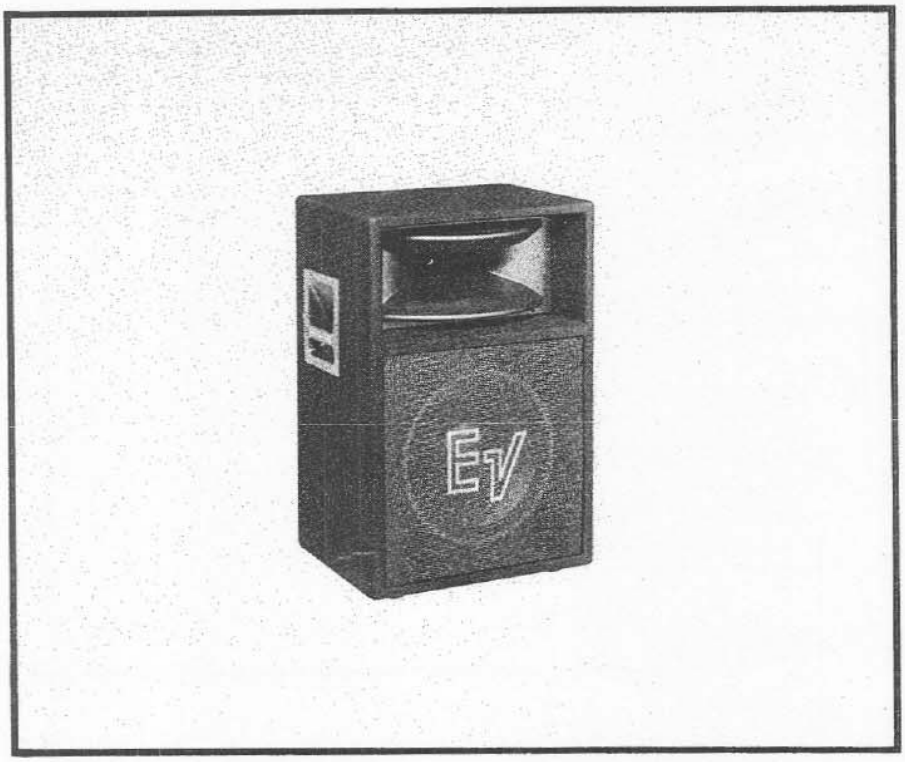

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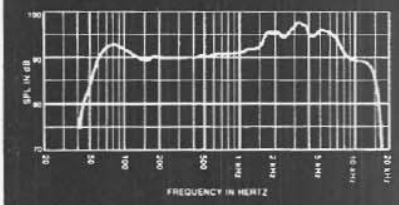

FIGURE 1 — Axial Frequency Response, 4-volts/10 feet

Model SH152
Two-Way Stage Speaker System Kit

SPECIFICATIONS

The specifications provided assume enclosure construction as described in SH152 Builder's Plans.

Frequency Response, 10 feet on Axis, Swept 1/3-Octave, Half-Space Anechoic Environment (see Figure 1):
50-20,000 Hz

Half-Space Reference Efficiency:
1.8%

Long-Term Average Power Handling Capacity Per EIA Standard RS-426A (see Power Handling section):
200 watts

Sound Pressure Level at 1 Meter, 1 Watt Input, Anechoic Environment, Band-Limited Pink-Noise Signal, 300-2,000 Hz:
98.5 dB

Nominal Coverage Angle:
90° x 40°

Crossover Frequency:
1,500 Hz

Impedance,
Nominal:
8 ohms
Minimum:
6.5 ohms

Transducer Complement,
High-Frequency:
One-inch-throat, phenolic-diaphragm driver 90° x 40° constant-directivity horn
Low-Frequency:
Special design 15.1-inch woofer

Shipping Weight of Kit
(kit does not include enclosure):
17.9 kg (39 lb 6 oz.)

DESCRIPTION

The Electro-Voice SH152 is a 200-watt, two-way, high-efficiency, constant-directivity stage system kit. It consists of professional quality components which, when installed in the recommended enclosure, result in the cutting, "full" sound quality sometimes preferred in stage system sound reinforcement situations.

The high-frequency section of the SH152 utilizes a 90° x 40° constant-directivity horn driven by a one-inch-throat, wide-bandwidth, phenolic-diaphragm driver. This driver uses a unique convex-drive Time Path™ phasing plus structure (patent number 4,525,604) for smooth and extended high frequency performance.

The bass section was designed using Thiele-Small parameters for efficient performance to below 55 Hz. The 15.1-inch woofer used is a specially designed unit featuring an extended-length voice coil and high-temperature construction materials.

KIT CONTENTS

Part Number	Quantity	Description
20265	2	Handle Sets
38701	1	Gasket
48705	1	Nameplate
530580	1	Enclosure Plans
A70023	1	High-Frequency Horn
B72096-JD	1	Protective Grille
75578	1	Damping Material
81169	1	Crossover
833-0750	1	High-Frequency Driver
1815-0746	1	15.1-inch Woofer
20284	4	1/4-20 T-Nuts
62941-CV	6	4-24 x 1/2 Screws
62951-CV	4	1/4-20 x 1 Bolts
62986-CP	6	8-15 x 1 1/2 Bolts
63012-CP	6	8-15 x 1/2 Bolts
62978-CP	20	10-16 x 1 Screws
70188-JD	4	Woofer-Mounting Brackets

CONSTANT-DIRECTIVITY SPEAKER SYSTEM

The crossover frequency and speaker component geometries have been selected so that the directional characteristics of the woofer and constant-directivity horn match at the crossover frequency (approximately 90° circular coverage patterns for each) to create a special system type — the constant-directivity system. At higher frequencies the horizontal coverage pattern remains constant and the vertical pattern smoothly transitions to a 40° to 50° angle above 5,000 Hz. Response within the 90° x 40° rated coverage angle is uniform, which means dependable audience coverage without "hot spots" or dead zones at certain frequencies. The 90° x 40° dispersion characteristic also helps avoid early reflections from nearby floor or side wall surfaces which could degrade performance. The controlled directivity of the high- and low-frequency transducers also eliminates response irregularities caused by diffraction off nearby enclosure edges.

FREQUENCY RESPONSE

If the enclosure is built to Electro-Voice specifications (see SH152 Builder's Plans), the 15.1-inch woofer, wide-bandwidth high-frequency driver and an equalized crossover will result in the wide and smooth response shown in Figure 1. The response shown was measured at 10 feet, using a swept 1/3-octave input of 4 volts.

POWER HANDLING CAPACITY

To our knowledge, Electro-Voice was the first U.S. manufacturer to develop and publish a power test closely related to real-life conditions. First, we use a random noise input signal because it contains many frequencies simultaneously, just like real voice or instrument program. Second, our signal contains more energy at extremely high and low frequencies than typical actual program, adding an extra measure of reliability. Third, the test signal includes not only the overall "long-term average" or "continuous level" — which our ears interpret as loudness — but also short-duration peaks which are many times higher than the average, just like actual program. The long-term average level stresses the speaker thermally (heat). The instantaneous peaks test mechanical reliability (cone and diaphragm excursion). Note that the sine wave test signals sometimes used have a much less demanding peak value relative to their average level. In actual use, long-term average levels exist from several seconds on up, but we apply the long-term average for several hours, adding another extra measure of reliability.

Specifically, the SH152 is designed to withstand the power test described in the revised EIA Standard RS-426A. The EIA test spectrum is applied for eight hours. To obtain the spectrum, the output of a white noise generator (white noise is a particular type of random noise with equal energy per bandwidth in Hz) is fed to a shaping filter with 6-dB-per-octave slopes below 40 Hz and above 318 Hz. When measured with the usual constant-percentage bandwidth analyzer (one-third-octave), this shaping filter produces a spectrum whose 3-dB-down points are at 100 Hz and 1,200 Hz with a 3-dB-per-octave slope above 1,200 Hz. This shaped signal is sent to the power amplifier with the continuous power set at 200 watts into the 6.0 ohms EIA equivalent impedance (34.6 volts true RMS). Amplifier clipping sets instantaneous peaks at 6 dB above the continuous power, or 800 watt peak (69.2 volts peak). This procedure provides a rigorous test of both thermal and mechanical failure modes.

WARRANTY (Limited)

Electro-Voice Speakers and Speaker Systems (excluding active electronics) 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 extend to finish, appearance items, burned coils, or malfunction due to abuse or operation under other than specified conditions, including cone and/or coil damage resulting from improperly designed enclosures, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee. A list of authorized warranty service agencies is available from Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107 (AC/616-695-6831); Electro-Voice, Inc., 3810 148th Avenue N.E., Redmond, WA 98052 (AC/206-881-9555); and/or Electro-Voice West, 8234 Doe Avenue, Visalia, CA 93291 (AC/209-651-7777). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Service and repair address for this product: Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107.

Specifications subject to change without notice.

ELECTRO-VOICE, INC., 600 Cecil Street, Buchanan, Michigan 49107
MANUFACTURING PLANTS AT ■ BUCHANAN, MI ■ NEWPORT, TN ■ SEVIERVILLE, TN ■ REDMOND, WA ■ GANANOQUE, ONT.

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