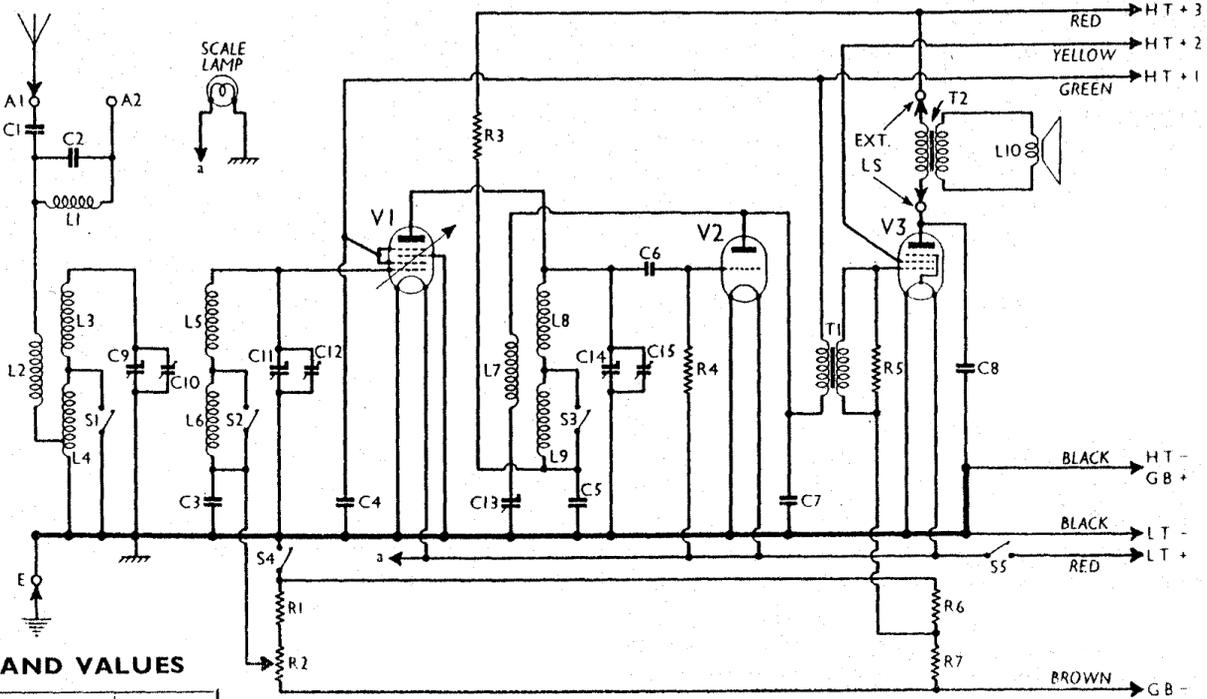


# PYE Q 70

Circuit diagram of the Pye Q70 battery receiver. Note the Droitwich filter L1, C2.



## COMPONENTS AND VALUES

RESISTANCES		Values (ohms)
R1	V1 fixed GB resistance	3,000
R2	V1 gain control	50,000
R3	V1 anode HT feed	3,000
R4	V2 CG resistance	2,000,000
R5	T1 secondary damping	500,000
R6	V3 GB potential divider	500
R7		750

CONDENSERS		Values ( $\mu\text{F}$ )
C1	A1 aerial series condenser	0.0002
C2	A2 Droitwich filter tuning	0.00015
C3	V1 CG decoupling	0.1
C4	V1 SG and V2 anode RF by-pass	0.1
C5	V1 anode decoupling	0.1
C6	V2 CG condenser	0.00007
C7	V2 anode RF by-pass	0.0003
C8	Fixed tone corrector	0.005
C9†	Band-pass pri. tuning	—
C10†	Band-pass pri. MW trimmer	—
C11†	Band-pass sec. tuning	—
C12†	Band-pass sec. MW trimmer	—
C13†	Reaction control	0.0005
C14†	V1 anode circuit tuning	—
C15†	V1 anode MW trimmer	—

† Variable. ‡ Pre-set.

OTHER COMPONENTS		Approx. Values (ohms)
L1	Droitwich filter coil	30.0
L2	Aerial coupling coil	8.5
L3	Band-pass primary coils	3.7
L4		15.0
L5	Band-pass secondary coils	3.7
L6		15.0
L7	Reaction coil	2.7
L8	V1 anode circuit tuning coils	2.6
L9		18.2
L10	Speaker speech coil	1.7
T1	Interval trans.	1,200.0
	Sec.	2,600.0
T2	Speaker input trans.	600.0
	Sec.	0.2
S1-S3	Waveband switches	—
S4	GB circuit switch	—
S5	LT circuit switch	—

## VALVE ANALYSIS

Valve	Anode Voltage (V)	Anode Current (mA)	Screen Voltage (V)	Screen Current (mA)
V1 K50N	105	3.7	64	1.4
V2 K30K	64	0.4	—	—
V3 K70B	117	2.2	91	0.4

Valve voltages and currents given in the table above are those measured in our receiver when it was operating with a new HT battery reading 128 V overall, on load. The receiver was tuned to the lowest wavelength on the medium band and the volume control was at maximum, but the reaction control was at minimum. There was no signal input.

Voltages were measured on the 400 V scale of a model 7 Universal Avometer, chassis being negative.

## GENERAL NOTES

**Switches.**—S1-S3 are the waveband switches and S4, S5 the battery circuit switches, ganged together in a single unit beneath the chassis. The switches are all indicated in our under-chassis view. S1-S3 are all closed on MW and open on LW. S4, S5 are open in the "off" position and closed on MW and LW.

**Coils.**—These are all unshielded. L1 is beneath the chassis; L2, L3, L5 and L4, L6 are in two units on the chassis deck; while L7-L9 are in a single unit beneath the chassis.

**Scale Lamp.**—This is an Ever Ready MES type, rated at 2.0 V, 0.1 A.

**External Speaker.**—A high impedance (15,000-20,000  $\Omega$ ) type can be connected to the socketed plugs of the internal speaker, at the rear of the chassis.

**Condenser C1.**—This is stated to be 0.0003  $\mu\text{F}$  by the makers, but was 0.0002  $\mu\text{F}$  in our chassis.

**Batteries.**—LT, Pye 2 V 45 AH mass-type glass-cased cell. HT and GB, Pye 126 V dry battery, tapped at 1.5 V intervals from negative to 12 V positive, and thence at larger intervals.

**Battery Leads and Voltages.**—Black lead, spade tag, LT negative; red lead, spade tag, LT positive, 2 V; black lead and plug, HT negative and GB positive, in 9 V positive socket of battery; brown lead and plug, GB negative, in negative socket of battery; green lead and plug, HT positive 1, +72 V socket; yellow lead and plug, H.T. positive 2, voltage according to letter on V3 (A, 124.5 V; B, 117 V; C, 108 V; D, 99 V); red lead and plug, HT positive 3, +126 V socket.

## CIRCUIT ALIGNMENT

When the gang is fully in mesh, pointer should cover dot at higher wavelength end of scale.

Volume control should be at maximum and reaction at minimum. Connect signal generator, via dummy aerial, to A1 and E sockets.

Switch set to MW, feed in a 200 m (1,500 KC/S) signal, tune to 200 m on scale, and adjust C10, C12, C15 for maximum output. There are no LW adjustments.