DESCRIPTION

The Electro-Voice TL806Q low frequency loudspeaker system is a vented-box (bass-reflex) design with gross internal volume of 5.2 cu. ft. The system has been designed for use with four of the Electro-Voice EVM·12L 12 inch loudspeakers. The usable frequency range of the TL806Q is roughly 50 to 800 Hz. The efficiency of the TL806Q is 17% (half-spaced load, 100 to 800 Hz, 8 Ohm nominal impedance) and as a result will generate outputs of 68 acoustic watts at the rated input of 400 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). For equalizer details request a copy of E-V Pro Sound Facts No.1.

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.
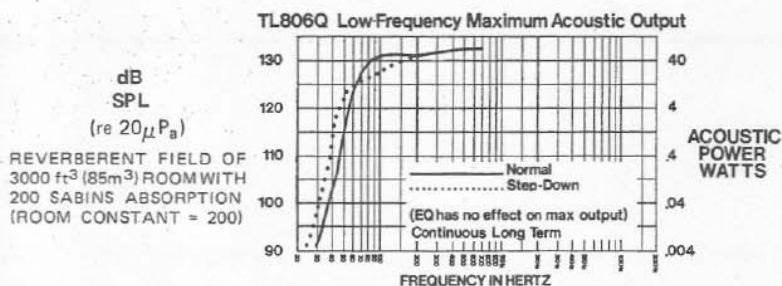
FREQUENCY	NORMAL	STEPDOWN
f_B	75 Hz	53 Hz
f_3	80 Hz	125 Hz
f_3 (with EQ)	– –	56 Hz
f_{LL}*	60 Hz	50 Hz

*The system can generate 8 acoustic watts 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.

TL806Q Low-Frequency Response

LEVEL dB

Normal
Step-Down (no EQ)
Step-Down (with EQ)

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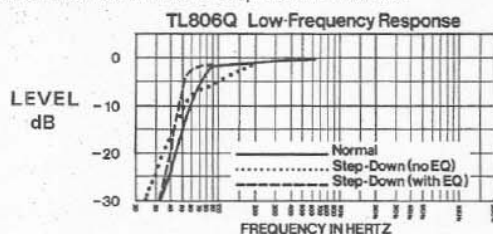
The curve which follows shows the system's low frequency maximum acoustic power output versus frequency. The maximum output is limited by either (1) the thermal power handling capacity of the speaker, or (2) the speaker's maximum linear cone excursion capabilities, whichever occurs first.

TL806Q Low-Frequency Maximum Acoustic Output

dB SPL
(re 20 μ P$_a$)
REVERBERENT FIELD OF 3000 ft^3 (85m^3) ROOM WITH 200 SABINS ABSORPTION (ROOM CONSTANT = 200)

ACOUSTIC POWER WATTS

Normal
Step-Down
(EQ has no effect on max output)
Continuous Long Term

FREQUENCY IN HERTZ

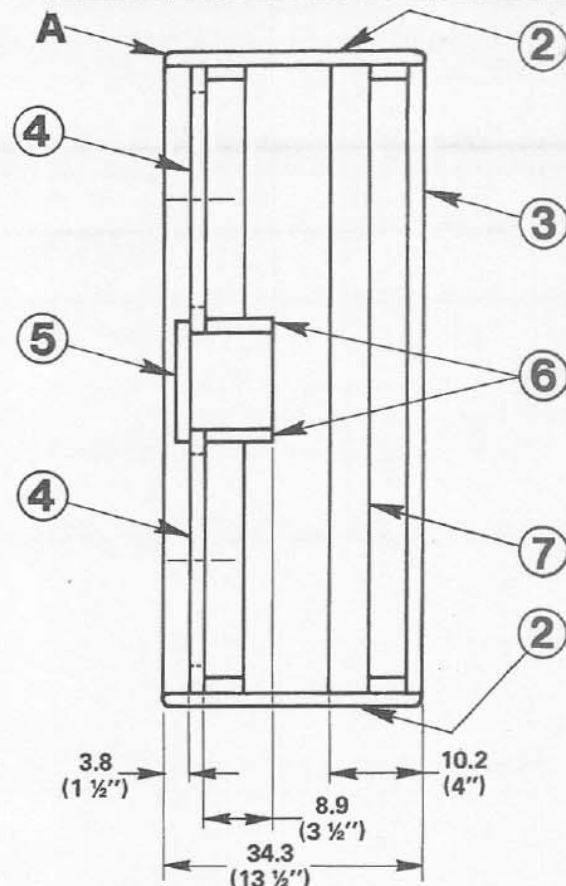Note that some 2 to 3 dB of maximum output in the 80 to 130 Hz range is sacrificed when the step-down mode is used.

The TL806Q input impedance versus frequency is shown in the following graph (normal mode).

TL806Q Input Impedance

IMPEDANCE OHMS |Z| (LOG SCALE)

FREQUENCY IN HERTZ
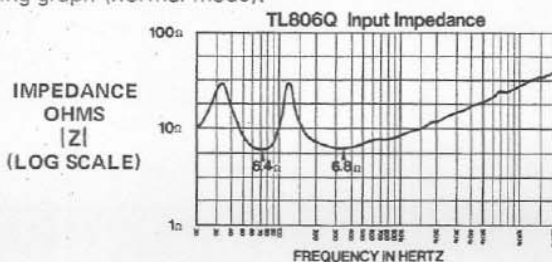
TL806Q
BUILDERS PLANS
(4) EVM·12L, 5.2 cu ft BASS BOX

A

② ④ ③ ⑤ ⑥ ④ ⑦ ②

3.8 (1 ½")
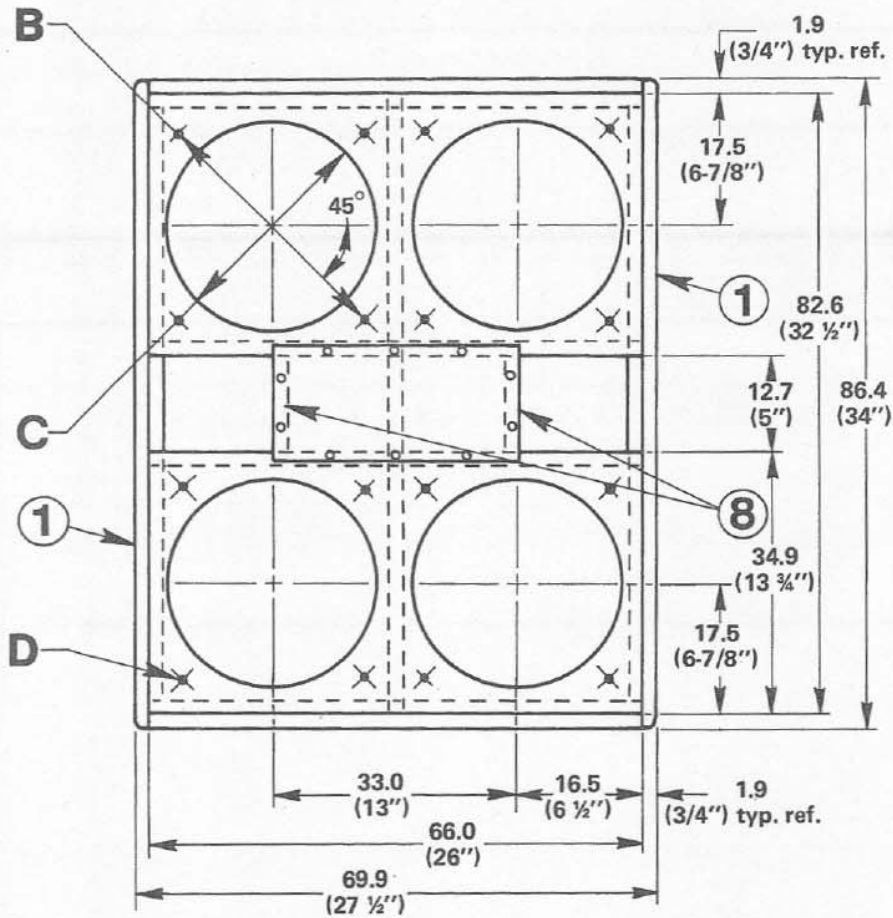10.2 (4")
8.9 (3 ½")
34.3 (13 ½")

SIDE VIEW

CONSTRUCTION NOTES:

1. All joints should be securely glued and nailed (or
2. All joints must be airtight. Seal questionable join
3. Use 1/2" wide weather stripping tape around po
4. Speaker must be mounted from front of cabinet. Electro-Voice SMH-1 mounting kit or 8 each 10- 11-9/16 inch B.C.
5. Handles, trunk corners, and furniture glides or c
6. Input connector should be selected by builder ar
7. Grille not shown.
8. Parts listed and dimensioned in chart below mus proper cabinet tuning.
9. The builder may select material and dimensional
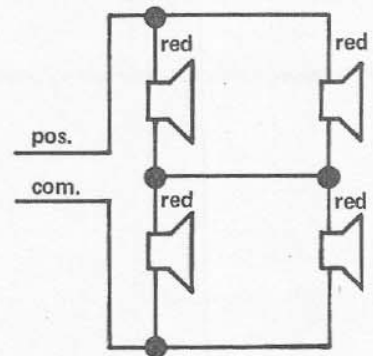10. Line top, bottom, both sides, and back with 3" f block port opening on inside of cabinet.

PARTS LIS

ITEM	MATERIAL	SIZE
1		34.3 (13-1/2"
2	3/4" (1.9)	34.3 (13-1/2"
3	PLYWOOD	66.0 (26") x 8
4		34.9 (13-3/4"
5	OR	15.9 (6-1/4")
6	PARTICLE BOARD	8.9 (3-1/2") x
7		10.2 (4") x 82
8	1.9 (3/4") x 10.8 (4-1/4") Fir	12.7 (5")

ILLUSTRATION NOTES:

A   1.0 R (3/8'') on all 12 edges

B   34.8 (13-11/16'') B.C.
    Typ. 4 places

C   28.1 (11-1/16'') dia. thru
    Typ. 4 places

D   #1/4-20 Long prong tee nut,
    inserted from back side,
    (16 places) equally spaced

1.9 (3/4'') typ. ref.

17.5 (6-7/8'')

82.6 (32 ½'')

86.4 (34'')

12.7 (5'')

34.9 (13 ¾'')

17.5 (6-7/8'')

45°

33.0 (13'')

16.5 (6 ½'')

1.9 (3/4'') typ. ref.

66.0 (26'')

69.9 (27 ½'')

FRONT VIEW

WIRING DIAGRAM

red   red
pos.
com.
red   red

$S_V =$ NORMAL 122.5   STEPDOWN 65 in²

$L_V = 4.25$

apled).
with silicon based caulking compound.
over (item 5) for airtight seal.
ach speaker may be secured by using the
x 1½'' bolts and teenuts on

rs may be added at builders option.
mounted on rear.

onform to dimensions on drawing for

for parts not listed in chart.
rglass insulation. Insulation must not

CONSTRUCTION VIEW

see note 3

TL806Q

	QTY.	REMARKS
86.4 (34'')	2	Sides
66.0 (26'')	2	Top and bottom
6 (32-1/2'')	1	Back
66.0 (26'')	2	Speaker mounting board
33.0 (13'')	1	Port cover
5.0 (26'')	2	Port top and bottom
(32-1/2'')	1	Back panel cleat
	2	Port divider

Part No. 1629 – 622
Litho in U.S.A.
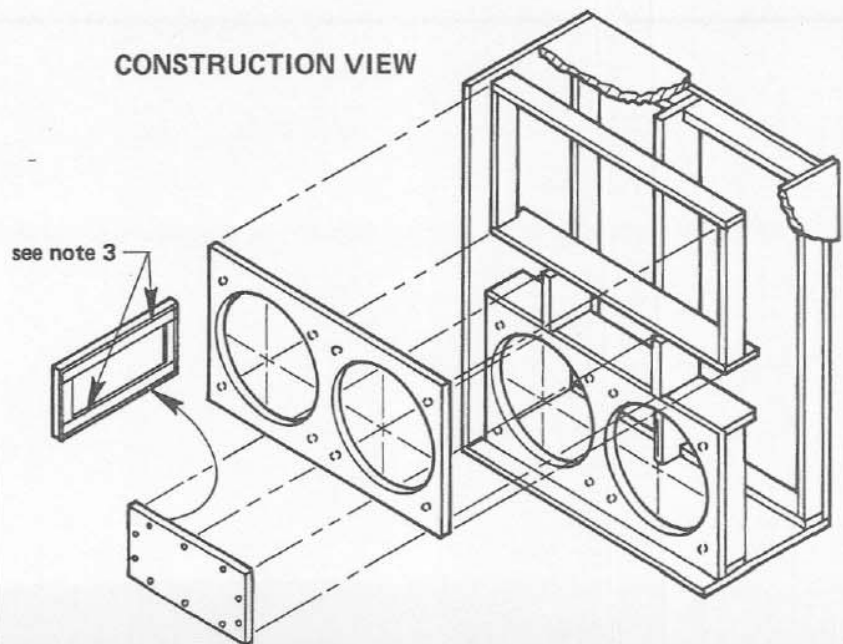
All Dimensions shown in centimeters and (inches).