

MODEL 417

OPERATIONAL DESCRIPTION OF CIRCUITS FOR SUPPRESSION OF SPURIOUS RADIATION

Refer to the schematic diagram (417sch.pdf) or figure 5-21 in the manual.

1. Assembly A3 components L1, L2, and R1 through R10 were selected to lower the plate circuit Q at VHF frequencies to prevent spurious outputs due to VHF parasitic oscillation.
2. Assembly A1 (main chassis) components C1A, C1B, and C2 in conjunction with L1 through L4 form a Pi-L network, which in addition to matching the tube plate, provides a lowpass filter response to reduce harmonic and high frequency spurious outputs.
3. Plate choke A1L7 and bypass capacitors C9, C10, and C12 on assembly A2 isolate the RF tank circuit to prevent leakage of the fundamental and harmonics back through the supply to the AC lines. The value and physical dimensions of L7 were selected to place a “suck-out” resonance at 26.9 MHz. Operation near this frequency will burn the choke and eventually disable the power supply.
4. Assembly A9 components C1 and C2 bypass the AC line to further reduce any RF leakage out of the amplifier via the AC lines.