



Two postwar Kriesler mantel sets

A very popular radio with Australian households after the war was the Kriesler 'Beehive' model, first produced in 1946, which has become a collector's classic. The second set we discuss this month is the 11-29, a later model in the Kriesler mantel range which was also quite popular.

The Kriesler model 11-4 — or 'Beehive' as it has become colloquially known — is a very popular radio with collectors and rates with the Astor 'Mickey', AWA 'Radiolette' and HMV 'Little Nipper' as a true classic. Like the latter models it's found in many collections.

First released in 1946, the circuit is a dual wave reflex 3/4 valve superhet in which there were an incredible number of variations. The cabinet fully encloses the chassis, a feature which Kriesler extolled in their advertisements. The cabinet consists of a base portion screwed to protruding pillars from beneath the chassis, and the upper portion which comprises four 'hoops' and the top. These five pieces are held together with four long screw-threads, which protrude through the chassis and are secured with nuts. The hoops are louvres to allow for the egress of sound and for ventilation.

The colours were a factory painted cream on brown bakelite, brown bakelite, or a two tone affair. It seems there was also a factory painted cabbage-leaf green, although I have yet to confirm this.

The photo in Fig.1 shows a factory painted cream, which has been subsequently been given the 'once-over' with the inevitable coat of Dulux Super Enamel — which in this instance looks as though it was applied with a clothes brush. The colour is, of course, the very fashionable 'off white'!

The circuit

The circuit (Fig.2) holds no great surprises. The shortwave aerial primary is in series with the broadcast primary, affording a cost saving — as too are the exciter sections, i.e., secondaries, of the oscillator coils. When switched to short waves, that portion of S28 is closed, resulting in an earthing



Fig.1: The Kriesler 'Beehive', in factory cream as repainted with household paint.

bar shorting out the broadcast oscillator tuning coil as well as the broadcast aerial coil primary.

The inset modification uses a four-position switch in which all coils are switched in the more conventional manner. Note also that in the modified front end, the oscillator anode isolating capacitor is in the earth end of the coil, and not the anode or 'hot' end.

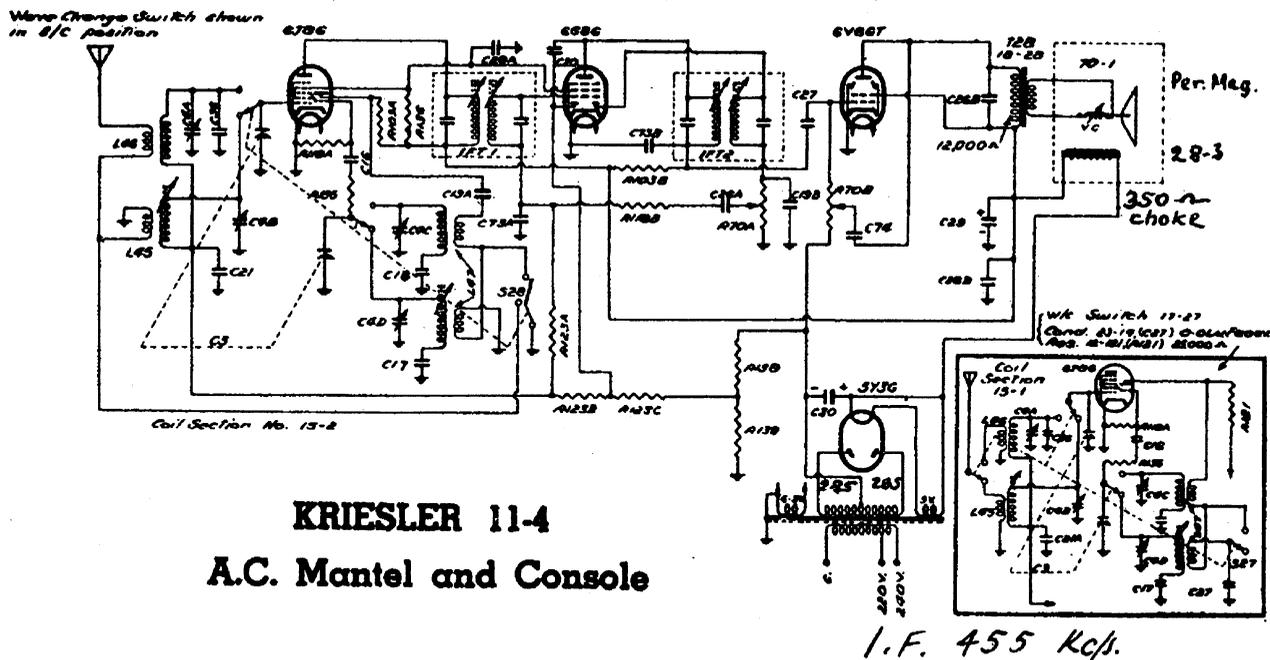
Note that the reflexing is used around the 6G8-G IF amplifier stage, so that it also acts as the first audio amplifier. One of the valve's two diodes acts as the main detector, and the other as the AGC detector.

The screens of the 6J8-G and the

6G8-G are fed from a common resistor and bypassed via the same capacitor. Delayed AGC is applied to both the reflex stage and the mixer stage in what was slightly unusual practice. Back bias to all stages is obtained from the divider network R138 and R139, and the 6V6-GT is over biased to limit power output and total current consumption. There is no attempt at audio feedback (thank heavens).

The variations

Listed in the Australian Official Radio Service Manual for 1947 are no less than 33 variations. It seems quite incredible that there could be so many



KRIESLER 11-4 A.C. Mantel and Console

Fig.2: The circuit of the 11-4, which dates from 1946.

modifications within one year of the prototype. The service manuals were published the year following the given year of production, so it is not as though the service manual accounted for a 10-year gap or anything like that. That many variations works out to about one every 11 days. The poor Kriesler production engineer!

Admittedly some of the variations are very minor, such as the substitution of one coil kit for another (which is not all that uncommon for certain other manufacturers of the day) and a different value of the top-cut tone capacitor. Other variants were not so minor, such model 11-4FZ which lists:

- (a) Tone control potentiometer (0.5 megohm) replaced by a two-position switch, 0.02uF 600V condenser (C95) and 0.5 megohm 1/2 watt resistor (R117). Disconnect lead from centre lug of the potentiometer and wire it to stationary contact of switch. Earth moving arm of switch. Replace potentiometer with fixed resistor.
- (b) Power transformer changed from 18-27 to 18-32.
- (c) 6J8-G converter replaced by ECH35G
- (d) Resistor R103A (15k) replaced by R135A (40k); R136 (30k) replaced by R153B (40k)
- (e) R139 (50 ohms) replaced by R157 20 ohms
- (f) 5Y3-G valve replaced by 6X5-GT rectifier, which is connected to the 6.3 volt winding on power transformer
- (g) HT choke to replace field of 70-1 speaker.

It was also stated that the circuit in the bottom corner of the circuit diagram applies. The unusual numbers refer to Kriesler part numbers.

Basically, the major alterations consisted of a field coil electrodynamic speaker, a filter choke, a high wattage filter resistor used in conjunction with or instead of the filter choke, a 6X5-GT rectifier and an ECH 35 converter. A given variant could incorporate some or all or a combination of those alterations, as was seen by the above example. Above and below chassis photographs are shown in Figs.3 and 4.

Note that the 5Y3-G rectifier is used and not the smaller 5Y3-GT. Some of the earlier sets may also have used the larger 6V6-G.

Virtually the same circuit was used in an all-bakelite table model radiogram a couple of years later, in which the pick-up was fed directly into the grid of the 6V6-GT.

The 11-4 is described as both a mantel and console model, but judging by the vast number of mantels that have survived to this day, the mantels must have quite considerably outsold the consoles.

Problems & repairs

The top of the bakelite cabinet is prone to a small heat crack in the bottom corners of the dial aperture. Sometimes, the crack will extend right through to the outer edge. The name badge is fragile and prone to breaking.

Any major damage to the cabinet is

virtually unable to be repaired, and the set can only be regarded as a salvage proposition. However, that is not as bad as it sounds, because one may be able to obtain a 5" electromagnetic speaker for such projects as a 'Little General', or a replacement speaker for the model 28 'Radiolettes'.

As far as the chassis is concerned, the major items to cause concern are the power transformer, choke, electromagnetic speaker (if fitted) and valves. The coil kit and IF transformers are pretty reliable. Then of course there is always the possibility of a dud valve. It is

Fig.5: The later model 11-29, in factory cream bakelite.

always good practice to replace the electrolytics and audio coupling capacitor no matter how original one wishes to keep one's set.

The best source of major items is a salvaged chassis. The beauty of these sets is that because of the vast number of official variations, two quite dissimilar versions can be combined with impunity!

Performance, alignment

There are no tricks to alignment. Unless an IFT has actually been replaced, or shows evidence of tampering, it is a good idea to give them a tweak after the RF alignment. As both of the broadcast coils are slug tuned, it is quite possible to tune the set down to 531kHz if there is local station on that frequency in a given locale. The top end will require careful adjustment, but once completed the dial calibrations have minimal deviation. Shortwave alignment consists of picking a strong station at the very top of the band and peaking the aerial trimmer. There is no oscillator trimmer to worry about.

If you are attempting to tune down to 531kHz, it may be necessary to align the top and bottom of the band two or three times to obtain maximum performance, as well as a slight adjustment of



the dial pointer before the alignment is finally completed. Once thus finished, peak the IFT's — which should only be marginally in error.

One aligned, these little sets perform very well indeed. With 10 or so feet of antenna wire trailing behind it, the shortwave section performs particularly well. As well as their attractive cabinet, the overall performance makes

these little sets very collectable.

The model 11-29

This receiver was chosen for no other reason than it was featured on the dust cover of Ingliss' definitive history *This is the ABC* (K.S. Ingliss, Ingliss 1983). A sample is shown in Fig.5.

The 11-29 is described as a 1952 model, just ripe for tuning in to 'Blue Hills' and 'Portia Faces Life'. It was available in either brown or cream bakelite, and the brown bakelite models look particularly attractive with white knobs.

This model, for broadcast band only, can be considered as a logical successor to the 11-4. It uses the newest of the innova nine-pin valves, types 6AN7, 6AD8, 6M5 and 6V4 (or EZ84). There was another version in the same year using types 6SA7 and 6N8 in the front end, followed by the other two valves, and there the variants seem to cease! Despite having the same model designation, there are differences in the circuit. Indeed, with different valve types it makes one wonder if a different model designation would have been justified.

In both instances the circuits are a 3/4 valve reflex superhets with simple AGC applied to both the mixer and IF stages, and both incorporate a degree of audio feedback in one form or another.

As with its predecessor, the chassis are quite rigid and are made with a good quality plated steel. Like the

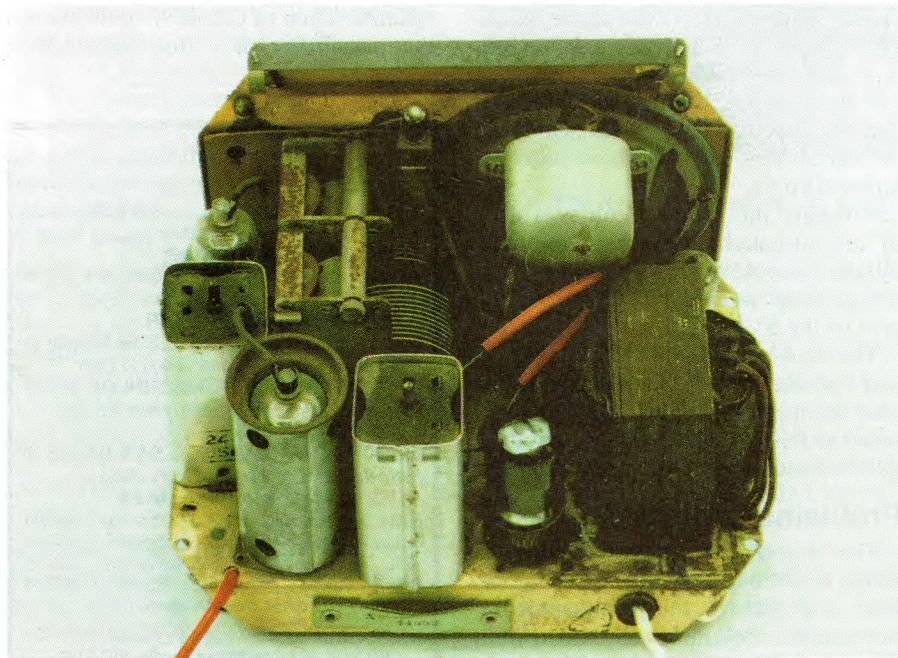


Fig.3: This particular chassis variant has an electromagnetic speaker and a replacement output transformer.

Beehive the cabinet fully encloses the works, and has speaker slots both front and rear with grille cloth in both places. One advantage of enclosing chassis in this manner, and also with the 11-4, is that it dustproofs them rather well. Once the cabinet has been removed it is a joy indeed to work on a chassis without having to remove a thick layer of dust and grime.

Unfortunately, the cream cabinets suffer the curse of much cream bakelite in that they are prone to very fine heat cracks in the most visible places. These cracks disappoint many enthusiasts because they are so fine and are not damaging to the cabinet, but become imbued with grime — thus highlighting their ugliness. The most annoying aspect of them is that there is very little one can do to repair them without making them look worse.

Repairs & alignment

There is no suggestion of an electromagnetic speaker in these models. HT filtering is achieved with a 3W/1500 Ω resistor. Unless this item is wirewound, it is prone to burning out, and a wirewound type should be considered if a replacement is necessary. The other resistor which carries the total HT cur-

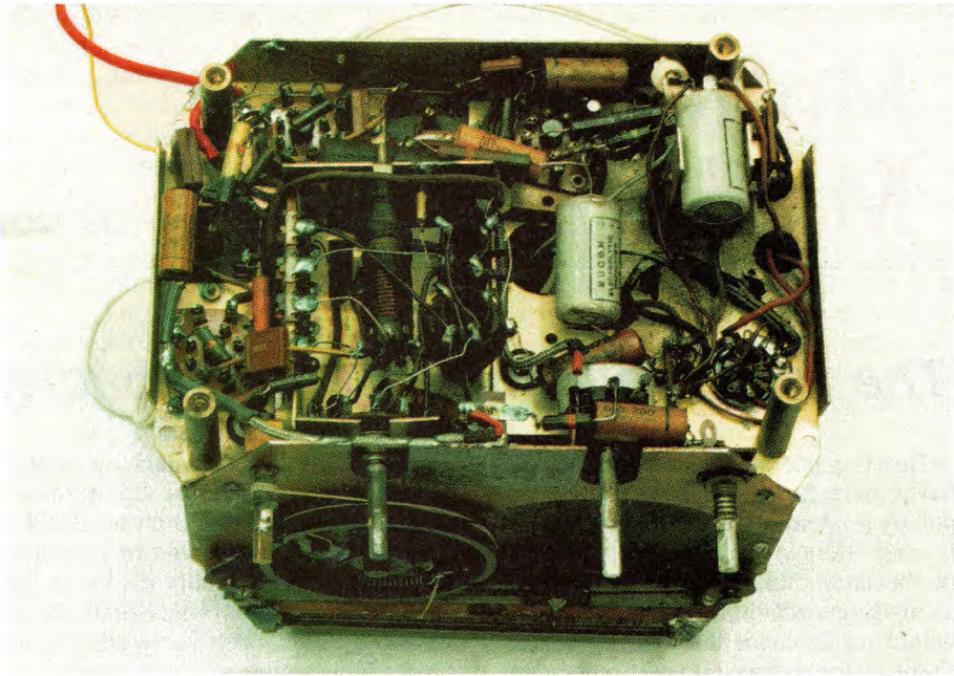


Fig.4: Under the 11-4 chassis. Apart from the replacement of electrolytics, this sample is very original.

rent is the back bias resistor, which is also prone to burning out; so again a wirewound type should be considered for replacement purposes.

With ferrite slugs again fitted it is possible to tune down to 531kHz and with

careful alignment, dial mis-calibrations should be minimal, if not un-noticeable.

In closing, both these little sets are well made and are good performers, with the 'nod' going to the 11-4 for its stylistic cabinet and dualwave facility. ♦