

PHILIPS' FIRST AUSTRALIAN SUPERHET

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In Australia receiver manufacture had been commenced on a small scale in 1931 with the production of a 3-valve TRF, model 1203, but appears to have languished somewhat thereafter and not until 1934 did Philips again become active on the manufacturing scene. By this time manufacturers everywhere had turned to the superhet circuit, which meant that it was time for Philips to get into the act too. But where to start?

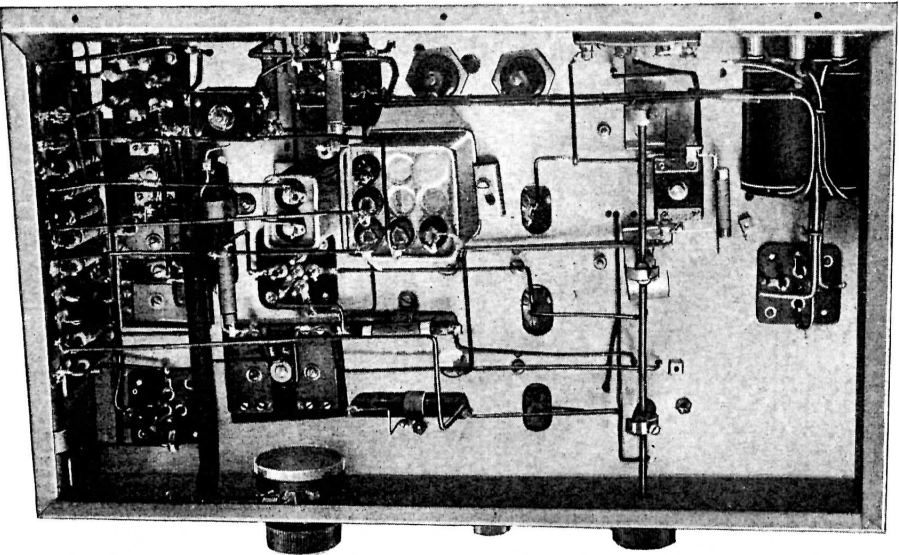
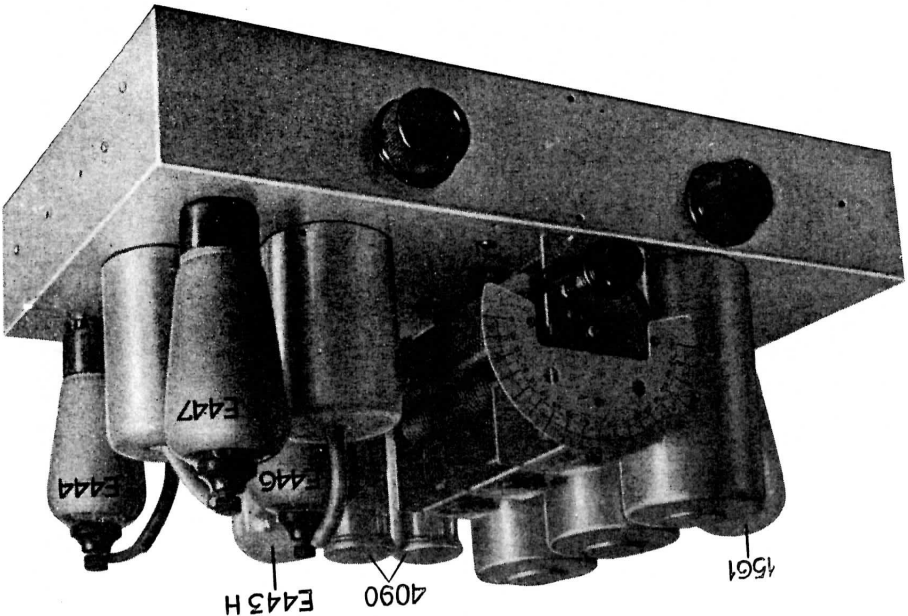
To what extent Philips in Australia were subject to overseas control is not known, but it is a matter of record that the circuitry of the first Australian made Philips superhet closely followed a design which had been published by Philips in Holland in June 1933. At that time they took the unprecedented step of issuing a comprehensive bulletin, printed in three languages - English, French and German - containing a circuit diagram and full constructional details for building a 5-valve superhet. It is interesting to note that it was well over a year later before Philips actually produced a superhet in Europe, and when they did its circuitry bore no resemblance to that published in the 1933 bulletin.

By comparison, the design of their first Australian made superhet, the model 'A', as advertised in September 1934, appeared to be firmly based on the above mentioned data and for this reason it is interesting to see how the two designs compared. Both used the same valve line-up: E446 as an autodyne mixer, E447 IF amplifier, E444 diode detector combined with tetrode AF amplifier, E443H directly-heated output pentode. The Australian version differed in the following ways:

1. Omission of the long-wave band.
2. Separate primary winding on aerial coil.
3. Manual RF gain control (no AVC)
4. Modified oscillator circuit.
5. Self bias instead of back bias on output valve.
6. Use of 'hybrid' valves, i.e. standard 4-volt European types fitted with American style bases.
7. IF changed from 125 to 175 kHz.

The cabinet used on the model A was in the current full length (legless) console style with a distinctive speaker grille embodying, in modified form, the Philips 'waves, stars and circle' motif. Although this motif had been used overseas on both table and floor model cabinets, it was always in the original form complete with a circular rim or border; in fact this ring represented one of the three ideas expressed in the famous logo. In the vertically elongated form as used on the Australian cabinet it was impossible to include the circular border and thus one of the ideas was lost. It would be interesting to know whether this 'modification' had the approval of Philips in Holland, but in the event its use was not continued on any further models, although the 1935 version, model 5501/02, appeared in the same cabinet, presumably to use up existing stocks.

* Incidentally, I once stated that Philips had never used the autodyne mixer circuit in any production model receiver (NZVRS Bulletin 7-4-6 Feb. 1987), but this should be amended to read: any European production model.



Suggested layout for a 5-valve superhet, May 1933