Mullard Model 51

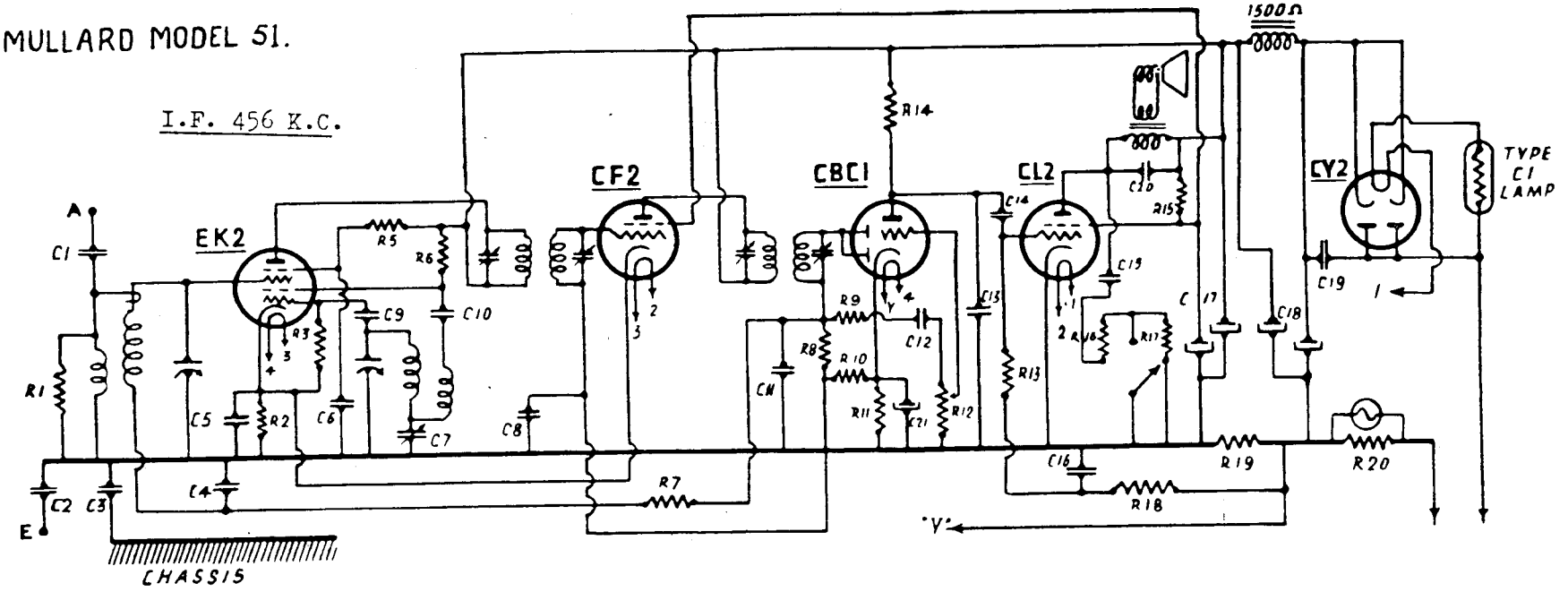
(Circuit Diagram and operating conditions will be found on Page 296.)

Mullard model 51 is a five-valve receiver designed for broadcast coverage and operation from 200-250 volts A.C. or D.C. mains. This receiver is of the "moulded mantel" type and is fitted with three controls—volume, tuning and tone (three positions). The loudspeaker is a 6½ inch unit with a field-coil resistance of 1,500 ohms.

The circuit arrangement and layout of this receiver follow conventional "A.C./D.C." practice in that the valve heaters are series-connected and all return leads are taken to a common negative busbar, chassis, aerial terminal and earth terminal all being isolated by means of high-voltage test condensers. The valves employed are all Mullard "200 mA." heater types and their sequence is as indicated by the numerals shown under each heater lead. Compensation for fluctuating supply voltage is provided by the use of a type C1 barretter as heater voltage dropping resistor. Finally, it should be noted that the dial-lamp is not wired in series with the heater circuit proper, as is usually the case; instead, it is shunted across a resistor in the common negative return lead for the entire receiver.

MULLARD MODEL 51.

I.F. 456 K.C.



C1	- 5000 µµf mica	C11	- 100 µµf mica	R1	- 10 K.Ω ¼W.	R12	- .5 M.Ω V.C.
C2	- 5000 µµf mica	C12	- .02 µf paper 400V	R2	- 500 Ω ½W.	R13	- .25 M.Ω ¼W.
C3	- .08 µf paper 600V	C13	- 500 µµf mica	R3	- 50 K.Ω ¼W.	R14	- 100 K.Ω ½W
C4	- .1 µf paper 400V	C14	- .02 µf paper 400V	R5	- 100 K.Ω ½W.	R15	- 15 K.Ω 1W.
C5	- .25 µf paper 400V	C15	- .05 µf paper 400V	R6	- 50 K.Ω "	R16	- 5 K. Ω ¼W.
C6	- .1 µf paper 400V	C16	- .25 µf paper 400V	R7	- 1 M.Ω ¼W.	R17	- 15 K.Ω "
C7	- Adj.padder 3Plate	C17	- Dual 8 µf 450V W	R8	- .5 M.Ω "	R18	- .25 M.Ω "
C8	- .1 µf paper 400V	C18	- Dual 8 µf 450V.W.	R9	- 50 K.Ω "	R19	- 360 Ω W/W.
C9	- 100 µµf Mica	C19	- 10,000 µµf mica	R10	- 100 K.Ω "	R20	- 60 Ω W/W.
C10	- 1000 µµf mica	C20	- 500 µµf mica	R11	- 1 K.Ω ½W.		
		C21	- 10 µf 25V.W.				

VOLTAGE AND CURRENT ANALYSIS

All voltages measured to common "earth" busbar with 1,000 O.P.V. meter; no signal tuned in.

Valve	Plate volts	Plate mA	Screen volts	Screen mA	Osc. anode volts	Bias Volts.
EK2	185	1.1	50	1.1	100	3.2
CF2	185	2.5	90	0.8	—	3.2
CBC1	48	1.0	—	—	—	1.0
CL2	170	35	90	5.5	—	16.5
CY2	265 (R.M.S. A.C.)					

All readings taken with 240 volts input. Barretter (C1) permits variation of 200 - 250 V.

A general description of this model will be found on Page 300.