# Australian PYE Ranchero radios.

By Graham Parslow


**Figure 1 Valve Sets (top, middle) Transistor (Bottom)**

The three radios featured here all use the *Ranchero* case moulding and span the period 1958 to 1963. At this time radio manufacturers were targeting the kitchen rather than the lounge. The lounge was where a TV or a stereogram would go. The cases were available in black, white, primrose, coral and jade. The valve radios, MR-1 and MR-2 have a heavy cast brass front panel that was edge plated with either chrome or gold finish.

An advertisement for Pye dated November 1959 is printed as the back page of Radio Waves number 134, October 2015. The advertisement says *"Now a designer's dream comes true for you. Colours are captured from the palette of the future; a shape is stolen from tomorrow's styling. The result: the most colour-right, eye-thrilling mantel radio you have ever seen. Here are shades to add drama to every home décor. With genuine 24-carat gold-plated trim for that worth-a-million look. And Pye beauty is more than colour deep. The things to come in radio engineering are here today in these powerful performers- printed circuit gives new reliability, hi-fidelity speaker reproduces voices and music with all their original sparkle. Ferrite rod antenna pulls in programmes with new clarity. They are priced at only 24 guineas. "*


**Figure 2 Into the 'sixties**

The 1959 advert also includes the Pye Transistor Executive. It appears to be a direct derivative of the MR-2 hardware using a strung dial. Pye soon realised that transistor technology allowed the manufacture of more compact circuitry that did not require a metal chassis so they created the TM-7 in 1960. In the TM-7 all componentry is attached to the facia, except the battery holder that is built into the case. The TM-7 (also designated R21-2A) featured direct tuning by a clear plastic dial with the volume control slotted into the top of the moulded plastic facia. The volume control potentiometer is mounted on the facia, not on the printed circuit board as would soon become normal.

The HRSA has collected and published circuits for valve radios after 1956, when the Australian Official Radio Service Manual ceased publication. The catalogue of HRSA circuit books can be located at https://www. hrsa1. com/circuits. html

The compilations by Philip Leahy can be individually purchased through the HRSA valve bank by contacting Stan Snyders (Stansnyders@hotmail. com). The circuits for the MR-1 and MR-2 radios are published in book-5. The MR-2 is also given the model number R16-04A by Pye. The HRSA circuits

do not include transistor radios and the TM-7 circuit was located at https://www.kevinchant.com/uploads/7/1/0/8/7108231/r21-2a. pdf
The HRSA web site has a link to Kevin Chant's circuits.

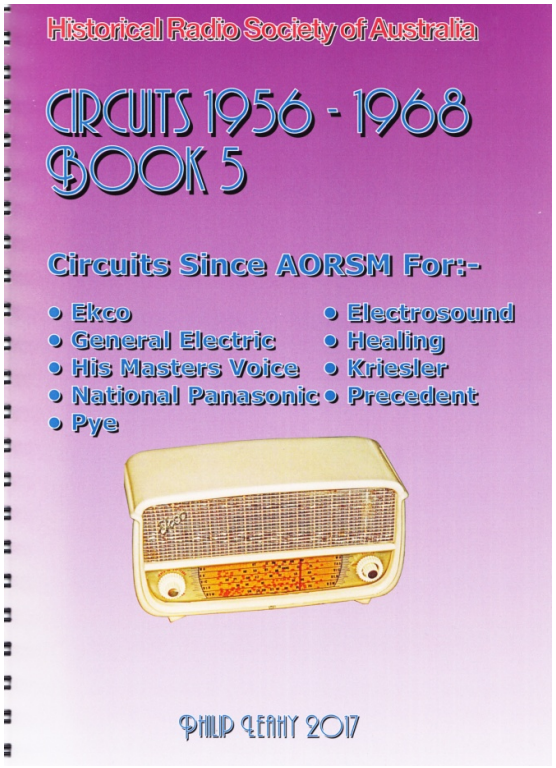



**Figure 3 HRSA Circuits Book 5**

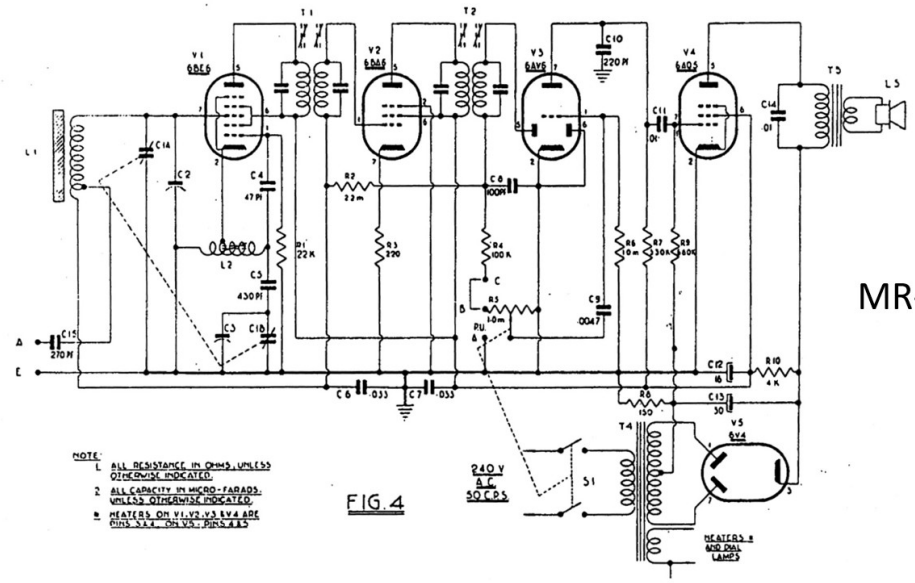
The circuits for the MR-1 and MR-2 use the same line-up of miniature valves 6BE6, 6BA6, 6AV6, 6AQ5 and 6V4. However, there are differences. The first thing that came to notice was that different draftsmen compiled the valve circuits because the component representations are different. This is clearly seen for the IF transformers, but then all the other components can be seen to have subtle differences in drawing as well. The history related at the end of this article suggests that legacy staff from Tecnico were succeeded by staff who brought the MR-2 into line with Pye's international standards. For example, the rather crude model-stamp on the chassis of the MR-1 is replaced by a more professional silk-screened metal label with an imprinted serial number on the MR-2.

The MR-2 ferrite was upgraded to have separate coils for the external aerial and the tuning inductor. This allows the MR-1 isolating capacitor C15 to be deleted.

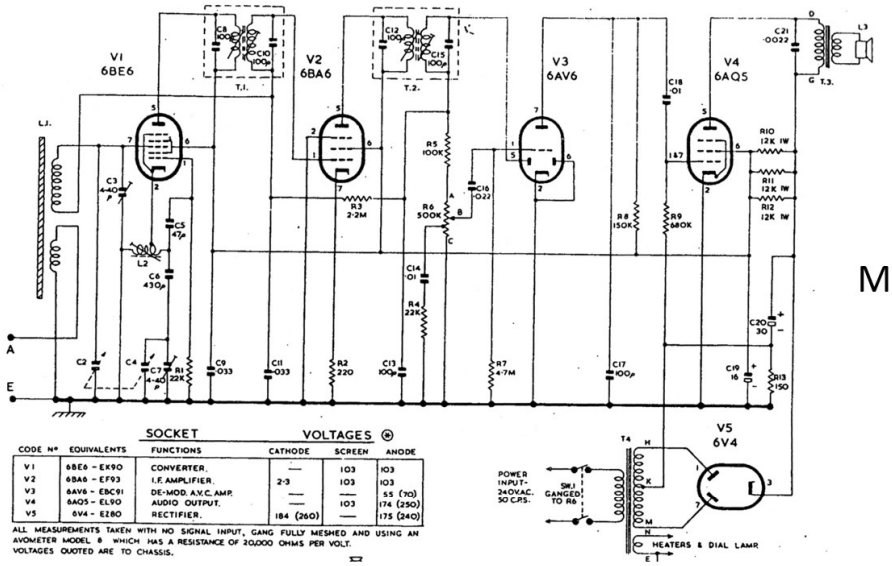
The MR-2 no longer has a pick-up input and this allowed a hardware change for the mains cord to be moved to a better position. The MR-1 passed the two-core flex through a ventilation port adjacent to the mains transformer. The MR-2 uses the former pickup-moulding as the entry point for the mains cable. This is much better for a convenient upgrade to 3-core mains cable.


**Figure 4 Ranchero Rear Views**

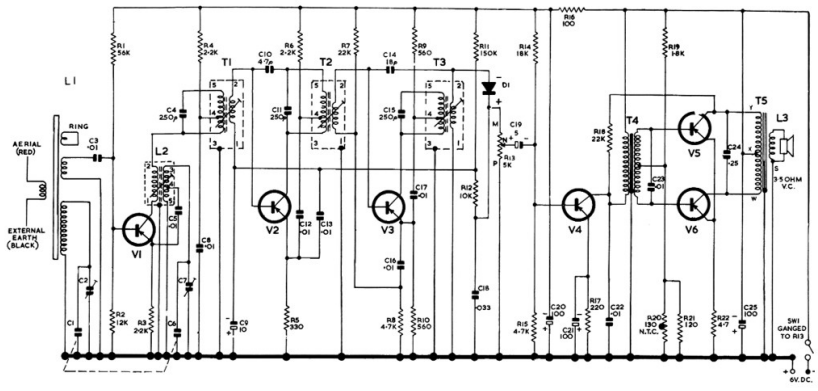
In both the MR-1 and MR-2 the AGC and audio demodulation are provided by only one of the two diodes in the 6AV6. There are 15 numbered capacitors in the MR-1 circuit and 21 in the MR-2. However, this is deceptive because the MR-1 circuit does not number the IF coil tuning capacitors inside the IF cans, and the MR-2 has some unused numbers. The two circuits are highly comparable in most respects. Major components retain the same physical positions. Even so the circuit boards have noticeable differences to accommodate rearrangement of small component places. The use of a circuit board was ahead of most other valve set manufacturers at the time, with the notable exception of Admiral who have claim to the first civilian use of circuit boards in Australia (see *Silicon Chip* Vintage Radio May 2019, p100).




MR-1




MR-2




TM-7

**Figure 5 Pye Ranchero Circuits (HRSA Circuits Book 5)**

The first transistor radio using the Ranchero case Manufacturers largely retained point to point wiring in valve radios, but were more prepared to tool up for circuit boards in their transistor radios.

The circuit boards do not mount the tuning capacitors in the MR-1&2. They are mounted on a metal flange at the side of the chassis giving a sturdy anchor-point for the dial stringing. The first transistor radio using the Ranchero case (the Executive of 1959) inherited this strung-dial arrangement. In 1960 the TM-7 dispensed with this complexity and featured direct tuning with the tuning capacitors mounted on the circuit board.

The TM-7 shown here has yellow-sheathed Ducon electrolytics that are notorious for drying out (losing their electrolyte). Fortunately this radio worked fine with the original capacitors.

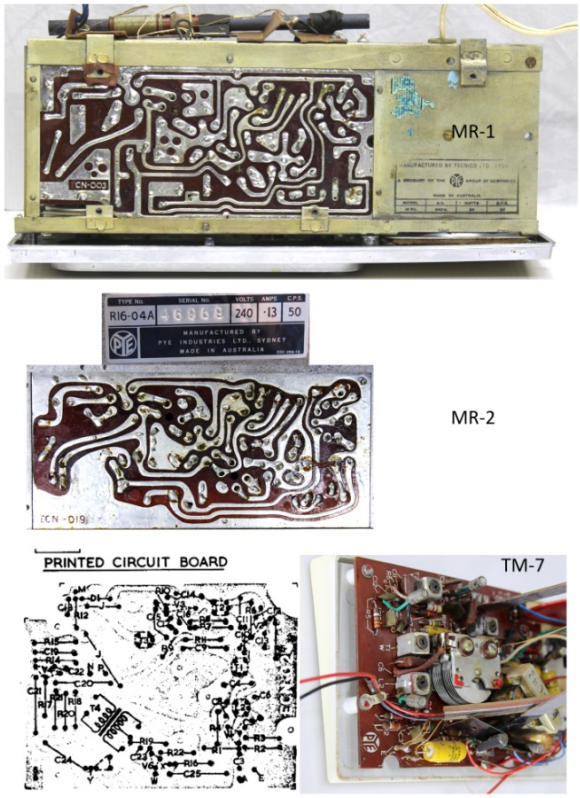



**Figure 6 Circuit/Component Sides**

How do these three radios sound? The big limitation is their 4-inch speakers. However, to my ear there is a noticeable difference between them that I attribute not to circuitry, but to the choice of speaker in each. The MR-1 incorporates a *built-to-a-price* MSP speaker, the MR-2 has a better performing Rola speaker and the TM-7 has the best sound with a Magnavox unit.

Restoration of these radios was mostly about physical problems. The only electrical restorations performed were for the MR-1 and MR-2 replacing the coupling capacitors between the 6AV6 and 6AQ5 valves and replacing the mains cables.

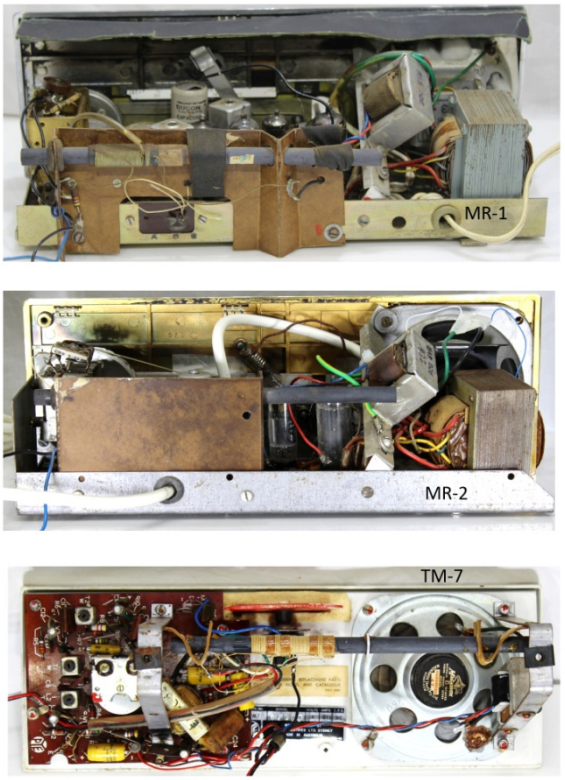



**Figure 7 Rear Views**

The MR-1 and MR-2 dials are printed on the front plastic. A small cracked section to the left of the volume control on the MR-1 was satisfactorily filled with clear araldite.

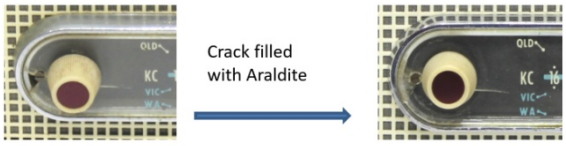



**Figure 8 Dial Cover Repair**

The MR-2 had no dial or knobs when acquired. The MR-1 artwork was copied to create a calibrated dial printed to plain paper and glued to the back behind the dial cursor. Clear transparent plastic was fitted to the front. This compromised the radio for originality because the MR-2 had changed to having one-state calibrated dials, like the NSW dial that can be seen in the orange radio shown in the first image here. Even so, the restored dial is preferable to the original presentation.

W. G. Pye & Co. Ltd. was founded in 1896 by William George Pye, an employee of the Cavendish Laboratory at Cambridge University. The company made thermionic valves made during WW1 and was among the first to manufacture a wireless receiver for the UK in 1922.

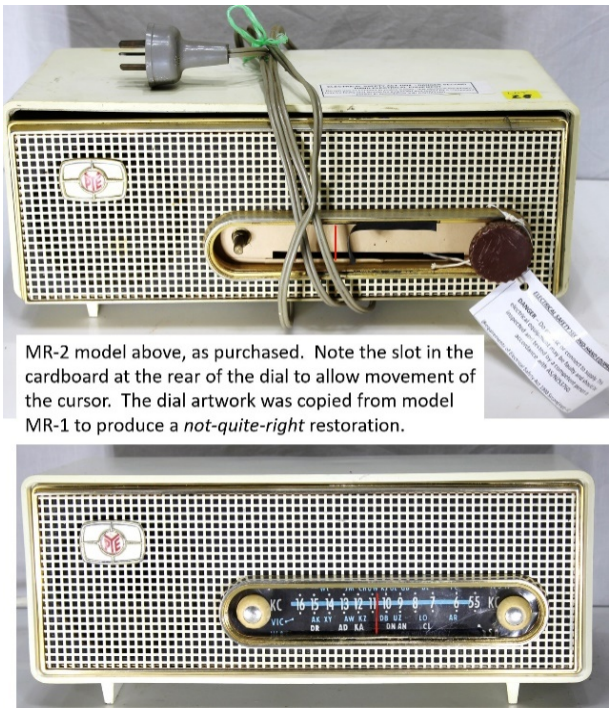



**Figure 9 MR-2 As Purchased**

Pye made radios in New Zealand during and after WW2. Some of these well-made radios were sold into Australia.


**Figure 10 "Badge Engineering" Pye Or Astor?**

In Australia, Pye chose to specialise in 2-way communication equipment after opening a large factory in Clayton in 1950.

This base in Melbourne through the 50s led to a side business of buying assembled radio chasses from Astor and placing them into Pye branded cases. These radios included variants of the Astor types GN,QM and QK. Astor mostly used Bakelite cases for their radios and Pye used wood for radios made in Melbourne.

The Ranchero radios with plastic cases were made in Sydney. The MR-1 of 1958 states *Manufactured by Tecnico Ltd Sydney* and the MR-2 from 1959 states *Manufactured by Pye Industries Ltd Sydney*.

Tecnico Electronics Pty Ltd was founded as the *Electrical Specialty Manufacturing Company*. Their first radios were marketed with the Aristocrat and Capstan brands. The name Tecnico was adopted during the second world war when various military aircraft parts were made under license to the US Bendix Corporation. In 1951 Bendix and Tecnico formed a jointly owned company, Bendix-Tecnico Ltd. In the period 1946 – 1951 radios were branded Tecnico Aristocrat. After 1951 the brand was simply Tecnico, as seen on the iconic Fortress and Pacemaker radios.

While Tecnico continued an association with Bendix US, Pye Ltd of England bought half of Tecnico's shares in 1955. The brand "Pye-Tecnico" was used until 1958 when products were branded Pye. Pye-Tecnico closed as a radio manufacturer in 1967, although production of locally designed Pye TV sets continued until 1979.

The Pye company became overcommitted to studio-TV products in the 1960s and became non-viable due to immense development expenditure. From 1966 Pye International was progressively taken over by Philips, who still use the Pye brand in niche audio products. This has made Pye one of the longest surviving brands in the field of electronics.