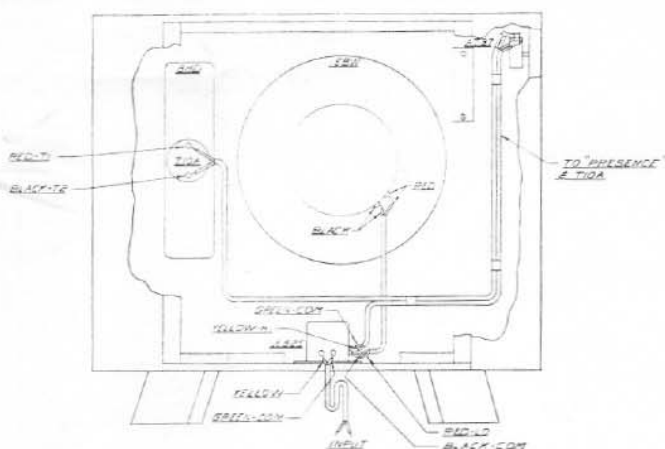
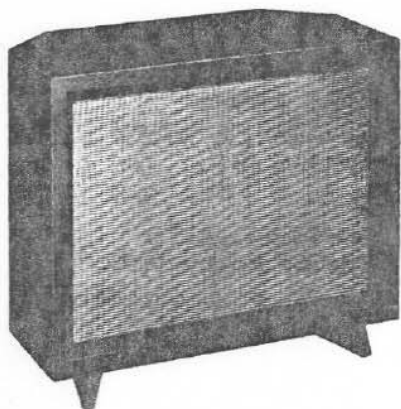


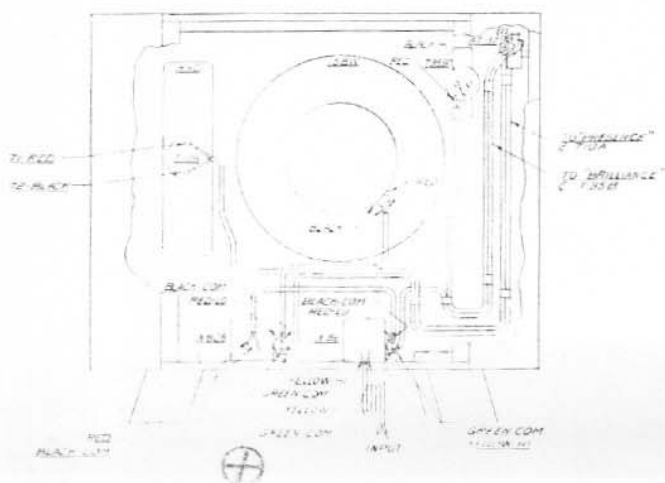
# Electro-Voice

ELECTRO-VOICE, INC.  
BUCHANAN, MICHIGAN



Model 116

Fig. 1 — Pictorial Wiring Diagrams  
Model 116A



## Specifications and Instructions Empire Enclosure

The Electro-Voice Empire is a "cornerless corner" enclosure for single 15-inch full-range drivers, integrated triaxial reproducers, and separate two-way and three-way loudspeaker systems. The Empire will improve the bass range and response of any 15-inch loudspeaker and is particularly effective when employed with Electro-Voice Models SP15, SP15B, 15TRX, 15TRXB, and systems using Models 15W or 15BW. The SP15 and SP15B full-range units are 15-inch coaxial loudspeakers employing a mechanical crossover operating at the 6th octave to direct the sensitive high-frequency pulses of the treble register to the smaller radax high-frequency propagator. The 15TRX and 15TRXB are triaxial reproducers similar to the SP15 with the addition of the T35 Super-Sonax very-high-frequency reproducer to the 15TRX, and the T35B to the 15TRXB. The radax principle is also used in these units. In addition, an electrical crossover is made at 3500 cycles to the T35 (or T35B). The Electro-Voice 15W and 15BW are low-frequency drivers designed specifically for use in multi-way loudspeaker systems such as the Models 114A, 116, 114B, 116A two-way and three-way loudspeaker systems.

Chart No. 1 is a compatibility table showing the basic full-range systems for the Empire and how they may be expanded, using the E-V "Building-Block Method," to separate 2 and 3-way systems.

The Empire features a "built-in" corner and may be used against a flat wall for normal bass or in a corner of the room for augmented bass. The enclosure employs a system of Bilinear Lenticular Slots in the rear speaker cavity to extend bass response by lowering the effective Q of the rear porting action. When used against a wall this system benefits from the reinforcing radiation of two virtual images, and when placed in a corner, response is augmented by three virtual images.

### SPECIFICATIONS

Size: 29 1/2 in. high, 32 in. wide, 16 in. deep

Weight: 45 lb shipping

### INSTALLATION OF COMPONENTS

**15-INCH DRIVERS** — Lay the enclosure on its front. Remove the screws around the periphery of the center back panel, and lift off the panel. This will reveal the speaker mounting board which need not be removed to install driver components. After removing the retaining nuts and washers from the bolts, place the speaker unit over and down on the bolts, taking care to avoid tearing or rupturing the cone by misaligning the speaker while mounting it. Replace the washers and tighten the nuts on the speaker frame evenly and just snugly enough to avoid injuring and distorting the loudspeaker frame, and thus misaligning the voice coil. Attach leads to the 15-inch driver and feed through the hole in the back of the enclosure.

**HIGH-FREQUENCY DRIVERS** — If a high-frequency driver unit is to be mounted, such as in the 114A system which includes a T25A driver and 8HD horn, or the 116A system which includes a T10A driver, 8HD horn and T35B Super-Sonax VHF driver, installation may be made now or later. To mount the T25A or T10A unit and 8HD horn, remove the cover on the long vertical port and proceed following the instructions accompanying these units.

Install the X8 crossover of the 114A system (or X825 of the 116 system) on the baffle board in position as shown in Fig. 1. Remove the snap-in button on the left side panel of the cabinet and insert the AT37 level control with the lugs toward top of cabinet under the decal marked "Presence." Replace the AT37 dial and affix it by tightening the lock nut with a pair of long-nosed pliers. Replace the knob on the AT37 control and note to be sure that the dot on the knob coincides with the zero on the dial at maximum clockwise rotation.

## Models 114A and 116

**Fig. 2 — Schematic Wiring Diagrams  
Models 114B and 116A**

**Fig. 3 — Pictorial Wiring Diagram  
Model 15TRX Triaxial Speaker**

**VHF DRIVERS**—To install the T35 (or T35B) VHF driver, remove the cover on the small vertical port and place the driver in position, making certain it seats tightly against the gasket. Put the special half-cork-covered washers in place on the back of the driver horn. Follow this by conventional washers and nuts, tightening carefully.

Mount the X36 crossover network, used with the VHF driver, in its proper position (see Fig. 1) and install the AT37 level control, as discussed above, in the space provided under the decal labeled "Brilliance." The pictorial wiring diagrams of the 116 and 116A speaker systems are shown in Fig. 1, and schematic wiring diagrams of these systems are detailed in Fig. 2. To replace the baffle board and the front frame, reverse the procedure used to remove these parts.

## OPERATION

**PLACEMENT**—The Empire can now be placed in the corner of the room or along the wall. Connect the system to the amplifier by running 2 leads (fixture wire No. 18) from the "Common" and "16-ohm" amplifier output taps to the lead-in wires of the system. The low-boy styling of the Empire enclosure, employing an overall height of 29 $\frac{3}{8}$  inches, will allow the enclosure to be mounted under windows or in places where pictures or a series of shelves may intrude. When used in a corner, positioning is not critical. The Empire is now ready for operation.

**ADJUSTMENT OF LEVEL CONTROLS**—Level controls are provided for adjusting the amount of energy fed to the mid-range and/or very-high-frequency drivers in the 15TRX, 114A, 116, 114B, and 116A two and three-way systems. The level control marked "Presence" controls that frequency range lying in the region between 800 cycles and 3500 cycles, and the "Brilliance" control governs the amount of energy radiated above 3500 cycles. Generally, because of the increased efficiency of these high-range drivers, the "Brilliance" and "Presence" controls should be adjusted to a partially retarded setting. Exact positioning of these controls will depend on room acoustics and should be adjusted for most pleasing reproduction. Rooms having heavy drapes, thick rugs, or overstuffed furniture will usually require a more advanced setting of the "Brilliance" control than normal situations. To achieve a "front row" effect, the reproduction of the mid-range reproducer may be enhanced by advancing the "Presence" control.

**BASIC FULL-RANGE SYSTEM**

**COAXIAL DRIVER WITH SEPARATE VHF DRIVER**

**SEPARATE 2-WAY SYSTEM**

**SEPARATE 3-WAY SYSTEM**

**STEP 1**

**STEP 2A**

**OR**

**STEP 2B**

**STEP 3A**

**OR**

**STEP 3B**

**COAXIAL 2-WAY SYSTEMS**

**SP15B**

**T30B X36 AT37**

**T10A X825 BHD AT37**

**T35B X36 AT37**

**SP15**

**T35 X36 AT37**

**T10A X825 BHD AT37**

**T25A X8 BHD AT37**

**T35 X36 AT37**

**TRIAXIAL 3-WAY SYSTEMS**

**15TRXB**

**15TRX**

**T25A X8 BHD AT37**

**SEPARATE 2-WAY SYSTEMS**

**116 SYSTEM**

**T35B**

**T10A, BHD X825, AT37**

**T35B X36 AT37**

**114A SYSTEM**

**1 W**

**T25A, BHD X8, AT37**

**T35 X36 AT37**

**SEPARATE 3-WAY SYSTEMS**

**116A SYSTEM**

**116 WITH**

**T35B, X36 AT37**

**114B SYSTEM**

**114A WITH**

**T35, X36 AT37**

**Chart No. 1**

**E-V "Building-Block Method"**

**Compatibility Chart — Empire Co.**

room or along the wall. Connect the system to the amplifier leads (fixture wire No. 18) from the "Common" and "1000 Hz" taps of the amplifier. The lead-in wires of the Empire enclosure, employing an overall height of 10 ft., will allow the enclosure to be mounted under windows where pictures or a series of shelves may intrude. When the Empire is in operation, positioning is not critical. The Empire is not critical.

## Models 114A and 116

**Fig. 2 — Schematic Wiring Diagrams**

## Models 114B and 116A

