Vintage Radio

The Tasma 'Roller-blind' sets

Thom and Smith's 'Tasma' brand of radio was a major seller in Australia, from its humble beginnings in 1929 to a severe crisis in 1952/3. Amongst their more collectable examples are three models produced just after the Second World War, curiously referred to as the 'roller blinds'...

ALTHOUGH THE brand is virtually unknown today, it had a long and distinguished lifetime. Indeed, glancing through the indices of the later *Australian Official Radio Service Manuals* shows that 'Tasma' radios only ceased in their own right in 1953, thereafter being known as 'President-Tasma'.

During the War years, Australian firm Thom and Smith produced radar and transmitting equipment and forewent production of domestic receivers. In this they were not alone, for radio manufacturers of practically any description were obliged towards wartime production of military equipment.

After the war, the domestic market was hungry for radios, and with the injection moulding techniques now at their disposal, many a fancy bakelite radio was being produced which was quite distinguished and characteristic to a given brand. Healing, STC, Stromberg Carlson, Kriesler and Radio Corporation (Astor, Peter Pan and Monarch brands) are amongst the classics, and coloured examples are very keenly sought after by collectors — with consequently healthy price tags to match!

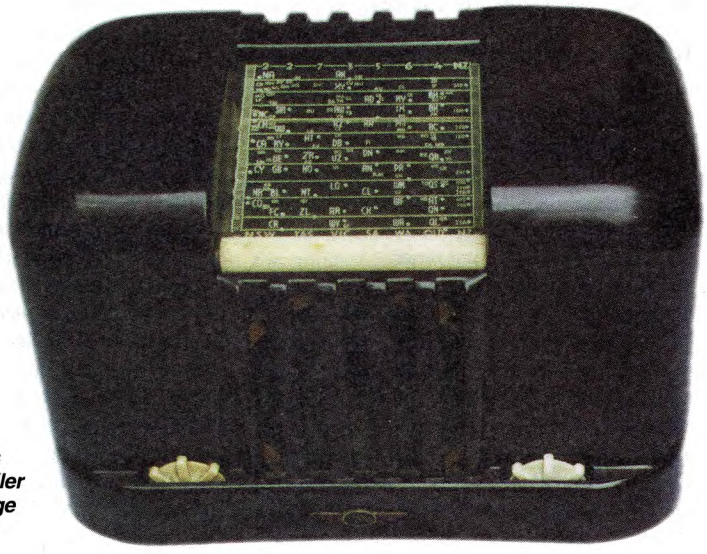
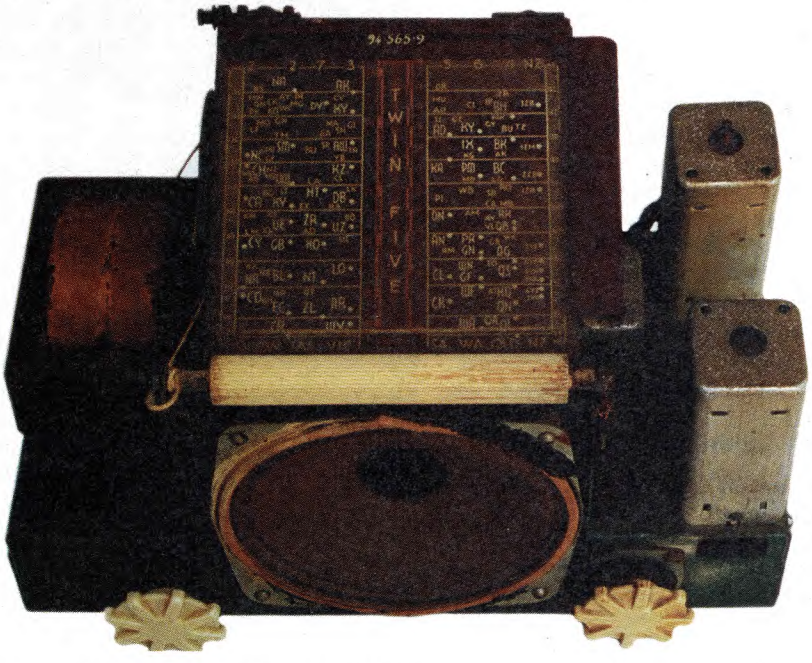


Fig.1 (right): The medium wave four-valve 1101. Tuning is via the long white roller along the bottom edge of the dial.

Fig.2 (below): The dual wave M1206 used the same chassis and cabinet, but there the similarity stopped.



Tasma opted for a most unusual design of a mantel receiver, which has colloquially become known as the 'roller blind'; an example is illustrated in Fig.1. The name came about because the tuning control is the long grooved rod which spans the lower edge of the dial, and located between the dial and the speaker. Fig.2 shows another example of the dual wave version (white knobs) removed from its cabinet together with a broken dial cord, giving a better idea of the construction.

The model 1101

This first version was released in 1947, and continued in production for three years until 1949. This is assumed because the *AORSM* indices for 1948 and 1949 refer back to the 1947 manual for the model 1101.

The radio circuit itself contains no real surprises. (Fig.3 shows the circuit for the

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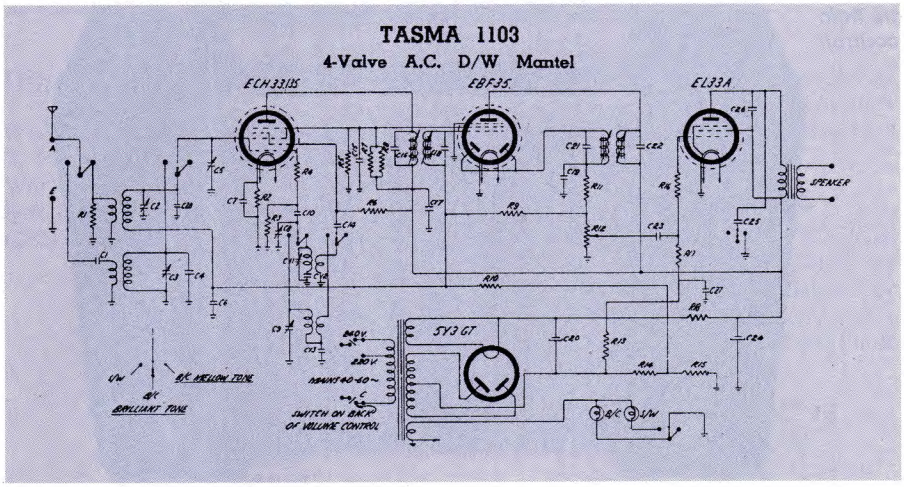

Fig.3: Not the circuit for the 1101, but that for the very similar 1103 dual wave model. The 1101 used an EK32 converter instead of the ECH33/35, and tuned the broadcast band only.

1103, but the 1101 was very similar apart from using an EK32 converter instead of the ECH33/35, and lacking the short wave band.) The engineers have made use of arguably the best valve lineup for the day, which together with high gain intermediate transformers and an efficient aerial coil, gave adequate sensitivity and selectivity for a mantel radio.

Not only was the public hungry for consoles, they were equally eager for the kitchen mantel to lighten the burden of mum's housework while she was blissfully rolling out the pastry and ecstatically ironing her loving husband's shirts. (That is, if contemporary advertising material is to be believed!) But back to the radio...

Circuit details

The EK32, an octode, was considered a good converter, and although it has the same conversion conductance as the reliable 6A8-G, it consumed only 4.3mA as opposed to the over-10mA of the 6A8-G. The EBF35 intermediate frequency amplifier has a gm of 1800umhos (i.e., 1.8mA/V) and a total consumption of merely 6.6mA compared with a gm of 1200 of a type 6G8-G 'flat strap' (and consuming 11.7mA into the bargain). The output type EL33(A) again has a bit more poke than its rival, the ever popular 6V6-G(T), having over twice the gm and drawing 7mA less current.

Despite the general acceptance of permanent magnet (PM) speakers during the post-war period, the Tasma 1101 opted for the energy sapping electromagnetic speaker with a 1500Ω field coil and a 5Y3-GT rectifier. Later models did have factory modifications, but I've been able to find no literature to support this so far. If any reader does have a 1101 with a PM speaker, look for the obvious signs of replacements. They will show themselves somehow, somewhere. Otherwise, we can assume a factory modification. Indeed, the model used for the purposes of illustration (Fig.1) has a 5" PM speaker with a heavy duty 1500Ω filter resistor mounted on insulators above the chassis, and is clearly factory made.

The circuit is a straight superhet in which the output valve is fed directly from the detector/IF amplifier, and the 0.5M pot serves as both diode load and volume control. Back bias is used to all stages, and simple AGC is incorporated for the converter and IF amp. A three position switch for variable top-cut treble tone control completes the circuit. Otherwise, the circuit is about as conventional as can be.

Construction

However there is nothing conventional about the construction. In looking at some of the radios of the immediate pre-war and post-war era, one can only wonder what possessed the designers. The array of metalwork and brackets, spacers, springs, wheels, drives and shafts seemed unduly complex, just for the sake of giving a particular set a differently shaped dial or some other distinguishing feature. But, it must be said, it is these characteristics which gives a given set its individuality and makes them collectable. The Tasma 1101 is no exception.

The layout is not particularly conventional. Looking at the chassis from the back, the mixer is at the back of the chassis, and to its left is the first IF transformer in the corner. The IF amp is midway along the left hand edge, with the second IFT in the front left corner of the chassis. The output valve is in the far right corner of the chassis.

Alongside the second IFT along the front of the chassis is a spare hole for an audio amplifier. The rectifier is stuck away under the dial(!). Shielding for the wiring between the detector and the output valve is not via conventional shielded wire, but rather normal wire being passed through a metal tube.

The fixed components and valve sockets are reasonably accessible, so servicing, apart from restringing the dial, does not pose too much of a problem. The tuning capacitor is in the middle of the back of the chassis with the vanes opening inwards, and the moving vanes are secluded by the roof-top dial!

The M1206

The M1206 is built on the same chassis and enclosed in the same cabinet, but there the similarity ends. This model is a five-valve dual waver, and was produced in 1950. It is a mongrel of a thing. The valve line-up is a 6AN7 converter, a 6N8 duo-diode variable mu pentode IF amp in which the diodes are not used, a 6BD7 duo-diode triode det/AGC/audio followed by a 6M5 output. Back bias is applied to the IF and audio amp, and ultimately to the mixer which also has cathode bias.

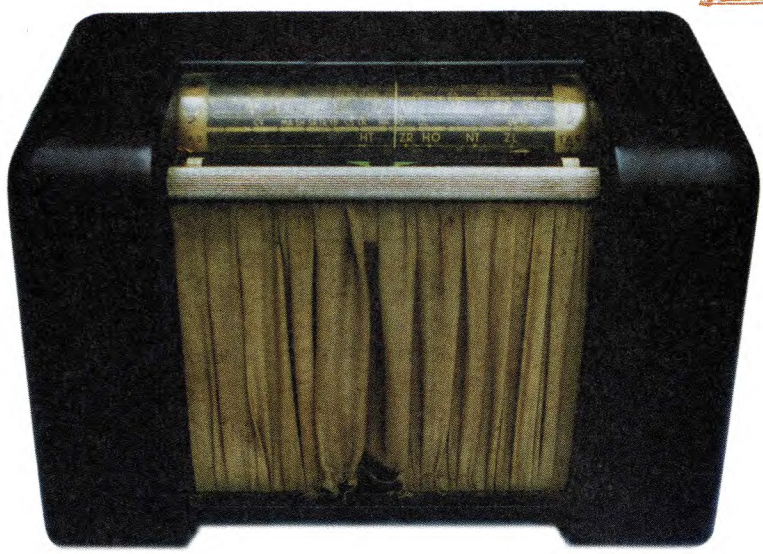

Fig.4: The large table model 1195, with its more than adequate 'roller blind' tuning control!

Perhaps the mixer is slightly overbiased to prevent overloading. Simple AGC is applied, despite there being plenty of diodes to choose from!

The tone control is incorporated into the enormous wave-change switch, which effectively obscures all access to the valve sockets. The wave-change switch is a three position affair in which the positions are medium wave, medium wave 'mellow', and short waves. This was achieved by using the sixth pole of the switch to act as a crude tone control, connecting in a 0.05uF capacitor to earth from a 50kΩ tapping on the anode load of the 6BD7.

A degree of negative feedback is provided by the unbypassed cathode of the 6M5, and a 0.05uF capacitor connected from the 6M5 anode to a further 50kΩ tapping on the 6BD7 anode load provides a degree of bass boost. A further degree of feedback is via a 50pF capacitor from the 6M5 cathode to grid.

M1206 construction

The M1206's use of the same cabinet, chassis and dial mechanism is where its similarity to the 1102 starts and finishes. Underneath, it is not a good example of design layout. The valve location is per the 1101, but the additional hole in the front of the chassis is now occupied by the 6BD7. The rather long shaft of the switch extends to switch banks at the rear of the chassis. Crammed in amongst all this lot are three of the four coils. The broadcast band aerial coil is mounted above the chassis, beneath the 'roof' of the dial plate.

To complicate things even more, not only do switch banks and coils almost obstruct the valve sockets, but so too do fixed components — some of which have had their leads shortened to the barest minimum length so that it is not convenient to nudge them to one side. That is, assuming there was some available space to do so!

The valve sockets themselves are the cheap and nasty punched variety. A few grams too much pressure whilst trying to remove a component or wire, and the lug and associated pin socket breaks free from the paper thin housing material. The result means replacing the socket, which is by no means easy since the sockets in question have the large flange designed for the 1-1/8" holes originally intended for octal sockets. Better valve sockets were available at the time...

Servicing

The problems of the 1101 aren't at all too bad. The only real problem is that the wire passing through the metal insulating tube from one side of the chassis to the other can lose its insulation. Assuming the paper capacitors and electrolytic capacitors need replacing, there are few other problems assuming that all coils and transformers are intact. Alignment is standard procedure.

The M1206 is a colour of an entirely different hue. Here, the access to the valve sockets of the 6AN7, 6N8 and 6BD7 is difficult in the extreme. Trying to measure voltages at the valve socket becomes a real juggling act and one must ensure that the test prods don't short to some other component or wire in the process.

As with the 1101, the screens of the converter and the IF amp are fed in common from a voltage dividing network with two paralleled resistors at the top, and another to earth. All of these resistors are 50kΩ, one watt.

Removing the speaker to replace a burnt-out audio transformer can also be a chore. The transformers as supplied were the smallest available. If one is not to hand, the proprietary line M-1100 (Dick Smith Electronics) will bolt directly in place, but its larger physical dimension means that the speaker must be carefully 'prised' back into position, and ensuring that the lugs do not short against the dial backing plate. Although these transformers are supposedly 'line' transformers, they do work quite well.

A shared difficulty on both receivers will be re-stringing the dial. They are the same in each case, and as the 'roller' is rolled toward you, the dial pointer travels from the back of the dial to the front, and of course vice-versa. Bearing that in mind, it will be left to the owner to puzzle out the route and course of the dial string. Once again, access to the tension spring on the capacitor drum is not easy, so keep as much tension on the dial cord as possible during the entire stringing process.

Performance

The 1101 does its job quite well, for what it was designed to do. It picks up all the locals at adequate volume and sensitivity, and gets the stronger interstate stations during the evening hours with about 10 feet of antenna.

The M1206 beefs far too much audio into a 4.5" speaker, and overloads it on the broadcast band. The shortwave performance is quite good, with quite efficient coils space wound with silvered wire on low-loss formers and with the 6AN7 converter, works quite well. However, delayed AGC would be an advantage.

The 1101 is clearly a mantel set, whereas the M1206 is another example of a high gain design which would have been much better suited to a 10" speaker in a console cabinet.

The 1195

Finally, a brief mention of a vibrator powered table model, the 1195. This was quite a robust model, with a roller blind to end all roller blinds! The tuning control is the silver bar at the front edge of the cabinet, and the dial itself is of 'quarter-round' construction with the pointer travelling from left to right.

The radio itself is a four-valve dual wave set using an EK2-G converter running from 6.0V DC, and three 2.0V battery types 1M5-G, 1K7-G and 1L5-G. It is illustrated in Fig.4, and vibrator radios will be the subject of future articles. ❖