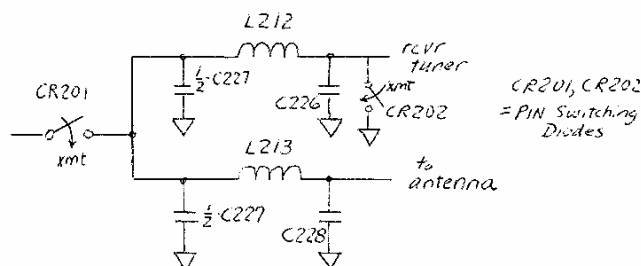


11.2 Harmonic suppression is controlled by the output networks of the transmitter power amplifier (schematic 4101207). L209 and C222, besides matching the 50 ohm load to the power amplifier, act as a low pass filter section. C223 and L210 are series resonant at midband and aid in attenuating harmonics. The T-R switch circuit can be viewed as two pi-networks, as follows:



In the transmit mode, L212 is grounded, forming a parallel resonant circuit with upper $\frac{1}{2}$ -C227 at midband. (At band ends their effect is to slightly modify the value of lower $\frac{1}{2}$ -C227.) Thus the upper network is essentially electrically removed, leaving only the lower pi-network functioning. This network provides a 50/50 ohm match and acts as a low pass filter, further attenuating harmonics.

The two sensing circuits (see schematic 4101207) have virtually no effect on power or harmonics, but are used to detect the presence of rf power and antenna reflected power (in the case of poor antenna SWR).

A block diagram of the Model MB transmitter section is attached (modulator not shown). The transmitter is physically divided into two parts, each on separate printed circuit boards interconnected by a 9-inch length of RG-178A/U coaxial cable. The input power to the broadband power amplifier is approximately 40 milliwatts.