

THE RCA RADIOTRON MANUAL

If a single '38 is operated self-biased, the self-biasing resistor for 135 volts on the plate should be approximately 1200 ohms. This resistor should be shunted by a condenser of 4 to 20 $\mu\text{f.}$ to avoid degeneration effects at low audio frequencies. The use of two '38's in push-pull eliminates the necessity of by-passing the resistor. The self-biasing resistor required for the push-pull stage is approximately 600 ohms.

Any conventional type of **input coupling** may be used provided that the resistance added to the grid circuit by this device is not too high. Transformer or impedance coupling devices are preferable where the '38 follows a '37 detector. If a screen grid detector is used, however, resistance coupling or a combination of impedance-resistance coupling to the '38 will be better. A coupling condenser of 0.005 $\mu\text{f.}$ will be suitable in such circuits.

An **output transformer** should be used to supply power to the winding of the reproducing unit. The optimum value of load resistance for the output device is 13500 ohms for a plate voltage of 135 volts and 8500 ohms for a plate voltage of 100 volts. For best results, the impedance in the plate circuit of the '38 over the entire audio-frequency range should be as uniform as possible.

