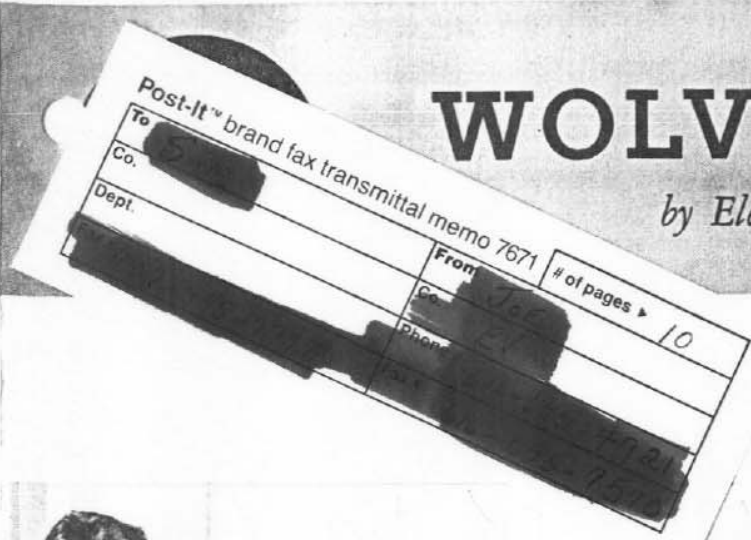


WOLVERINE

by *Electro-Voice*



The Lancaster

Wolverine Enclosures are designed to produce the finest sound possible from Wolverine loudspeakers. To obtain the maximum performance inherent in your new enclosure, read these instructions thoroughly before you begin installation.

Each Wolverine enclosure is carefully inspected before leaving the factory, and must be equivalent to the laboratory standard in acoustical properties and appearance. Your Wolverine equipment installed properly and operated in accordance with the instructions given in this booklet will give you years of listening satisfaction.

GENERAL DESCRIPTION — The Wolverine Lancaster is designed for along-the-wall use with the LS12 full-range loudspeaker, and contains precut ports for the addition of HF1 and MF-1 step-up kits. The Lancaster will improve and extend the bass response of any 8 or 12-inch loudspeaker, but it is particularly effective when used with Wolverine components.

The outstanding performance of the Lancaster depends upon the controlled reaction of the sealed cavity behind the speaker cone. In operation, the new Wolverine Lancaster design extends the frequency response range nearly a full octave lower than that possible in bass reflex boxes of comparable size. Efficiency in the very low bass range is increased nearly four times (6 db). The smooth, augmented, distortion-free bass range gives a startling degree of musical balance.

The Wolverine LS8 and LS12 loudspeakers are designed to operate effectively both as full-range speakers and as woofers in multiway systems. When used as full-range units, they provide optimum sound reproduction at a minimum cost.

Wolverine Step-Up Kits provide a simple method for increasing performance of your loudspeaker system in stride with the budget, by building from a single loudspeaker to a deluxe 3-way system with properly matched components, and without obsoleting existing components.

The Model HF1 High-Frequency Step-Up Kit should be the first addition to an LS8 or LS12 loudspeaker. This step-up kit will give greater efficiency from 3500 cps to beyond the limits of audibility, plus greater dispersion of the high frequencies in the listening area for good stereo. The result is silky, precise definition of all string and woodwind instruments, together with an even spread of sound, giving "front row" performance throughout the room. The HF1 package consists of a matched VHF driver (Model TW35) and crossover network (Model CR35) with built-in level control.

The final addition, recommended for the LS12 loudspeaker as the basic unit, is the MF1 Mid-Frequency Step-Up Kit. This allows the LS12 speaker to operate solely as a woofer, restricting its response to frequencies below 1000 cps. The mid-range horn utilizes the diffraction principle of high frequency sound dispersion through a solid 120° angle giving best stereo effect. The audio range is thus divided for more efficient reproduction of each frequency section, lowering both harmonic and intermodulation distortion. The MF1 Step-Up Kit increases the output of sound in the vital presence range and gives well defined "voice" response. The MF1 package consists of a matched treble driver (Model MR10) and crossover network (Model CR10) with built-in level control. All wiring is supplied with Wolverine Step-Up Kits for simple 5-minute installation.

The Lancaster Enclosure Instructions

SPECIFICATIONS

Size: 25" high x 20" wide x 14" deep
Shipping Weight: 38 lbs.

SET-UP AND COMPONENT INSTALLATION

The Lancaster is supplied with two cleat-type legs FASTENED TO THE INSIDE OF THE CABINET. The use of these legs does not effect the performance of the enclosure, and they may be installed at the users discretion.

To install the legs, remove the screws holding the back panel in place and remove the panel. The legs are held in the cabinet by 3 Phillips head screws in each leg. Locate the legs approximately three inches from the sides of the Lancaster, and set the front edge of the leg 1/2" from the front edge of the cabinet for a pleasing appearance. Fasten the legs in place with the Phillips head screws. See Figure 1.

Optionally, the Model LK1 accessory legs may be used. Because the cabinet is finished on four sides, the legs may be installed for either high-boy or lowboy use. Partially drilled holes will be found in the cabinet sides for inserting the mounting screws packed with the LK1. The exact height of the cabinet can be adjusted by positioning the legs before running in the screws. See Figures 2 and 3.

If you plan to use the LK1 accessory legs, *do not* mount the cleat-type legs.

SPEAKER INSTALLATION — To install a 12-inch speaker, remove the nuts and washers holding the 8-inch adapter board in place, remove the board, and carefully lower the 12-inch speaker over and down on the bolts. Extreme caution is urged in lining up the bolts with the holes in the speaker frame, to prevent accidentally tearing the cone. Replace the washers and tighten the nuts on the speaker frame evenly. Tighten only enough to hold the speaker firmly in place — too much pressure can warp the speaker frame. If an 8-inch speaker is installed, fasten it to the adapter board in the same manner. See Figure 4.

MODEL HF1 STEP-UP KIT — To install the Wolverine TW35 VHF driver, remove the cover on the small vertical port and place the driver in position, making certain it seats tightly. Tighten nuts down snugly. Inasmuch as the Lancaster is finished on four sides, the level control holes are only partially drilled on one short side and one long side of the cabinet. Either set of holes may be used for mounting the level controls, if the partially drilled hole is run completely through the side of the cabinet with a 3/8-inch drill or a sharp knife. The level control escutcheon will cover any shortcomings as a cabinet maker on the part of the user. Replace the level control escutcheon on the outside of the enclosure, tighten down snugly, then replace the knob. See Figures 5 and 6.

MODEL MF1 STEP-UP KIT — To install the Wolverine Model MR10 mid-range driver, remove the long, horizontal port cover, and place the driver over the bolts. Tighten the nuts down snugly. Mount the CR10 level control on the side panel, as described above. Replace the level control escutcheon on the outside of the enclosure, tighten snugly and replace the knob. The escutcheon may be rotated so that position one corresponds to the complete counter-clockwise position of the knob. See Figures 7, 8 and 9.

After installing the components, tack or staple the acoustical padding, gauzed side down, onto the sides of the enclosure to break up any standing waves. Replace the back using the screws packed in the plastic bag, and fasten the panel down tightly.

NOTE: The easiest way to install the HF1 and MF1 step-up kits is to first connect the leads between the driver and crossover network, and then bolt the components into the cabinet.

WIRING — All Wolverine speakers are color coded to indicate polarity. A red marking or the code "T1" indicates positive polarity (the cone or diaphragm will move away from the magnet when a positive voltage is applied), and black or "T2" coding indicates negative polarity.

Note that all leads coded black connect to terminals marked "Common". If these wiring diagrams are followed, all speakers will be properly phased. The lead wires to the amplifier should be No. 18 fixture wire (common

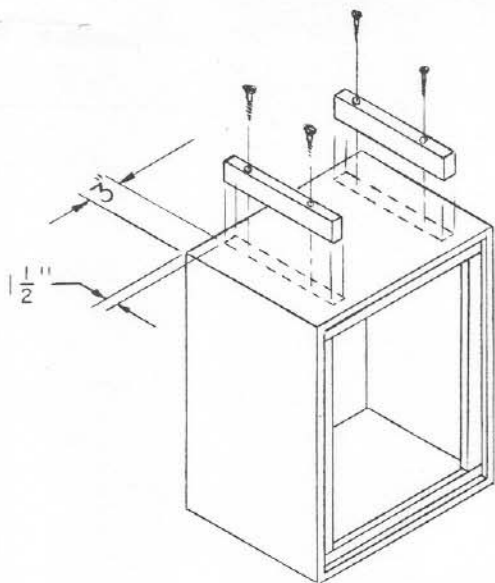


Figure 1 — Placement of Cleat Legs

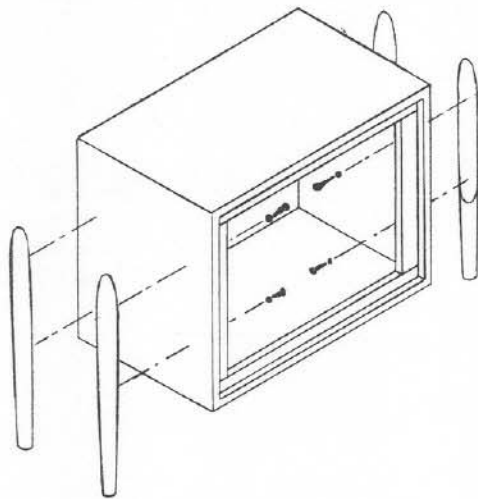


Figure 2 — Placement of LK1 Legs — Low-Boy

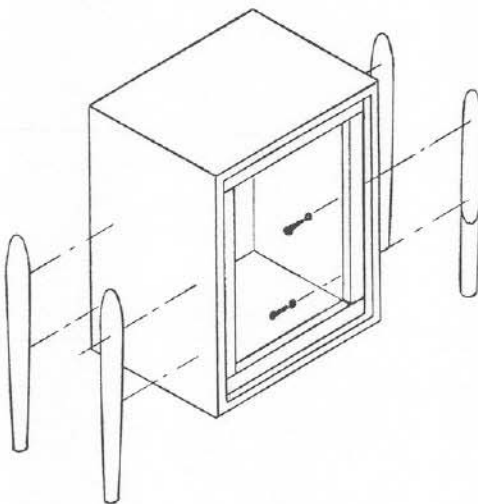


Figure 3 — Placement of LK1 Legs — High-Boy

lamp cord) for lengths up to 20 or 30 feet; for longer lead lengths, use No. 16 2-conductor cable. If the speaker is connected to a Williamson type amplifier, capacity between long leads may induce oscillation, resulting in instability and distortion from the amplifier. The remedy is to use television twin-lead.

The positive lead from the loudspeaker should be connected to the 8-ohm tap on the amplifier; the negative lead to the common tap.

ASSOCIATED COMPONENTS — The quality of sound from your Wolverine speaker system will be limited only by the performance of the other components in your high-fidelity system. For the most realistic reproduction from your favorite records, Electro-Voice compatible stereophonic-monaural phonograph cartridges are recommended. These cartridges will not only give smooth, distortion-free reproduction from standard monaural records, but will also equip you for the new stereophonic records.

A quality record changer or turntable should be used with your Wolverine components. The changer or turntable should have minimum rumble and be capable of constant speed to eliminate wow and flutter.

The amplifier used with Wolverine speakers should produce less than 1% harmonic and intermodulation distortion. If the amplifier has a variable damping factor control, it should be set at maximum, although no qualitative difference will be observed past a setting of 10. Because of the high efficiency of Wolverine speakers, no more than 15 watts of amplifier power is actually required, although four times this amount may be used.

OPERATION

OPERATION OF LEVEL CONTROLS — Level controls are provided for adjusting the amount of energy fed to the mid-range and/or VHF drivers. The MF1 level control works in the frequency range between 1000 and 3500 cps, while the HF1 level control governs the amount of energy radiated above 3500 cps.

Generally, because of the increased efficiency of these high-range drivers, the controls should be adjusted to a setting of 4. Exact positioning of these controls will depend upon room acoustics and should be adjusted for most pleasing reproduction. Rooms furnished with heavy rugs, drapes, and overstuffed furniture will require a more advanced setting of the VHF driver control than average. To achieve a "front row" effect, advance the mid-range driver control.

GENERAL INFORMATION

SHIPPING DAMAGE — Wolverine components are packed in accordance with all shipping requirements of the Interstate Commerce Commission plus extra protection. If shipping damage occurs, contact the carrier directly, requesting inspection and instructions. Use the serial number of the speaker in your correspondence.

SERIAL NUMBER — The serial number is noted on the cover of this instruction booklet, and on your warranty registration card. The serial number indicates type, style and date of manufacture of the unit. Always use the serial number in your correspondence.

WARRANTY CARD — To register your Wolverine components, fill out the Warranty Registration Card and send it to the factory within ten days after your purchase. It is not necessary to fill in the Market Research Information on the card, but it will be of great help in supplying you with more and consistently improved high-fidelity products. The Warranty Card will also put you on the Electro-Voice mailing list for future technical publications.

TECHNICAL SERVICE — The distributor from whom you purchased your equipment knows thoroughly the application of Wolverine products and high-fidelity techniques. His advice on the installation of Wolverine components and on the selection of associated high-fidelity equipment will be invaluable. Technical problems which cannot be answered locally may be referred to:

Manager, Wolverine Division
Electro-Voice, Inc.
Buchanan, Michigan

When writing, please list the manufacturer and model number of all components used in your high-fidelity system.

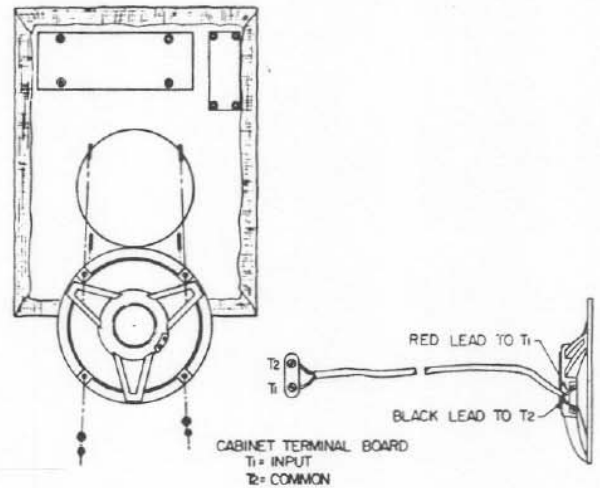


Figure 4 — Installation of Full-Range Speaker

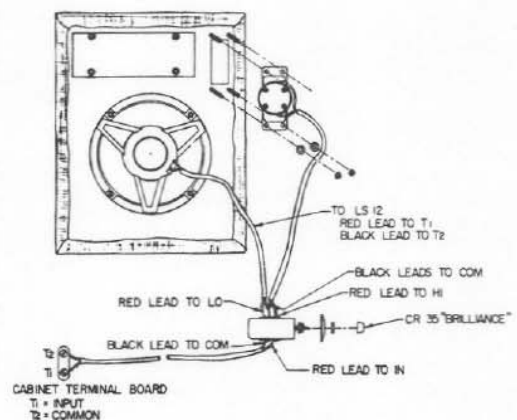


Figure 5 — Installation of HF1 Step-Up Kit

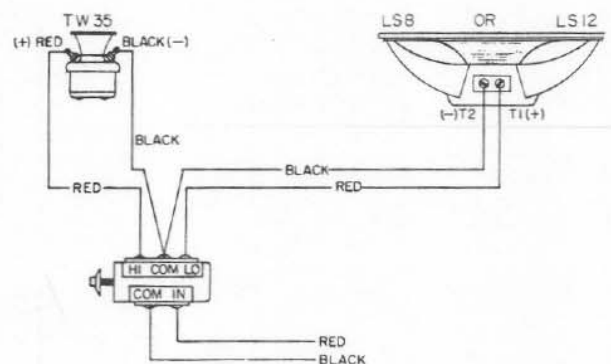


Figure 6 — Wiring Diagram, Two-Way System

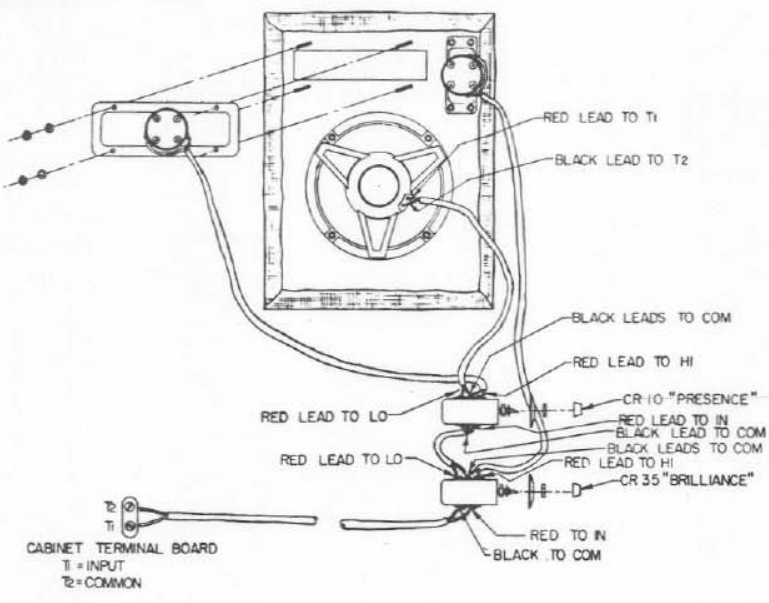


Figure 7 - Installation of MF1 Step-Up Kit

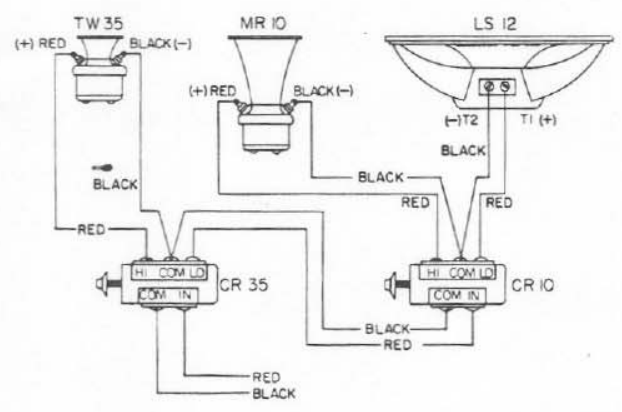


Figure 8 - Wiring Diagram, Three-Way System

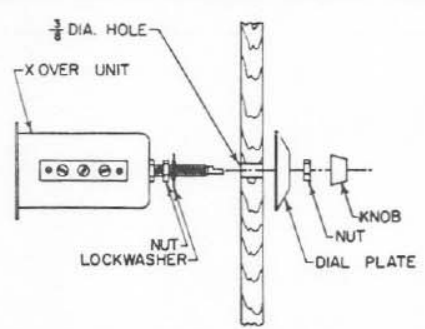


Figure 9 - CR35, CR10 Mounting Details

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