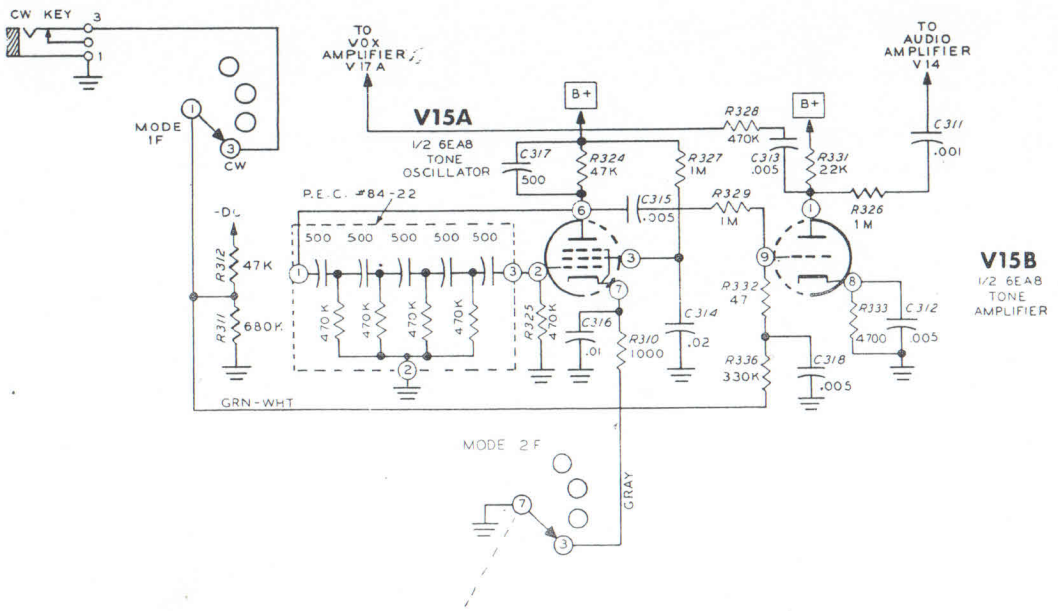


Figure 2-18

The transmitter CW signal passes through the SSB Filter.

The drive to the final amplifiers is controlled by the CW section of the MIC/CW Level control, which adjusts the bias of isolation amplifier V2 and IF amplifier V3.

Cutoff bias is applied to the grids of transmitter mixers V5A and V6, and to the grid of driver amplifier V7, through Mode switch wafer 1F and diode D904.

Tone oscillator V15A is turned on.

When the key is closed, the 1000 Hz tone signal is coupled to the VOX circuit, where it causes the relays to be switched to the transmit position.

The relays stay in this position for a length of time that is determined by the setting of the VOX Delay control.

At the same time, the key shorts out the cutoff bias that is applied to the transmitter mixer stages and to the driver amplifier stage, allowing them to conduct and place the transmitter on the air.

The RF output signal from CW carrier oscillator V16B is coupled to the balanced modulator stage. The unbalanced condition of this stage causes the RF signal to be coupled through transformer T1 to isolation amplifier V2. From V2, the signal proceeds through the transmitter in the same manner as the LSB and USB signals.

PRODUCT DETECTOR (Figure 2-25)

The 3.395 MHz signal from IF amplifier V4 is coupled to the grid of product detector tube V13C. At the same time, the signal from carrier oscillator V16 is fed to the cathode of V13C (3.3936 MHz for the lower sideband, or 3.3964 MHz for the upper sideband and CW).

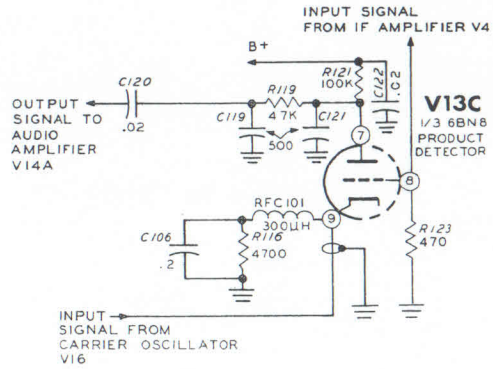


Figure 2-25

These two signals are then mixed together in V13C, resulting in an audio output signal which is the difference frequency between these two signals. Capacitors C119 and C121, and resistor R119 are connected in a filter network that bypasses any RF signal coming from V13C to ground, but permits the audio signal to pass through to audio amplifier V14A.

AUDIO AND POWER AMPLIFIER (Figure 2-26)

The signal from the product detector is applied to the AF Gain control to determine the amount of signal that will be coupled through capacitor C308 to the grid of audio amplifier V14A. The audio signal is amplified in V14A and then coupled to power amplifier V14B. Tube V14B amplifies the signal further and supplies the audio power through output transformer T301 to the output connectors. Capacitor C912 couples a portion of the output back to the cathode of V14B as negative feedback for less distortion.

Two outputs are provided by the secondary of transformer T301: a headphone output and an 8 Ω speaker output. Audio power to the 8 Ω speaker jack is rated at 2 watts maximum.

An audio signal is also supplied to the anti-trip network from the plate of V14B. In the CW mode, a sidetone signal is supplied to the network from the plate of V15B.

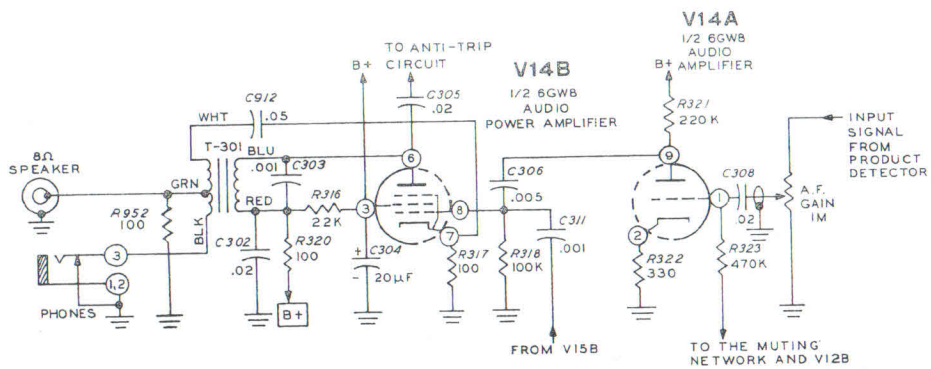
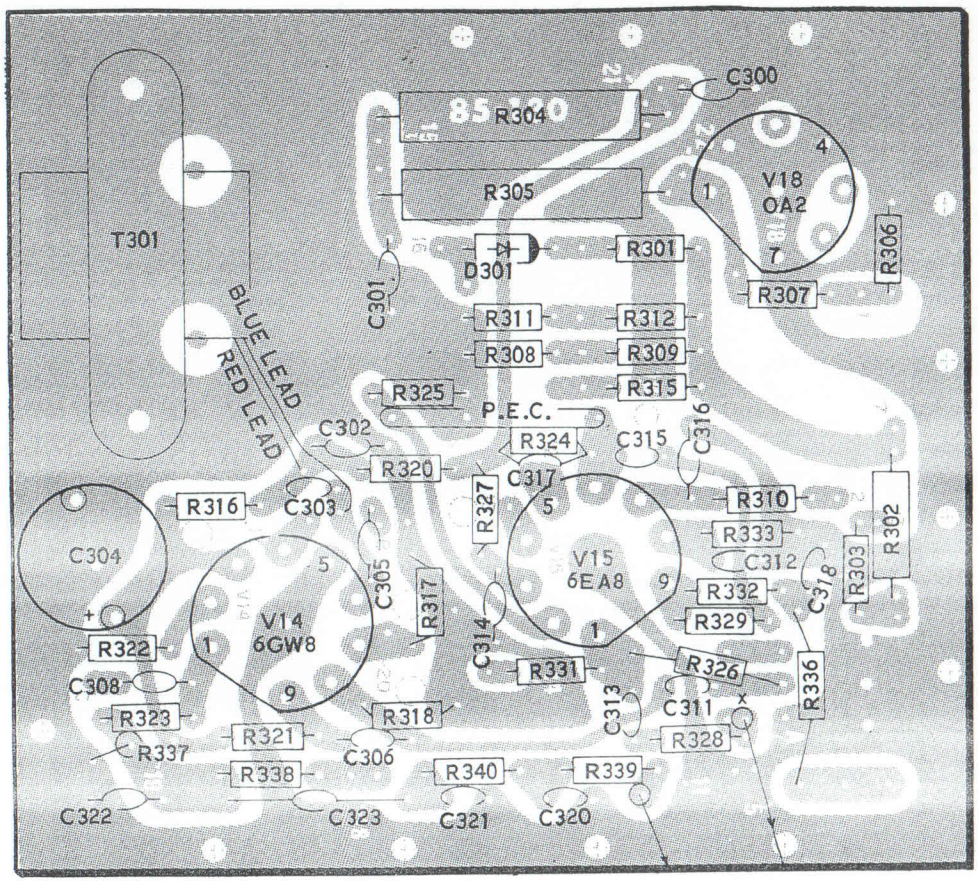


Figure 2-26



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