

Think of a world where messages from one town to another took the time a horse could run, or for overseas the time a sailing ship could take to go from England to Australia. Then there was Telegraph. Morse and Vail produced a different form of inter-city communication – faster than horses or marathon runners. By the mid 1850s some cities were connected by Telegraph poles and wires. Here in South Australia Charles Todd managed to connect Darwin to Adelaide just before 1880. This in turn connected to the rest of the world via repeater stations. What if you could connect to someone where there were no wires? To ships at sea, to light-houses, into the outback country? What a crazy thought! Marconi was experimenting in England. Professor William Bragg and Mr A. L. Rogers managed a one way contact from West Terrace to Henley Beach in 1899 by with-out wires. **Sparks and Coherers equals Wireless**. By 1910 there were 10 experimental licences in Australia. By World War 1 most signals were Spark CW and Coherers, although AM was beginning, **Equipment of the day** was home built. 1920s things had improved and Crystal sets were very popular to listen to local broadcasts. When valves appeared they were used as simple audio amplifiers, or Tuned Radio Frequency, or regenerative reinartz devices. The local Experimenter often provided the musical entertainment after the commercial station closed down. Interference was caused by Spark transmitters and in 1925 there were letters to the editor complaining that 5CL was suffering from noisy and poorly sent Morse code.

In 1926 the Wireless institute of South Australia requested that Amateur experimenters be granted wavelengths separate to the commercial wavelengths to avoid interference.

Early Amateurs with transmitting capabilities, and stretching into the 1950s often had 6 ft racks for the transmitter, and a commercial receiver from the war years. This required a separate room or a shed for operations. It was CW, AM , and some RTTY.

Valves were the only way to go until around 1960 when a simple PNP germanium transistor would cost enough to make you plan your savings. Don't reverse the battery. By the 1970s ICs began to make their presence felt and since that time we have been blessed with many forms of electronic components. The spiral had begun.

Test equipment. Wave meters – a coil and tuning capacitor, with a dial lamp as a strength indicator. Top level people had a moving coil meter, and this made something approaching a multimeter. A Grid dip oscillator was a cherished piece of equipment.

There were **training schools** for the PMG, DCA. The Marconi School in Pulteney St, the Radio Trade school North Tce were well recognised to produce people skilled in electronics of the day. Another way many people got into Amateur Radio in the '50s and early 60s was 288 or 1 metre. The complete rig including the antenna was home constructed, and designed as a Modulated Oscillator. There was possibly as much FM as there was AM and operators would chase each other up the band with each over. It had some similarities with the Foundation licence of today, but it required the operator to fly a skull and cross-bone flag, and beware of the Radio Inspectors. With CW and AM the norm up into the mid 1950s a mode called Single Sideband, or Duck-talk, was proving to be the new direction. Phasing rigs were constructed, and filter devices were just appearing, most were home brewed. Any commercial equipment was far beyond the average wage of the day. Listners were building 455 KHz oscillators to beat with their IF amplifiers to listen to Morse and these would also resolve SSB. Later on about early 70s popular rigs for the average person were the Yaesu FT 200 and the Kenwood TS 520. If you use a 9MHz IF and a 5 to 5.5MHz VFO a two band SSB rig could be made. Do the maths, and work out the resultant sidebands. Yes this is why Amateurs use LSB under 9 MHz and USB above 9MHz. By the mid 1960s some FM rigs appeared, low band Taxi type radios, and soon a group of enthusiasts decided to make a Repeater. By 1975 Adelaide was serviced by two 2 metre repeaters, RAD at Crafers, and RHO at Houghton. It was quite rare to have any signal on 70 cms, and if you attempted it was FM via a Tripler from 2 metres. There was one famous contact between Reg Galle VK5QR and Wally Green VK6WG in Albany in VK6, on 70cms SSB. This was achieved by dividing the audio by 3, and then tripling from a SSB signal on 2 metres. **Books and magazines** were often very old "hand-me-downs", but the standard magazine was Radio and Hobbies, then Electronics Australia, now Silicon Chip. A few others came and went, like Amateur Radio Action, the long term publication

continuing to today is the WIA Amateur Radio magazine commencing around 1930. The alternate was to buy American or English mags.

Packet and the early digital modes came along around 1975. Television was a mode with experiments back in the 1920s. Local TV transmissions in the mid 50s and many 5 inch round –and often green screen receivers were made. ATV transmission has a select group of devotees.

Although Amateur operations were closed down during the war years many radio people were engaged in modern developments during WW2 such as RADAR, whilst others became coast-watchers. Many were introduced to Morse code as Radio operators, and wanted to continue the skill after the war when the Amateur service was gradually re-introduced. Later on a large attractor to Amateur Radio was the popular 27MHz Citizen Band. This commenced during the 70s and lots of people enjoyed Radio so much they passed their Amateur exams and joined our ranks.

Clubs

By 1925 there were a dozen radio clubs around Adelaide, even one here at Blackwood, and in some schools, the main interest expanding past just listening to building crystal sets, and a few even used valves. Most clubs ran theory talks and all had buzzer classes for Morse code. The WIA SA Div was formed in 1919 and held at various locations around Adelaide. Walter Burley-Griffin, the designer of Canberra, also built incinerators for the local councils.

Around 1970 the Thebarton incinerator was altered to a meeting hall. Highly modified under the drive from the late Geoff Taylor, it could seat 80, became a centre for high level presentations with people like George Varney G5RV demonstrating there. As Adelaide expanded in size Radio clubs in regional areas became popular again, along with many country clubs, They became the social centres of Amateur Radio. There are also clubs focused on technology, the VHF Group, the Packet Users Group, and QRP the low power challenge, CW operators, and home brew. Interests included Foxhunting which has been a great way to spend a night, or the June weekend in Mt Gambier. Another group is WICEN, the Wireless Institute Civil Emergency Network. WICEN has been activated over the years and has a recorded history from the 1930s. Today it is active in community events for practice. This requires operators to have a portable station which can be deployed quickly. Operation is not very different to **SOTA and the Parks Award**, all requiring people to operate from outside the comfort of home. The **Sunday morning broadcast** has a great history, first being provided by operators reading hand written notes, then various recording methods, and the Johnson Viking being passed around from place to place, and eventually taking pride of place in the Burley-Griffin broadcast operating room. Brian VK5VI and Ben VK5BB now provide the source to Crafers, and it is also on the web.

Commercial supply was from various places. After WW2 there was lots of equipment available from Waltham Trading in Rundle Street, Lou Canns on the Norwood Parade, and Radio salvage in Gawler place, with Thodays down the road. Robbies became a source of bits for hungry constructors. Max Farmer, produced Taxi radios, also stocked Yaesu. CB appeared during the 1970s there were a number of shops which sold, and some even repaired radios including Amateur rigs. Gerard and Goodmans in Rundle St East was a favourite for parts as it was also a larger store covering all sorts of electrical items, and people like Clem Tilbrook were able to serve you. Steve AIM visited Clem one day; Steve was looking for a 10Meg resistor. Clem spoke with his assistant and they decided to sell Steve an open circuit! The long term and stable shop is John Moffatt at Nile St Pt Adelaide and he is still going, providing service to the marine world, and also able to supply Amateur transceivers to us.

Licences

Remember, you needed a licence just to listen. That remained up 'til the early 60s from memory, even for commercial AM radio. First transmitting operators used their names, or their initials. **A** for **Australia** began to prefix the state number in 1924. Two years later when overseas contacts became to be made the letter **O for Oceania** preceded the A. From '29 the VK prefix was established and in use. In 1956 the Amateur licence was altered to include the Limited class. Operators needed the full theory and regulations so they could transmit from 52MHz and

up. These were known as the Z calls. During the mid 1970s the Novice licence was introduced, with a slightly lower theory level, and Morse at 5 WPM. This enabled you to work internationally, but to be honest the exam for 5 WPM can be harder than 10. An N was the indicator, and for a while those with both a Z call and an N call had two call signs allotted. Later these operators became the K or combined call. With the abolition of Morse code in 2004 the people with full theory, Z and K calls were all at full call level and granted the privileges as Advanced Calls. The Novice calls were converted to Standard as technology creep had moved them to similar education levels on the international scene. Interestingly when the Z call came about it was considered to be the end of Amateur Radio. Years later it was realised that these new kids on the block had saved Amateur Radio. Similar comments were made of the Novice, and today the Foundation call may be in a similar state. Amateur Radio needs all calls and will not survive without new operators. Welcome to all enthusiasts.

The journey has at times seemed long and painful, yet it is just the beginning of communications with the convergence of computing and communicating. Standby for excitement, and be part of the evolution. Have gratitude for what we have, and the enthusiasm to build on it. Most of all – enjoy.

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