

## DESCRIPTION

The Electro-Voice TL303 low frequency loudspeaker system is a vented-box (bass-reflex) design with gross internal volume of 76 cu. ft. The system has been designed for use with the Electro-Voice 30W 30 inch loudspeaker. The usable frequency range of the TL303 is roughly 19 to 600 Hz. The efficiency of the TL303 is 5% (half-space load, 30 to 400 Hz, 8 ohm nominal impedance) and as a result will generate outputs of 3 acoustic watts at the rated input of 60 watts.

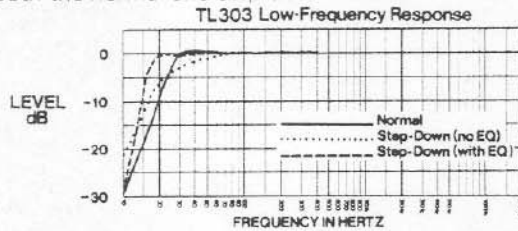
The design provides a selection of two different low frequency response curves by the optional use of a removable port cover. In the normal configuration (port cover off) the response is flat down to the lowest possible frequency. In the step-down configuration (port cover on) the response exhibits a sloping gradual low frequency rolloff but with about a one-half octave extension of low end response. The step down mode of operation is intended to be used with simple before-the-power-amp equalization to flatten the response (only 6 dB maximum boost required, equalizer details available on request).

The following table lists the box resonance frequency ( $f_B$ ), the 3 dB down frequency ( $f_3$ ) and the usable lower limit frequency ( $f_{LL}$ ) for both configurations.

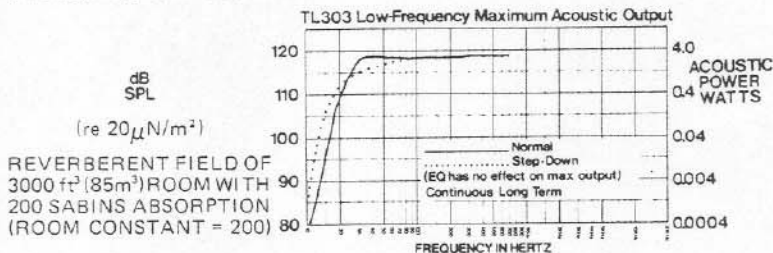
FREQUENCY	NORMAL	STEPDOWN
$f_B$	23 Hz	18 Hz
$f_3$	26 Hz	30 Hz
$f_3$ (with EQ)	—	17.5 Hz
$f_{LL}^*$	20 Hz	18 Hz

\*The system can generate one-half acoustic watt or more down to  $f_{LL}$ .

The following graph shows the system's power output low frequency response in both the normal and step-down modes.



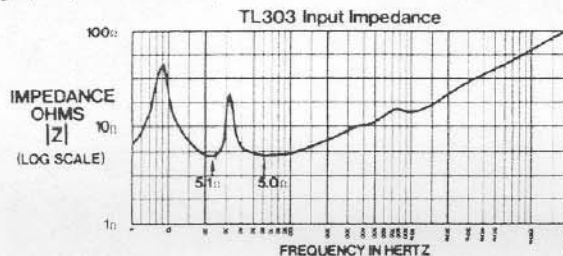
The curve which follows shows the system's low frequency maximum acoustic power output versus frequency. The maximum output is limited by either (1) the thermal power handling capacity of the speaker, or (2) the speaker's maximum linear cone excursion capabilities, whichever occurs first.



REVERBERENT FIELD OF 3000 ft<sup>3</sup> (85m<sup>3</sup>) ROOM WITH 200 SABINS ABSORPTION (ROOM CONSTANT = 200)

Note that some 2 to 3 dB of maximum output in the 30 to 45 Hz range is sacrificed when the step-down mode is used.

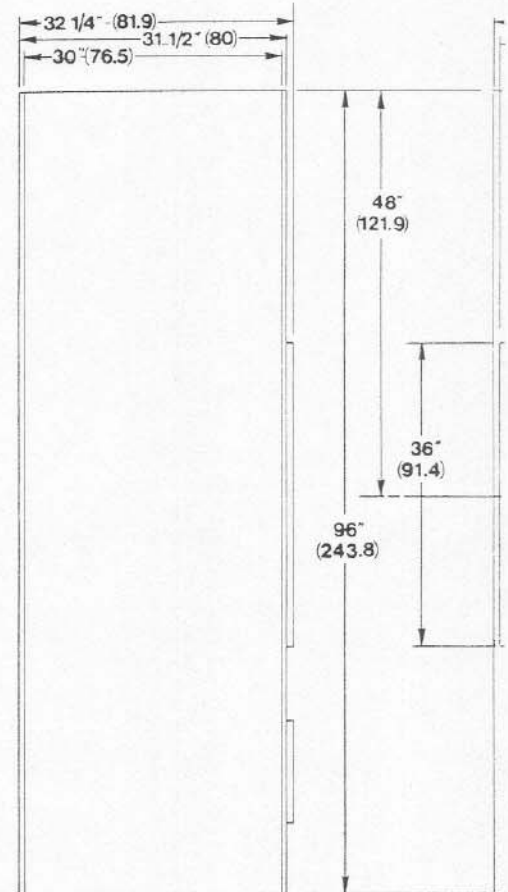
The TL303 input impedance versus frequency is shown in the following graph (normal mode).



EV

# TL303 Builders Plan

30W 76 CU. FT. BASS BO



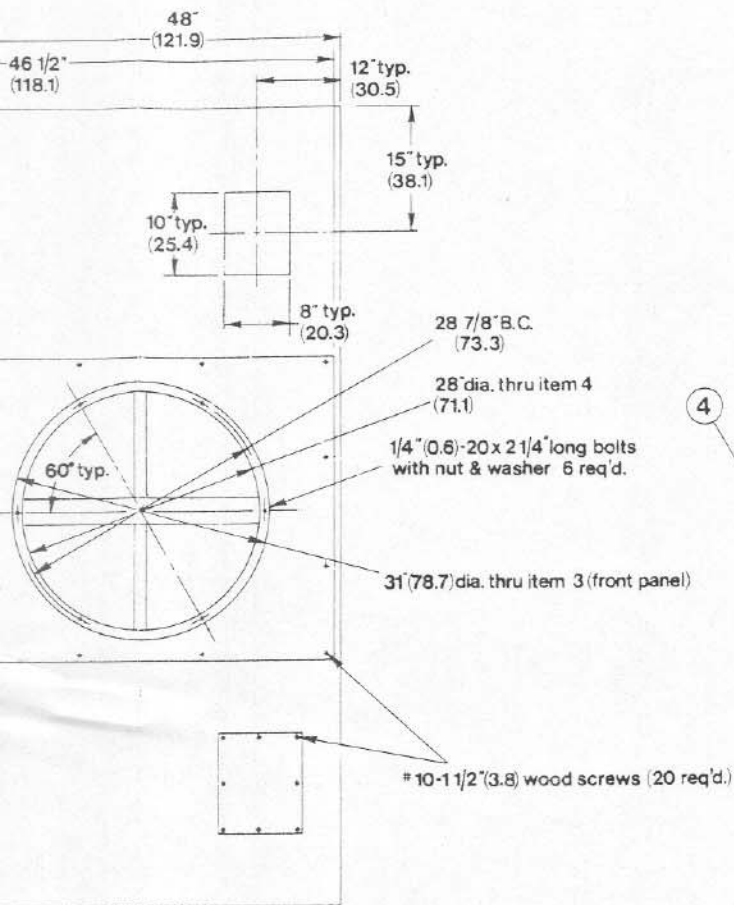
## SIDE VIEW

## CONSTRUCTION NOTES:

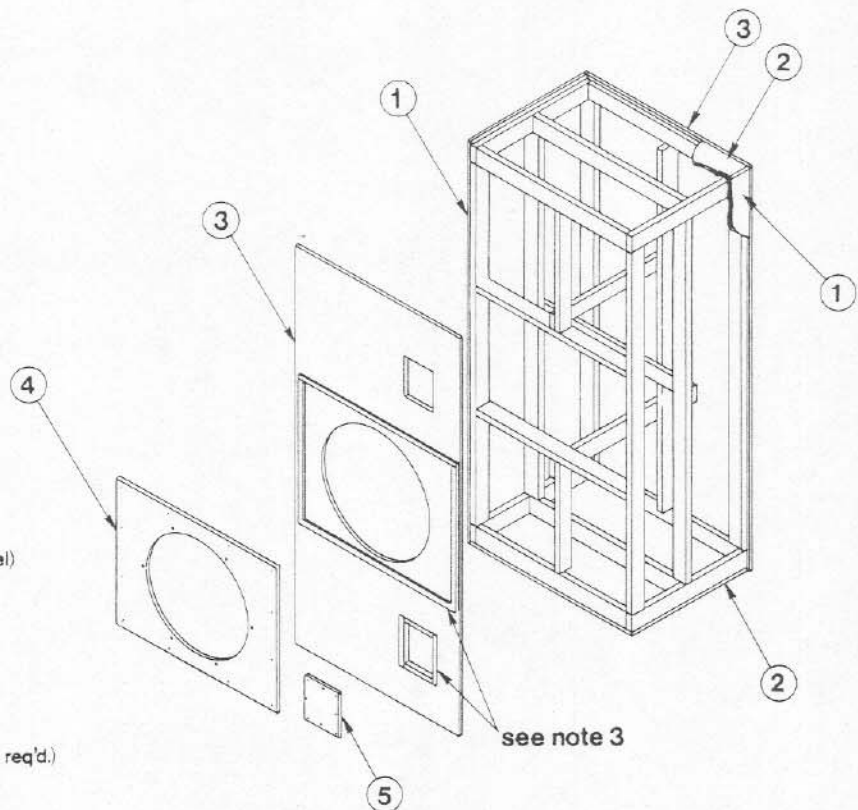
1. All joints should be securely glued and nailed.
2. All joints must be airtight. Seal questionable joints with weatherstripping tape.
3. Use 1/2" wide weatherstripping tape around the speaker opening.
4. Speaker must be mounted on back of baffle.
5. Handles, trunk corners, and furniture gliders should be attached to the cabinet.
6. Input connector should be selected by builder.
7. Grille cloth may be attached to baffle (if desired).
8. Parts listed and dimensioned in chart below.
9. The builder may select material and dimensions for the cabinet.
10. **CAUTION:** This cabinet is big and heavy. Make sure it can be moved from where it is built.
11. Line top, both sides, and back with 3" fit lining not required if system will be used in a room.
12. Material requirements: (5) sheets 3/4" x 4' x 8'.

## PARTS LIST - TL303

ITEM	MATERIAL
1	3/4" (1.9) Plywood or particle board
2	
3	
4	
5	



FRONT VIEW



CONSTRUCTION VIEW

(or stapled).  
 joints with silicon based caulking compound.  
 port cover (item 5) and baffle (item 4) for airtight seal.  
 item 4) and then mount baffle plus speaker to front of cabinet.  
 or casters may be added at builders option.  
 r and mounted on rear.  
 ).  
 must conform to dimensions on drawing for proper cabinet tuning.  
 al fit for parts not listed in chart.  
 0 lbs)!  
 onstructed  
 ass insulation. Insulation must not block port opening on inside of cabinet.  
 y below 200 Hz.  
 8' plywood or particle board and (14) fir 2" x 4" x 8' for cleats.

SIZE	QTY.	REMARKS
30" (76.2) x 96" (243.8)	2	Sides
30" (76.2) x 46-1/2" (118.1)	2	Top and bottom
48" (121.9) x 96" (243.8)	2	Front and back
36" (91.4) x 46-1/2" (118.1)	1	Baffle
10" (25.4) x 12" (30.5)	1	Port cover

**EV** **Electro-Voice**<sup>®</sup>  
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 600 CECIL STREET  
 BUCHANAN, MICHIGAN 49107