The E12/E12-D loudspeaker

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The E12 and E12-D are high performance two-way multipurpose loudspeakers employing an integrated coaxial driver with a neodymium magnet assembly. The 1.3" exit HF compression driver and constant directivity horn are accommodated within the circumference of the 12" LF driver. The E12 has an 80° x 50° dispersion pattern (h x v), while the E12-D has a wider 110° x 50° pattern. The horns in both loudspeakers are easily rotatable through 90° without the use of tools, providing 50° x 80° or 50° x 110° dispersion patterns.

The E12 and E12-D can be used for speech and music applications as a stand-alone full range system, or incorporated into larger distributed sound reinforcement situations. They can be mounted on loudspeaker stands or flown from overhead bars, while the multi faceted shape of the enclosure allows use either in a vertical or horizontal orientation as well as deployment as a stage monitor. With the addition of an E15X subwoofer, the E12 and E12-D loudspeakers can also easily reproduce high level music program.

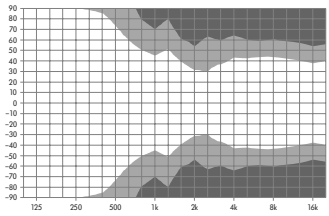
The E12 and E12-D cabinet is constructed from polyurethane integral hard foam with an impact resistant finish. The front of the loudspeaker cabinet is protected by a rigid metal grill backed by an acoustically transparent foam. The grill can easily be removed without tools to modify the horn orientation. The cabinet incorporates a pair of handles, a hidden socket to accept loudspeaker stands and mounted on the rear panel are two EP5 or NL4 connectors wired in parallel.

System data E12/E12-D

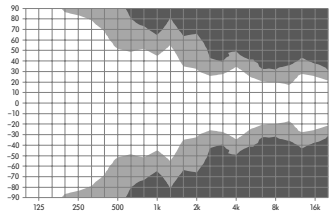
Frequency response (–5 dB).....50 Hz - 18 kHz
Frequency response (–5 dB CUT mode).....100 Hz - 18 kHz
Max. sound pressure (1 m, free field)[1].....
with D6.....131/130 dB
with D12.....134/133 dB
Polarity to amplifier INPUT (XLR pin 2: +/3: –).....LF: –/HF: +

Loudspeaker data E12/E12-D

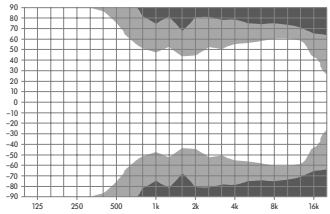
Nominal impedance.....8 ohms
Power handling capacity (RMS/peak 10 ms).....300/1600 W
Nominal dispersion angle (h x v).....80°/110° x 50°
.....rotatable through 50° x 80°/110°
Components.....12" driver with neodymium magnet
.....1.3" exit compression driver with 3" coil and rotatable CD horn
.....Passive crossover network
Connections.....2 x EP5, optional 2 x NL4
Pin assignments.....EP5: 1/2, NL4: 1+/1–
Weight.....16 kg (35 lb)



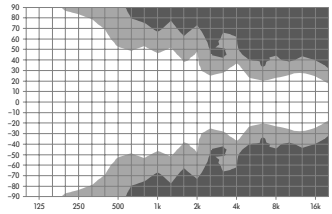
E12 horizontal dispersion characteristics[2]



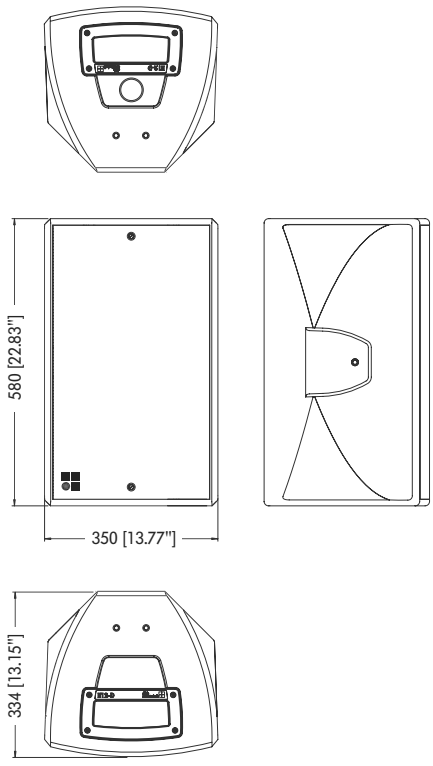
E12 vertical dispersion characteristics[2]



E12-D horizontal dispersion characteristics[2]



E12-D vertical dispersion characteristics[2]

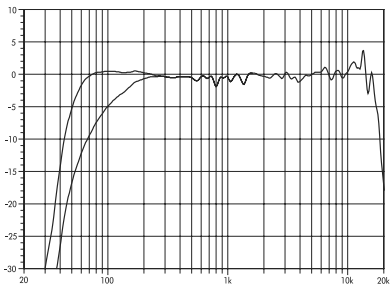


E12/E12-D cabinet dimensions in mm (inch)

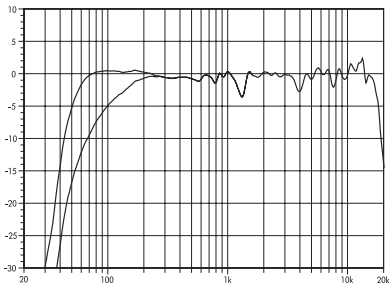
1 Broadband measurement, pink noise, crest factor 4, peak measurement, linear weighting

2 Dispersion angle vs frequency plotted using lines of equal sound pressure (isobars) at –6 dB and –12 dB

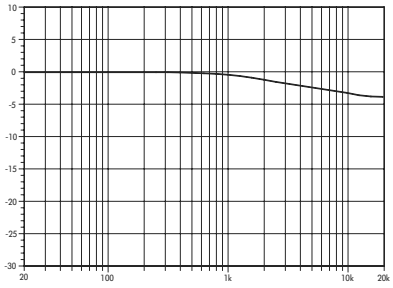
The D6 and D12 configurations



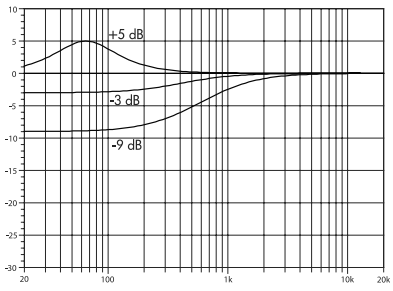
E12 frequency response, standard and CUT modes



E12-D frequency response, standard and CUT modes



Frequency response correction of HFA circuit



Frequency response correction of CPL circuit

E12/E12-D with D6 and D12

Selecting E12 or E12-D configuration in the D6 and D12 dual channel amplifiers enables up to two cabinets to be driven by each channel. In applications with low continuous levels and low ambient temperatures up to three loudspeakers per D12 channel may be connected.

When the D12 is operated in mix TOP/SUB mode the E12 or E12-D cabinet and a respective active subwoofer can be linked together locally and fed by a single 4-wire cable from either amplifier output connector.

The D6 and D12 provide additional setups E12-X and E12-DX that can be selected when the E12 or E12-D loudspeakers are used in combination with the E15X-SUB in passive mode on the same amplifier channel.

For acoustic adjustment the functions CUT, HFA and CPL can be selected.

Set to CUT, the E12 low frequency level is reduced. The E12 is now configured for use with E15X-SUB in active mode or other d&b active subwoofers.

In HFA mode (High Frequency Attenuation), the HF response of the E12/E12-D is rolled off. The HFA provides a natural, balanced frequency response when a unit is placed close to listeners in near field or delay use. HFA begins gradually at 1 kHz, dropping by approximately 3 dB at 10 kHz. This roll off mimics the decline in frequency response experienced when listening to a system from a distance in a typically reverberant room or auditorium.

The CPL (Coupling) circuit compensates for coupling effects between the cabinets when building closely coupled arrays or when the loudspeaker is deployed as a stage monitor. CPL begins gradually at 1 kHz, with maximum attenuation below 250 Hz, providing a balanced frequency response when E12 cabinets are used in arrays of two or more. The function of the CPL circuit in these amplifiers is shown in the diagram opposite and can be set in dB attenuation values between –9 and 0, or a positive CPL value which creates an adjustable low frequency boost around 65 Hz (0 to +5 dB).