## LHE EKCO 2M80

## by Peter Lankshear

The Ekco SW86 is one of the more freely available pre-war receivers in New Zealand. Many collectors regard ownership of one as a 'must' but a lot of servicemen were not so kindly disposed towards them.

With a distinctively Ekco cabinet its curves and chrome make it a difficult set to ignore and visitors frequently admire the Lankshear domestic 'workhorse' SW86 which has been in the family since 1937. Despite virtually daily use ever since no major component has ever been replaced; there can't be many radios around with that sort of record.

As well as the familiar black and chrome model a version also appeared in a brown bakelite cabinet of the same size and shape. Not quite so common were several styles of consoles and also a bow-ended wooden mantel which seem to have been made in N.J.; they all have the the chrome circle and bar as featured on black bakelite cabinet.

There is a seemingly improbable but persistentstory about the SW86 being expressly designed for the New Zealand market. But why should a large manufacturer like Ekco bother to make a special model for such a limited market, and for what purpose, when they already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models? There are, however, several sigthey already had a good range of suitable models?

The SW86 seems to have been unknown in Britain and there is considerable evidence to show that it was an 'export only' model.While every other Ekco the writer has seen used British valves the SW86 used standard pre-octal 6.3-volt American valves. The TC paper capacitors used throughout are metal cased and labelled 'Tropicalised'. Provision is made for operation on mains voltages between 100 and 250 volts with seven different teappings on the primary of the power transformer.

Prime consideration seems to have been given to the shortwave bands as here the coils are large and efficient. Semi-bandspread tuning is obtained by using split-stator sections in the tuning capacitor. Instead of the almost mandstory pentagrid mixer of the day the Sw86 uses a pentode mixer in conjunction with a separate triode oscillator to provide superior shortwave performance. The shortwave scales are placed at the outtedge of the dial to provide, in conjunction with a logging scale, easy and accurate tuning. Emphasis certainly seems to have been placed on features designed for export, tuning it actually a special model?

Whilst pondering these points the writer came across a picture of a very familiar looking cabinet which contained a quite different chassis known as model AC86. A copy of the English Radio & Electrical Trader service data for this model was obtained and it proved to be most enlightening. The AC86, which appeared in 1936, was available with a choice of the same two bakelite cabinets as used with the SW86. The metalwork, dial and speaker were also the same, but from here on the similarity ended.

A mixture of English brands of valves was used, including an octode mixer. There was no RF stage and the set covered only the longwave and broadcst bands. A feature of the design was a combined AGC and squelch system which can best be described as diabolical! Briefly, the IF valve acted as a DC amplifier for the mixer AGC feed and had an adjustable 'noise supressor' or squelch. The control knob for setting the squelch by replacing both the mixer and IF valve acted as a bill by replacing both the mixer and IF valves with a matched pair. But his was not all! by replacing both the mixer and IF valves with a matched pair. But his was not all! interesting are an untraceable AF motor-boating, incensitivity, unresponsive volume-control action and instability with bad quality in the output stage." The AGE must have been what is known in automice as a "Iemon" ! !

After nearly half a century it is difficult to find any hard facts on the true story of the SW86 but the writer has a theory, based largely on circumstantial evidence, but if any reader has definite information on the origins of this receiver it would be welcome. For what it is worth the theory is as follows:

After 1935 New Zealand was encouraged to "Buy British" and import restrictions had practically cut off the supply of American receivers, so suitable for our conditions, which had strongly influenced the design of locally-made sets. By this time purchasing power was increasing and New Zealand was ripe for British manufacturers to

mount a sales campaign. Many dealers were not fond of the European receivers which had been sold here because their complicated assembly required specialist servicing facilities and data which were not always available; also because they used valves which were individualistic and unfamiliar.

It is likely that Ekco researched the New Zealand market and got the message that if they were really to establish themselves they would have to offer a receiver which appealed to an American orientated trade, and this meant above all, the fitting of U.S.. valves.

This, too, was the period when the BBC's Empire shortwave service was becoming popular and there was a demand for a receiver with a good shortwave performance; if a suitable British-made product was available, so much the better. Two prime requisites were then, American valves to overcome trade resistance, and a good shortwave performance to appeal to potential customers.

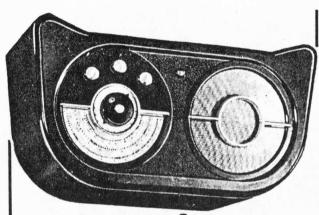
Was it fortuitous that the Ekco factory had an inventory of AC86 components left over? If so then what better than to revamp the original design? This was done, although the 'Americanisation' was confined mainly to the valves. Electrically it was completely redesigned, resulting in excellent shortwave performance but lacking in sparkle on the broadcast band.

With a sales network, established by Spedding Ltd, extending literally from Whangarei to Bluff the venture was successful and established Ekco sufficiently well that they were able, subsequently, to sell standard English models until the outbreak of orld War II.

(To be continued)

# B.B.C. Selects EKCO

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#### YAAUTIAO

ARTHUR H.MCCLAY (86), a foundation member of the NZVRS, passed away at his home in Auckland on Feb 10,1984. He will be remembered as one of New Zealand's pioneer broadcasters who in 1922 held one of the original ten transmitting permits, issued before licenses were introduced in 1923. Quite recently Arthur recorded some tapes of his early experiences dating back to schoolboy experiments in 1911. Copies of these tapes are now held by various organisations including BCMZ, National ARchives,

NZART-OTC, NZ DX League and the NZVRS.

Енсгию странования в Спримента в странования в стр 9

### THE EKCO SW86

## (Part 2)

#### by Peter Lankshear

tective hoop around the outer edge to help prevent this. rating marks in the process; also the scale tends to warp and later chassis had a prothat the celluloid becknowing and is difficult to clean without removing the calibwise excellent scale has been spoilt by the lack of a protective cover with the result is in the half-circle dial scale with its illuminated cursor. Unfortunately this otherto radios from across the Atlantic and had borrowed a few ideas. The obvious similarity (Gulbransen etc) receivers it is reasonable to assume that Ekco designers had access Because the SW86 has some superficial resemblances to the contemporary Wells Gardner

kījuepue and SW86 mixer practices the writer is confident that the SW86 circuit evolved indeplogical choice. Because there are so many detailed differences between the Wells Gardner mHz, the choice of a 76 triode oscillator and sharp-cutoff pentode combination was a mixer valve in the U.S. range. As the GA7 had performance limitations about 12 pentode mixer. However, there was no real alternative to the 6A7 combined oscillatorresemblance to Wells Gardner practice is the use of a triode oscillator and a separate shields which are of identical shape to the zinc Wells Gardner type. Another apparent and in this case it is interesting to speculate about the source of the aluminium Ekco, like many other European manufacturers, did not normally use valve shields

formers are generously designed with plenty of copper and iron. tuned circuits have large high-Q coils whilst the loudspeaker and two iron-cored transpreviously, the majority of paper capacitors are metal cased and tropicalised. All while most resistors carrying more than a few milliamps are wirewound and, as mentioned with no shortcuts. Valves have individual cathode bias, there is plenty of RF bypassing, mixer, single IF stage, diode detector and two AF stages. It is of conservative design The SW86 has the standard format of a good general purpose receiver with an RF,

all students of AGC design as a 'spot the errors' exercise! astrous AC86's AGC was let loose on the SW86?. The result should be required study for the worst design the writer has ever seen! Is it possible that the designer of the dispotential to be a fine receiver, but it is spoiled by the AGC circuitry having about These features, together with a sound mechanical construction give the SW86 the

inadequate AGC control and which overloads on strong signals. resistor (R2). The overall result is a receiver which has poor BC band sensitivity. bias back the 6D6 RF valve on the broadcast band with an additional 1500 ohm cathode uncontrolled RF stage overload readily occurrs, so much so that it was necessary to applied to the RF stage where it would have the greatest effect and benefit. With an left off, particularly on the shortwave bands. For some inexplicable reason AGC is not cutoff. AGC will therefore have little effect with this type of valve, so it is best go well astray. A mixer of this type is basically a biassed detector operating at grid the available control voltage, but half is fed to the 6C6 mixer and from here on things of it operating at very small signal inputs. The IF valve received a reasonable 87% of earth. Had this been done correctly, the onset of AGC would have been delayed instead here the full benefit was lost by returning RIO to the 75 cathode instead instead of operation. As it is, the only good feature is the use of a separate diode, but even The same number of components could have been used to provide a first-class AGC

in the old European unit of centimetres, rather than in picofarads (lcm=l.lpF) R4 and C28, resulting in reduced gain below about lmHz. Interestingly, C28 is marked coupling to the mixer grid on the BC band. Lll has no primary but is coupled to VI by The rest of the receiver is well engineered, although with an unconventional RF

English triodes of the time, but twice the optimum for the American type 75. The value of the 75 cathode resistor, RIS, is 7.5K ohms, suitable for the lower µu

RI8, the oscillator anode resiston increase in value, resulting in a dead receiver at and R19 of the screen voltage divider can become open, effectively silencing the set. Faults generally are few and predictable. The electrolytic caps dry out of course,

.Z.N ni and hoistication done in N.Z. some SW86s will be found fitted with a magic eye tuning indicator, but this is not the low frequency end of the dial.

was Serge Chermayett. Museum showing an AC86 in a walnut colour cabinet. It states that the cabinet designer

P.M.Lankshear, C/- P.O.Box 802, Invercargill.

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Mr C.J.Schollum has sent me an interesting picture from the Victoria & Albert



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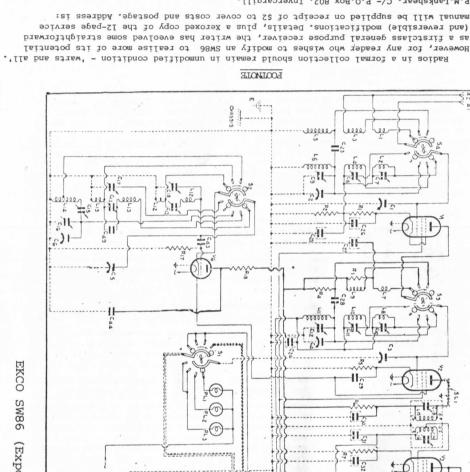
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