.
5. Four-layer transistor with built-in amplifier for a collector.
6. That portion of cut-off current caused by surface effects.
7. Semiconductor commonly used in transistors and crystal diodes.
11. Location of transistor barrier.
13. Electrode of a transistor corresponding to vacuum tube's cathode.
14. Intrinsic region-type transistor with "n"-type emitter and collector and "p"-type base (Abbr.).
17. Runaway condition in which transistor's heat dissipation increases with higher temperature at such a rate that temperature keeps rising.
21. Parameter symbol for common emitter power gain.
24. Small current flowing opposite to normal in a diode when an opposing potential is applied.
25. Reverse voltage at which a large current begins to flow, caused by crystal breakdown.
26. Impurity used intentionally to produce an "n"-type semiconductor.
28. One of the electrodes of a transistor.
29. Letters symbol for emitter-to-base d.c. voltage.
30. Letters symbol used to represent common base output admittance (input a.c. open-circuited).
32. Symbol for transistor's junction temperature.



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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 —7.140; Every afternoon during the week from 17:00—7.140
Saturday 08:30 (06:30 UTC)— National SSB Net— 7.125;
Sandton repeater 145.700
Echolink—ZS0AWA-L
Kempton Park Repeater—145.6625
Relay on 10.125 and 14.135 (Try all and see what suits you)
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 ZS3ADY asking to be placed on the group. This is a no-Nonsense group, only for AWA business. You must download the Telegram App first. …..+27824484368
