Antique Wireless Association of Southern Africa
Newsletter

190 May 2022

The experienced amateur will immediately recognize in the SX-115 a first rate engineering triumph that creates an *entirely new class* of deluxe receiver.

Frequency coverage: Nine 500-kc segments covering 3.5–4.0 mc.; 7.0–7.5 mc.; 14.0–14.5 mc.; 21–21.5 mc.; 28.0–30.0 mc.; (4 segments); and WWV.

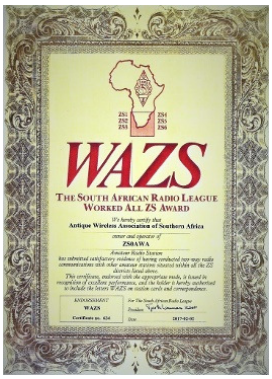
Additional features: Highest order of mechanical and electrical stability; linear tuning; constant tuning rate; separate noise limiters for SSB/CW and AM; dual loop AVC; spurious signal and image rejection better than 60 db. down; sensitivity less than one microvolt; perfect match for Hallicrafters HT-33 and HT-32 series exciters and transmitters.

Join us at the Single Sideband Amateur Radio Association Hamfest and Dinner, Statler-Hilton Hotel, New York City, March 27th from 10 A.M.

The new ideas in communications are born at...

hallicrafters Chicago 24, Ill.

Export Sales: International Div., Raytheon Co., Waltham, Mass. *Canada:* Gould Sales Co., Montreal, P. Q.



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

Visit our website:

www.awasa.org.za

Reflections:

This last month, we achieved another milestone in the History of the AWASA. Our latest E-certificate for WAZS200 arrived in the mail. 200 confirmed QSO's registered on the SARL e-QSL system.

We are now sitting at 415 members on the mailing list, quite a few from other parts of the world, but the large majority SA Hams.

It is a pity we don't hear from more of them on a regular basis, but then I guess that's the way it is.

One can see there are a few more calling in on the Saturday morning net, mostly on Echolink, but people are also taking note of more and more activity on the bands.

In this month, we have the first session of the Valve QSO Party on AM and SSB, and by the looks of it, for the first time in a few years, we may just have acceptable conditions that will allow us to get some steam going.

We want o encourage as many as possible to join in the fun of getting your valve rigs up and running and make as many contacts as you can.

There is an Excel logsheet available on the AWA website that you can download for ease of use.

From the time the Valve QSO party was started, if my memory serves me correctly it was 2006, there has been a lot of interest in joining in. But more often than not the laurels go to a non - member. Remember , using a valve set is what gets you the points. A hybrid will score more points than a Solid State radio, and an all valve, will get you maximum points.

Those of you entering in the AM section, remember to be careful if you use a solid state rig, those finals are not used to continuous TX and they are expensive to replace. Treat them gently.

AM is a whole new ball game to many and you need to understand how it works and what are the pitfalls involved in using it, especially when it comes to output and modulation.

I know we often sound like stuck gramophone records about this, but there are some things to be careful about using AM on a solid state rig. Valves were built for that purpose.

But whatever you do, we hope you will join us on the weekend of the 7th and 8th of May to play some radio and enjoy yourself at the same time.

It's always good fun and look out for the ZS0AWA station. We will be lurking out there on a frequency waiting to hear you come back to the call.

Make a date in your diary with us and get on air for an afternoon of fun. Well two actually, and we look forward to hearing many of you on air again.

Best 73

DE Andy ZS6ADY

Wikipedia

Solar Storms

Solar storms of different types are caused by disturbances on the Sun, most often from coronal mass ejections (CMEs) and solar flares from active regions, or, less often, from coronal holes. Minor to active solar storms (i.e. storming restricted to higher latitudes) may occur under elevated background solar wind conditions when the interplanetary magnetic field (IMF) orientation is southward, toward the Earth (which also leads to much stronger storming conditions from CME-related sources)
Active stars produce disturbances in space weather and, if strong enough, in their own space climate. Science studies such phenomena with the field of heliophysics, which is an interdisciplinary combination of solar physics and planetary science.
In the Solar System, the Sun can produce intense geomagnetic and energetic particle storms capable of causing severe damage to technology. It can result in large scale power outages, disruption or blackouts of radio communications (including GPS), damage or destruction of submarine communications cables, and temporary to permanent disabling of satellites and other electronics. Intense solar storms may also be hazardous to high-latitude, high-altitude aviation and to human spaceflight. Geomagnetic storms are the cause of aurora. The most significant known solar storm, across the most parameters, occurred in September 1859 and is known as the "Carrington event". The damage from the most potent solar storms is capable of existentially threatening the stability of modern human civilization, although proper preparedness and mitigation can substantially reduce the hazards.
Proxy data from Earth, as well as analysis of stars similar to the Sun, suggest that the Sun may be also capable of producing so called superflares, which are as much as 1000x stronger than any flares in the historical record. Other research, like models of solar flares and statistics of extreme solar events reconstructed using cosmogenic isotope data in terrestrial archives, indicate otherwise. The discrepancy is not yet resolved and may be related to a biased statistic of the stellar population of solar analogs.

Wireless Aboard the Titanic...

— Allan Brett, Jerry Proc and Parks Stephenson (article submitted to the CVRS by Jerry Proc and edited by Gerry O'Hara)

April 14/15 this year marks the 110 year anniversary of the sinking of the Titanic. I thought it appropriate to mark the occasion with an article on the topic that has a particular focus on the part played by radio in the events of that fateful night. This two-part article, written by folks very knowledgeable in that subject, was kindly offered for publication in Canadian Vintage Radios by CVRS member Jerry Proc, who is recognized as a leading expert in the Marconi marque—Ed.

Part 1 of this article provided both a close look at the radio equipment on board the Titanic and the events of the fateful night of the sinking. The following adds some additional background and related information that the authors of the article added.

Last Mysteries of the Titanic

[Some years ago] The Discovery Channel produced a documentary, titled "Last Mysteries of the Titanic." and in doing so, it captured some ROV footage from inside the Marconi Room. It was examined in both 2001 and 2005. The text below provides an analysis report from the technical advisor (Parks Stephenson):

"*The Marconi Room itself, along with the adjacent operators' sleeping quarters, was completely destroyed during the sinking. There is nothing but an open area left. The room's original boundaries can be determined by the pattern of paint remaining in the overhead and dangling electrical wires which once led to light switches and a heater control switch mounted on the walls. An electrical distribution panel for the ship's lighting system that was once embedded in the forward wall of the Marconi cabin now hangs down by its wires, with a couple of fuses showing evidence of having blown.*

The skylight over the operator's desk is gone, leaving an open hole in the overhead. The only piece of equipment that could be found in the room was the accumulator charging switchboard, which lies face down on top of the sediment that covers the deck, still connected by wires. Everything else in the room was evidently carried away by the water, presumably aft into the large open space that housed the Grand Staircase.

The adjacent Silence Cabin, though, survived the sinking, thanks to the extra thickness of its walls to accommodate sound-proofing. The transmitting apparatus survived largely intact and is now completely accessible, thanks to the organisms that have eaten away the walls of the room. When the room was last seen in 2005, the AC/DC switchboard and field regulators remained mounted on a fragment of wall. The glass on the AMPERES and VOLTS dials were still intact on three of the four gauges, the lettering still visible. The knife switch on the AC side of the board is still closed, but the knife switch on the DC side is open, indicating that operator Phillips deliberately shut down the station before departing. The regulators show the last settings of resistance used to sharpen the spark as ship's power became increasingly unstable.

The switchboards hang on the wall above the motor-generator set. The top of the teak box housing the rotary spark generator is locked in the open position, indicating that operator Bride must have been listening to the spark as he adjusted the regulators. The condensers and transformer sit unaffected by the tragedy. The jigger was mounted on the wall above the condensers and with the wall behind it eaten away, is held upright only by the copper bands connected to it. The wood of the jigger box has been largely eaten away and it will soon fall to pieces. The brass earth arrester for the aerial and tuning lamp, once mounted on the wall next to the jigger, are still held upright by connecting wires. The HF spiral inductance coil has also fallen from the wall to lay atop the bank of condensers. The two choking coil boxes lie atop the transformer, having also fallen from the wall. The bank of emergency ac-

Above: this DC motor was part of the disk discharger transmitter in the Silent Room which was located just below the main deck, to give the shortest distance between the equipment and the aerials (Earthship Productions Photo)

Above: One of the switchboard meters for the 5 kw transmitters (Earthship Productions Photo). Below, right: This was likely the style of meter used on the switchboard for the 5 kw transmitter. (Canadian Museum of Science and Technology Photo)

cumulators sit next to the transformer There is a pile of debris that accumulated aft and to port (outboard) of the Marconi rooms in the remains of a passenger stateroom. It is possible that some of the Marconi radio items were captured in this debris pile, instead of being pushed aft into the Grand Staircase void".

Spud Roscoe, VE1BC, and Parks Stephenson add some other background information to Titanic radio story:

1. CQD and SOS were both authorized distress signals at the time of the Titanic's maiden voyage.
The 1906 International Radiotelegraph Convention in Berlin established the 600-metre (long wave) and 300-metre (short wave) as the two wave lengths authorized for general public service. The normal wave for shipboard use was

Above left: The disk discharger spark gap sat inside a teak box which served as a sound deadener. The lid of this box is in the open position (CGI by Parks Stephenson) . Above right: The disk discharger transmitter as seen in 2019. It is believed that the lid was left open by radio operator Harold Bride. Photo by Earthship Productions

established at that time as the 300-metre wave. Call-ups were made on the normal wave, then the conversation could then be moved to another wave, provided that was it was under 600 metres or over 1600 metres. The 1912 International Radiotelegraph Convention in London reaffirmed these two waves and designated the 600- meter wave as the normal wave length for ships to use. Distress calls were to be made on the normal wave (600 metres, or 500 kHz). The 1906 Convention was the first to establish common frequencies.

2. The M prefix was applied to all Marconi call signs on January 1st, 1908, however the "M" prefix was usually not transmitted between Marconi stations as a shorthand between familiar operators. If broadcasting in the blind, or talking with another ship that was not Marconi equipped (like a German Telefunken boat), then the entire call sign was used. This is before 1912.
After the 1912 Convention, the call letters were more standardized and the first letter denoted country, rather than company (although, with Marconi based in England, Great Britain was assigned "M" as one of its first call letters).

3. The four letter signal flags assigned each ship and the radio call sign did not become one and the same until January 1st, 1934.

4. The British did not use "de" as the separation signal. They used the letter V and at least the Navy used it until after World War II.

5. As a rule, all ships were to use the coast station nearest their position.. But Regulation XXXV, paragraph 2, of the Convention Service Regulations allows for more distant coast stations to be used under certain circumstances. In that instance, a wave length of 1800 metres was to be used.

6. By 1912, though, most ships and coastal stations were working the 600-metre wave. In the July 1911 issue of the Marconigraph, the installation aboard the Olympic (the Titanic's sister ship) was "arranged to tune in transmissions to waves of 300 and 600 metres...". Harold Bride also described both 600- and 300-metre waves in his testimony. According to the Marconi maintenance manual for the 5-kW apparatus, the adjustment of the closed oscillating circuit for the production of the long (600-metre) wave was to place the banks of the main condenser in parallel; for the short (300-metre) wave, in series. Inside the Titanic wreck, it was observed that the Swiss commutator was in the parallel position, which means that Titanic was using the 600-metre wave when she sank.

7. Cyril F. Evans, the wireless operator in the Californian with call sign MWL, did not transmit an ice message to the Titanic. Cyril Evans simply transmitted CQ V WL and then stated they were stopped in ice for the night in the position Captain Lord had given him. This message was for all ships in the area and not just the Titanic. Jack Philips in the Titanic received this so loud he simply chastised Evans for interrupting him while trying to transmit a multitude of messages from his passengers to the Cape Race station with wireless call sign CE.

Cyril Evans did not properly prefix his message by adding the code "MSG" in the preamble. According to Evans, he used an informal call up, "SOM" (Say, old man), then his message. Harold Bride later related in court that Jack Phillips responded to Evans's informal interruption with a curt "D-D-D", the silent signal at the time. If Evans had used the "MSG" prefix, then Phillips would have paused with Cape Race and taken the message for acknowledgment.

Above: One of the multi-tapped regulator boxes whose selector handle is shown in the exact position when Titanic sank. Photo by Earthship Productions

A New Development as of February 21/2020:
A Company With Rights To Remove Artifacts From Titanic Asks Court To Allow It To Recover Famous Radio.
- Sheena Jones, CNN

RMS Titanic Inc., a company that has exclusive rights to salvage artifacts from the Titanic, wants to retrieve the radio used to call for help after the ship hit an iceberg, according to documents filed in a Virginia federal court.

A hearing to discuss this matter is scheduled for Thursday, according to court documents. The removal of the Marconi radio would require the company to remove a part of the historic ship's deckhouse to access the "silent room," an area with soundproof walls that housed the wireless radio. The ship, which was deemed unsinkable before its April 1912 voyage, and its contents are now protected under the R.M.S. Titanic International Agreement between the United States and the United Kingdom.

RMS Titanic Inc. would need to obtain federal court approval to work inside the hull of the ship and remove the rust-covered radio, officials say. The National Oceanic and Atmospheric Administration says in court documents that RMS Titanic Inc. has recovered at least 5,000 artifacts from the ship debris field and that the government wants to protect the best interest of the public and the Titanic before the company can take additional artifacts. The agency said intrusive recover activity must be evaluated based on whether there is a justified educational, scientific or cultural interests.

The company says its work includes educating the public through expeditions and artifacts.

Update from the court: In mid May 2020,, a US federal judge in Virginia has given permission to retrieve the ill-fated RMS Titanic's Marconi wireless gear, which transmitted distress calls from the sinking ocean liner during its maiden voyage. Judge Rebecca Beach Smith of the US District Court in Norfolk ruled that the radio gear is historically and culturally important and could soon be lost within the rapidly decaying wreck. "The Marconi device has significant historical, educational, scientific, and cultural value as the device used to make distress calls while the Titanic was sinking," Judge Smith wrote in her ruling. She said the company would be permitted "minimally to cut into the wreck" to access the radio room

Why Does RMS Titanic Inc. Want To Get The Radio Now?

RMS Titanic Inc. argued in a court document filed last year that little was known about the most famous radio in history and that the company wanted to recover it before conditions deteriorated further and the piece of history was lost. RMS Titanic Inc. cited a report conducted by Titanic expert Parks Stephenson, who visited the wreck in 2005 and 2010, saying that large sections of the roof of the deckhouse have collapsed since 2005 . The famous ship, resting about 12,000 feet down in the North Atlantic Ocean, houses the transmitter in what was known as the Marconi Suite. The suite, made of steel, consisted of three areas: sleeping accommodations, an operator's room and the silent room that housed the radio. Each area was separated by wood walls that officials believe have now dissolved, the documents say.

The Final Call Made From The Marconi Set

According to the Senate report released on the Titanic, the final calls from the Marconi began around 10:25 p.m. ET on April 14, 1912. The call from the operator was a distress signal, or CQD.

The report said the Titanic had been struck by an iceberg. A half hour later, another message said the vessel was sinking by the head and women and children were being placed into lifeboats; the operator noted the weather was calm and clear. The final message that was audible said, "Engine room getting flooded." The signals were blurred and ended abruptly. .Although more than 1,500 passengers and crew perished in the disaster, the distress calls brought ships that rescued about 700 people.
CNN's Isabelle Lee contributed to this report.

A Compelling Reason For The Radio Set Salvage

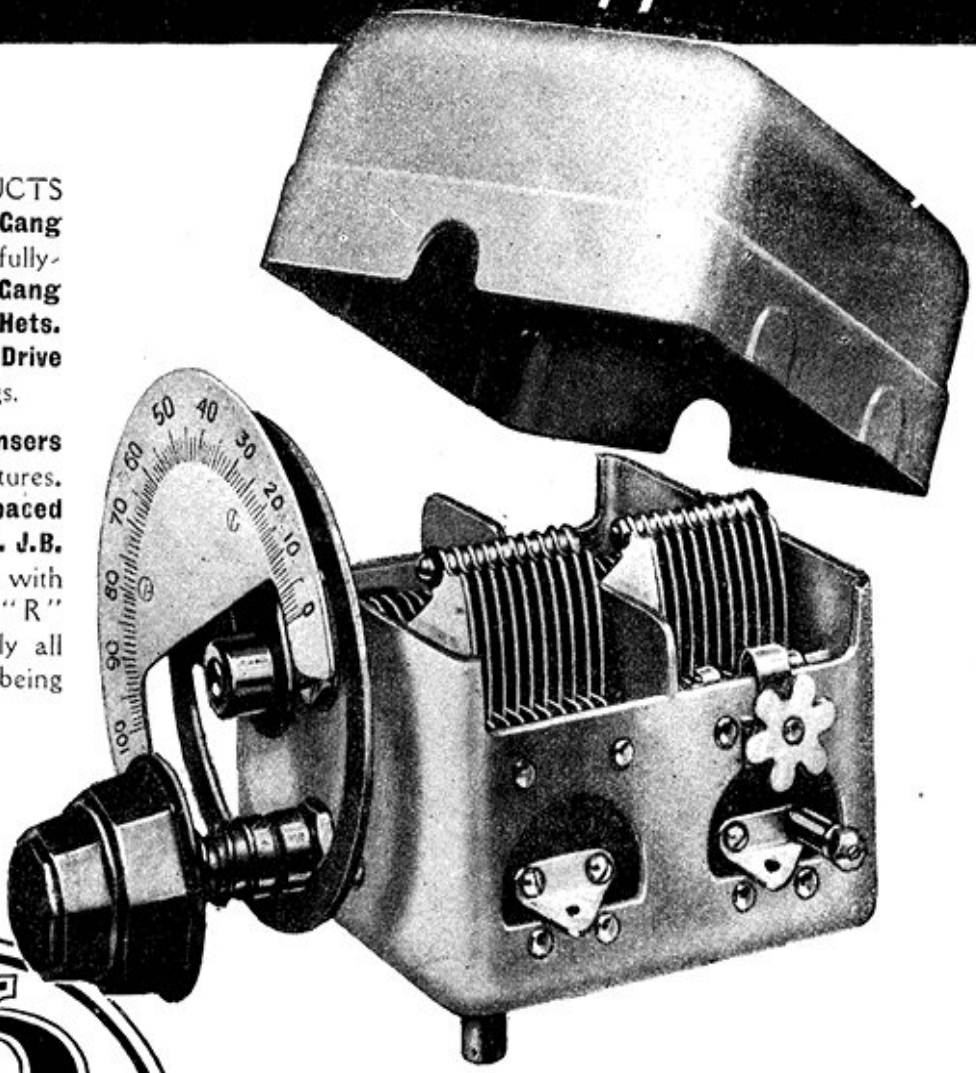
There are pro and con sides as to the salvage of the radio equipment from Titanic's Silent Room. The con side says not to salvage the radio gear because Titanic is a marine grave and should be left alone. There have been some 5,000 artifacts salvaged so far. On the pro side, the roof of Titanic's Officer's Quarters Deckhouse in danger of collapsing and crushing the Silent Room . The equipment should be removed so its configuration can be studied, otherwise it will be lost forever.

NEW J.B. 'UNITUNE' CONDENSER – *a triumph of precision*

NEW J.B. PRODUCTS include entirely **new Gang Condensers** in semi- or fully-screened types. **New Gang Condensers for Super Hets. New Illuminated Disc Drive** for use with above gangs.

New Short Wave Condensers with many novel features. New capacities in **Air-Spaced Differential Condensers. J.B. "Illuminator"** for use with J.B. Chassimount and "R" Type gangs. Practically all existing J B. models are being retained.

STAND No. 204
NATIONAL RADIO EXHIBITION



J.B. "UNITUNE" Gang Condenser.

A pre-set trimmer is fitted to one half, while the other half has a trimmer which is operated from the front of the panel. The panel-trimmer control is concentric with the main tuning knob. Capacity '0005. Complete with disc drive and bakelite escutcheon plate.

2 gang - - **18/6** 3 gang - - **27/-**

REG TRADE MARK

PRECISION INSTRUMENTS

Advertisement of Jackson Bros., 72, St. Thomas' Street, London, S.E.1. Telephone: Hop 1837.

Parks Stephenson is a volunteer researcher of shipwrecks. He offers some background information for diving down to the Titanic again:
"Jim Cameron surveyed the remains of the Marconi transmitting room (Silent Cabin) in 2001 and 2005. The operator's room, with all the receiving components, was destroyed during the sinking by the flow of water through the deckhouse. But the Silent Cabin had soundproofed walls, which withstood the rush of water and protected the transmitting apparatus within. Over the next century, the organisms that feed off the wreck ate away the wooden walls, revealing a beautifully complete and intact transmitting apparatus, the only surviving example of a Marconi 5-kW marine station in the world. It also happens to make up part of what is arguably the most famous radio (telegraph, actually, but that's how the public sees it) in the world. I am the one who performed the analysis of Jim's dive imagery and reconstructed what was a unique station. Not even the Marconi Co. archives had any source material about Titanic's installation, given that they were always put together by the local Marconi engineer to fit the space allocated aboard each vessel.

The components were standard Marconi, it was the manner in which they were installed that was unique. Each marine station was put together by a supervising Marconi engineer, tailored to each ship. Olympic was Titanic's sister ship and as such was almost identical, but her Marconi Room was in a different location than Titanic's. Also, Olympic had a plain spark discharger, while Titanic (launched a year after Olympic) received the newer disc discharger. Jim Cameron modeled his movie version of the Marconi Room on Olympic because it was better documented in photographs. No photograph of Titanic's Silent Cabin exists. The Marconi archives had nothing regarding Titanic, specifically. It wasn't until after the movie, after Cameron explored the wreck and found the remains of the Silent Room, that we finally discovered how different Titanic was from Olympic. Each component, though, is standard Marconi products and I used their catalogue to help re-create the system in CGI.

The transmitting apparatus has survived. The wood boxes that house the jigger, coils and ATI have certainly degraded, but the motor-generator set (which includes the first rotary discharger to go to sea) looks to be in good, maybe even restorable, condition. The switchboards and regulators, still mounted on the steel bars that handled their weight, still show the last operator settings of motor and alternator. The condenser bank and transformer are in galvanized steel tubs. Wall mounted components still hang in space, held up by their connecting wires after the walls themselves were consumed.

This apparatus needs to be saved, as the deckhouse that has protected it until now is collapsing. I have noted the ongoing collapse of the roof of that deckhouse even saw it in person during my dive to the wreck last year (2019). It won't be long before the remains of the roof collapses on top of the apparatus, just like it did over Captain's Smith bathtub (which we noted for the first time last year).

The wreck doesn't belong to us or this time. We are lucky to still have the wreck in exploitable condition now. Future generations won't have that luxury that we take for granted. They will want to connect to Titanic and any artifacts we rescue from the disintegrating wreck now will be their link to the ship and its story. I would think as radio men, you would want this piece of communications history preserved forever"

Further Reading
1) A more detailed explanation of Titanic's radio gear can be found at the bottom of the page.. Hosted by The Halifax Amateur Radio Club.
2) Published in commemoration of the one-hundredth anniversary of the Titanic's sinking, this book tells the story of that fateful night from an unusual angle: through the many wireless communications sent to and from the land stations and the ships involved as the tragic events unfolded. Drawing on the extensive record of wireless transmissions in the Marconi Archives, Titanic Calling recounts this legendary story the way it was first heard, beginning with repeated warnings - just hours before the collision—of several large icebergs unusually far south and alarmingly close to the Titanic's course. The story follows senior operator Jack Phillips as he sends distress messages to nearby ships and shows how these urgent calls for help were received and rapidly relayed across the Atlantic in a desperate attempt to save the lives of the Titanic's passengers and crew. Finally, the distant SS Virginian receives the Titanic's final, broken message. The story concludes with the rescue of the fortunate survivors, who radio messages to loved ones from aboard the RMS Carpathia while safely on their way to New York.

Illustrated throughout with photographs of the messages and including full transcripts of original material, the book also features an introduction to the development of maritime wireless communications and a discussion of the Marconi Archives' Titanic collection. The forced brevity of the messages lends the narrative a startling sense of immediacy and brings to life to the voices of the individuals involved ISBN 978-1851243778.

www.halifax-arc.org/pdf/TitanicRadio1.pdf

Phil's Old Radios

Powering Your Radio Safely With a Dim-bulb Tester

The moment you bring home a "new old" radio or TV, the temptation is to plug it in and try it out. That's *always* a bad idea.

For all you know, the set may have a short circuit in the power cord, failed electrolytic capacitors in the power supply, or other serious problems not obvious to the naked eye.

Turning it on prematurely may damage expensive parts or even start a fire.

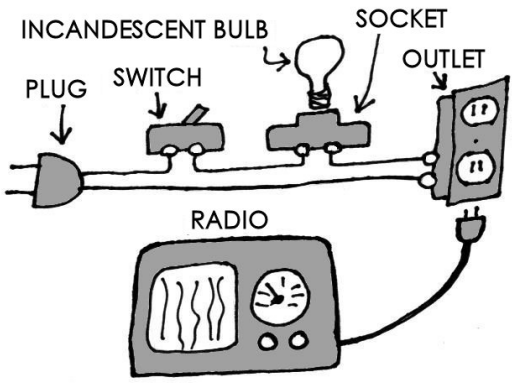
Many experienced restorers replace all the electrolytic capacitors in a set before attempting to start it up. If your radio is valuable or it has great personal value, that's the prudent course. Read Replacing Capacitors in Old Radios and TVs for details.

There are other basic steps, such as inspecting for ruined parts, testing tubes, and cleaning controls, which should also be performed before power-up. These are detailed in the article, First Steps in Restoration. If you haven't already done those steps, please do them now. It's pointless to turn on a radio that has dead tubes.

What Is a Dim-bulb Tester?
A dim-bulb tester lets you try out a radio or TV under safe conditions and see whether it has problems in its power supply. You can build one in an evening.

Here's my old dim-bulb tester, which I built about 25 years ago. It's a few spare electrical parts mounted on a piece of scrap wood, and it includes a power switch, although the switch is optional.

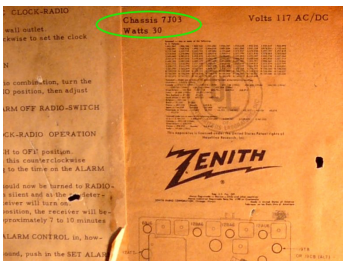
The sketch shows how I wired the tester.



As the diagram shows, the dim-bulb tester puts a light bulb between your radio and the AC power in the wall. This way, if your radio has a short circuit, it will simply light up the bulb instead of damaging itself.

Safety Note: the dim-bulb tester involves high-voltage current. If you aren't experienced with household wiring, or this diagram looks confusing, get assistance from someone more experienced. If you don't know anyone like that, try contacting an area collector club; you might find someone willing to help. The ARC website has a list of clubs in the USA and throughout the world.

Note Your Radio's Wattage!
You must choose a light bulb of the correct wattage when using this tester. If your radio is a typical five-tube set, it probably uses about 30 to 35 watts of power. The radio's wattage is often stated on a label on the back, bottom, or inside. For example, here is the label from my Zenith Z-733 clock radio, showing that it consumes 30 watts:



More complicated radios have more tubes and thus draw more power. For example, my Hallicrafters SX-88 shortwave radio has 20 tubes and it draws 138 watts. Most vintage TVs draw even more. To use a dim-bulb tester with these, you'll need to use higher wattage bulbs.

If the bulb's wattage is too low, it will light brightly even if your radio has no problems, and your radio won't play at all. We'll demonstrate this in an example below.

Your radio should play normally without fully lighting a bulb that is roughly 1.5 to 2 times the radio's stated wattage. Note the bulbs should be the old Incandescent type and not the new modern energy saver.

Using the Tester
Let's look at a real-world example. The next photo shows my GE F-63. This radio has been fully restored and it works like new. Next to it is my dim-bulb tester and three bulbs, of 40, 75, and 150 watts. I have plugged the tester into the wall and plugged the radio into the tester.

This six-tube GE radio draws 70 watts, according to its label. You would normally use a bulb equal to that or somewhat higher, but let's see what happens when you put a 40- watt bulb in the tester and try to power the radio:

The 40-watt bulb glows very brightly and the radio doesn't play. This is not a sign of trouble—the bulb is simply too small, only a little over half the wattage drawn by the radio. This example shows that there's no point in using a too-small bulb: it won't tell you anything useful.

Now, let's substitute a 75-watt bulb, which approximates the radio's 70 watts.

The 75-watt bulb shines dimly—notice the faint pink-orange glow—and the radio plays normally. It takes a few seconds longer than usual to warm up, and the

bulb shines a little more brightly during that warm-up period. This is normal behaviour for a good radio when the wattage of the bulb is roughly the same as the radio's wattage.

If this 75-watt bulb shone brightly, rather than dimly, that would indicate a problem such as a short-circuit in the radio. You should not turn on the radio any more until you investigate the problem.

The final example uses a 150-watt bulb, slightly more than twice the radio's wattage.

The 150-watt bulb barely glows at all. The radio warms up quickly and it plays normally. This is what you'd expect from a normally-functioning radio. If this large bulb shone brightly, that would flag a problem.

Passing the dim-bulb test doesn't mean that your radio works perfectly, only that it doesn't have a catastrophic short circuit in the power supply. There are many other faults that can't be detected by this device. But it does allow you a safe startup. If the radio contains a short circuit, the current load is taken by the light bulb rather than your radio, preventing damage to the radio.

Checking the Power Transformer

Here is a handy procedure which I found in an old radio service book. It is used to check the transformer and input filter capacitor in a transformer-type power supply. (This will not work with an "AC/DC" type power supply, which lacks a power transformer. Of the two radios mentioned earlier in this article, the Zenith Z-733 has an AC/DC type power supply and the GE F-63 has a transformer type supply.)

To check the power transformer:

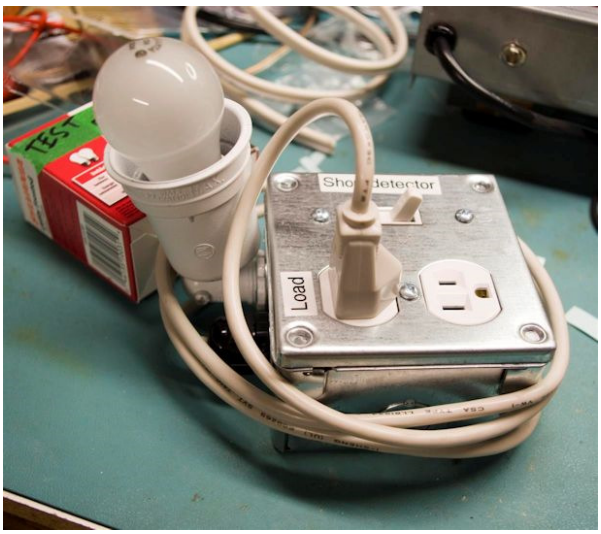
1. Remove all tubes from the radio. Note where each tube belongs, so you can later replace it in the correct socket.
2. Place a 25-watt or 40-watt bulb in the dim-bulb tester and plug the radio into the tester.
3. A good transformer will cause the lamp to glow dimly after a few moments. If the lamp glows brightly, you have a short circuit; the transformer should then be disconnected and checked.
4. If the transformer is OK, put in the rectifier tube, put a 100-watt bulb in the dimbulb tester, and try again. If the rectifier tube lights up and the lamp glows brightly, you have a short-circuit in the filter capacitor of the power supply.

When you replace the tubes in the radio, be sure to put them back into the right sockets! Although this method is quick and convenient, there are other ways to check the transformer and filter capacitors, of course.

Building a Dim-Bulb Tester

There are many ways to build this simple device. One variation would be to use a three way light socket. Then you could install a three-way bulb and simply turn the switch to change the bulb's wattage.

A couple of years ago, Kai Lydestad shared these photos of his dim-bulb tester:



As Kai explained:

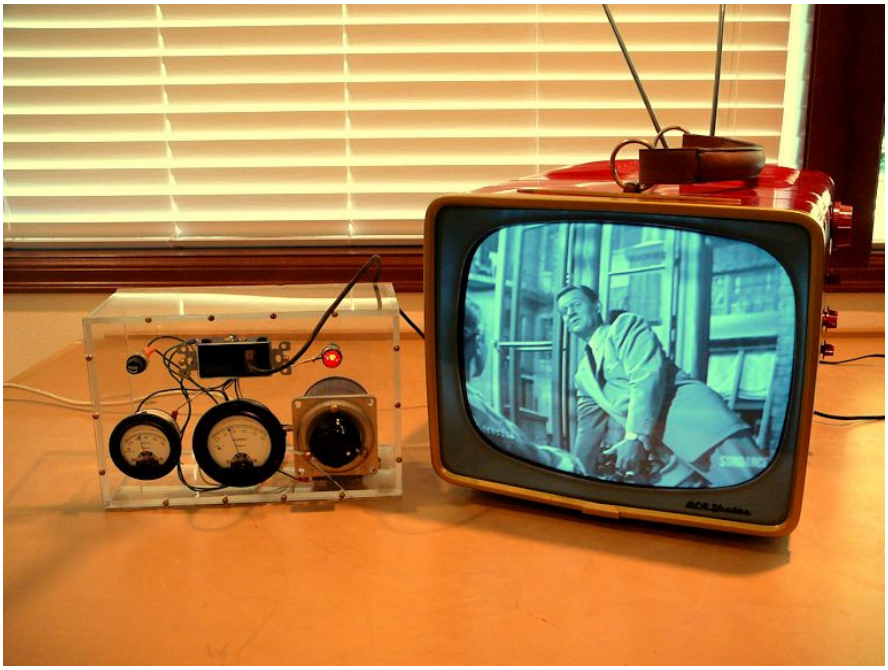
I don't have a very large bench, so I made this compact version using a floodlamp socket designed to fit a hole the size of a conduit punch-out.
The bulb socket, power output, and switch all share a single two-position junction box. AC input is provided by a cut computer cord running into the box through a cable relief collar.

I like Kai's compact design. If I didn't already have a dim-bulb tester, I'd build one like this.

Several years after writing this article, I ran across a commercial tester built by the Christy Electronics company in Chicago. It serves the same purpose as my simple dimbulb tester and it includes additional parts, such an ammeter, making it more versatile.

See the Christy Electronic Tester article for more information.

Dim-bulb Tester vs. Variac
In discussions of trying out unrestored radios or TVs, you'll sometimes hear mention of a variac. A variac isn't equivalent to a dim-bulb tester, but each device has its uses, when testing a vintage tube device. In this photo, I'm playing a restored TV using a variac:



In a nutshell, a variac lets you vary the line voltage supplied to your radio or TV. It's handy for powering a set at a specified voltage (say, 117 volts rather than the usual 120), or for gradually increasing the line voltage while you try out an unrestored set.

For more details, see my Variacs article.

In contrast, a dim-bulb tester doesn't change the supply voltage. However, by putting a light bulb in series with your device, it limits the amount of *current* supplied to your device, thus reducing the risk of damage if there is a power supply problem, etc.

Antique Wireless Association Valve QSO Party

1. Aim
The aim of the AWA Valve QSO party is to create activity on the 40 and 80 metre bands. It is a phone only contest using AM and SSB. Preferably, valve radios or radios with valves in them may be used. No linear amplifiers may be used.

2. Date and Time
2.1 AM QSO Party
13:00 to 17:00 UTC (15:00 to 19:00 CAT) Saturday 7 May 2022
2.2 SSB QSO Party
13:00 to 17:00 UTC (15:00 to 19:00 CAT) Sunday 8 May 2022

3. Frequencies
3.1 40 metres: 7 063 to 7 100 kHz and 7 130 to 7 200 kHz; 80 metres: 3 603 to 3 650 kHz

4. Power
The output power may not exceed 100 w, unless the rig itself has a higher output power (FTDX400, etc.)

5. Exchange
5.1 Call sign, RS report, a consecutive serial numbers starting at 001 and the type of radio used, e.g., HT37 TX.
5.2 Each QSO claimed for competition credit must include contemporaneous direct initiation by the operator on both sides of the contact. Initiation of a contact may be locally or by remote. Contemporaneous = existing at or occurring in the same period of time and the operator must be in control of all the processes. In plain English – a live, air breathing radio amateur must be at both ends of the QSO.

6. Scoring (Your radio)
All valve radio: 3 points per contact Hybrid radio: 2 points per contact Solid State Radio: 1 point per contact

7. Log Sheets
7.1 The log sheets must be submitted by Friday 12th May 2022 to andyzs6ady@vodamail.co.za.
7.2 Certificates will be awarded to the first three places in each category – AM and SSB

All Valve

Hybrid

Solid State

CONTACT US:

P.O. Box 12320
Benoryn
1504

Mobile: 082 448 4368
Email: andyzs6ady@vodamail.co.za

Get your backdated issues at http://www.awasa.org.za/index.php/newsletters

Visit our Website: www.awasa.org.za

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; Every afternoon from 17:00—3.640
Saturday 08:30 (06:30 UTC)— National SSB Net— 7.125; Sandton repeater 145.700
Echolink—ZS0AWA-L
Relay on 10.125 and 14.135 (Try all and see what suits you)
Saturday 14:00 (12:00 UTC)— CW Net—7025

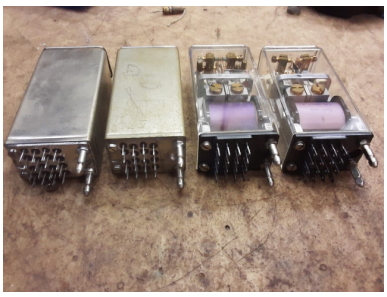
AWASA Telegram group:

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

For Disposal:

I have the following valves, surplus to requirements. 6360A/ QQEO3/12 x8. QEO6/40x3. 829Bx2. /12BY7. All new, boxed. Looking for any reasonable offers.

14 Ceramic insulators



4 Siemans relays in original packing

There is also available, ex a listener member's estate, a Hallicrafters SX28 and a Hammarlund HQ120. They are presently located in Eshowe. Can forward further details and pics to interested buyers. Open to realistic offers.

Contact John ZS5JX...+27 82 486 5280