MODEL SP12B COAXIAL LOUDSPEAKER

FEATURES

- Massive die-cast frame
- Ceramic magnet
- Cloth suspension
- Radax cone

SPECIFICATIONS

Frequency Response:	35 to 15,000 cps
EIA Sensitivity Rating:	49 db
Nominal Resonance:	50 cps
Power Handling Capacity	
Program Material:	30 watts
Peak:	60 watts
Impedance:	16 ohms
Mechanical Crossover:	4500 cps
Voice Coil Diameter:	2-inches
Magnet Weight:	1 lb., 6 oz.
Size:	12-1/4 in. dia. x 6-3/4 in. overall depth
Mounting:	Four 1/4 in. holes equally spaced on 11-1/2 in. circle
Baffle Opening:	11 inches
Net Weight:	11-1/2 lb.
Shipping Weight:	14 lb.

DESCRIPTION

All the design advantages of the famous E-V Radax coaxial principle plus the latest developments in electro-acoustics are incorporated in the Model SP12B * full-range coaxial reproducer. Exclusive E-V engineered features include true coaxial mounting of both reproducing elements; augmented balanced bass response in conjunction with smooth, extended high-frequency reproduction. The mid-range has been carefully tailored to provide realism and "presence" at all sound levels. The exclusive Radax design features a true acoustical crossover in which the mass of the bass cone and its voice-coil coupling compliance is so proportioned as to decouple the woofer above crossover. The Radax unit is free from phasing dips and displays less than one-quarter percent harmonic distortion above crossover. The edgewise-wound aluminum voice coil design affords eighteen-percent more efficiency and consequent damping of transient distortion. A massive die-cast frame and unusually heavy magnet structure is used. The Model SP12B is ideal for use as a low-frequency driver in separate two-way and three-way systems. Compatible components for use with the SP12B are shown in Figure 4.

* U.S. Design Patent No. 197,716

INSTALLATION

Optimum bass response with the SP12B unit is obtained in the Electro-Voice Marquis and Aristocrat enclosures. Where a baffle is available of the "infinite" type, such as a closet, or a wall with large volumetric capacity available behind the cone, excellent results will be obtained in the bass range. The ideal volume is fifteen-cubic-feet or more, for with this volume, the low free-space resonance of the bass cone becomes the controlling factor in achieving the first octaves. This response will extend to 35-45 cps.

Where restricted space of only four to eight feet is available for housing the speaker, bass response will suffer and the low range will be compressed by about one octave. This deficiency may be offset by reinforcing the bass through porting the enclosure. More accurate design data on this form of enclosure is available from Electro-Voice Consumer Products Division in Technical Bulletin Number 10 and in the many articles on enclosure design now published.

Reflections on the interior cavity will cause ragged response, indicated by undue reinforcement at certain frequencies and cancellation at others, unless a one-inch thickness of sound absorbent material is used on the interior surfaces. Fiberglass is good and is available from most high fidelity dealers. Blankets, jute, and rug pads are acceptable substitutes.

To mount the SP12B, cut a circular hole eleven-inches in diameter. Four 1/4-inch mounting holes are provided on the outer periphery of the speaker frame. Use four number 12 by 1-1/2-inch long wood screws, or preferably, drill four 1/4-inch holes on an 11-1/2-inch circle spaced 90-degrees apart (See Figure 1 for hole arrangement), and employ four 3/16-inch carriage bolts 2-inches long with hex nuts and washers. Secure the speaker to the front baffle and tighten the retaining screws just enough to compress the speaker gasket. Excessive

tightening is not necessary, as the compressible gasket on the front of the speaker will form an acoustic seal with nominal pressure.

CONNECTIONS

Use No. 18 fixture wire or larger to connect the two terminals on the loudspeaker to the "16-ohm" and "Common" output terminals on your amplifier. Ordinary "zip" or lamp cord is excellent. The 16-ohm impedance of the SP12B is a standard EIA rating. A mismatch by as much as 40-percent may be made without affecting the reproduction or efficiency of the unit. If only an 8-ohm tap is available on the amplifier, a loss of efficiency will be just noticeable. Connection to a 4-ohm terminal will create a loss of overall efficiency.

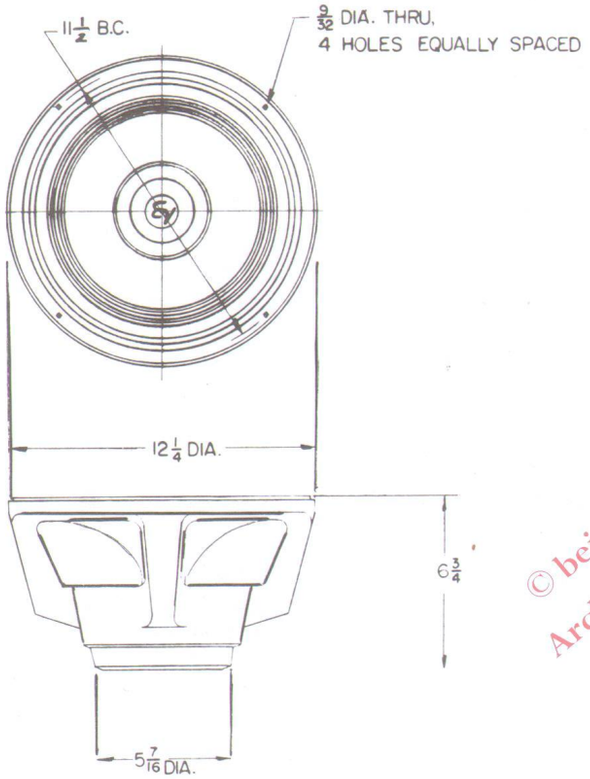

Figure 1 - Dimensions

CUSTOMER SERVICE

Your SP12B is packed to provide protection well in excess of shipping requirements of the Interstate Commerce Commission. If shipping damage does occur, contact the carrier, requesting inspection and instructions, or the dealer from whom the unit was purchased.

The SP12B is guaranteed against defects in original workmanship and materials. Should your loudspeaker become damaged or develop faulty operation from unusual conditions of use, Electro-Voice maintains a complete Service Department to return equipment to factory-new condition. If attention becomes necessary, please write the Service Department requesting return authorization and shipping instructions. When writing, please mention the make and model number of other components used in the system.

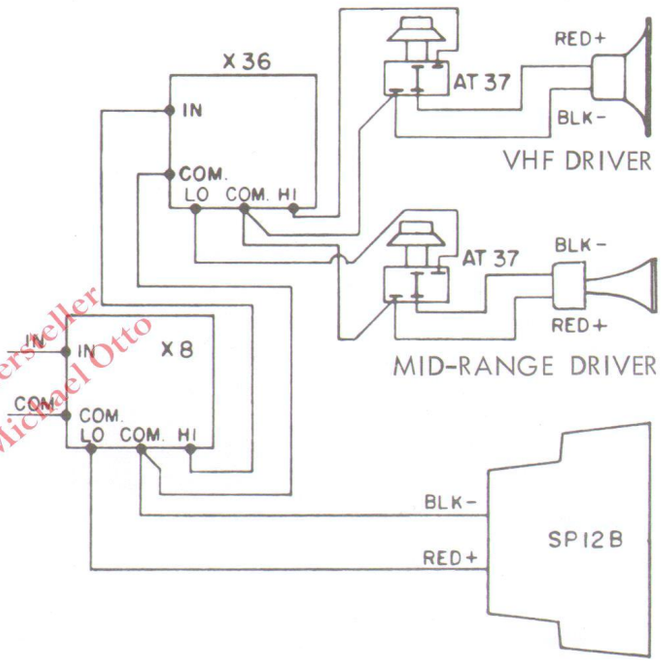

Figure 3 - Schematic Wiring Diagram
Separate three-way system

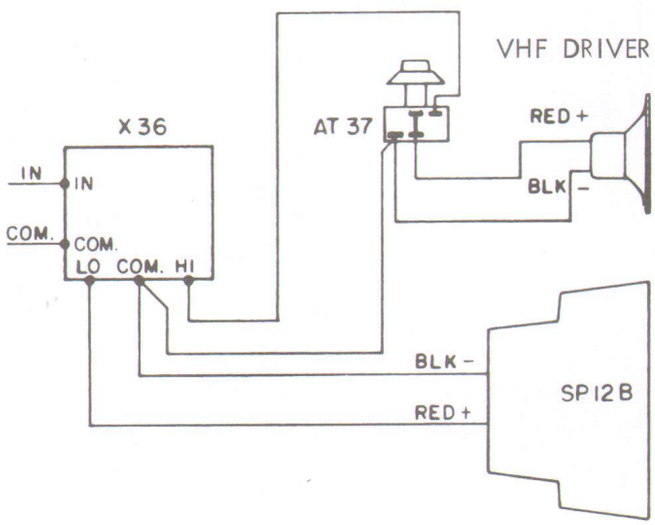

Figure 2 - Schematic Wiring Diagram
Separate two-way system

"BUILDING BLOCK" METHOD

STEP 1 Basic Full-Range System	STEP 2 To complete a two-way system, add the VHF Driver	STEP 3 To complete a three-way system, add the Mid-Range Driver
SP8B SP12B SP15B	T35 (BB1) or TC35 (BB7)	T25A 8HD
12TRXB 15TRXB	TRX Speakers already are provided with VHF driver	
SP12 SP15	T35 (BB1) or T350 (+ X36 & AT37)	(BB4)
12TRX 15TRX	TRX Speakers already are provided with VHF driver	

Figure 4 - E-V "Building Block Method"
Compatibility Chart