HRSA SOUTH AUSTRALIA

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From the Secretary

I hope that you have all had a safe and enjoyable Christmas and New Year. Looking back on the past year, we have introduced a number of changes and new ideas into the club, with the intent of keeping the meetings interesting and running smoothly. I would like to thank you all for your participation at the meetings and coming to the outings that have been planned for you, and in particular, the Christmas lunch which was a huge success.

Chris and I have been making enquiries into some field trips for 2019. We have the Mount Lofty Transmission tower visit in February and we are also looking at the Tram Museum at Saint Kilda.

The committee has given you a proposed meeting calendar for the next 6 months, however when we are faced with unexpected changes, arrangement difficulties or opportunities we can review and rearrange the planned meetings. If this happens then it will be communicated by email, and the web page will be updated. It is a good idea to check the web page regularly to see if there is anything new. Ian updates our site as soon as he has been advised that there is something to post or a change has been made.

I am always keen to receive feedback from you, as this helps in the decision making process. You have been receiving the Radio Happenings and I have considered sending you other newsletters as well, with the idea that if you are not interested in what you are receiving, there is always the delete key. My contact details are vbesz@adam.com.au & 0414 620 544.

See you at the meetings.

Victor Besz

Coming Events

24th Feb 2019 – Visit to Mount Lofty Broadcast Towers
31st Mar 2019 – Auction
28th Apr 2019 – Home Visit
26th May 2019 – Tony Bell's Presentation
30th Jun 2019 – Home Visit
28th Jul 2019 – AGM & Auction

HRSA SOUTH AUSTRALIA

The project meeting in November was an opportunity to see some of the projects that our members have been working on during the year. It is also interesting to hear more about the experiences and the job opportunities that came their way during their careers. Our group has a great deal of knowledge that needs to be shared so that we can all benefit from their experience. As this was a competition, the winners as voted by the members were:
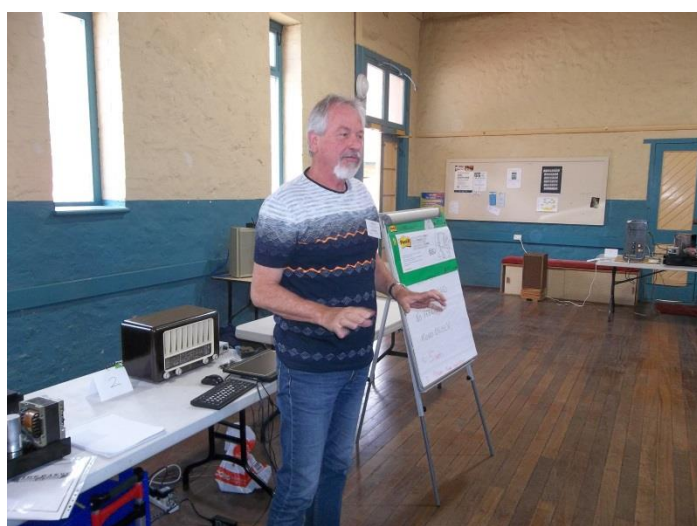
First Place – Alan Martin with his Class B Amplifier

Second Place – Ian Smyth with his restoration of the Phillips radio.

Third Place – Chris Ratcliff with his sound system.

LEFT: Alan Martin with his 5 watt class B amplifier that has no feedback and distortion of 0.1. Originally had problems with a capacitor input which was resolved when changed to an inductive input.

ABOVE: Ian Smyth presented several projects, although his primary project was the restoration of the Phillips radio. Ian rebuilt the dial panel with a piece of glass of a similar vintage, and using screen printing and Photoshop, was able to reproduce the panel layer by layer to a spectacular finish.

HRSA SOUTH AUSTRALIA

ABOVE LEFT: Mark Spooner did not have a project but wanted to share his background with the members, which includes working on Navy sonar and spending time on Macquarie Island as a Technician, with his main interest being in test equipment. **ABOVE RIGHT:** Chis Ratcliff built an impressive composite sound system using obsolete equipment which he was able to demonstrate and just like his televisions, all controlled with an ultrasonic remote control.

ABOVE LEFT: John Crawford spoke about The Philips factory at the Hendon site and the progression from valves to transistors, and his special project of photographing an ant holding a chip in its mouth where he needed to drop the ant in liquid nitrogen. **ABOVE RIGHT:** Warren Lane explained his career as a Lab Technician and his involvement in washing machine timers. The photo shows the electronic camera that he developed which worked well.

HRSA SOUTH AUSTRALIA

SPY RADIO

Article by Alan Henry

Encrypted messages, fancy technology, spies use them all to communicate, but sometimes the best way to hide is in plain sight. Right now, broadcasting across the airwaves around the world, are automated, anonymous shortwave AM radio stations that most governments won't acknowledge even exist, much less explain.

Best of all, you can hear recordings from them right now and if you have the right gear, tune in and listen yourself. Numbers stations are anonymous, shortwave AM radio stations that broadcast messages at pre-set times, sometimes periodically and sometimes random, on specific frequencies. They're notable for their unusual tone and content, as the stations can be silent for most hours of the day or week, then jump to life with a collection of artificial human voices, sounds, Morse code, short songs, or even nursery rhymes. They also broadcast in a number of different languages. If you've ever listened to a number station, it's one of the creepiest things you've ever heard. You won't exactly use these to get more work done or streamline your life, but it's a lot of fun to listen.

Another characteristic of number station broadcasts is the messages feel like gibberish, or nonsensical words, letters, or songs strung together. In reality, they likely mean a great deal to the right listener. Numbers stations appeared shortly after World War II, and while they were most plentiful during the Cold War, many still broadcast today. Ask any specific government agency and they'll usually deny they exist, or at least deny broadcasting on them. Who operates them and who are they for? Most likely they're used by spies, sending and listening for coded messages.

The behavior of shortwave radio in the atmosphere makes it ideal for long range radio transmission. You can send messages on a given frequency all over the world, and most people who use shortwave radio use it to communicate with ships at sea and people in locations all over the world.

You can see how they'd be ideal for spies: transmit a one-way message to someone anywhere in the world — literally thousands of kilometers away from the origin point — on an unlicensed station so no one knows who you are. Send them a code that can be deciphered using information only they know, or even a one-time pad that's never used again and changes from message to message. It's no wonder they're still in use today.

FROM THE HENDON FILES: *The Aquatron valve:*

The inventor of the resonant dunny also invented the aquatron valve. Basically this device consisted of any random radio valve that had the pinch seal broken under water. The vacuum sucked water into the envelope and when the valve was plugged into any piece of equipment and turned on, it became an unexpected steam generator.

HRSA SOUTH AUSTRALIA

Radio in Schools – Part 2 by Joshua Boxer

The following article sent to me from Joshua.

Acknowledgment: Sections and Photo taken from Paul Matthews "NSW Schools PA History"

Australian Sound VIC 1960's   **Australian Sound VIC 1960's**   **Flett Electronics NSW 1960's**

Companies around Australia were tasked with making these systems. Bland Radio in South Australia, Australian Sound in Victoria, Crammond Radio in Queensland and Audio Engineers (was Flett Electronics) in New South Wales. Bland and Australian Sound built their systems from scratch. Crammond Radio built their radios using Philips Amplifiers and generic cabinets for their systems. Audio Engineers Pty Ltd in the 1950's were also contracted to install Hospital Radio systems but seemed to disappear in the 1960's, which bought Flett Electronics in as the major contractor.

It didn't take long for office staff to work out that with a microphone they could use the same switch board to send messages to individual rooms from the office. The outside microphone permitted the system to be used for an Assembly PA every morning, and the Record Player for the National Anthem before Assembly, and by adding a simple tone generator and timer meant the PA system could also then be used for signalling bells.

By 1975, some of these installation designs (particularly in high schools) were becoming quite complex and technically advanced. Following the original pattern of having "one big centrally located PA unit", the wiring schemes used multi pair telephone style cabling. They would serve outdoor assembly areas and assembly hall stages as well as meet their original purpose as a radio broadcast receiver, and even a "centralised" record player. Microphone inlets were also strategically placed around the school. This "unit" resembled a floor to ceiling equipment rack with multiple power amplifiers, a record player, large switch panels with a switch for each room with multiple microphone inlets, and knobs!

By the late 1970s, the original idea of installing a single PA unit to carry out multiple tasks in a school was fast becoming obsolete. Overseas import tariffs had now been slashed and the cost of consumer electronics was crashing. It was now far cheaper just to go to the local store and buy a truck load of new transistor radios, record players and cassette players (one for each class room), than it was to bother with all that mucking about with a centrally controlled PA system! Companies like AWA were by the late 1960's already importing Toa as an alternative to local manufacturing.

With the launch of Colour Television in Australia, everything changed overnight. The Government decreed to the ABC that all future spending on educational programming would be for television broadcasts only. This of course also meant huge changes to the Federal grants to the states as well. These would now be focused on provision of Television receivers in schools and installation of master antenna systems to allow them to be in each class room. This meant that schools had to fund repairs and upgrades of their own radio system and for the cash strapped schools, this meant the system would remain non-functional. This meant the beginning of the end for some local manufacturers.

Companies such as Flett Electronics in NSW and Australian Sound (and Television) Co. in Victoria were able to adapt to installing television systems, however companies such as Bland Radio in SA and Crammond Radio in Qld, with the loss of government contacts and the removal of tariffs, could not survive.

Being at school in the 70's and 80's, the change in priority of technologies was very noticeable.
At Junior Primary in the mid 70's we had assembly daily, with the national anthem at the start and mid- afternoon and there would be "let's Have Music" on the classroom speaker. By grade 7 it was a weekly assembly with the occasional radio broadcast and TV program in the Schools media room. We were watching programs such as "Against the Wind" which was produced as a program for the Public, and a Historical Drama for schools. These programs were either live or on the new U-matic tapes. By High School, the assemblies were still required and each classroom had a Belling Lee socket on the wall for Televisions that were trolleyed to the classroom and program fed from a central room.

Crammond Radio QLD 1960's   **Audio Engineers NSW 1950's**   **Philips QLD 1960's**

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The following is a selection of photos from our Christmas lunch at the Maid of Auckland Hotel.

FROM THE HENDON FILES: *The Early Morning Wake Up Call*

I think it was the same lad who placed a power diode across the production line 240 volt supply as soon as it was turned off at the end of the day. First thing next morning when the power was turned on there was a very loud bang as the diode exploded.

HRSA SOUTH AUSTRALIA

ABOVE LEFT: November Retirees Luncheon

ABOVE RIGHT: January Retirees Luncheon

LEFT: Phil Taylor with Warren and Alan, inspecting Warren's collection. Phil is an avid British valve collector/dealer. He visits his sister in Adelaide every couple of years. This is the fourth time members have hosted a visit

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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