



# HRSA SOUTH AUSTRALIA

Volume 28 No.5 Apr - May 2019

## From the Secretary



**W**elcome to the Apr/May edition of the newsletter. I am writing this soon after our tram museum visit which did not have the attendance that we had hoped for, however we understand that Saint Kilda is not a short drive for members living in the Southern suburbs. For those that did attend, it did bring back some memories and it was funny to watch those who did attend, try to get a ride on every tram that was operating at the time.

In this newsletter I have included Part 2 of Joshua Boxer's contribution, the Farmer's Radio Service and have continued Chris Ratcliff's section on servicing equipment. I still have more material from the Hendon files which I will pass on to the new editor at the coming AGM. So far I have not received any expressions of interest for this role, so if you are sitting on the fence about nominating yourself, this is a good time to do it.

The HRSA SA group received the AVO Mk111 valve tester that it kept at the Aztronics store in Sturt Street Adelaide, as a donation and we very much appreciate the generosity of the donor. The people donating the tester made the gift on the condition that the HRSA SA Group does not sell it, but rather use it to help in testing the valves in the valve bank.

While volunteer time is not sufficient for us to undertake testing of valves on a systematic scale, we can help a member who want to check a valve, if they call the Valve Bank Manager to arrange a time when our volunteers are arranging donated valves into stock.

Feedback that we receive from you is discussed at the committee meetings and is used when making decisions for the club.

See you at the meetings.

*Victor Besz*

## Coming Events

- 26<sup>th</sup> May 2019** – Tony Bell & Chris Ratcliff's Presentation
- 30<sup>th</sup> Jun 2019** – Home Visit Chris Ratcliff
- 28<sup>th</sup> Jul 2019** – AGM & Auction at the St. Cyprian Hall
- 25<sup>th</sup> Aug 2019** – Presentation on Valve Amps at St. Cyprian
- 29<sup>th</sup> Sep 2019** - Meeting at the home of Warren Lane



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The March auction was a success and there were a number of interesting items for the collector Warren did a great job in getting through the items and we really appreciate the items that were donated to the club as this helps to keep the club going and to subsidise events for you.



**BELOW:** The meeting at the Tram Museum, and yes we had our coffee and cake thanks to Elizabeth and John who are dedicated in making sure that we are comfortable no matter where we have our meetings.



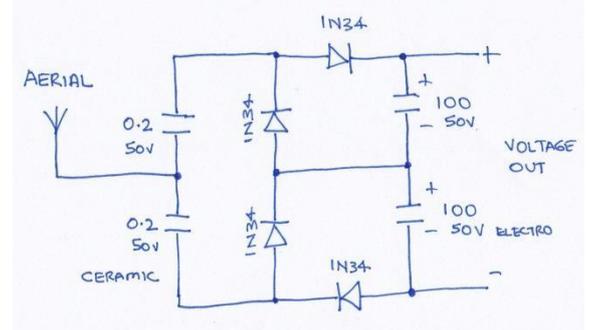
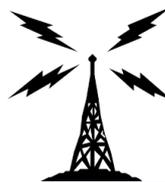
# HRSA SOUTH AUSTRALIA



The tram museum opened in 1954 as a collection of 5 trams and now has 26 trams, a horse box, 5 Trolley buses, and a 2 horse tram. One of the trams was actually assembled at our GMH plant. The museum staff were friendly and were keen to share the museum's history with anyone who asked. If you have a Sunday where you have not planned anything, consider taking a drive to St Kilda, and experience the museum for yourself. I know the museum staff will be happy to see you.

## USING TRANSMITTED RF POWER

We all use the RF transmission to listen to the radio, but have you ever thought of using it to power a L.E.D. or charge a battery. Some crystal sets have produced enough power to run a small speaker on low volume. This circuit came off the net and the claim is that it can charge a small battery. There are many designs and many claims worth trying. If you have antenna that you have already put up, it will only take a few minutes to solder a few components together and see how much power you can tap.



# HRSA SOUTH AUSTRALIA

## Farmer Radio Service – Part 2 by Joshua Boxer

Farmers Radio service manufactured Radios for the Royal Flying Doctor service and for the School Of The Air. He used a Bedford style truck with a timber frame back that was converted for installing the radio system all round South Australia including, Alice Springs where these services were equipped.

Farmers Radio Service was involved in Public Address where he sometimes worked alongside John Cleary of Soundray Amplifiers. Soundray Amplifiers had trailers set up with high power amplifiers and equipment that was involved in providing Public Address to Horse Racing tracks. These Trailers were set up with generators or were set up to run off internal Batteries. John Cleary also had several station wagons with racks on the roof and would drive into the centre of the track and assemble a horn tower on the roof.

By 1956 he had relocated to new premises that was purchased by John Cleary and himself in Angus St. where they joined forces. There was still an operating bakery in the front of the building and the flour mill occupied one of the levels at the back. There was also a house attached to the building so Max and his family relocated from their home in Magill. In the late 1960's Farmers did the original sound installation at Globe Derby Park and was required to supply an operator for each event, Jeff Farmer did quite a few of these.

Most everything was manufactured in house, such as the 2 way radio microphone, antenna bases along with all cabinet and chassis, and centre loaded coils which were very effective, and the design ended up being used by other manufacturers. The premises also contained a bake oven to finish the usually hammer tone finishes on their equipment.



**LEFT:** In-house Made Items included Microphones and Antenna Bases

The in-house metal workers also made toys for the young Jeff Farmer, even after being told by Max to stop. He would wind up with a new toy just about every week and they would always ask him what he would like next. In the early 1970's the name was changed from Farmers Radio Service Co to Farmers Radio Pty Ltd.

Jeff Farmer (Max Farmer's son) developed an interest in electronics and the family business and at a young age (mid-teens) he out on PA jobs and installations. After he finished school, he would work for the family business. He did not have a driver's license when he started so he was often dropped off with the equipment so he could do the required job.

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## Farmer Radio Service – Part 2 cont.

In 1975 Jeff went to Alice Springs to set up a radio station and start his own business, where he trained apprentices to manufacture required equipment as it was easier than trying to get people and equipment from other locations. This Business ran for 37 years and was only sold recently.

**BELOW:** Progressing series of Farmers Radio Service Radios



## Retiree Luncheons



**ABOVE LEFT:** The May 2019 Luncheon with Seymour watching in the background. He is the patriarch of the Matthews family. His sons are now in their 80s so he would be well over 100 years old.

**LEFT:** March 2019 Luncheon

**ABOVE RIGHT:** Flashback to Aug 2011.

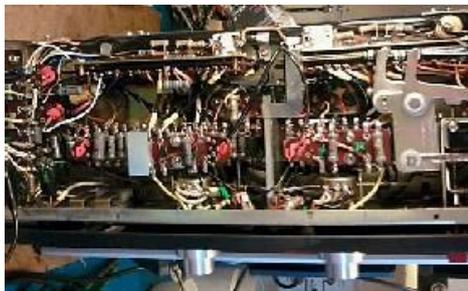
# HRSA SOUTH AUSTRALIA

## On the Workbench with Chris Ratcliff

This article is a repair of a Sony TC 500A Stereo reel to reel tape recorder which has two faults. Fault one is low gain in the right channel, and fault two is that it becomes noisy when being turned on and off.



**LEFT:** The top of the recorder.



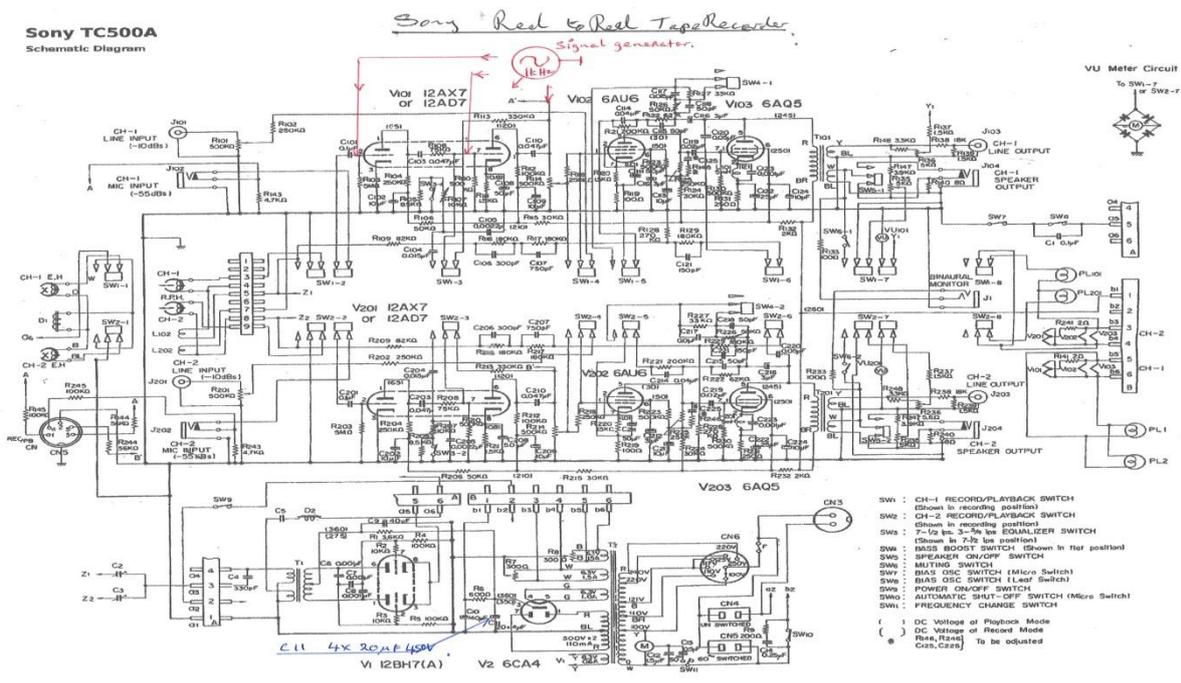
**BOTTOM LEFT:** The underneath with the covering and shield removed.

This reveals the components on a strip board, as a printed circuit board is not used. Each channel has the following valves:

- 12AX7 (Head & Pre-Amp)
- 6AU6 (Audio Driver)
- 6AQ5 (Audio Power Output)
- 12BH7 (Bias Oscillator)
- 6CA4 (Full Wave Rectifier)

I injected a 1Khz signal into the right channel via the level control and there is plenty of signal, eliminating the 6AU6 and 6AQ5. Using the VTVM, voltages from the left channel, and the 12AX7 as a reference, the other 12AX7 voltages were within tolerance. The valve is ok.

Injecting the signal into pin 7 of 12AX7 the signal is very loud, however when it is injected into pin 2, there is poor gain. It had to be C103 which is the signal coupling capacitor between stages. Replacing it cured both the gain problem and the noise. The C103 (right) is a 47nf (0.047) green cap capacitor.



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**This is available at all reputable Auto Shops to restore wiring harnesses to their original working condition. .**

## How the Modern Electrical Systems Work

Joseph Lucas - Prince of darkness. This is a common slogan, particularly amongst owners of old British machines. This and other somewhat scurrilous sobriquets, some of which are not printable here, are from time to time heaped upon the shoulders of Joseph Lucas limited of Birmingham. This is really quite unfair and displays a basic inability to comprehend the simple principles of a motor vehicles electrical system.

Forget all that nonsense about magnetic fields and the flow of electrons along a conductor, for it is just about that nonsense, a myth put about by auto electricians to support their lavish lifestyles at your expense. The reality is SMOKE! When you think about it, it becomes startlingly obvious that smoke makes all electrical things function. If the smoke escapes, the component stops working. For example, the last time you had to grovel under your car to replace the starter motor didn't it start smoking before it ceased working? - Of course it did!

The wiring loom in your car carries smoke from one device to another, pumped around the system by the dynamo, and when a wire springs a leak it lets all the smoke out and everything stops. The starter motor requires quite a lot of smoke to work properly, so it has a very thick wire going to it.

The battery stores up lots of smoke dissolved in the battery acid, that is why they were once called accumulators, until it became apparent that we unwashed home mechanics would twig to the secret. Naturally, if you try to dissolve too much smoke in your battery it will escape through those little holes in the top, and this is why those new-fangled batteries with sealed tops explode when they get too much smoke in them.

But with regard to Joseph Lucas and his wrongfully supplied reputation - why is he so maligned, why are Lucas components more likely to leak smoke than say Bosh or Marelli? Because Lucas is British and British things always leak. British engines leak oil, British sports cars leak rain, British hydraulic units leak fluid and British Governments leak military secrets. So, naturally British electrical components leak smoke.

### **FROM THE HENDON FILES:** *The Ardent Admirer:*

There were a number of attractive young ladies working in the various offices around the area and apprentices would try to visit them whenever half a chance arose. On one particular occasion the apprentice visiting the upstairs TCA office was a bit nervous as he chatted up the young lass and subconsciously fidgeted with a piece of office equipment. Some minutes later the young lass realized that the apprentice had been repeatedly operating the post marking machine and had clocked up many tens of dollars worth of stamp impressions! That took quite some explaining to the office supervisor and the lad was made quite aware that he was no longer welcome in the office.

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## **FROM THE HENDON FILES:** *The New Loud Speakers:*

Before any product could be released it had to be approved by a flamboyant fellow who firmly believed that he was the only person in the entire company who had ears sensitive enough to judge the quality of sound systems. He proclaimed this belief to anyone who would listen and also to the many who would rather not. The apprentices for example nearly all had a strong interest in hi-fi and resented being told repeatedly that they had no idea what hi-fi should sound like. A couple of these apprentices worked in the radio lab at the time and one of their main tasks was to set up new products in the sound proof room for the listening test. After the initial test of a new radiogram, it was decided to check if a different brand of loud speaker might improve quality and perhaps even reduce costs. The recently ticked off apprentices were given a set of the new speakers and told to swap them into the new radiogram. Instead of doing as instructed they left the old speaker in and just moved the radiogram a few inches back towards the wall. The so called sound proof room had strong resonances as it was basically a concrete box that at various times had different types of soft materials hung from or attached to the walls. (Even egg cartons were tried at one time!) The small displacement of the radiogram went un-noticed by "Mr. Ears" and when the test started he immediately proclaimed that the new speaker were a load of rubbish and should not be used. The apprentices were ordered to restore the original speakers for a final test after lunch. Absolutely no change was done by the apprentices and yet this time Mr. Ears announce that the original speakers were far superior to the proposed new ones. Within hours the apprentices had spread the story amongst their ranks over the entire plant. The proposed new speakers were discarded to the disposals store and most likely snapped up by an apprentice for a throw away price.



**LEFT:** Marconi's First Tuned Transmitter: a tuned circuit with insulated cable wound around a square dovetailed wooden frame containing a Leyden jar and brass-ball spark gap.

## **Committee**

*Members of the public are requested to direct all enquiries, including those regarding membership, information on radios (wireless sets) and the estimated value of radios (wireless sets), to the Public Relations Officer please.*

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