

# PYE Q/B

*A four-valve battery-operated portable superhet receiver covering two wavebands, with Q.P.P. output and 2v. accumulator. Made by Pye, Ltd., Cambridge.*

**Circuit.**—The medium-wave grid coil of V1 forms the loop aerial and is trimmed by T2. On long waves (position shown in circuit) a loading coil, L2, is

brought in series with the loop. This is trimmed by T4 and shunted by C25.

V1 is the frequency-changer and the oscillator section is tuned grid. Reaction is obtained from coupled windings in the anode lead. There are no padders, tracking being obtained by the shape of the oscillator gang section.

Permeability-adjusted I.F. transformers link up with V2, the I.F. amplifier, and V3, the double-diode triode.

The signal demodulation diode load is R5, feeding L.F. to the volume control R9 via C17. R4, with C15 and C16, forms an I.F. filter.

The A.V.C. diode, energised by C14, develops control across R7 and regulates both V1 and V2 via R6, decoupled by C10.

A parallel-fed transformer couples V3 to the Q.P.P. output valve. The input transformer and the output transformer are, of course, push-pull types.

Battery bias is used, being connected across R13 and R14, so that it will discharge at about the same rate as the H.T. section. Full bias, 9 volts, is applied to V4, while the tapping gives a lower bias for V3 L.F. section and for A.V.C. delay.

**Batteries.**—The L.T. cell recommended is the Pye L.T.2.

For H.T. a Pye K5 is recommended and the leads should go to:—

Brown lead, negative socket.

Black lead, 9 volt socket.

Red lead, 120 volt socket.

Green lead, to socket corresponding to the letter marked on the top of V4, A being 118.5 v., B 112.5 v. and C 106.5 v.

## GANGING

**I.F. Circuits.**—Inject 467 kcs. to V1 grid and adjust I.F. cores with an insulated screwdriver. Usually, these will not need any adjustment. Keep input below A.V.C. level.

**M.W. Band.**—Tune to 200 m., inject 200 m. by placing oscillator lead near frame aerial, and adjust T1 and T2 for maximum.

Padding is fixed but check calibration at 520 m.

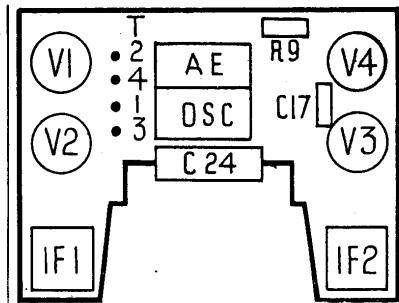
**L.W. Band.**—Inject 1,300 m., tune to 1,300 m. and adjust T3.

Inject 1,800 m., tune to 1,800 m. and adjust L2 (loading coil on frame) while rocking gang.

Inject 1,300 m., tune to 1,300 m. and adjust T4.

## RESISTANCES

R	Ohms.	R	Ohms.
1	.. 50	8	.. 50,000
2	.. 100,000	9	.. 1 meg.
3	.. 50,000	10	.. 22,000
4	.. 22,000	11	.. 10,000
5	.. 500,000	12	.. 100,000
6	.. 1 meg.	13	.. 68
7	.. 1 meg.	14	.. 1,000



Top-of-chassis layout is very symmetrical, and all the trimmers are accessibly grouped.

## VALVE READINGS

V	Type	Electrode	Volts	Ma.
1	FC2A	Anode	111	.4
		Screen	35	.7
		Osc. anode	111	1.4
2	VP215D or VP2B	Anode	111	1.6
		Screen	36	.7
3	DDT215 or TDD2A	Anode	52	.6
		Screen	52	.6
4	QP240 or QP22B	Anodes	109	3.6
		Screens (see note)		.5

Total H.T., 9.5 ma.; total L.T., .76 amp. Indicator bulb, 2.5 v., 1 amp., ME'S.

## CONDENSERS

C	Mfds.	C	Mfds.
7	.. 70 mmfds.	17	.. .01
8	.. 70 mmfds.	18	.. 500 mmfds.
9	.. 100 mmfds.	19	.. .25
10	.. .05	20	.. .1
11	.. .1	21	.. .025
12	.. 60 mmfds.	22	.. .0005
13	.. 80 mmfds.	23	.. .0005
14	.. 30 mmfds.	24	.. .5
15	.. 200 mmfds.	25	.. 15 mmfds.
16	.. 200 mmfds.		

## WINDINGS

L	Ohms.	L	Ohms.
3	.. 3.4	L.F. (P)	530
4	.. 3.4	L.F. (S)	3,500+4,700
5	.. 1.45	O.T. (P)	300+350
I.F.s	.. 10.5		

## Anti-Static Aerial

WHEN connecting an anti-static aerial, the transformer at the set end should be connected right up against the aerial and earth inlets to the chassis. We appreciated this recently when we placed the transformer on the back of a radiogram and interference remained bad. There were 2 ft. of leads between the back and the chassis, and eliminating these cut out the noise.—D. L.

