

The Electro-Voice TL Series low-frequency loudspeaker systems are of direct-radiator (vented box) and folded-horn design and utilize EV's high-power EVM® speakers. Each system's low-frequency response is quite well behaved with no low-frequency peaking. All systems can handle full rated input power down to system cutoff. Further detailed information and construction plans are available.

All the single-driver direct-radiator TL systems have roughly the same efficiency and power handling capacity but have different low-frequency limits and box volumes. The larger boxes extend to lower frequencies. Two different low-frequency response curves on the direct-radiator systems can be selected by the use of a port cover and the addition of a simple low-level equalizer (step-down mode).⁵ Two equalizer alternatives are described in E.V. Form 1582-530. Systems may be used either singly or in stacked arrays to increase efficiency and output power (note "Quad" TL806Q and TL606Q, which are essentially 2 x 2 arrays in a single enclosure). The direct-radiator quad arrays approximately equal the efficiency of the two-speaker folded-horn systems while occupying less space with better low-frequency response.

The two folded-horn systems are best suited if high levels are desired in the 200 Hz to 500 Hz band or when the systems are mounted permanently in the outdoors. Their particular design protects the drivers from the weather.

NOTE:

1. System can generate one-half acoustic watt or more down to this frequency (8 acoustic watts for the TL806Q, TL606Q, TL5050, and TL4050).
2. Note that equalization has no effect on maximum output.
3. System is reasonably flat and exhibits a beamwidth no less than 80° up to this frequency (40° for the TL806Q, TL606Q, TL5050, and TL4050).
4. Equalizer is a second-order under-damped high-pass filter with a Q of 2 that provides a 6 dB peak boost at the listed frequency and rolls off at 12 dB per octave at lower frequencies.
5. SEE: D.B. Keele, Jr., "A New Set of Sixth-Order Vented-Box Loudspeaker System Alignments," J. Audio Eng. Soc., Vol. 23, pp. 354-360 — June 1975, (Reprint available from Electro-Voice.)

LOW FREQUENCY 3 dB DOWN POINT	TL303
Normal	26 Hz
Step-down (without Eq)	30 Hz
Step-down (with Eq)	17.5 Hz
USABLE LOWER LIMIT FREQUENCY¹	
Normal	20 Hz
Step-down ²	18 Hz
USABLE UPPER LIMIT FREQUENCY³	600 Hz
EFFICIENCY (Half space)	5%
POWER HANDLING CAPACITY (continuous thermal limit)	60 W
MAXIMUM MIDBAND ACOUSTIC OUTPUT POWER	3 W
MAXIMUM SPL AT 10 FEET, FULL POWER (Avg. from 100 to 800 Hz)	112 dB
SPL AT 10 FEET, 1 WATT INPUT (Avg. from 100 to 800 Hz)	92 dB
BEAMWIDTH (-6 dB)	
400 Hz (Horizontal)	92°
800 Hz (Horizontal)	57°
400 Hz (Vertical)	92°
800 Hz (Vertical)	57°
BOX RESONANCE FREQUENCY	
Normal	23 Hz
Step-down	18 Hz
DRIVER	
Type	30 W
Diameter	30 in.
Quantity	1
IMPEDANCE	
Nominal	8 ohms
Minimum	5.0 ohms
BOX PHYSICAL CHARACTERISTICS	
Gross Internal Volume	76 cu. ft.
External Height	96 in.
External Width	48 in.
External Depth	32 in.
Net Weight	550 lb
EQUALIZER⁴	
6 dB Peak Frequency	19 Hz
Presently Available Equalizers	--

ELECTRO-VOICE
PROFESSIONAL SOUND REINFORCEMENT PRODUCTS
TL SERIES LOW-FREQUENCY
SPEAKER SYSTEMS SPECIFICATION SUMMARY

VENTED DIRECT-RADIATOR

FOLDED-HORN

TL405	TL505	TL606	TL806	TL806Q	TL606Q	TL4050	TL5050
38 Hz 51 Hz 27 Hz	48 Hz 55 Hz 34 Hz	63 Hz 78 Hz 42 Hz	83 Hz 130 Hz 58 Hz	80 Hz 125 Hz 56 Hz	55 Hz 73 Hz 38 Hz	54 Hz -- --	70 Hz -- --
29 Hz 24 Hz	36 Hz 33 Hz	45 Hz 39 Hz	62 Hz 52 Hz	60 Hz 50 Hz	42 Hz 36 Hz	44 Hz --	55 Hz --
1100 Hz 5%	1100 Hz 5%	1300 Hz 6%	1600 Hz 6%	800 Hz 17%	600 Hz 18%	700 Hz 21%	850 Hz 20%
100 W	100 W	100 W	100 W	400 W	400 W	200 W	200 W
5 W	5 W	6 W	6 W	68 W	72 W	42 W	40 W
109 dB	109 dB	110 dB	109 dB	121 dB	123 dB	121.5 dB	121.5 dB
89 dB	89 dB	90 dB	89 dB	95 dB	97 dB	98.5 dB	98.5 dB
120° 83° 120° 83°	112° 100° 112° 100°	121° 90° 121° 90°	190° 100° 190° 100°	91° 42° 71° 32°	65° 37° 50° 34°	71° 35° 36° 15°	88° 43° 52° 23°
35 Hz 27 Hz	45 Hz 33 Hz	55 Hz 40 Hz	75 Hz 53 Hz	75 Hz 53 Hz	53 Hz 40 Hz	Horn Loaded	Horn Loaded
EVM 18B 18 in. 1	EVM 18B 18 in. 1	EVM 15L 15 in. 1	EVM 12L 12 in. 1	EVM 12L 12 in. 4	EVM 15L 15 in. 4	EVM 15L 15 in. 2	EVM 12L 12 in. 2
4 ohms 3.9 ohms	4 ohms 3.9 ohms	8 ohms 6.5 ohms	8 ohms 6.4 ohms	8 ohms 6.4 ohms	8 ohms 6.4 ohms	5 ohms 4.0 ohms	5 ohms 4.0 ohms
13 cu. ft. 37 in. 32.25 in. 23.75 in. 114 lb	7.1 cu. ft. 30.5 in. 24.5 in. 21.5 in. 77 lb	3.2 cu. ft. 23.75 in. 19.25 in. 17.0 in. 54 lb	1.3 cu. ft. 17.75 in. 14.5 in. 13.5 in. 37 lb	5.2 cu. ft. 34 in. 27.5 in. 13.5 in. 140 lb	12.8 cu. ft. 46 in. 37 in. 17 in. 200 lb	32.3 cu. ft. 60 in. 35 in. 30 in. 325 lb	11.9 cu. ft. 40.75 in. 27.75 in. 21.5 in. 170 lb
29 Hz SEQ	35 Hz INT-A	45 Hz --	60 Hz --	60 Hz --	45 Hz --	-- --	-- --



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