

CHAMPION**1954 RANGE**

A selection of the circuits used in the 1954 range of receivers manufactured by the Champion Electric Corporation will be found in the following pages. Details of the range of record players and record reproducers are given on page 53.

Brief details of these models are as follows.

MODEL 784

This is a four-valve (including rectifier), T.R.F. ("straight") midget table receiver covering 200–500 m., and suitable for operation from A.C./D.C. mains, 200–250 volts. Housed in a plastic cabinet. This model is intended primarily for local-station reception: a throw-out aerial is provided, and the use of an external aerial is not recommended, as it may affect the alignment.

The original model was fitted with a 300-ohm line-cord, and employed the following valves: (V₁) 6BA6; (V₂) 6AM6; (V₃) 25L6; (V₄) 25Z4.

This model was later replaced with a receiver using internal mains-dropping resistors and with either one of the following sets of valves: Type B, (V₁) 6BJ6; (V₂) 6BH6; (V₃) 35L6 or 50L6; (V₄) 35Z4; Type M, (V₁) UF41; (V₂) UF42; (V₃) UL41; (V₄) UY41.

The performance of the three models is almost identical, the modifications having been made owing to the supply position. The differences between the three versions are indicated in the circuit details.

MODEL 820 "RADIO-REVLER"

General Description: Four-valve (including rectifier), two-waveband, transportable, three-speed radiogramophone in leatherette luggage-type case. Internal ferrite-rod aerial functions on both wavebands.

Power Supply: A.C. mains, 220–240 volts.

Wavebands: M.W. 200–550 m.; L.W. 1000–2000 m.

Intermediate Frequency: 470 kc/s.

Valves: (V₁) ECH81; (V₂) EBF80; (V₃) ECL80; (V₄) EZ80.

Alignment Procedure: Inject 470-kc/s. signal between signal grid of V₁ and chassis, and adjust the four iron dust cores of the I.F. transformers for maximum output. During R.F. alignment, the output lead from the signal generator must *not* be connected to the receiver, but should be placed about a foot away from the ferrite rod aerial.

M.W.: (a) Tune generator to 545 kc/s. Tune receiver to pick up signal. Then slowly adjust the core of the M.W. oscillator coil, at the same time

retuning the receiver, until maximum output is obtained. This should occur when the dial setting is very close to the 550 m. mark on the dial.

(b) Tune generator to 1500 kc/s. and receiver to 200 m. Adjust M.W. oscillator and aerial trimmers on tuning gang for maximum output.

(c) Repeat (a) and (b).

L.W. : (a) Tune generator to 150 kc/s. Tune receiver to signal. Then slowly adjust the iron dust core of the L.W. oscillator coil, at the same time retuning the set, until maximum output is obtained. This should occur when the dial setting is very close to the 2000 m. mark on the dial.

(b) Tune generator to 300 kc/s., and receiver to 1000 m. Adjust L.W. oscillator and aerial trimmers for maximum output.

(c) Repeat (a) and (b).

MODEL 825 "SERENADE"

General Description : Four-valve (including rectifier), two-waveband, miniature table receiver in plastic cabinet with throw-out aerial.

Power Supply : A.C./D.C. mains, 200–250 volts.

Wavebands : M.W. 200–550 m.; L.W. 900–2000 m.

Valves : (V₁) UCH₄₂; (V₂) UBF₈₀; (V₃) UL₄₁; (V₄) UY₄₁.

Note : Owing to the small cabinet and the amount of heat generated, it is important that there should be a free passage of air around the receiver.

Alignment Procedure : Note that the chassis is "live".

I.F. : Adjust I.F.T. cores for maximum output at 470 kc/s.

R.F. : The output lead from the generator should be connected between the aerial tag of the receiver and chassis, the "throw out" aerial wire being disconnected. A low impedance tap on the termination unit of the generator must be used, and a 100 pF. (10 per cent) capacitor *must* be in series with the live lead of the generator, which is connected to the aerial tag.

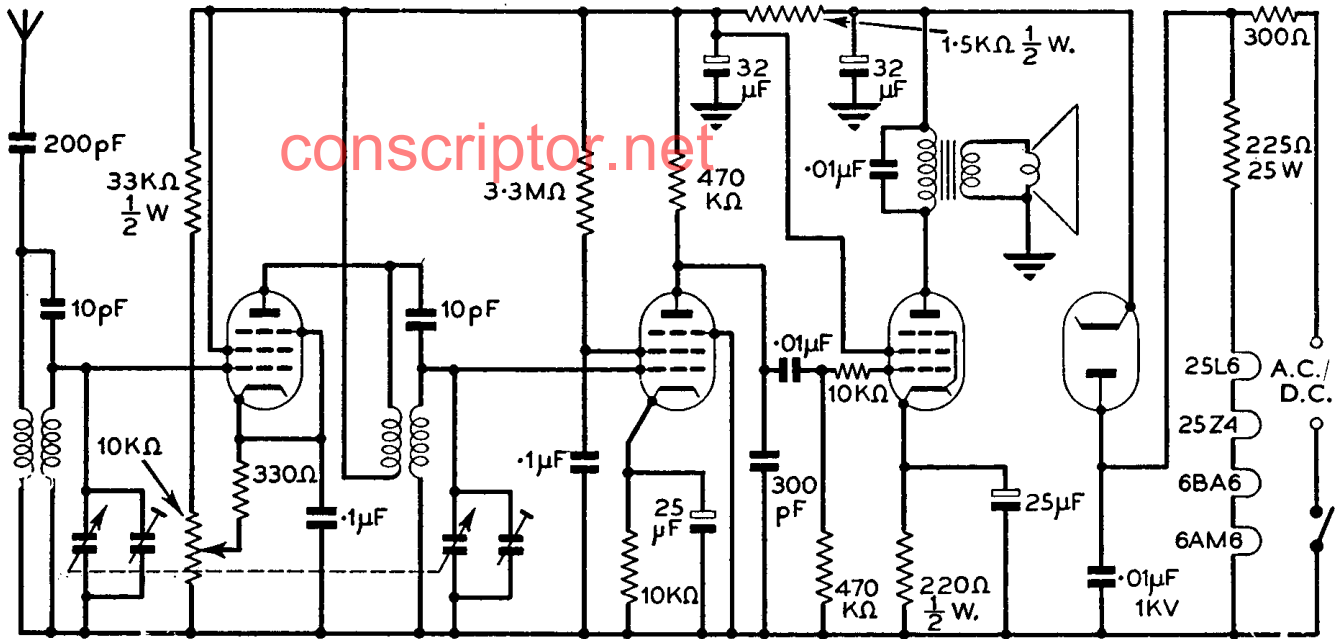
Adjust in standard fashion at the following frequencies : M.W. 600 kc/s. (500 m.) and 1200 kc/s. (250 m.). L.W. 150 kc/s. (2000 m.) and 300 kc/s. (1000 m.).

When alignment is completed, remember to re-connect "throw out" aerial wire to aerial tag.

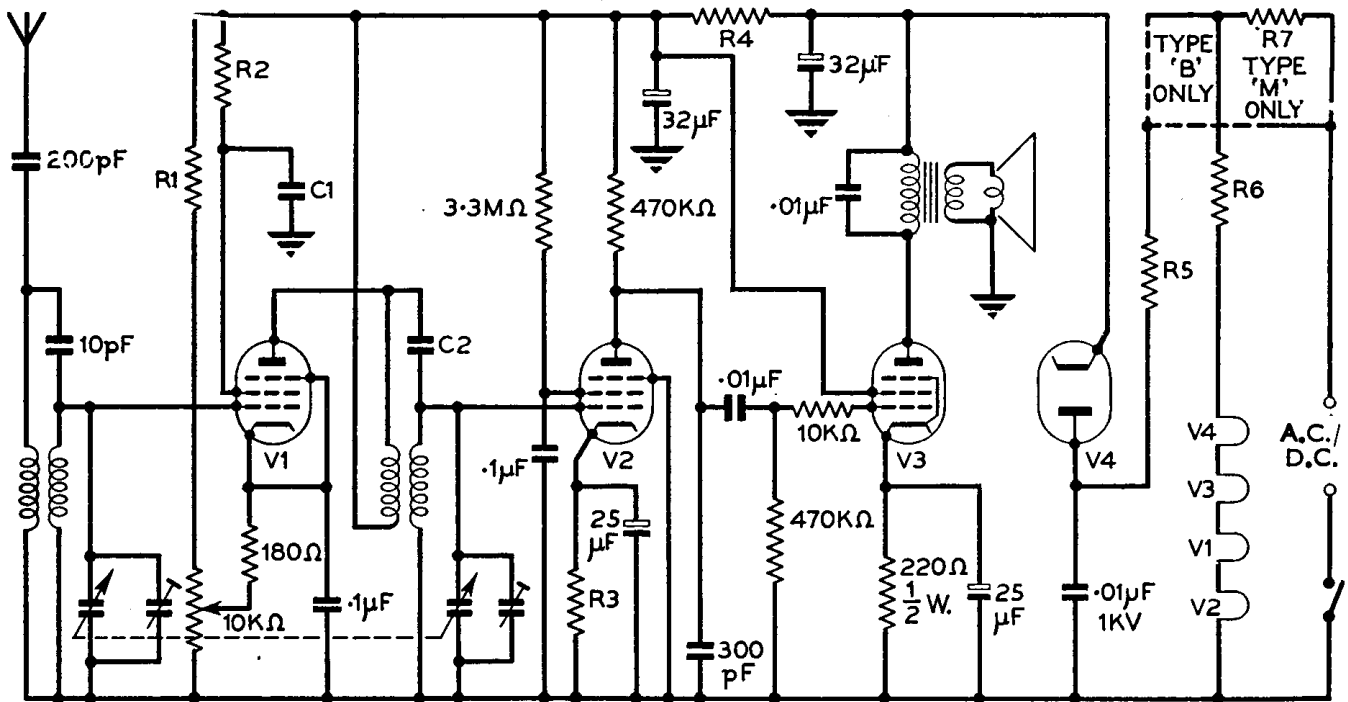
MODEL 830 "BERKELEY"

General Description : Four-valve (including rectifier), two-waveband, table auto-change radiogramophone with built-in rod aerial.

Details and circuit diagram for this model are similar to those given for Model 820.



CIRCUIT DIAGRAM—CHAMPION MODEL 784



CIRCUIT DIAGRAM—CHAMPION MODEL 784 TYPE " B " AND " M "

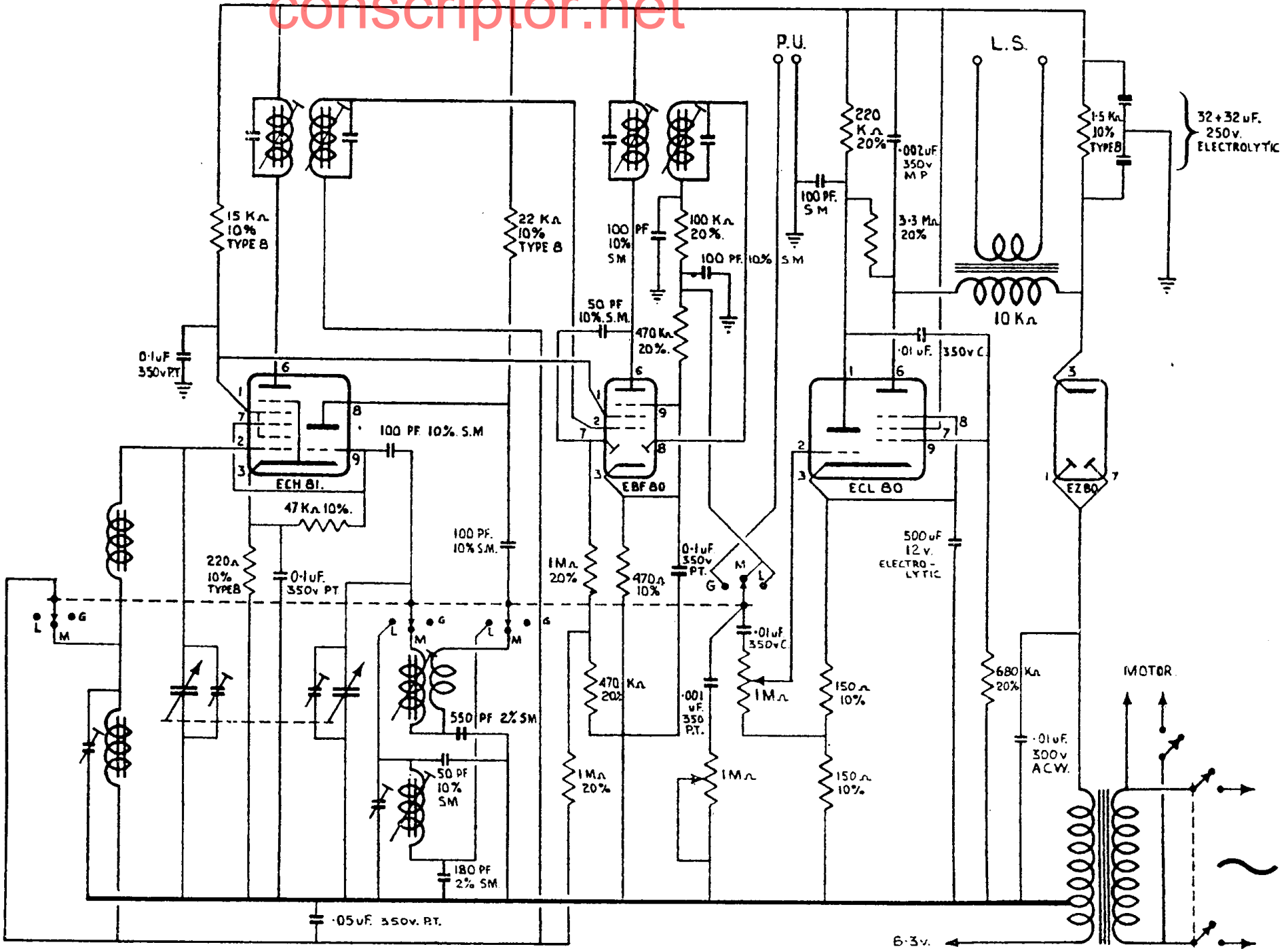
Component Values Type " B "

R1	33k (1/2 W.)	R6	220 (5 W.)
R2	—	R7	500 (25 W.)
R3	22k	C1	—
R4	1.5k (1/2 W.)	C2	5 pF.
R5	—		

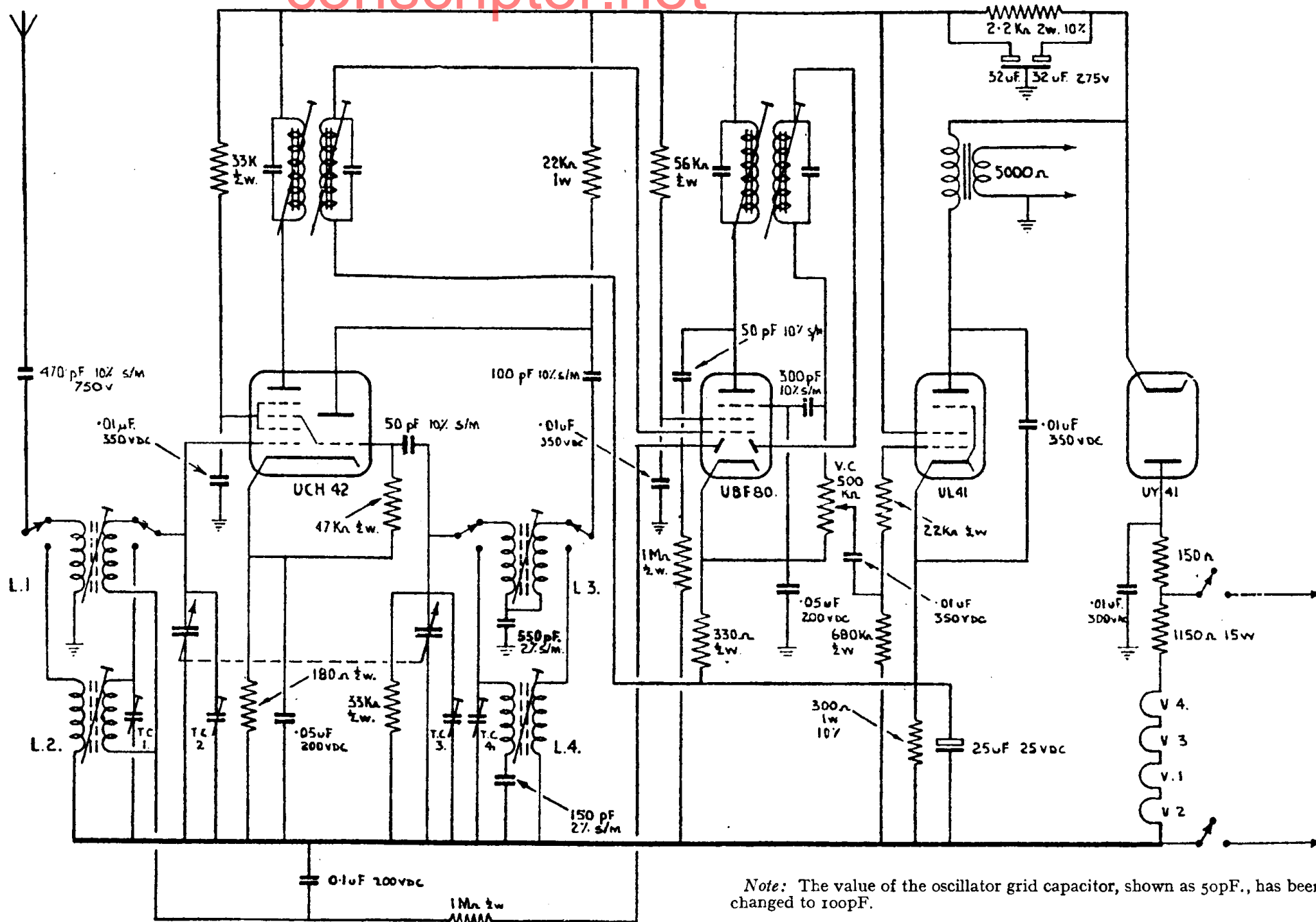
Component Values Type " M "

R1	47k (1/2 W.)	R6	—
R2	33k	R7	1150 (15 W.)
R3	4.7k	C1	0.1
R4	2.2 (1 1/2 W.)	C2	10 pF
R5	150 (5 W.)		

CIRCUIT DIAGRAM—CHAMPION MODELS 820, 830



CHAMPION



Note: The value of the oscillator grid capacitor, shown as 50pF., has been changed to 100pF.