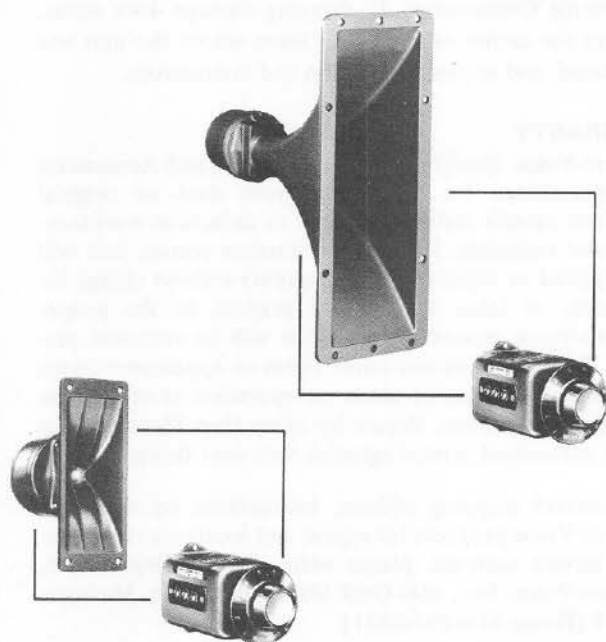




### DESCRIPTION

Wolverine step-up kits provide a simple method for improving speaker system performance in stride with the budget. A single full-range loudspeaker may be expanded to a deluxe 3-way system without obsoleting existing components, and with the assurance of properly matched components.

Model HF1 high frequency step-up kit, comprising a TW35 driver and CR35 crossover, should be the first addition to a full-range speaker. In addition to extending high frequency response to beyond the limits of audibility, this step-up kit provides more precise definition of VHF waveforms and improves high frequency dispersion in the listening area.

Model MF1 mid-range step-up kit, comprising an MR10 driver and CR10 crossover, provides a further improvement in performance after the addition of a Model HF1 tweeter kit. The MF1 kit further reduces the frequency range which must be reproduced by the cone loudspeaker, thus reducing harmonic and intermodulation distortion in the system. Diffraction horn loading of the diaphragm improves dispersion in the listening area in addition to increasing efficiency. The improved mid-range performance provided by the MF1 is especially important because instrument and voice harmonics which determine the character of the sound are found in this frequency range.

### INSTALLATION

Drill mounting holes and cut a baffle opening as indicated. Wolverine diffraction horns should be mounted with the

long axis vertical for maximum horizontal dispersion of sound in the listening area. The driver may be secured by woodscrews from the rear, or nuts and bolts through the mounting panel.

### WIRING

Speaker components should be wired as shown in Figure 1. In order to insure proper phasing, make certain that component polarity is observed during wiring. TW35 and MR10 drivers have a red terminal washer which indicates the positive terminal; a black washer denotes the common terminal. Connection from the speaker system to the amplifier should be made with #18 or larger wire. Lamp or "zip" cord is perfectly satisfactory for this application.

### SPECIFICATIONS

|                                  | <u>TW35</u>                          | <u>MR10</u>                               |
|----------------------------------|--------------------------------------|-------------------------------------------|
| Frequency Response:              | 3500 to 18,000 Hz                    | 1000 to 3500 Hz                           |
| Nominal Impedance:               | 8 ohms                               | 8 ohms                                    |
| System Program Power             |                                      |                                           |
| Handling Capacity:               | 20 watts                             | 20 watts                                  |
| Voice Coil Diameter:             | 1"                                   | 1"                                        |
| Magnet Weight:                   | 3.16 oz. Alnico V                    | 6.8 oz. Alnico V                          |
| Recommended Crossover Frequency: | 3500 Hz                              | 1000 Hz                                   |
| EIA Sensitivity Rating:          | 50 dB                                | 52 dB                                     |
| Horn Dimensions:                 | 5¼" h. x 2" w.                       | 10½" h. x 4" w.                           |
| Pot Diameter:                    | 2¼"                                  | 2¼"                                       |
| Depth:                           | 2-3/4"                               | 9-3/8"                                    |
| Baffle Opening:                  | 4¼" x 1-5/8"                         | 9½" x 3"                                  |
| Mounting:                        | 4-3/16" holes on 1½" and 3¼" centers | 4-7/32" holes on 2¾" and 10-1/16" centers |
|                                  | <u>CR35</u>                          | <u>CR10</u>                               |
| Crossover Frequency:             | 3500 Hz                              | 1000 Hz                                   |
| Impedance:                       | 8 ohms                               | 8 ohms                                    |
| Crossover Rate:                  | 6 dB/octave                          | 6 dB/octave                               |
| Dimensions:                      | 3¼" h. x 2½" d. x 3" w.              | 3¼" h. x 2½" d. x 3" w.                   |

## LEVEL CONTROLS

The best guide to proper setting of the level control is a familiarity with the sound of live music. Most listeners will find it easy to balance the various components of the system to conform to their personal taste. Acoustically "hard" or "live" rooms normally will require an attenuated setting of the level control to compensate for the greater amount of high frequency reflection. In "soft" or "dead" rooms with carpeting, draperies and soft furniture, a more advanced setting of the level control normally will be required.

## CAUTION NOTES

These components are intended for home playback of normal program material. They are not intended for high-level playback of program material, nor for reproduction of continuous test tones.

Precautions in tape machine operation: If a speed of a tape machine is advanced beyond the normal speed, high frequency power is increased at the rate of 6 dB/octave over normal for each doubling of tape speed. On fast forward or rewind, supersonic energy of great magnitude may be generated, even though the signal is inaudible. This is especially important in fast editing procedures, where the gate is frequently only partially opened so that the tape traverse can be cued audibly.

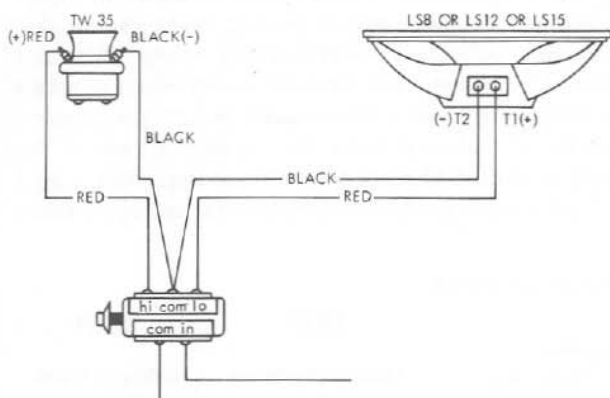


FIGURE 1A — Two-way system wiring

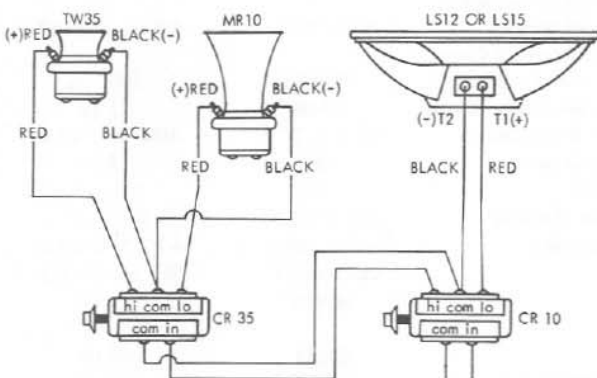


FIGURE 1B — Three-way system wiring

## CUSTOMER SERVICE

Wolverine step-up kits are packed to provide protection well in excess of shipping requirements of the Interstate Commerce Commission. If shipping damage does occur, contact the carrier or the dealer from whom the unit was purchased, and request inspection and instructions.

## WARRANTY (Limited) —

Electro-Voice Speakers, Speaker Systems, and Accessories are guaranteed for five years from date of original purchase against malfunction due to defects in workmanship and materials. If such malfunction occurs, unit will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish or appearance items or malfunction due to abuse or operation at other than specified conditions. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For correct shipping address, instructions on return of Electro-Voice products for repair, and locations of authorized service agencies, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831).

Electro-Voice also maintains complete facilities for non-warranty service of E-V products.

Specifications subject to change without notice.

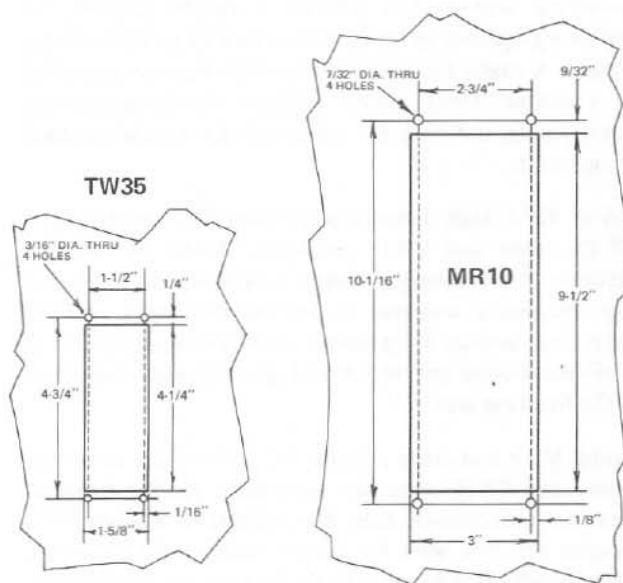


FIGURE 2 — Mounting Dimensions

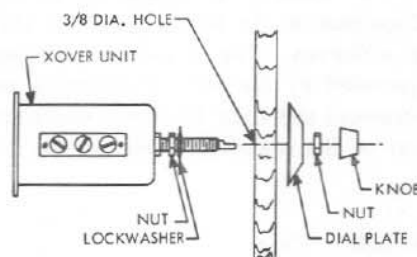


FIGURE 3 — Crossover Mounting Dimensions