(33). The formula for the frequency of oscillation in an LC circuit is

$$f = \frac{1}{2\pi\sqrt{LC}}$$

Here, we must therefore have

$$88.9 \times 10^6 = \frac{1}{2\pi\sqrt{1.4 \times 10^{-12}\ L}}$$

which gives $L = 2.2 \times 10^{-6} H$

(35). Again the need the same formula for the frequency. At the top of the band, 1 frequency of 1600kHz means

$$1.3 \times 10^6 = \frac{1}{2\pi\sqrt{2 \times 10^{-6}\ C}}$$

which yields $C = 7.5 \times 10^{-9} F$ and at the bottom

$$.5 \times 10^6 = \frac{1}{2\pi\sqrt{2 \times 10^{-6}\ C}}$$

which yields $C = 5 \times 10^{-8} F$

(38). To change the voltage from 120 to 9, we must have a ratio of 9/120 for the turn number. Hence the secondary coil has $N = 240 \times 9/120 = 18$. If the current in the secondary is supposed to be 400 mA, the power .4 x 9 = 3.6 watts.