# K-B Model FG25

**General Description :** Six-valve (including rectifier and tuning indicator), three-waveband superheterodyne radiogramophone for use with record speeds of 78, 45 and $33\frac{1}{2}$ r.p.m. Released July 1952.

**Power Supply :** A.C./D.C. mains, 200–250 volts, A.C. 50 c/s. (three adjustment positions). Radio, 58 watts; gramophone, 65 watts.

**Wavebands :** L.W. 732–2110 m. (410–142 kc/s.); M.W. 187–585 m. (1610–510 kc/s.); S.W. 16·3–51·4 m. (18·4–5·8 Mc/s.).

**Intermediate Frequency :** 470 kc/s.

**Valves :** Brimar (V1) 12K8GT; (V2) 1629; (V3) 14R7; (V4) 12SL7GT; (V5) 50L6GT; (6) 35Z4GT.

**Dial Lamps :** 4·5 volts, 0·15 amp. M.E.S. type.

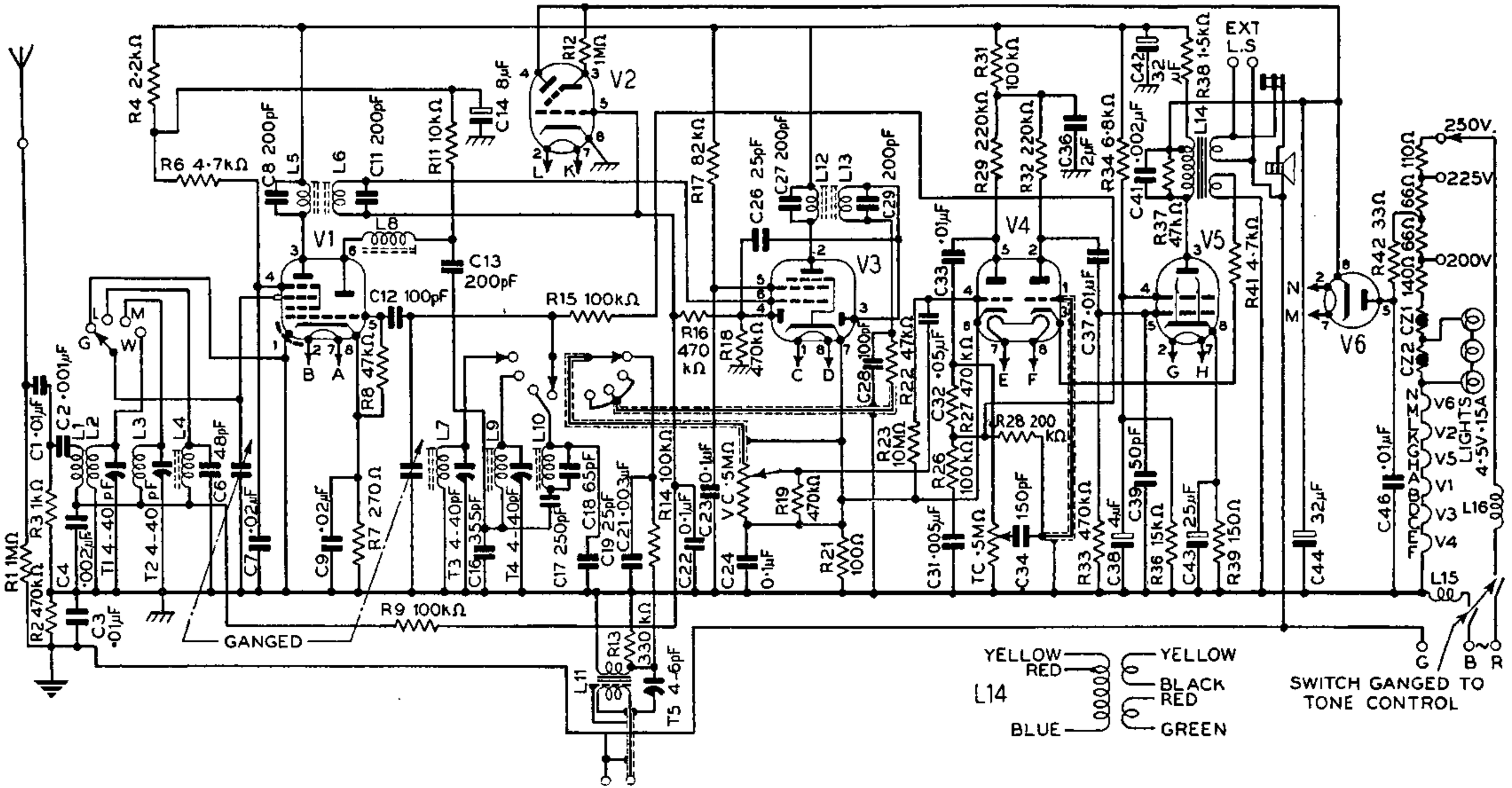
**Gramophone Equipment :** Garrard RC75 changer. Cosmocord pick-ups, GP19 for 78 r.p.m. and GP19LP for 45 and $33\frac{1}{2}$ r.p.m.

**Alignment Procedure :** The operations for each waveband should be successively repeated until scale accuracy and maximum sensitivity have been attained. Medium wave should be checked after the long-wave alignment has been completed, and operations 2 and 3 repeated if necessary.

| *Operation* | *Circuit* | *Signal Generator Connection* | *Input Signal* | *Tuning Pointer* | *Adjust for Maximum Response* |
|---|---|---|---|---|---|
| 1 | I.F. | Grid of V1 via 0·1-μF. capacitor | 470 kc/s. | M.W. datum | L13, L12, L5, L6 I.F. trans. cores |
| 2 | M.W. | Aerial socket via dummy aerial | 600 kc/s. | 500 m. | L9 osc. core |
| 3 | M.W. | ,, ,, | 1400 kc/s. | 214 m. | T2, T4 osc. and aerial trimmers |
| 4 | L.W. | ,, ,, | 175 kc/s. | 1714 m. | L10, L4 cores |
| 5 | S.W. | ,, ,, | 6 Mc/s. | 50 m. | L7 osc. core |
| 6 | S.W. | ,, ,, | 15 Mc/s. | 20 m. | T1, T3 osc. and aerial trimmers |

**Valve Analysis :** The following readings were taken with the bandswitch on the M.W. position, volume control set at minimum gain, aerial and earth disconnected. Mains voltage 225 volts. Receiver adjusted to 225-volt tap. Total mains current, 240 mA., H.T. current 79 mA.

| *Valve* | *Volts Measured between Socket and Chassis* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Pin* 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| V1 | 0 | 25·2 | 170 | 110 | — | 95 | 41 | 37·8 |
| V2 | 0 | 100·4 | 15 | 215 | — | — | 78·8 | 0 |
| V3 | 12·6 | 170 | — | — | 80 | — | 0·5 | 12·6 |
| V4 | — | 45 | 0·6 | — | 45 | 0·5 | 12·6 | — |
| V5 | 0 | 87·8 | 200 | 105 | — | — | 37·8 | 7·0 |
| V6 | — | 135·4 | — | — | 202 | — | 100·4 | 215 |




CIRCUIT DIAGRAM—K-B MODEL FG25

*Modification.*—Resistor R13 is now 100k.

*D.C. Resistance of Inductors.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| L1 | Less than 1 | L6 | 5·2 | L11 (Pri.) | 3000 | L14 (Sec.) | Less than 1 |
| L2 | Less than 1 | L7 | Less than 1 | L11 (Sec.) | 4000 | L14 (Pri. tap) | 15 |
| L3 | 4 | L8 | Less than 1 | L12 | 5·2 | L14 (Feedback winding) | 1 |
| P4 | 18 | L9 | 3 | L13 | 5·2 | L15 | 4·3 |
| L5 | 5·2 | L10 | 5 | L14 (Pri.) | 300 | L16 | 4·3 |