CHAMPION METEOR, COMET

OTHER COMPONENTS		Approx. Values (ohms)	Locations
L1	Frame aerial, total	1·0	A2
L2	Aerial coupling coils	8·0	G3
L3	Aerial coupling coils	53·0	G4
L4	Aerial tuning coils	Very low	G3
L5	Aerial tuning coils	16·5	G4
L6	Oscillator reaction coils	7·0	H4
L7	Oscillator reaction coils	1·1	H4
L8	Oscillator reaction coils	2·0	H5
L9	Oscillator tuning coils	Very low	H4
L10	Oscillator tuning coils	3·0	H4
L11	Oscillator tuning coils	8·5	H5
L12	1st I.F. trans. Pri.	3·5	A2
L13	1st I.F. trans. Sec.	3·5	A2
L14	2nd I.F. trans. Pri.	3·5	B2
L15	2nd I.F. trans. Sec.	3·5	B2
L16	Speech coil	2·4	—
T1	Speaker trans. Pri.	550·0	B1
	Speaker trans. Sec.	0·4	
S1–S12	W/band switches	—	H3
S13	Mains sw., g'd R6	—	D3

Valve	Anode V	Anode mA	Screen V	Screen mA	Cath. V
V1 12K8GT...	73	1·3	73	2·5	1·0
	Oscillator 42	1·1			
V2 12SK7	73	4·3	73	1·2	2·5
V3 12Q7G1	22	0·1	—	—	0·5
V4 35L6GT	103	13·0	73	0·6	6·3
V5 35Z4GT	110†	—	—	—	110

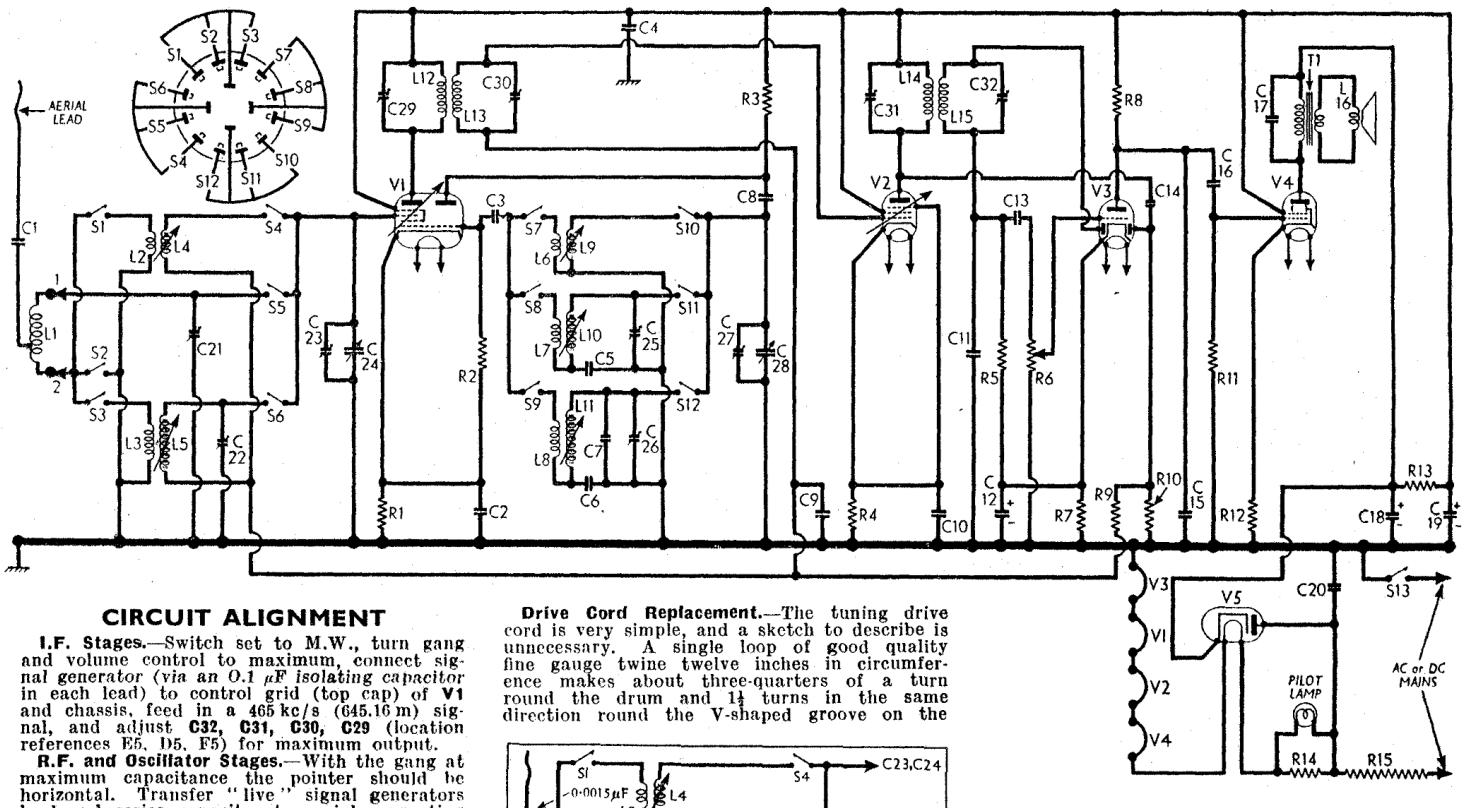
† A.C.

RESISTORS		Values (ohms)	Locations
R1	V1 fixed G.B.	220	H5
R2	V1 osc. C.G.	47,000	G5
R3	Osc. anode load	22,000	G3
R4	V2 fixed G.B.	470	F4
R5	Diode load	470,000	D5
R6	Volume control	500,000	D3
R7	V3 G.B., A.G.C. delay	6,800	C4
R8	V3 triode load	220,000	D4
R9	A.G.C. decoup.	2,200,000	C4
R10	A.G.C. diode load	1,000,000	D4
R11	V4 C.G. resistor	470,000	C5
R12	V4 G.B. resistor	470	C4
R13	H.T. smoothing	3,000	E4
R14	Pilot lamp shunt	40§	F3
R15	Heater ballast	620†	E4

§ 100 Ω + 68 Ω in parallel. † Line cord.

CAPACITORS		Values (μF)	Locations
C1	Aerial series	0·0003	B2
C2	V1 cath. by-pass	0·1	F5
C3	V1 osc. C.G.	0·0001	G4
C4	H.T. R.F. by-pass	0·1	E5
C5	Osc. M.W. tracker	0·000576	H5
C6	Osc. L.W. tracker	0·000168	H5
C7	Osc. L.W. trim	0·00005	G4
C8	Osc. anode coup.	0·0001	H4
C9	A.G.C. decoup.	0·1	G5
C10	V2 cath. by-pass	0·1	E5
C11	I.F. by-pass	0·0003	D5
C12*	V3 cath. by-pass	25·0	C4
C13	A.F. coupling	0·01	D4
C14	A.G.C. coupling	0·00005	D4
C15	I.F. by-pass	0·0003	C3
C16	A.F. coupling	0·01	C4
C17	Tone corrector	0·02	E4
C18*	H.T. smoothing	32·0	E4
C19*	H.T. smoothing	32·0	D4
C20	Mains R.F. by-pass	0·002	F4
C21‡	Aerial M.W. trim.	—	H5
C22‡	Aerial L.W. trim.	—	H4
C23‡	Aerial S.W. trim.	—	A2
C24†	Aerial tuning	—	A2
C25‡	Osc. M.W. trim.	—	H4
C26‡	Osc. L.W. trim.	—	H5
C27‡	Osc. S.W. trim.	—	A1
C28†	Oscillator tuning	—	A1
C29‡	1st I.F. trans- former tuning	—	F5
C30‡	1st I.F. trans- former tuning	—	F5
C31‡	2nd I.F. trans- former tuning	—	D5
C32‡	2nd I.F. trans- former tuning	—	E5

* Electrolytic. † Variable. ‡ Pre-set.



CIRCUIT ALIGNMENT

I.F. Stages.—Switch set to M.W., turn gang and volume control to maximum, connect signal generator (*via an 0.1 μF isolating capacitor* in each lead) to control grid (top cap) of **V1** and chassis, feed in a 465 kc/s (645.16 m) signal, and adjust **C32, C31, C30, C29** (location references E5, D5, F5) for maximum output.

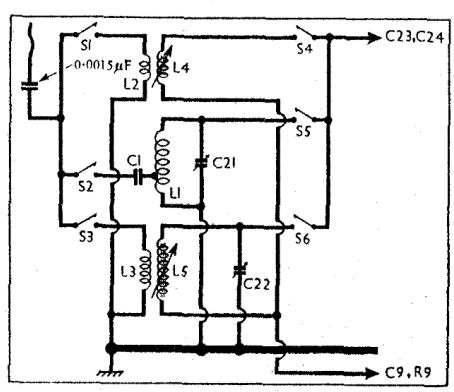
R.F. and Oscillator Stages.—With the gang at maximum capacitance the pointer should be horizontal. Transfer "live" signal generators lead and series capacitor to aerial connecting lead, via a suitable dummy aerial.

S.W.—Switch set to S.W., tune to 16 m on scale, feed in a 16 m (18.75 Mc/s) signal, and adjust **C27** (A1) and **C23** (A2) for maximum output. Tune to 49 m on scale, feed in a 49 m (6.12 Mc/s) signal and adjust the cores of **L9** (A1) and **L4** (A1) for maximum output. Repeat these operations until no improvement results.

M.W.—Switch set to M.W., tune to 200 m on scale, feed in a 200 m (1,500 kc/s) signal, and adjust **C25** (H4) and **C21** (H5) for maximum output. Tune to 500 m on scale, feed in a 500 m (600 kc/s) signal, and adjust the core of **L10** (A2) for maximum output. Repeat these operations *until no improvement results.*

L.W.—Switch set to L.W., tune to 1,000 m on scale, feed in a 1,000 m (300 kc/s) signal, and adjust **C26** (H5) and **C22** (H4) for maximum output. Tune to 2,000 m on scale, feed in a 2,000 m (150 kc/s) signal, and adjust the cores of **L11** (A2) and **L5** (A2) for maximum output. Repeat these adjustments until no improvement results.

Drive Cord Replacement.—The tuning drive cord is very simple, and a sketch to describe is unnecessary. A single loop of good quality fine gauge twine twelve inches in circumference makes about three-quarters of a turn round the drum and 1¼ turns in the same direction round the V-shaped groove on the control spindle. The join in the cord is hooked on to the tension spring. Access is gained to the drive by removing the pointer and scale.



Aerial circuit in the "Comet" and early "Meteor."

Chassis Divergencies.—Some early Meteor receivers had large I.F. transformer units with the trimmers on top and **R14** may not consist of a 100Ω and a 68Ω resistor connected in parallel. In some early cases the aerial circuit was different from that in our diagram, the frame aerial operating only on M.W. The early circuit is shown in the diagram above.

Comet Model.—The Comet is in general very much like the early Meteor, but the aerial isolating capacitor is **0.002μF**, and a **0.005μF** tracking capacitor is inserted between the junction of **L6** and **L9** and chassis. The line cord is different, too, having four leads at the receiver end, two coming from tappings on the resistance element which forms **R14, R15** and a surge limiter. The arrangement is as follows:

Two scale lamps are used, connected in series across **R14** which becomes 200Ω. The next tapping is 600Ω further on, to supply **V5** anode. A third section of 200Ω completes the line cord.