

Recommended Cabinets for selected CDT Audio drivers in the home environment

Selected Models covered:

EF-8CF

ES-600

HD-6

CL-6

CL-4

HD-4

Definitions:

Vb = Box volume exclusive of vent (if any) and driver volumes

Fb = box tuning frequency

Dv = vent internal diameter

Lv = vent length

F3 = frequency where response is 3 db down

F6 = frequency where response is 6 db down

Modification of port diameters:

Port diameters given are close to the smallest recommended value.

If a port diameter were to be increased from 3 to 4 the port length would be increased by the square of the diameter ratio.

Correcting port diameters to convenient values:

$$L_{v\text{new}} = L_v / ((D_v / D_{v\text{new}}) * (D_v / D_{v\text{new}}))$$

If the port was 15 units long then:

$$\text{New vent length } (L_{v\text{new}}) \text{ is } 15 / ((3/4) * (3/4)) = 26.66 \text{ units}$$

CDT EF-8CF

Subwoofer

Small Vented Box:

$V_b = 9.9L$
 $F_b = 53.2 \text{ Hz}$
 $D_v = 0.068m$
 $L_v = 0.332m$
 $F_3 = 58 \text{ Hz}$
 $F_6 = 49 \text{ Hz}$

Medium Vented
Box:

$V_b = 15L$
 $F_b = 35 \text{ Hz}$
 $D_v = 0.076m$
 $L_v = 0.676m$
 $F_3 = 75 \text{ Hz}$
 $F_6 = 42 \text{ Hz}$

Large Vented Box:

$V_b = 30L$
 $F_b = 30 \text{ Hz}$
 $D_v = 0.076m$
 $L_v = 0.441m$
 $F_3 = 90 \text{ Hz}$
 $F_6 = 30 \text{ Hz}$

CDT ES-600

Smaller Vented Box:

$V_b = 23L$
 $F_b = 56.6 \text{ Hz}$
 $D_v = 0.082m$
 $L_v = 0.127m$
 $F_3 = 52 \text{ Hz}$
 $F_6 = 48 \text{ Hz}$

Larger Vented Box:

$V_b = 30L$
 $F_b = 45 \text{ Hz}$
 $D_v = 0.082m$
 $L_v = 0.196m$
 $F_3 = 50 \text{ Hz}$
 $F_6 = 39 \text{ Hz}$

Sealed Box:

$V_b = 10.9L$
 $Q_{tc} = 0.71$
 $F_3 = 100 \text{ Hz}$
 $F_6 = 77 \text{ Hz}$

CDT HD-6

Smaller Vented Box:

$V_b = 18.2L$
 $F_b = 68.6 \text{ Hz}$
 $D_v = 0.068m$
 $L_v = 0.075m$
 $F_3 = 62 \text{ Hz}$
 $F_6 = 57 \text{ Hz}$

Larger Vented Box:

$V_b = 28.9L$
 $F_b = 49 \text{ Hz}$
 $D_v = 0.068m$
 $L_v = 0.102m$
 $F_3 = 82 \text{ Hz}$
 $F_6 = 43 \text{ Hz}$

Sealed Box:

$V_b = 8.7L$
 $Q_{tc} = 0.71$
 $F_3 = 120 \text{ Hz}$
 $F_6 = 91 \text{ Hz}$

CDT CL-6

Smaller Vented Box:

$V_b = 40.5L$
 $F_b = 39 \text{ Hz}$
 $D_v = 0.068m$
 $L_v = 0.122m$
 $F_3 = 35 \text{ Hz}$
 $F_6 = 31 \text{ Hz}$

Larger Vented Box:

$V_b = 50L$
 $F_b = 32 \text{ Hz}$
 $D_v = 0.068m$
 $L_v = 0.159m$
 $F_3 = 30 \text{ Hz}$
 $F_6 = 27 \text{ Hz}$

Sealed Box:

$V_b = 22.5$
 $Q_{tc} = 0.71$
 $F_3 = 70 \text{ Hz}$
 $F_6 = 52 \text{ Hz}$

CDT CL-4

Sealed Box:

$V_b = 7.8$
 $Q_{tc} = 1.13$
 $F_3 = 78 \text{ Hz}$
 $F_6 = 67 \text{ Hz}$

CDT HD -4

Vented Box:

$V_b = 3.1L$
 $F_b = 88.3 \text{ Hz}$
 $D_v = 0.03m$
 $L_v = 0.064m$
 $F_3 = 86 \text{ Hz}$
 $F_6 = 76 \text{ Hz}$

Sealed Box:

$V_b = 1.5$
 $Q_{tc} = 0.71$
 $F_3 = 150 \text{ Hz}$
 $F_6 = 120 \text{ Hz}$