

Figure 26. Radio Receiver BC-794-B, functional diagram of 1st r-f stage.

been added to coil assemblies L6 and L11 for the 300- to 540-kc band.

(3) *Selectivity controlling resistors.* In Radio Receivers BC-1004-(\*) and R-129/U 20-ohm selectivity controlling (or damping resistors) R57 and R58 are used on the 540- to 1,160-kc band in the tuned input circuits of the second r-f and mixer stages (fig. 58). This additional resistance reduces the Q of the r-f transformers, resulting in less side-band cutting, especially at the l-f end of the band.

## 60. Mixer and H-F Oscillator (fig. 27)

a. *MIXER TUBE JAN-6L7.* For simplicity, capacitor C71, main tuning ganged capacitor C1C, and band spread ganged capacitor C2C are represented as a single variable capacitor C across the inductance trimmed secondary of r-f transformer L18. Signal voltages across C are applied through 600-mmF capacitor C11 to signal grid G1 (top cap) of pentagrid mixer Tube JAN-6L7. Fixed bias from the voltage divider (fig. 31) is applied through a filter circuit (10,000-ohm resistor R10 and 0.01-mf capacitor C12) and 500,000-ohm grid resistor R9 to the signal grid. Screen grid G2 and G4 (pin 4) forms a screen about injection grid G3 (pin 5), and the h-f oscillator output is coupled through 95-mmF capacitor C13 to the injection grid. Since the screen grid shields the signal and injection grids from one another, the tube electron stream is modulated independently by the r-f and oscillator signals. Heterodyne action produces sum and difference frequencies in the mixer output. The primary of transformer T1 is tuned by C21 to the 465-kc *difference* frequency to which the i-f amplifier is also tuned. The i-f voltage across the secondary winding of transformer T1 is applied to the crystal filter.

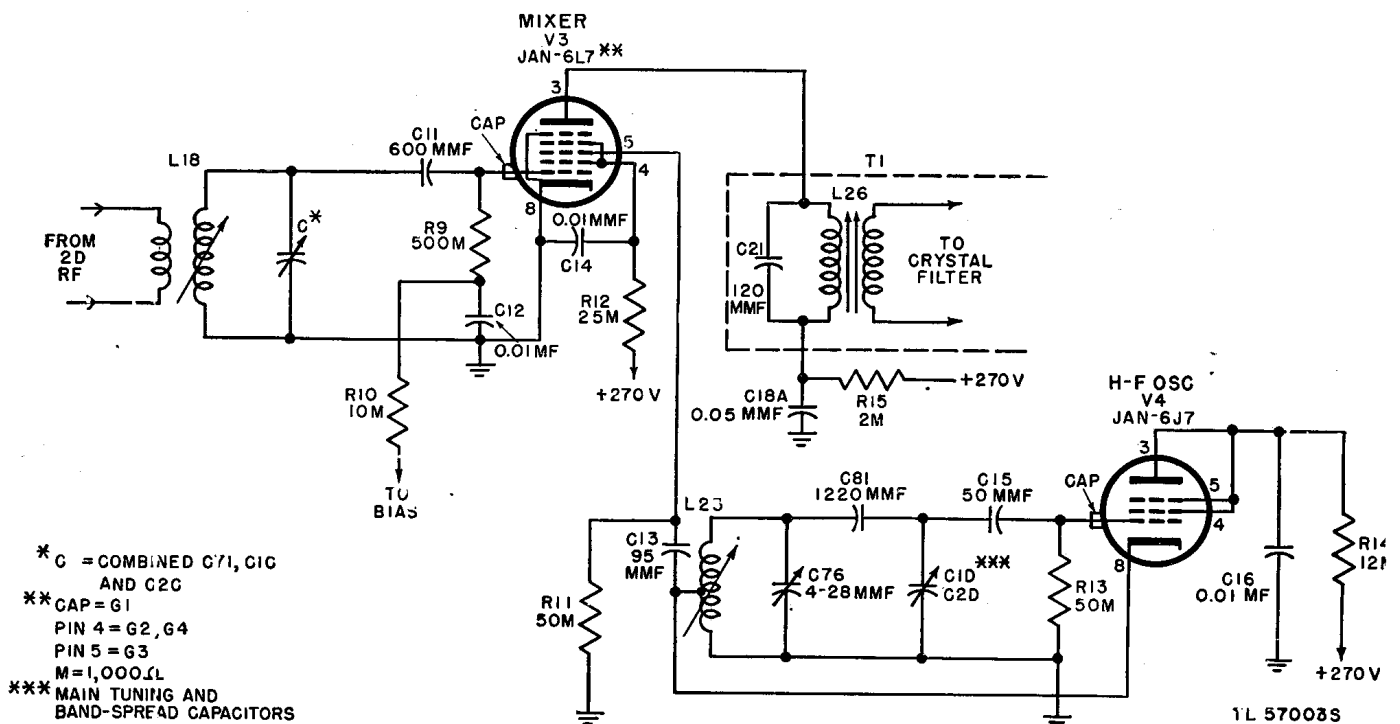


Figure 27. Radio Receiver BC-779-B, functional diagram of mixer and h-f oscillator stages.