

Line Simulating Transformer

10/8/65

Primary is balanced winding #32 B+S enameled wire double spaced, 0.80" dia, 1.06" long overall. Each half 26 turns, 0.49" long. Gap at center 0.18".

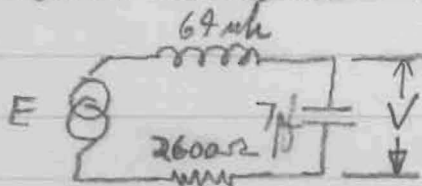
Secondary is two unbalanced windings in parallel #32 B+S enameled wire double spaced 0.55" dia 1.53" long overall. Each half 43 turns. Each bottom end connected to 5200 Ω to ground.

Ferrite core 1/2" dia x 2" long in center of assembly

Primary inductance 108 μ h, resistance 36 Ω at 1.5 mc + 60 Ω at 2.5 mc. Capacity each side to ground 4.5 pf. Self resonance 7.2 mc computed

Secondary inductance 64 μ h, resistance 21 Ω at 1.9 mc + 39 Ω at 3.5 mc. Capacity to ground 5.0 pf. Self resonance with 2.0 pf added 7.5 mc computed.

Observed self resonance with Hewlett Packard vacuum tube voltmeter across secondary 7.3 mc + 25.1 mc. Self resonance without voltmeter 8.5 mc + 25 mc.



E = voltage induced into secondary.

V = E out to resonance of secondary = 7.3 mc.

Observed resonance in circuit 7.8 mc 30/8/65
over

$$(L/C)^{1/2} = 3000 \text{ ohms}$$