Volume 34 No. 2
October 2024

S.A. Group Newsletter

Inside Story:

***Second story in our series*: During the "Golden Years" of radio and television in Australia, almost every suburb had its own radio & TV sales and repair shop – just like this one.**

But where was this one located?

See inside for the full story……

Historical Radio Society of Australia Inc. – S.A. Group

Web Site: www.hrsasa.asn.au
All correspondence should be addressed to the Secretary, HRSA-SA Group, 2-13 Chester Street, Glenelg South, S.A. 5045.

Committee for 2024-25

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Committee Member:	Tony Bell	8269-4095	antony.k.bell@gmail.com

Co-Opted Additional Members/Responsibilities:

Shop Keeper:	Alan Taylor	0417 859 074	shop@hrsasa.asn.au
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Planned meetings for the next few months:

Sunday 27 October
11:00am to 5:00pm
Home Visit:
BBQ Lunch & Home Visit – Alastair Craill's Home at Lyndoch in the Barossa Valley
This will be a family BBQ Day at Lyndoch where we can check out Alastair's workshop and radio collection. Alastair has been a frequent writer of articles for our national magazine "Radio Waves" so now we can meet and talk with him in person! We'll drive in convoy and share rides to Lyndoch.
Meeting point for a convoy car trip:
11:00am -The Brickworks Marketplace carpark
Corner of South Road & Ashwin Parade,
Torrensville, SA 5031

Wednesday 13 November
12 noon for a 12:30pm start
MEMBERS LUNCHEON
Formerly known as the "Retirees Luncheon" it is open to all members, partners, and guests. This month, were back in the Northern suburbs.
To be held at:
The Reepham Hotel
273 Churchill Rd, Prospect, SA, 5082

Sunday 24 November
1:00pm to 3:30pm.
Two Concurrent Workshops
Workshop 1: Bakelite & plastic repairs
Workshop 2: Practical soldering do's & don'ts, tricks & tips.
One workshop will be held in the Hall and one workshop in the smaller Meeting room.
You will be able to book into the one of your choice.
Further details to follow.
To be held at:
St. Cyprian's Church Hall,
70, Melbourne Street, North Adelaide, SA, 5007

Saturday 14 December
12 noon (for 12:30 start)
CHRISTMAS LUNCH
Our annual celebration of the year's activities and Christmas. (To avoid the second Saturday of the month for our joint AHARS members!)
To be held at:
The Maid of Auckland Hotel
926 South Rd, Edwardstown, AU 5039

Committee News:
We wish to inform all members that at the end of September, our long-standing Committee Member (and Auctioneer) Warren Lane, resigned from the Committee. Warren has not been enjoying the best of health in recent months and has decided to cut back on all his commitments. He still wishes to be our Auctioneer which we are more than happy to do.

In the meantime, to fill this casual vacancy until the next election in July, one of our newer, but well-known members, Andrew Fraser has agreed to fill in. We welcome Andrew and thank him for volunteering to help run the Club.

At the next AGM in July 2025, there will be several current Committee Members who will NOT be standing for re-election. The time is right for some of our newer members, (such as those who have joined over the last 3 or 4 years,) to think about stepping up and leading this organisation into the future.

Component Corner

Many new members are probably wondering where to obtain components and valves. The following is a list in order of preference:
HRSA-SA Group Shop: We now have a new arrangement for our store. Please contact our Liaison Officer, Alan Taylor on 0417-859-074 to enquire, or place an order. Alan's email address is: shop@hrsasa.asn.au
AZTRONICS, 170 Sturt Street, Adelaide. Houses the HRSA-SA Group valve bank and modern components. They will source components for members. Great supporters of the HRSASA.
HRSA Melbourne (see *Radio Waves*) Houses the Victorian HRSA valve bank and odd passive components and kits, plus resource books written especially for members.
WES Components, Sydney. The catalogue is viewable on-line, and orders can be placed through the Shop Keeper/Secretary, as the SA Group has an account, through which we get "trade discount". Go to: https://www.wes.com.au to see all their products.

Centenary of Broadcasting in South Australia
— 100 RADIOS FOR 100 YEARS —

PROGRESS REPORT:

Centenary Of Broadcasting in S.A.

The first of our two exhibitions to celebrate this event is about to open.

DATES:

Friday 8th. November 2024 - Friday 31, January 2025

LOCATION:

Adelaide City Library (Adelaide City Council)
3rd Floor, Rundle Place
Enter via Francis Street, off Rundle Mall, or DaCosta Arcade (There is a lift to the 3rd floor)
10:00am to 6:00pm Monday / Tuesday / Thursday
10:00am to 7:00pm - Wednesday
10:00am to 8:00pm - Friday
10:00am to 5:00pm - Saturday
12noon to 5:00pm - Sunday

This exhibition features the display cases of radios and tape recorders by Keith Ellison, and hosting, display, scripting and several "community events" hosted by the HRSASA during these 3 months, including a live broadcast from the site into the ABC radio "Afternoon Show" with Nicholai Beilharz to celebrate 100 years since 5CL gained their "A-Class" licence.

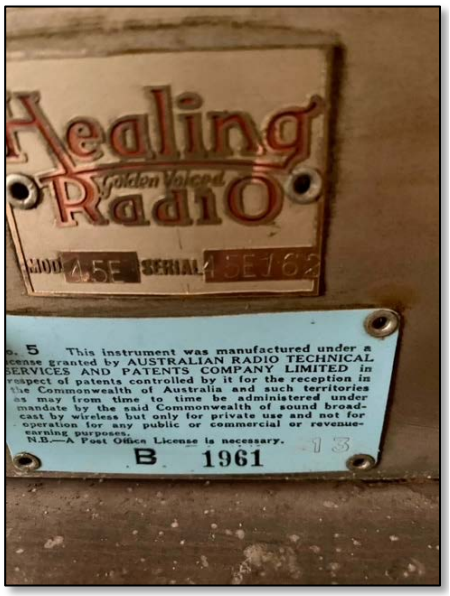
The first *Community Event* will be held on the opening day at the City Library. At 6pm. on Friday evening, 8th November there will be a "RADIO ROADSHOW" to which members of the public will be invited to bring along an old radio that they might have at home. A panel of "experts" will identify and appraise it for maker, year of manufacture, and any other interesting facts. They will NOT be giving valuations (for obvious reasons!) Only 100 seats are available, so bookings will be essential.

ITEMS For Sale, and or HELP STILL WANTED BY FELLOW MEMBERS:

1. <u>FOR SALE:</u> This beautiful, fully operational, ***Healing "Golden Voice"*** Model 45E (made in 1935) console radio in an art-deco, walnut and blackwood cabinet. This was an expensive item in its day and has stood the test of time! It still sounds great and only needs a checkup! It has phono inputs at the back so Bluetooth can be easily added which will give it infinitely more life beyond AM radio!







The current owners are friends of an HRSASA member and would like it to go to a member who will appreciate it. The price is completely negotiable with the owners, so make an offer!! It will be a "pick up" from the Walkerville area.
<u>Contact:</u> Paul or Kathy Pace Email: kpace59@gmail.com or phone Paul on: 0447 685 000

2. **<u>WANTED:</u>** Philips Transistor Radio – Model No. 198
<u>Contact:</u> Tony Bell on (Home) 8268-4095

3**. <u>WANTED URGENTLY:</u>** Tony Bell is currently preparing radio and transmission exhibits for the upcoming *Centenary of Broadcasting* exhibition at the State Library – He is urgently looking for:

1. The brass "*All Transistor"* badge for a Philips Model 198 or 199 transistor radio. It could be a junk radio still with the badge.

2. A telescopic antenna of no more than (close to) 9 mm diameter and about 75 mm long. No elbow at the bottom but could be a male or female thread.

Contact: Tony Bell on (Home) 8268-4095

4. GARAGE SALE: All members are invited to attend an informal garage sale of the remainder of the collection of the late Mr. Doug Hawkes. Doug was a member of the HRSASA for many years. His son Ben Schwarz is wanting to dispose of over 100 radios and lots of spare parts and accessories.
Prices will be VERY reasonable. All negotiations will be with Ben Schwarz.

Address:
33, Lloyd Crescent,
Littlehampton, SA, 5250
Date:
SATURDAY 2nd NOVEMBER
10:00am to 2:00pm

5. Wanted To Sell:
A 7-band AWA radiogram. The radio has been fully restored and is working well on all bands. The turntable is brand new (from an ex Bland radio) - See photos below.
Price: $200
Contact: Greg Lamey Email: gnjlamey@gmail.com Phone: 0455 349 304

Quick Quiz

From your early tears of training – or from what you have learned from this hobby over the years by yourself, or from science programs on TV…..

QUESTION: Can you name the 6 primary methods of producing electricity?

Six? …I thought it was only 3…. Or was it four?.....Can you remember all of them?

(For the answer, turn to page 11.)

From our President,

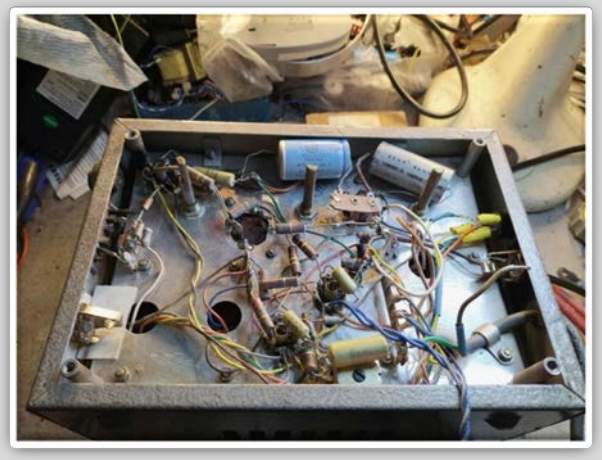
Graham Dicker.

(Graham's monthly stories from the past, and other ramblings.)

The BOOBY TRAP

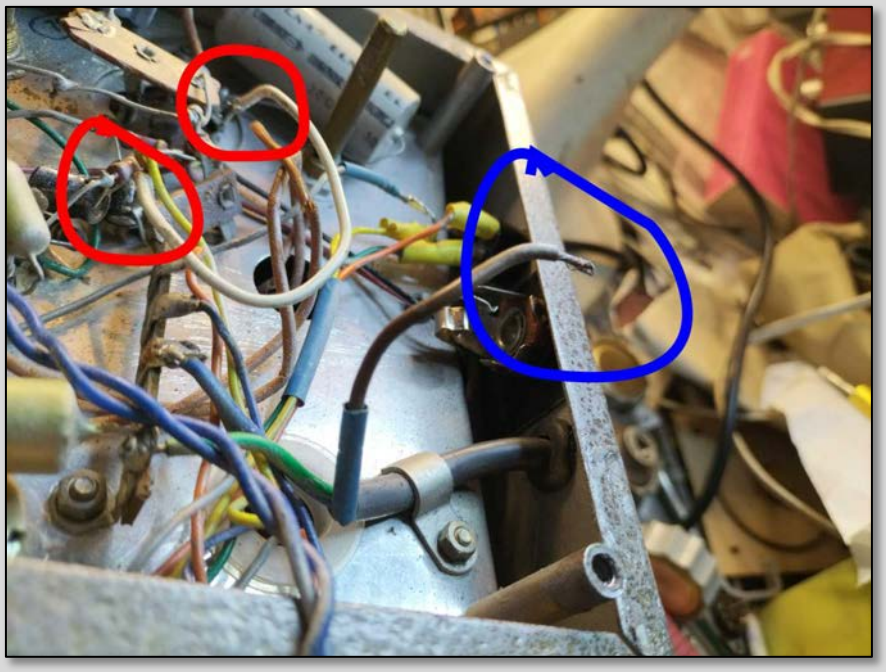
This month's story relates to something I have not seen in over 30 years but has again raised its ugly head and is very important to those who restore radio and other equipment. Many years ago, there was an element in the electronics industry where if a customer did not accept a quotation for repair they would deliberately make-man made faults to make it difficult for the next serviceman. Long ago I saw quite a bit of this practice: everything from hitting VCR heads with a sharp instrument destroying the heads, smashing slugs in inductors, soldering CPU chips in backwards, shorting +12V power supply lines with a jumper to +5V taking out most of the logic, erasing UV erasable boot and other ROM's in boards, swapping over IC's on boards (i.e. a 7400 for a 7402,) shorted voltage regulators, pins pushed through coax (often found on TV sets,) valves in wrong positions or incorrect types. These are just a few examples but by far, this is the worst practice I have ever seen.

The project was an AWA 8-watt PA for conversion to a small guitar amp. Originally, it sat in the owners shed for 20 years after being quoted $350 to fix it (back then), so it found it's way to my bench recently. My standard practice with anything I fix or modify, has always been to do a full visual inspection first before plugging anything in. In this case I was rewarded by still being alive to talk about it!! These PA's have a rear cover and a front cover, the front cover is a PIG as you need to remove 4 x screws and the Bakelite knobs, and as you know, these often need a lot of force to remove which can end up with damage. However, I managed to pry them off with two screwdrivers, got the panel free, but what was inside brought chills to me!



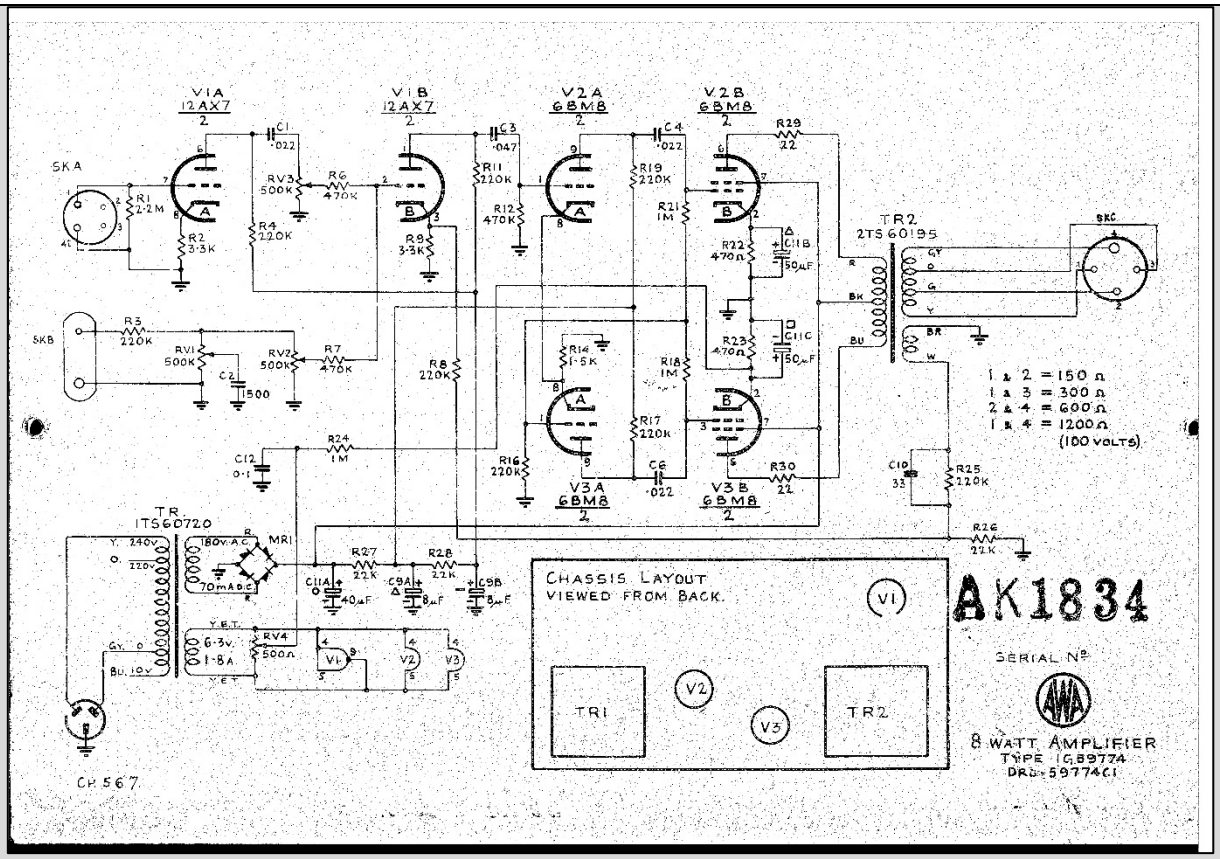
Above: **Front side of chassis with front panel removed**

Picture Below: Flying around free was the active lead from the power cord with bare wire disconnected (circled in blue), and on closer inspection a BOOBY TRAP - a jumper had been added from the power transformer primary to ground with an extra white wire (circled in red).
The net result is that on a correctly wired power point it would not work but would probably have killed someone if the flying active lead had touched the chassis.
With an incorrectly wired power point (eg/ 20 years ago when there were no ELP's) it may have worked but potentially still killed someone. Most likely either way today an ELP would have tripped. The other thing I practice routinely by default, is **always unplug anything you intend to work on or touch.**

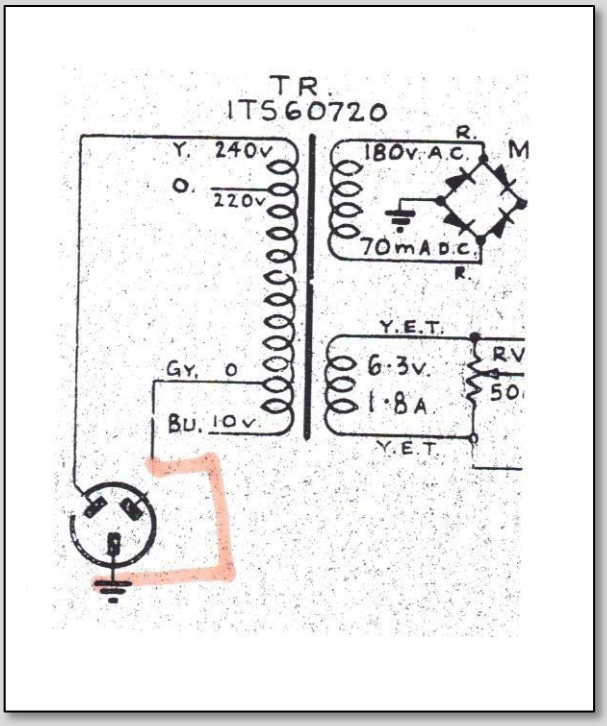


Above: **Power wiring as found with white wire added**

Above: **Power wiring as it should be**



Above: **The Original circuit**



Above: **Booby trapped circuit**

Graham Dicker – October 2024.

FRONT COVER STORY:

As seen on the front cover, during the "Golden Years" of radio and television in Australia, almost every suburb had its own radio & TV sales and repair shop – In our August Newsletter we featured *JENNINGS and OLDING Radio and TV Sales and Service.*

This month we are featuring WHEELER'S RADIO SERVICE originally at 194 Hutt Street, Adelaide, then later at Gordon Road, in Prospect.

Wheeler's Radio Repair Shop was located at 194 Hutt Street, Adelaide (on the Eastern side – next to Hutt Street Photos.) The business was started by Mr. Robert (Bob) Wheeler just after the end of WWII in 1946.

Like so many other former Australian Defence Force personnel who started their own radio (and later TV service) shops, Bob Wheeler had been trained at the RAAF base at Point Cook, just outside Melbourne. He qualified as a ***Radio Operator***, with both receivers and two-way radios, and saw active service with the RAAF. He also had an immense passion for boats which he was able to enjoy throughout his life.

Toasters, electric jugs, bar heaters, light fittings, mix-masters, vacuum cleaners, radios, car radios, clocks and electric irons were all sold and repaired through the shop. In addition, there were sales of records, batteries, refrigerators, and light-globes. Bob and his staff also replaced mains cables on all appliances where requested.

Bob's business motto was:
"WHEN WONKY WIRELESSES WON'T WORK, WHEELER'S WILL WORK WONDERS".

With the coming of television to Adelaide with the opening of NWS9 in September 1959, Bob realised that massive change was on the way. In the lead-up, he trained at night-school to qualify to repair TV sets as well. Later that year, he closed the shop in Hutt Street and continued to operate his business from his home workshop at 66 Gordon Road, Prospect. Advertisements were placed in the classified ads section of "The Advertiser", the evening "News" and the local Messenger Press, and Pope, Astor and Healing TVs were sold and rented, along with the radio business. His son, Noel collected the TV rental payments from their customers in the Salisbury and Elizabeth areas.

Above: BOB WHEELER (in dustcoat) with staff and friends in the South Parklands.

Bob's passion for boats, (especially yachts) saw him own various craft over the years, including an ocean-going yacht and several cabin cruisers.
He didn't lose his wartime skills either. He maintained his passion for two-way radio and always kept an amateur

licence (his callsign was **VK5NH**). Bob installed and maintained ***Eddystone*** transceivers in many craft at the Royal SA Yacht Squadron, including his own. He also installed Eddystone's in a great many of the crayfishing fleet in the South- East of SA.

In his early days during amateur radio sessions, his coming on-air signature-sound was recognised by many as the sound of a genemotor.

Bob finally retired from work in the 1980's.

As you can see, this series of un-dated photographs show the shop through different periods of time.
(Information and photographs kindly supplied by Noel and Ashley Wheeler.)

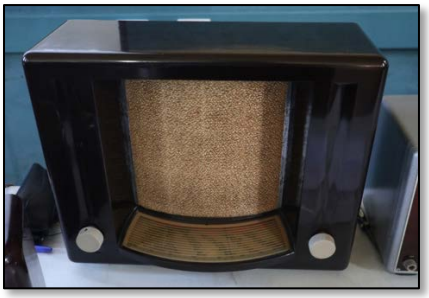
Answer to the Quiz: *(Question was on Page 6)*

QUESTION: ***Can you name the 6 primary methods of producing electricity?***
ANSWER: The **SIX** primary methods of producing electricity are:

Method	How it works
1. Magnetism	A conductor moving through a magnetic field. *(eg/ in a turbine generating electricity)*
2. Heat	Heating the junction of two dissimilar materials *(eg/ in a Thermocouple – measuring temperature)*
3. Light	Light absorbed by a Photo Voltaic cell. *(eg/ in a solar panel on your roof)*
4. Pressure	Compressing, or de-compressing crystals. *(eg/ in a piezo press-button gas flame lighter.)*
5. Chemical	Chemical reaction in a voltaic cell. *(eg/ in a non-rechargeable dry-cell battery, or fuel cells.)*
6. Friction	Rubbing two materials together. *(eg/ crackle when you take off a man-made fibre shirt.)*

Photo Gallery: Sunday August 25th. - Our "PHILIPS Products Show and Tell" Day

Above: Philips P-50 AC/DC battery powered 3-band radio & monochrome TV with cassette recorder



Above: Restored French-made Philips "Junior P" (1938) 110v.

Above: Ian Smyth putting the crowd to sleep!

Above: Philips Model 2510 and "Sevenette" speaker (1929) Fully resored with detachable Bluetooth module.

Above: Tony Bell's R5223 HF Receiver set – designed for surveillence and field communications. Made at Philips Hendon factory in 1960's.

Above: Christopher Ratcliff's restored Philips "Deluxe Modular 17" B & W portable TV

Above: A pair of Philips model 196A portable radios – Made by Philips at Hendon in 1959. These are AC/DC powered models, and were the last all-valve portables.

Above: Tony Bell telling the story of his two 196A's.

Above: Philips (1968) 22RL383/00R Made for European market, it received LW/MW/FM bands. Used 6 x 1.5v batteries.

Above: Peter Holland's TA155 (1948) model Phillips Cathode Ray Oscilloscope with a 2 inch diameter screen.

Above: John Crawford's Philips 3250W (1943) "Amenities" radio. Sold through Amenities shops for military personnel. Used a 6v synchronous vibrator.

Above: Colin Windsor's fully restored 6v vibrator powered Mullard model MBV-1102 "farm radio". Made by Philips. (1948)

Above: Philips GM2317 Audio Signal Generator. Rescued from Philips factory and now fully restored.

Above: Ian Smyth's fully restored Philips "Battery Eliminator" (Uses a 506 valve as rectifier.)

Adding "Bluetooth" modules to vintage valve radios (From the September Meeting)

Several members have asked for further information about retro-fitting one of these modules as demonstrated by Ian Smyth at the September Meeting. They are superb and do NOT detract from the integrity of the original radio as they use 90% of the circuitry as designed and are completely removable.

There are two excellent YouTube videos you can watch that will explain it.

VIDEO 1: Manuel Caldera is a valve radio restorer in Portugal who works very closely with David Tipton (from HRSA, Queensland.) Together, they have designed a PCB that takes its power from the 6vac heater circuit in many valve radio chassis. They rectify it to DC and remove all the interference and buzzing noises. They use the output to power a ready-made Bluetooth board and feed the output back into their board where it is amplified, then fed to either the volume pot on your radio, or via the "phono" input on your chassis (if there is one) For Manuel's video, go to: https://www.youtube.com/watch?v=gcaCkHOP884

In the notes below Manuel's video are all the links to purchase the power-supply boards and the Bluetooth boards. (This is final version 6 of the board, developed in 2024.) The boards cost about $1.50 each but you must purchase the components separately and assemble the board yourself. The Bluetooth boards come already assembled and cost about $12 each.

Video 2: David Tipton (HRSA, S-E Queensland) has an excellent YouTube channel where he has restored MANY Australian radios. In this example, he adds Bluetooth to a Healing 448E Console radio from 1938. For David's video, go to: https://www.youtube.com/watch?v=IKWRGlya3BA and scroll forward to 18mins 29 seconds in where he begins installing the Bluetooth module.

This video is a little older than Manuel's above. He is using Version 4 (2022) of their board, but it is essentially the same.

At our November meeting at St Cyprian's Church Hall, two workshops will be offered. One is a soldering workshop. We will have a supply of components and 10 of the power supply boards ready to assemble, and 10 Bluetooth boards. Members wishing to purchase a kit and assemble it with us on the day can do so. ***More details to follow via email updates.***

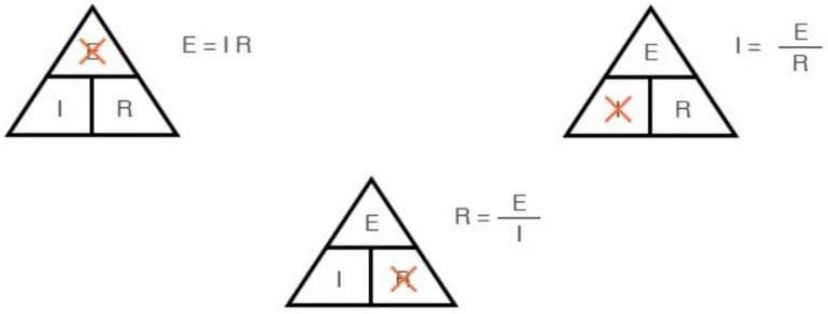
Ω Sweet Ω:

The Life and Work of Georg Ohm, the Man Behind the Symbol

(By Aaron Carman From "All About Circuits" - Website: www.allaboutcircuits.com April 8th 2024)

Georg Ohm, the man behind the most well-known electrical equation, had a surprisingly hard time convincing others of its importance at the time.

Of all the scientists who have studied and built models to explain electromagnetism and electric circuits, few can be considered as much of a household name as Georg Simon Ohm. At a time when electromagnetism was still in its scientific youth, Dr. Georg Ohm developed a theory for the relationship between electric voltage and current that is still used today.



Ohm's law is a fundamental equation used in all forms of electrical engineering and, due to its simplicity, is often the first equation learned by engineering students.

Despite Ohm's significant scientific contribution, his life story may not be what one would expect. As is the case with many scientists, Ohm's story consists of many bumps in the road that could've undoubtedly prevented the discovery of Ohm's law. Despite setbacks, however, Ohm continued to advocate for his work and ultimately formed a foundation upon which the electrical engineering field is still building.

A Strong, Yet Non-traditional Education

Georg Simon Ohm was born on March 16th, 1789, in Erlangen, Bavaria (now Erlangen, Germany) to Johann and Maria Ohm. His father, a locksmith by trade, began Georg's education at a young age, forming a strong scientific foundation in mathematics, physics, chemistry, and philosophy. This level of education was regarded as impressive at the time, especially considering that one's family station often dictated his level of education.

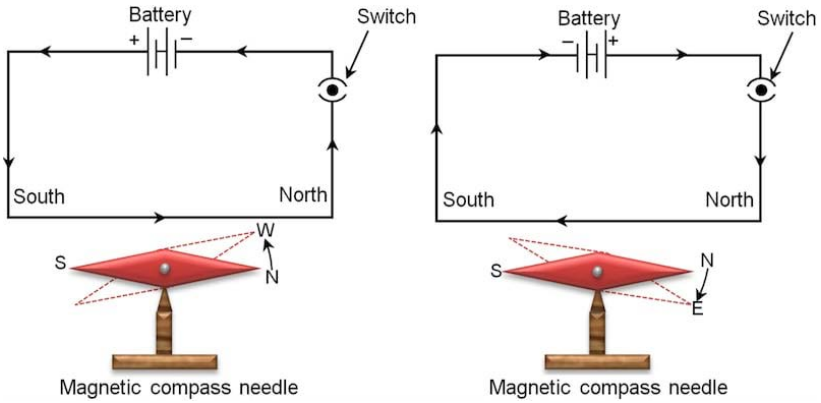
***Left:* Georg Simon Ohm developed Ohm's law, a fundamental electrical engineering principle that is still used over a century later**. *(Image used courtesy of the University of St. Andrews.)*

In 1805, at the age of 15, Ohm began studying at the University of Erlangen. However, Ohm found himself focusing less on his studies and more on activities such as dancing, billiards, and ice skating during his first months at college. Ohm left Erlangen after three semesters, but returned to the university in 1811, where he received a doctorate after four months.

After serving as a mathematics lecturer at several schools and writing an elementary geometry book, Ohm began working as a maths and science teacher at the Jesuit Gymnasium of Cologne. It was there that, in pursuit of a university post, Ohm began experiments that would ultimately lead to the publication of Ohm's law.

Ohm Discovers Profound Fundamental Knowledge

During his time at Cologne, Ohm spent much of his time studying the works of leading mathematicians and experimenting with Oersted's newly discovered electromagnetism. During his experiments, he found that the electromagnetic force produced by a wire decreased in an inversely proportional manner to its length. While today we know that this is due to resistance, at the time, very little was known about materials' reactions to electric currents and voltage.



Using a compass needle, Ohm found that for differing lengths of wire, the observed deflection changed in a predictable fashion. This ultimately resulted in Ohm's law. (Image used courtesy of EIMAI.)

Ohm's law first appears in *The Galvanic Circuit Investigated Mathematically*, although in a slightly different form than what we would recognize today since resistance had not yet been well defined. Even though we now know the importance of Ohm's work, it was initially not well received due to its heavy reliance on mathematics—something that was uncommon among physicists of the time. Despite this, Ohm continued to develop his work and, in 1841, received the Copley Medal. He was then inducted into the Royal Society and eventually achieved his lifelong goal of becoming the chair of physics at the University of Munich in 1852.

Generations of Impact

Following Ohm's death in 1854, Ohm's law gained more recognition for illuminating the relationship between electric voltage and current in a material, memorializing Georg Ohm in the units for electrical resistance. Today, Ohm's law is often the first equation that students, hobbyists, or other interested people will learn when beginning their journey into electronics. And while it may not be the most complete model for electrical interactions compared to Maxwell's equations or quantum mechanics, it is considerably easier to intuitively understand.

Beyond his scientific legacy, Ohm's story is impressive because of his relentless pursuit of his dreams and scientific discovery. Despite his nontraditional early education, difficulty finding academic jobs, and rejection from the scientific community, Ohm relentlessly advocated for his work and altered the course of electrical engineering education.

HRSA-SA Group - Amateur Radio Call-Back Network

In 2020, when our HRSA-SA Group was unable to hold meetings due to Covid-19, a small group of licensed radio amateurs decided to hold a local call-back net.

The first broadcast was on the 26th of April 2020. Although the ban on meetings was soon lifted, the broadcasts have continued and as we approach the completion of our fourth year, we are still going strong.

While the aim is primarily for HRSA members, non-members are also welcome, the more the merrier. The group has a small band of listeners who either do not have the required licence or do not have transmitting facilities. Topics generally centre around historic radio, or activities coming at HRSA events, plus a range of widely varying content, can be heard.

For those licenced amateurs and those that would like to listen to the broadcast and have the correct facilities the details are:

Wednesday Nights (each week) – Starting at 2000 hrs.

On VK5RAD repeater (Crafers) on 147.0 MHz. (Note: We will remain with the Crafers repeater until the Houghton repeater is fully upgraded and operational.)

There are generally two full rounds and a quick "wrap-up" round.

New participants are most welcome.

So why not tune in and listen, or join in the conversation?

For further information, contact Tony Bell at home on (08) 8269 4095