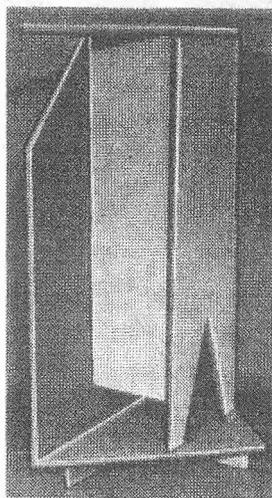


The only trouble you may encounter in using an inexpensive tweeter is that its lack of efficiency can leave an unbalance in favor of the woofer. For best results, the tweeter and woofer should be perfectly matched with regard to efficiency. This isn't always feasible, however, and often a combination must be used whether it is a well-matched one or not.

In such a situation, you can balance the woofer and tweeter by using an "L" pad in the circuit of the woofer (assuming it is the more efficient of the two). Use of an "L" pad is demonstrated in Fig. 2. Typical values for the resistors would be 4 ohms for  $R_1$  and 8 ohms for  $R_2$ . As  $R_1$  is raised in value and  $R_2$  is made smaller, the greater the action of the pad will be in order to reduce the output from the woofer. In the case of an overpowering tweeter, a simple tweeter control may be added as in Fig. 3.

**Small Speaker as Tweeter.** If a tweeter is not available, any small speaker may be used. Even if its high range is no greater than that of the large speaker, there may be an improvement in over-all sound because of the better distribution of

Back view of the \$3 baffle, the Mark II. The opening for the speaker cannot be seen in this view because it is on the front panel, which faces away to the left. Access to the speaker mounted in the baffle is obtained by removing the top panel. For this reason, the top panel should not be glued in place, but simply screwed on.



highs. With an ordinary small speaker, a simple high-pass filter will serve as a crossover. Such a filter would require a larger value of capacitance than the  $2 \mu\text{fd}$ . shown in Figs. 2 and 3. As paper capacitors of high values are expensive, a cheap

