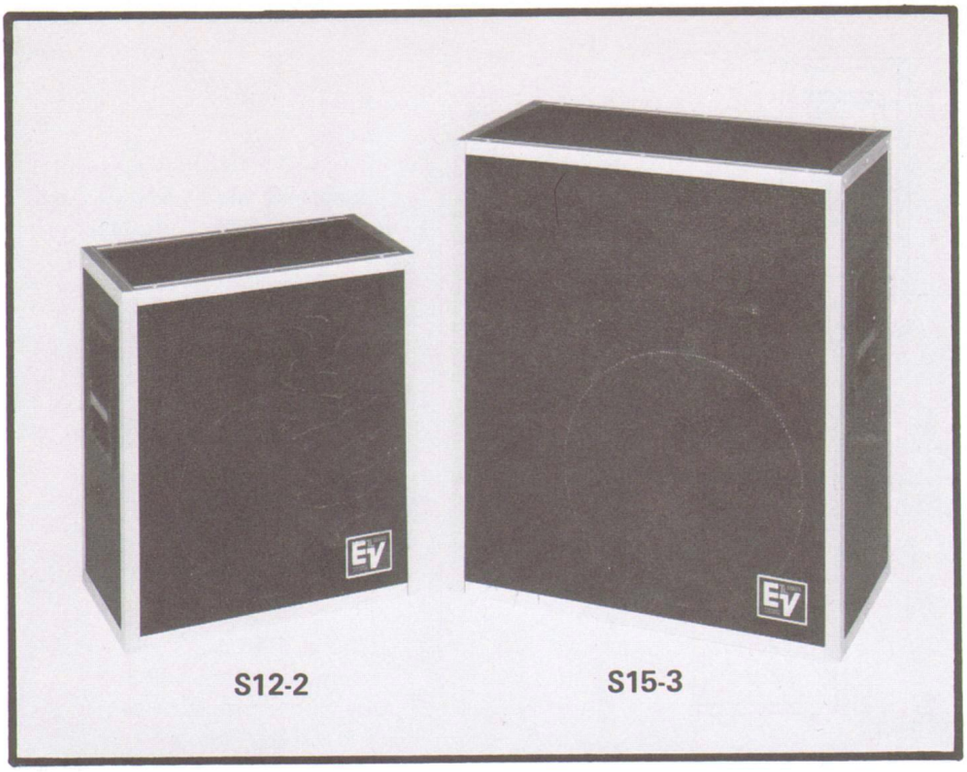
Electro-Voice®
a gulton company



Model S12-2/S15-3 Stage Speaker Systems

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SPECIFICATIONS

Usable Frequency Response,
S12-2:
75 Hz to 16 kHz
S15-3:
50 Hz to 16 kHz

Sound Pressure Level,
S12-2:
4 ft at 100 watts input*
115 dB
10 ft at 1 watt input*
87 dB
S15-3:
4 ft at 100 watts input*
116 dB
10 ft at 1 watt input*
88 dB

Long Term Average Power Handling Capacity:*
(24 hours of clipped, shaped random noise) 100 watts

Nominal Impedance:
8 ohms

Minimum Impedance,
S12-2:
6.6 ohms
S15-3:
5.0 ohms

Crossover Frequencies,
S12-2:
3000 Hz
S15-3:
600 Hz & 4000 Hz

Horizontal Beamwidth,
S12-2:
2 kHz - 61°
4 kHz - 65°

Horizontal Beamwidth,
S15-3:
2 kHz - 120°
4 kHz - 98°

Vertical Beamwidth,
S12-2:
2 kHz - 60°
4 kHz - 48°
S15-3:
2 kHz - 92°
4 kHz - 65°

Connections:
Parallel 1/4" phone jacks (Allows paralleling of multiple speakers.)

Enclosure Material:
3/4" plywood

Finish:
Black vinyl with aluminum trim

Dimensions,
S12-2:
55.4 cm (21.81") high
29.5 cm (11.63") deep
47.3 cm (18.63") wide
S15-3:
72.9 cm (28.69") high
35.1 cm (13.81") deep
61.9 cm (24.38") wide

Weight,
S12-2:
24.9 kg (55 lbs)
S15-3:
39.9 kg (88 lbs)

Optional Accessories:
Model 480 stand

*See POWER HANDLING TEST for input spectrum.

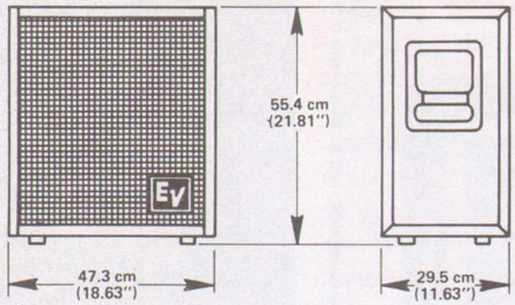
DESCRIPTION

The Electro-Voice Model S12-2 two-way stage system and the Electro-Voice Model S15-3 three-way stage system are accurate compact speaker systems especially designed for applications where portability is important. These two systems feature the ST350A tweeter, with its wide dispersion and incorporate high-frequency auto-limiting as an electronic tweeter protection circuit.

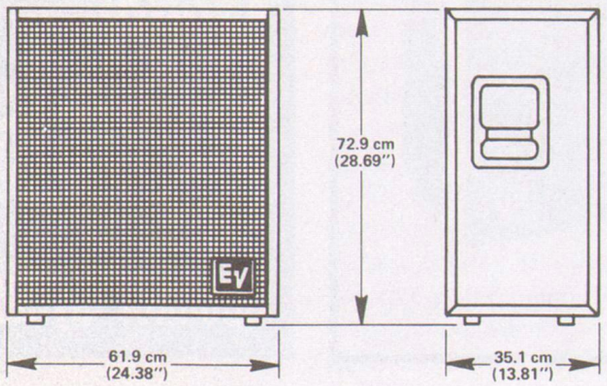
The S12-2 is primarily designed to give top performance in a small package, using the EVM12L woofer. The S12-2 is capable of high SPL with 115 dB being generated at 4 ft with full power.

The S15-3 incorporates the EVM15L and the new Thiele-vented midrange speaker. This new vented cone midrange speaker is capable of producing sound pressure levels up to 116 dB (at 4 ft), while retaining the brilliance of a horn and the warmness of a cone speaker.

Construction of the S12-2 and S15-3 cabinets consists of black vinyl covered 3/4" plywood with protective extruding aluminum trim, heavy duty rubber feet and recessed handles. The rugged construction of these speaker systems makes them ideal for road use.



S12-2



S15-3

FIGURE 1 – Dimensions

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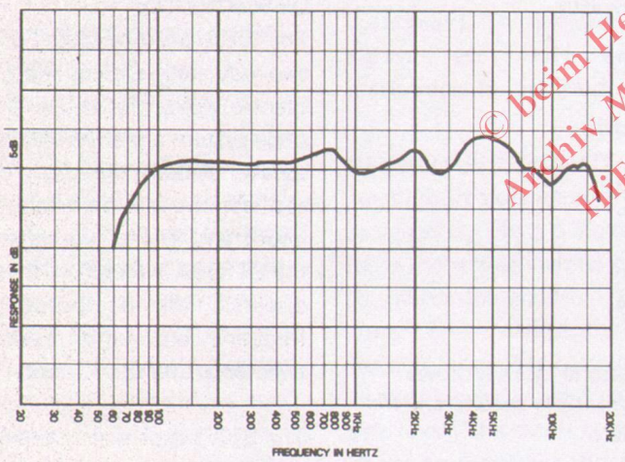

FIGURE 2 –
S12-2 Frequency Response
(Swept 1/3-Octave Band Pink Noise)

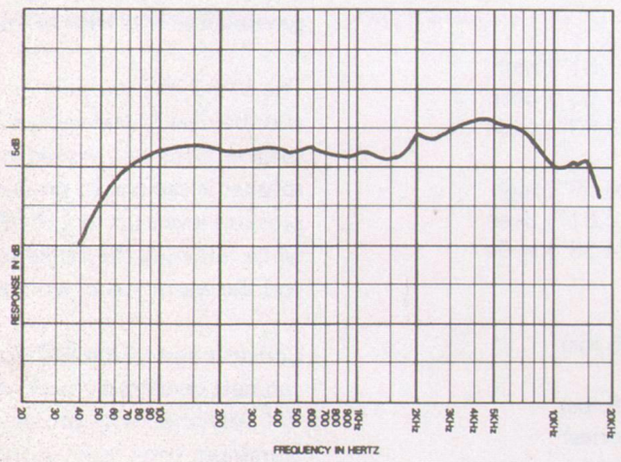

FIGURE 3 –
S15-3 Frequency Response
(Swept 1/3-Octave Band Pink Noise)

FIGURE 4 –
S12-2 Polar Response
Octave Bands of Pink Noise,
System Long Axis is Vertical
(5 dB Per Division)

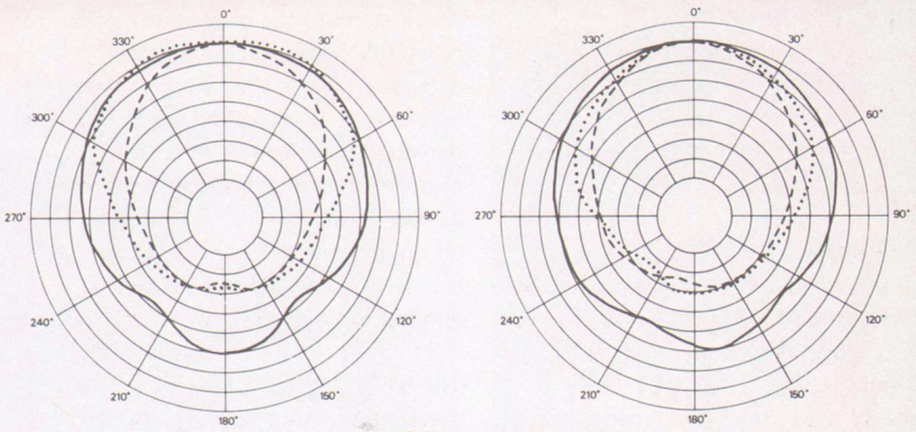

FIGURE 5 –
S15-3 Polar Response
Octave Bands of Pink Noise,
System Long Axis is Vertical
(5 dB Per Division)

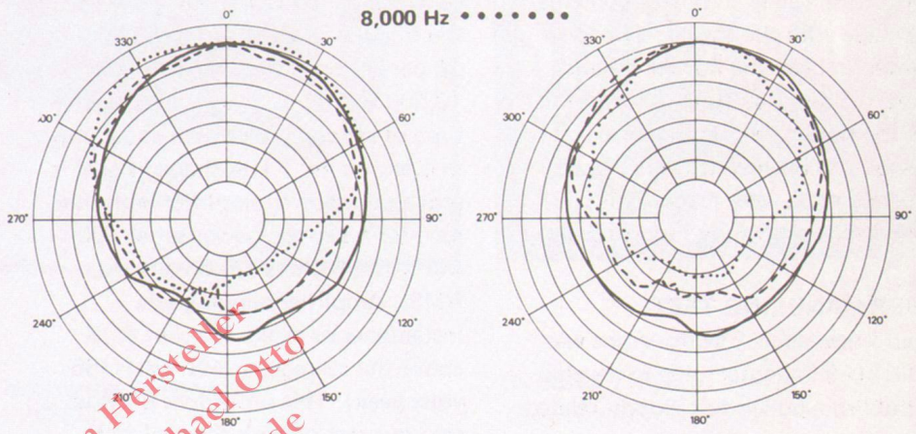

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FIGURE 6 –
S12-2 Beamwidth vs Frequency
(System Long Axis Vertical)

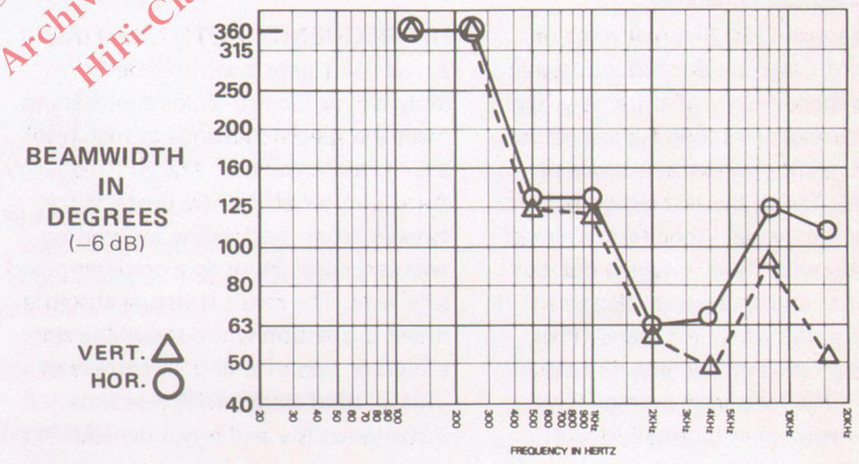
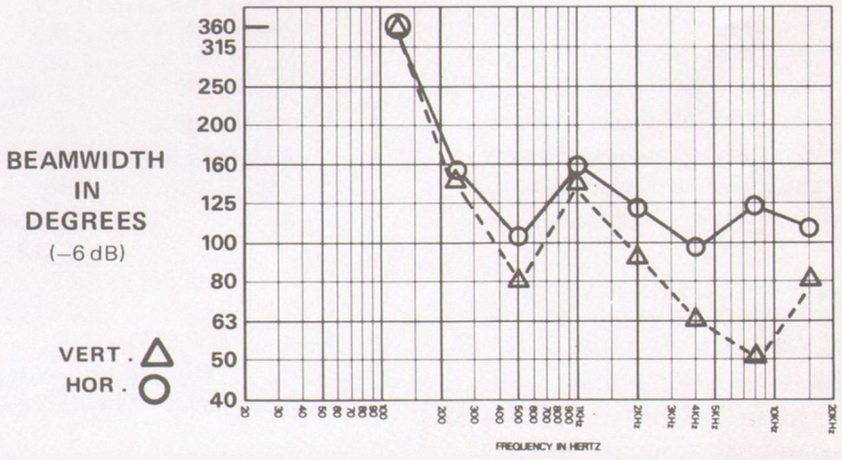


FIGURE 7 –
S15-3 Beamwidth vs Frequency
(System Long Axis Vertical)



FREQUENCY RESPONSE

Frequency response data was measured at 10 feet on axis with 4 volts of swept 1/3 octave random noise. The frequency response curves for the S12-2 and S15-3 are shown in Figures 2 and 3.

DISPERSION

The polar frequency response curves for the S12-2 and S15-3 are given in Figures 4 and 5. For clarity, only the 500 Hz, 2 kHz, and 8 kHz frequency plots are shown. This data was taken using octave band centered pink noise with 4 volts applied to speakers and measurements were made with the speaker systems mounted in both the horizontal and vertical positions at 10 feet. From this data, the 6 dB down points were obtained and beamwidth versus frequency plots were made. This information is shown in Figures 6 and 7.

POWER HANDLING TEST

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.

The S12-2 and the S15-3 have been specifically tested for 24 Hours as follows. The output of a pink noise generator is fed to a shaping filter where the frequency spectrum is rolled off at 6 dB per octave beginning at 100 Hz and 10,000 Hz. (Pink noise is a particular type of random noise with equal power in every octave.) This shaped signal is sent to the power amplifier with the long-term average power set at 100 watts into 8 ohms (28.3 volts true RMS). Amplifier clipping sets instantaneous peaks at about 6 dB above the average, or 400 watts **(55 volts peak)**. This procedure provides a rigorous test of both thermal and mechanical failure modes.

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HI-FREQUENCY AUTO-LIMITING

An all solid state electronic device designed by Electro-Voice engineers to meet the special demands of high level sound reinforcement. The Hi-Frequency Auto Limiter efficiently protects the tweeter from overloading by limiting tweeter power input to a predetermined safe level. The result is virtual absolute driver protection without audible side effects or loss of sound pressure level. This all solid state device responds instantaneously and is not dependent on slow moving mechanical parts. Hi-frequency auto limiting incorporates six solid state devices and a power resistor with appropriate heat sink.

MOUNTING SPEAKERS ON STAND

The bottom end on the S12-2 and S15-3 contains two 1/4-20 TEENUTS to allow mounting the speakers on a stand. The TEENUTS are spaced 3 inches apart to fit the EV Model 480 or the Atlas CS100 stands. (Overall height of the EV 480 stand is 58 inches and the Atlas CS100 stand is 46 inches).

WARRANTY (Limited) –

Electro-Voice Music Loudspeaker 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 repair information and service locations, please write: Service Department, Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone 616/695-6831) or 7473 Avenue 304, Visalia, CA 93277 (209/625-1330,-1).

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

Specifications subject to change without notice.

Part Number 53460–841

a Gulton COMPANY **ELECTRO-VOICE, Inc., 600 CECIL ST., BUCHANAN, MICH. 49107**

MANUFACTURING PLANTS AT ■ BUCHANAN, MICH. ■ NEWPORT, TENN. ■ SEVIERVILLE, TENN. ■ GANANOQUE, ONT. ■ LITHO IN U.S.A.