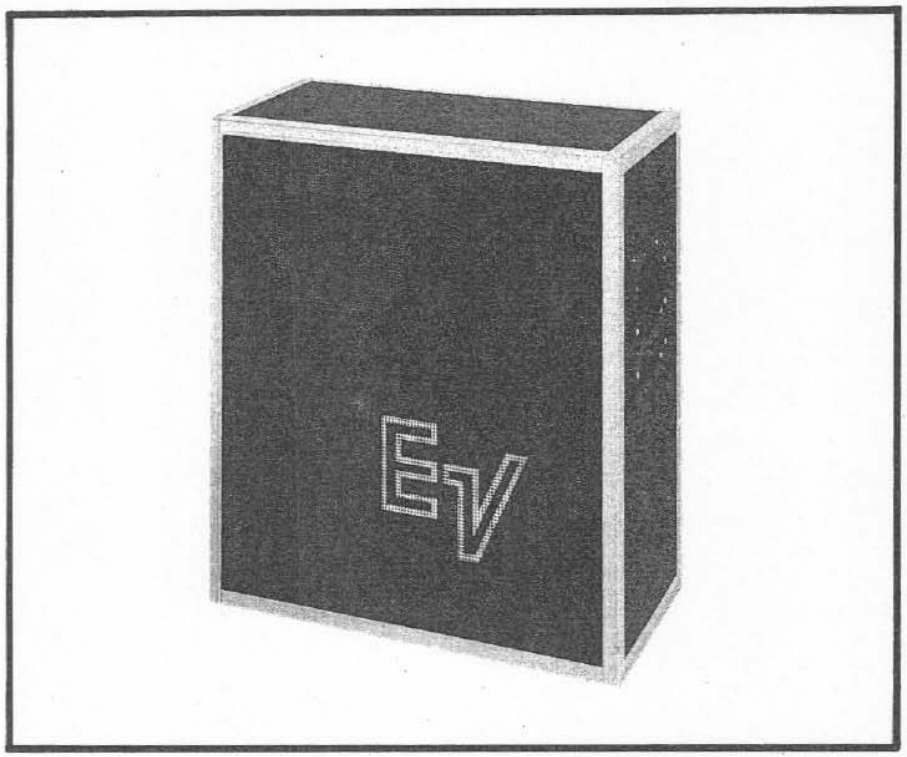

Electro-Voice®
a gulton company

# Model S15-3
## Stage Speaker System

### SPECIFICATIONS

**Usable Frequency Response:**
50 Hz to 16 kHz
**Sound Pressure Level:**
**1 meter at 150 watts input***
122 dB
**1 meter at 1 watt input***
100 dB
**Long-Term Average Power Handling Capacity:** *
(24 hours of clipped, shaped random noise) 150 watts
**Nominal Impedance:**
8 ohms
**Minimum Impedance:**
5.0 ohms
**Crossover Frequencies:**
600 Hz & 4000 Hz
**Horizontal Beamwidth:**
2 kHz – 120
4 kHz – 98
**Vertical Beamwidth:**
2 kHz – 92
4 kHz – 65
**Connections:**
Parallel 1/4 in. phone jacks (allows paralleling of multiple speakers)
**Finish:**
Black vinyl with aluminum trim
**Dimensions:**
72.9 cm (28.69 in.) high
35.1 cm (13.81 in.) deep
61.9 cm (24.38 in.) wide
**Weight:**
40.8 kg (90 lbs)
**Optional Accessory:**
Model 480A stand

*See POWER HANDLING TEST for input spectrum.

### DESCRIPTION

The Electro-Voice Model S15-3 three-way stage system is an accurate compact speaker system specially designed for applications where portability is important. This system features the ST350B tweeter, with its wide dispersion and employs high-frequency auto-limiting as an electronic protection circuit.

The S15-3 incorporates the EVM15L Series II woofer and the Thiele-vented midrange speaker. This vented cone midrange speaker is capable of producing high sound pressure levels, while retaining the brilliance of a horn and the warmness of a cone speaker.

Construction of the S15-3 cabinet consists of black vinyl covered 3/4 inch plywood and 5/8 inch particle board with protective extruded aluminum trim, heavy duty rubber feet and recessed handles. The rugged construction of these speaker systems makes them ideal for road use.

### FREQUENCY RESPONSE

Frequency response data was measured at 10 feet on axis with 4 volts of swept 1/3 octave pink noise. The frequency response curve for the S15-3 is shown in Figure 2.

### DISPERSION

The polar frequency response curves for the S15-3 are given in Figure 3. 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 the speaker and measurements were made with the speaker system 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 Figure 4.

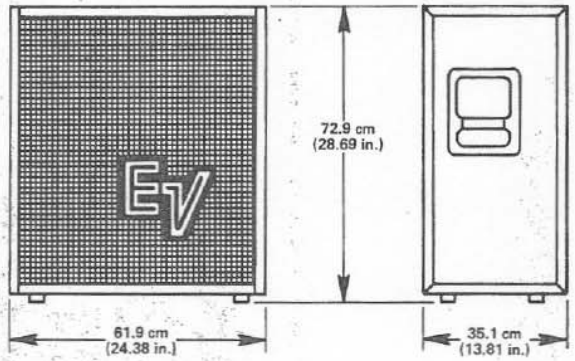


**FIGURE 1 – Dimensions**

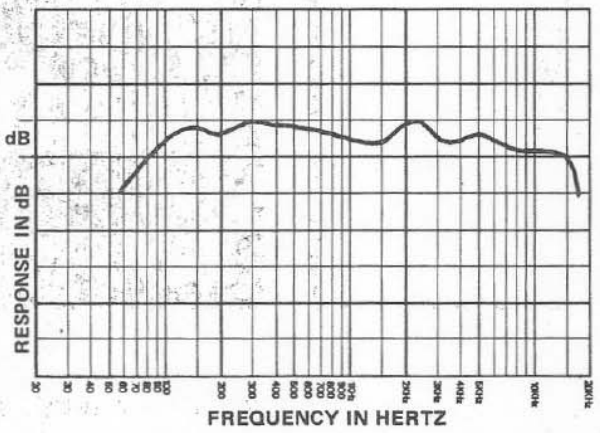


**FIGURE 2**
**S15-3 Frequency Response**
(Swept 1/3-Octave Band Pink Noise)

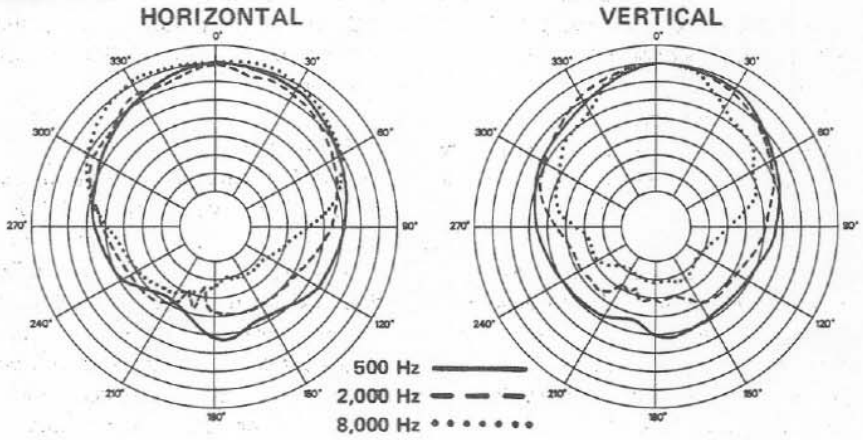


**FIGURE 3**
**S15-3 Polar Response**
Octave Bands of Pink Noise,
System Long Axis is Vertical
(5 dB Per Division)

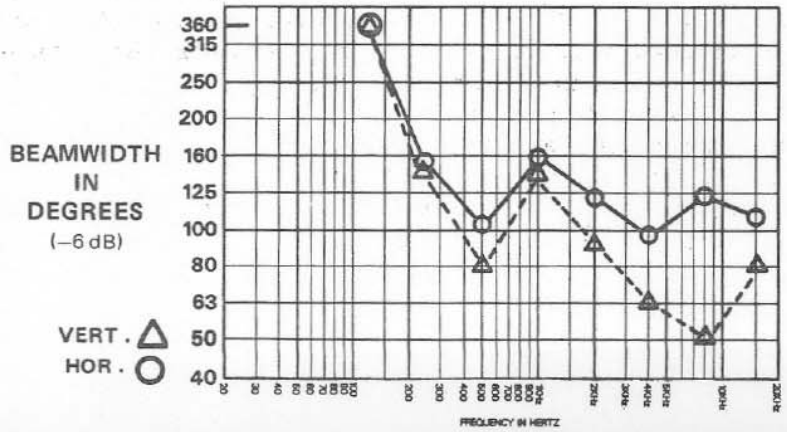


**FIGURE 4**
**S15-3 Beamwidth vs Frequency**
(System Long Axis Vertical)

## 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 exists from several seconds on up, but we apply the long-term average for several hours, adding another extra measure of reliability.

The S15-3 has 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 150 watts into 8 ohms (34.6 volts true RMS). Amplifier clipping sets instantaneous peaks at 6 dB above the average, or 600 watts (69 volts peak). This procedure provides a rigorous test of both thermal and mechanical failure modes.

## HI-FREQUENCY AUTO LIMITING

This is 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 two solid state devices and a power resistor with appropriate heat sink.

## MOUNTING SPEAKER ON STAND

The bottom of the S15-3 contains two 1/4—20 T-nuts for mounting the speaker on a stand. The T-nuts are spaced three inches apart to fit the E-V Model 480A or the Atlas CS100 stands. (Overall height of the E-V 480A stand is 58 inches and the Atlas CS100 stand is 46 inches.) The mounting bracket should be attached with the collar facing the front of the speaker system.

## THE E-V "PA BIBLE"

The "PA Bible" is a practical, complete guide to solving the sound reinforcement problems faced by professional musicians. For the first time, the important fundamentals of high-performance sound system design and application are outlined and made useful to the performer. If you work with loudspeakers and microphones, you should have the E-V "PA Bible."

A number of additions to the basic "Bible," each covering a separate topic of interest, have been produced. If you would like a copy of the "PA Bible," all existing and future additions, send your name and address with **Two Dollars ($2.00) to:**

E-V "PA Bible"
Electro-Voice, Inc.
600 Cecil Street
Buchanan, Michigan 49107

## 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, P.O. Box 186, Buchanan, MI (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, California 93277 (Phone: 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 530184

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.