

K-B**Model CR20**

General Description : Five-valve (including rectifier), four-waveband superheterodyne receiver with bandspread tuning on the 31- and 19-m. bands. Released December 1947.

Power Supplies : A.C. mains, 100-160 and 190-250 volts (six adjustment positions), 50-100 c/s. Consumption 48 watts.

Wavebands : L.W. 750-2000 m. (420-140 kc/s.); M.W. 200-550 m. (1550-550 kc/s.); 31-m. band 30-31.8 m. (10-9.4 Mc/s.); 19-m. band 19.4-20.7 m. (15.4-14.5 Mc/s.).

Output : 4 watts to an 8-in. permanent-magnet moving-coil loudspeaker. Sockets are provided for an external loudspeaker 2-4 ohms impedance.

Intermediate Frequency : 465 kc/s.

Valves : Brimar (V₁) 6K8G; (V₂) 6K7G; (V₃) 6Q7G; (V₄) 6V6G; (V₅) 6X5G.

Dial Lamp : One 6.3 volts, 0.3 amp. M.E.S. fitting.

Inductor Colour Coding : 19-m. aerial—orange, white, orange; 19-m. osc.—blue, blue, blue; 31-m. aerial—orange, blue, red; 31-m. osc.—green, green, white; M.W. osc.—yellow, yellow, blue; L.W. aerial—orange, blue; L.W. osc.—yellow, yellow, yellow.

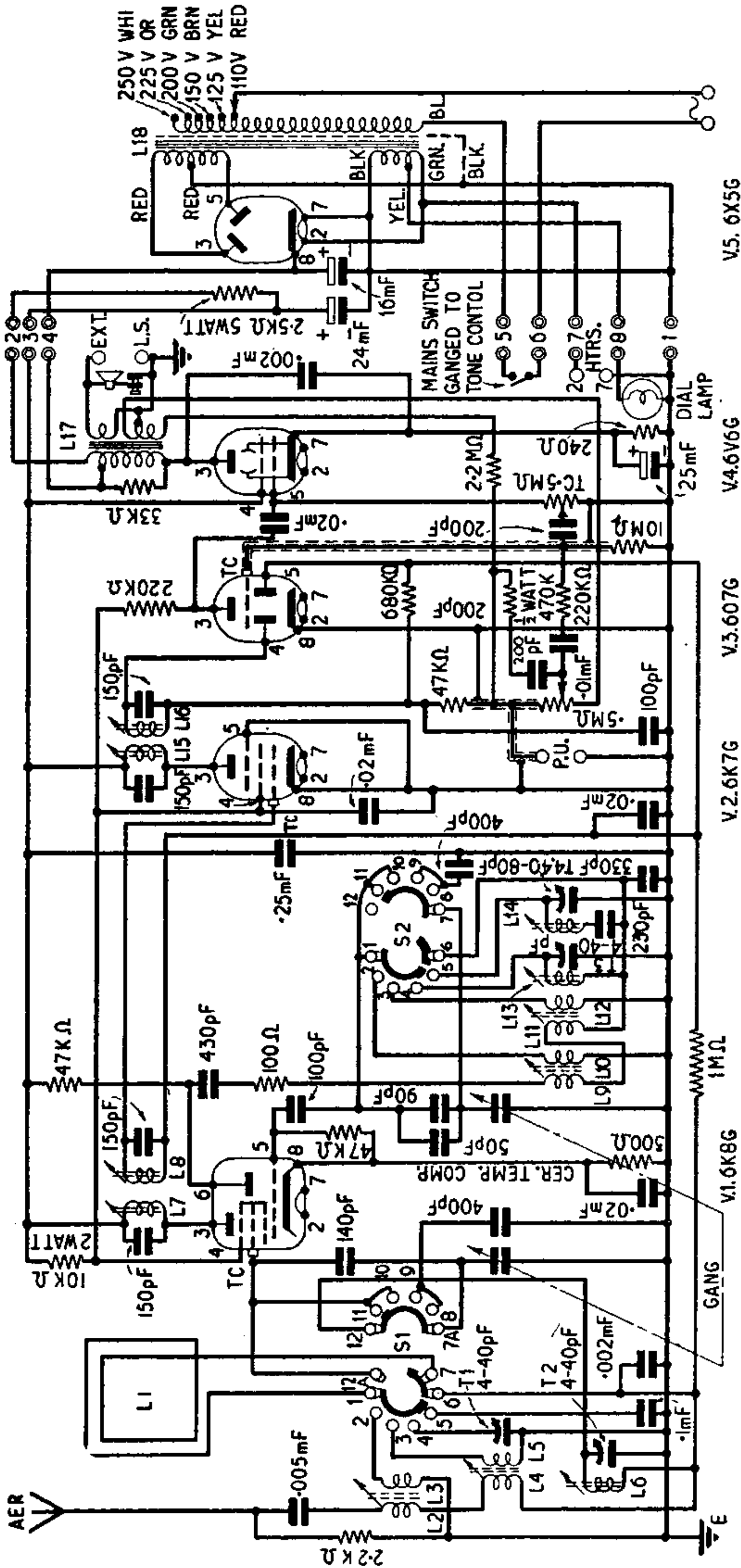
Circuit Modification : A few early models were issued without the 470k resistor in the audio output circuit of the signal diode. This resistor prevents diode distortion at low volume settings.

Alignment Procedure : Operations must be carried out in the order indicated. The tuning pointer should be set to the datum mark with gang fully emmeshed.

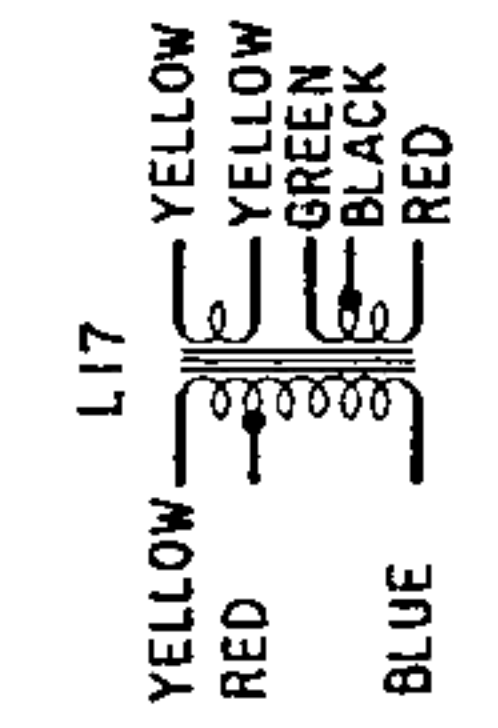
<i>Operation</i>	<i>Circuits</i>	<i>Signal Generator Connection</i>	<i>Input Signal</i>	<i>Tuning Pointer</i>	<i>Adjust for Maximum Response</i>
1	I.F.	Grid of V ₁ via 0.1- μ F. capacitor	465 kc/s.	M.W. datum	L ₁₆ , L ₁₅ , L ₈ and L ₇
2	M.W.	Aerial socket via dummy aerial	600 kc/s.	500 m.	Core L ₁₃
3	—	—	1400 kc/s.	214-m. spot	T ₃ and T ₁
4	L.W.	—	175 kc/s.	1714-m. spot	Cores L ₁₄ , L
5	—	—	350 kc/s.	856-m. spot	T ₄ and T ₂
6	31 m.	Aerial socket via 400-ohm resistor	9.6 Mc/s.	31 m.	Cores L ₁₂ , L ₅
7	19 m.	—	15.3 Mc/s.	19 m.	Cores L ₁₀ , L ₃

Notes : Owing to the bandspread tuning, a crystal-controlled oscillator is required to check operations Nos. 6 and 7, since the calibration of the standard type signal generator is not nearly accurate enough. If no such oscillator is available, make final adjustments on a station of known frequency. The operations for each waveband should be successively repeated until scale accuracy and maximum sensitivity have been attained. M.W. adjustments should be re-checked after L.W. alignment has been completed. The oscillator operates at a higher frequency than the input signal on all bands.

Voltage Checks : From chassis to first smoothing electrolytic 276 volts; to main H.T. line 203 volts; to anode of V₄ (pin 3) 264 volts. Total H.T. current 63.5 mA. Total mains current 250 mA.



CONTACTS 12 & 12A, 7 & 7A ON S1.
ARE INSULATED FROM EACH OTHER.



ORDER OF SWITCHING, TURNING
CLOCKWISE, 19M, 31M, MW, LW.

- L1. LOOP
- L4.5. 31M. BAND
- L6. LONG WAVE
- L2.3. 19M. BAND

- L1. USED AS LOOP AERIAL ON LW.
- L1. USED AS LOOP AERIAL AND MW.
- COIL ON M.W.
- L1. USED AS CAPACITY AERIAL ON 31M. BAND.
- L1. USED AS CAPACITY AERIAL ON 19M. BAND.
- L12. 31M. BAND
- L13. MEDIUM WAVE
- L14. LONG WAVE
- L15. 19M. BAND
- L16. 19M. BAND
- L17. YELLOW
- RED
- YELLOW
- GREEN
- BLACK
- RED

CIRCUIT DIAGRAM—K-B MODEL CR20