

Bare Essentials Transmitter

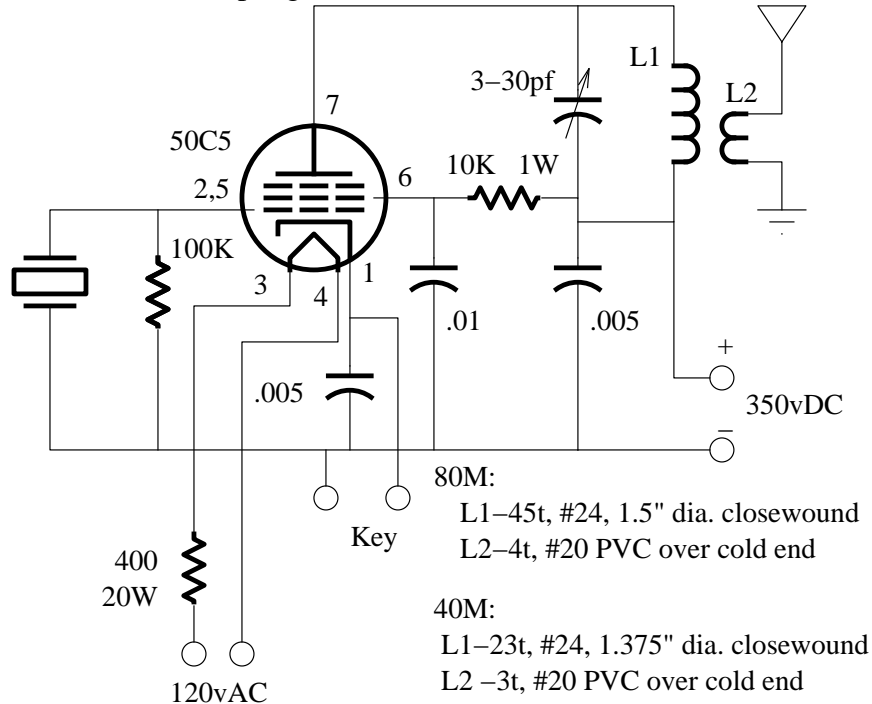
This transmitter likely does NOT comply with current FCC specs regarding spurious transmitter output. And it certainly would never meet current electrical standards of safety! The (partial) schematic is reproduced here as a historical footnote, not meant for actual construction.

The original power supply was a voltage doubler, directly connected to 120 v AC line. It consisted of two diodes, and two electrolytic high-voltage capacitors. Through sheer luck, I built mine with selenium rectifiers – their feeble “on” resistance likely saved the electrolytics from bursting during the turn-on surge.

I wonder how many builders, like me, escaped death by electrocution during its use. The key was very “hot”, and I recall numerous nasty 60 Hz. jarring shocks. Its simplicity, and low cost made it an attractive homebrew project for new hams like me, and overshadowed the lurking risks.

The tuned circuit on the plate was wound on “standard” styrene pill bottles. The resonating variable capacitor was a mica compression trimmer mounted on standoffs. You needed an insulated screwdriver for adjustment (the screw was at high voltage).

Loading was accomplished by sliding the antenna link winding (L2) closer or farther from the main winding (L1). The less than “T9” RST reports were likely due to some 120 Hz. coupling from the antenna, which would modulate the plate voltage.



What would be required to make it legal?

First, a 1:1 AC isolation transformer! Second, a simple half-wave pi-network filter between link winding and antenna to knock down harmonics. For the 40M band, the component values would be $C_p = 390\text{pf}$, $L_s = 1\mu\text{H}$, $C_p = 390\text{pf}$.