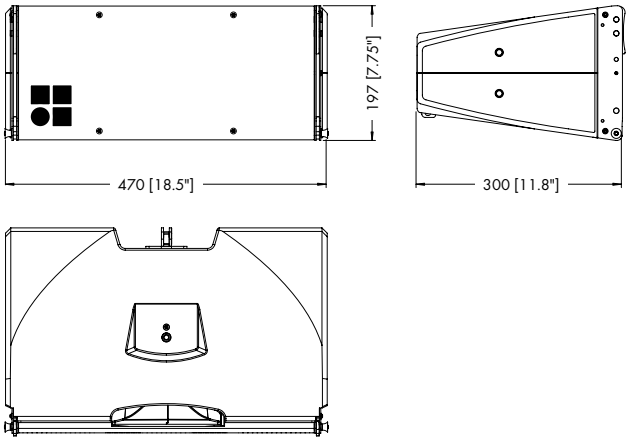
The T10 loudspeaker

T10 loudspeaker

The T10 cabinet is a passive 2-way design that houses 2 x 6.5" drivers, a 1.4" exit HF compression driver and can be either used as a line source or high directivity point source loudspeaker. The very compact loudspeaker design is a unique combination of a rotatable waveguide with horn and an acoustic lens. The horn can easily be rotated from outside the loudspeaker without tools or removing the front grill. This is achieved through apertures at the cabinet sides which allow rotation to both the line and point source positions. It provides a vertical line source with a 90° horizontal dispersion that is maintained down to approximately 600 Hz, whilst the integrated lens in the front grill widens the HF dispersion in line array mode to 105°. When the loudspeaker is used upright as a point source, the lens curves the wave front of the line source providing a 90° x 35° dispersion pattern. The two 6.5" neodymium LF drivers are positioned in a dipolar arrangement providing an exceptional dispersion control even at lower frequencies.
The T10 cabinet is constructed from polyurethane integral hard foam with an impact resistant finish and has integrated line array rigging hardware. The front of the loudspeaker cabinet is protected by a rigid metal grill backed by an acoustically transparent foam. Mounted on the rear panel are two EP5 or NL4 connectors wired in parallel.



T-Series cabinet dimensions in mm (inch)

System data

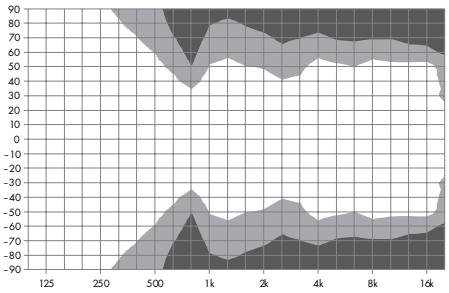
Frequency response (–5 dB, standard).....68 Hz - 18 kHz
Frequency response (–5 dB, CUT mode).....120 Hz - 18 kHz
Max. sound pressure (Line/Arc setup, 1 m, free field)[1].....
with D6.....129 dB
with D12.....132 dB
Max. sound pressure (PS setup, 1 m, free field)[1].....
with D6.....127 dB
with D12.....130 dB
Input level (100 dB SPL/1 m).....–13 dBu

Loudspeaker data

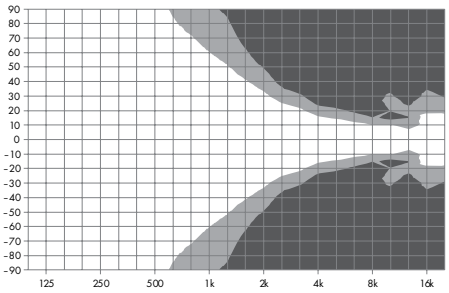
Nominal impedance.....16 ohms
Power handling capacity (RMS/peak 10 ms).....200/800 W
Nominal dispersion angle (line source, horizontal).....105°
Nominal dispersion angle (point source, h x v).....90° x 35°
Components.....2 x 6.5" driver with neodymium magnet
.....1.4" exit compression driver on rotatable waveguide
.....passive crossover network
Connections.....2 x EP5, optional 2 x NL4
Pin assignments.....EP5: 1/2, NL4: 1+/1–
Weight.....11kg (24 lb)

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

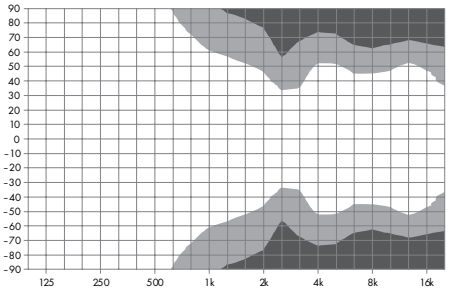
The T10 electroacoustic concept



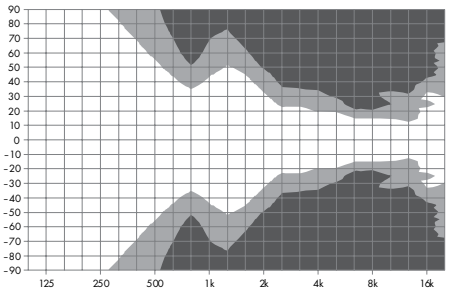
T10 horizontal dispersion characteristics, line source[1]



T10 vertical dispersion characteristics, line source[1]



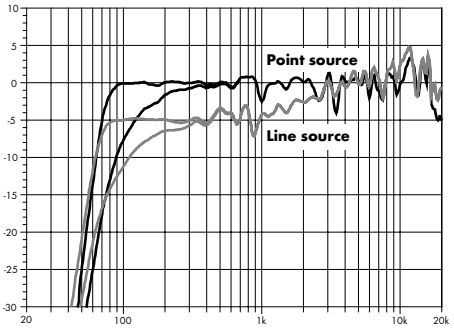
T10 horizontal dispersion characteristics, point source[1]



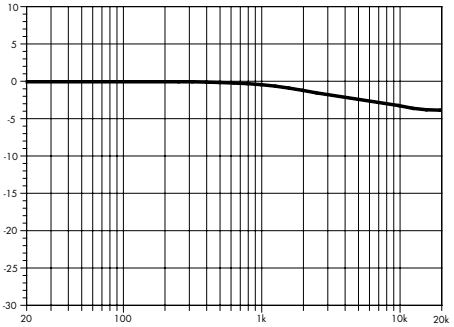
T10 vertical dispersion characteristics, point source[1]

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

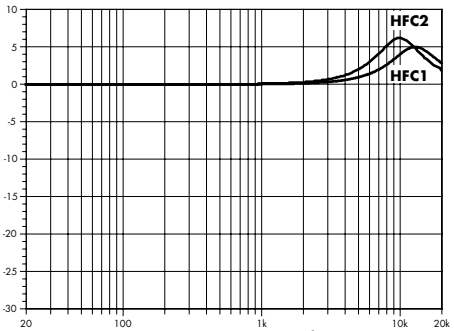
The D6 and D12 configurations



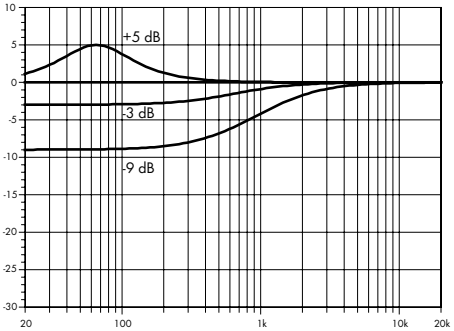
T10 frequency response, standard and CUT modes (single cabinet)



Frequency response correction of HFA circuit



Frequency response correction of HFC circuit



Frequency response correction of CPL circuit

T10 with D6 and D12

Selecting the T10 configuration in the D6 and D12 dual channel amplifiers enables up to four T10 loudspeakers to be driven by each channel. When the D12 is operated in Mix TOP/SUB mode the T10 cabinets and respective active subwoofers can be linked together locally and fed by a single 4-wire cable from either amplifier output connector.

The D6 and D12 amplifiers have three configurations for T10 cabinets, Line, Arc and PS (point source). The Line or Arc configurations are selected when the T10 loudspeaker is used as a line array. The chosen configuration will depend on the curvature of the array. The Line configuration is selected when groups of four or more T10 cabinets are coupled in a straight long throw array section, where the splay angles to adjacent cabinets are 0° to 2°. The Arc configuration is selected when T10 cabinets are used in curved array sections, where the splay angles to adjacent cabinets are 3° or more. Within a typical array both amplifier configurations are used. The PS configuration is selected when the T10 is used as a single spherical loudspeaker.

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

Set to CUT, the T10 low frequency level is reduced. The T10 is now configured for use with the T subwoofer or other d&b subwoofers.

Selecting HFA mode (High Frequency Attenuation, PS setup only), the HF response of the T10 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.

Selecting the HFC (High Frequency Compensation, Line or Arc setup only) circuit compensates for loss of high frequency energy due to absorption in air when loudspeakers are used to cover far field listening positions. The HFC circuit has two different settings, which should only be used for those cabinets covering the following respective distances: HFC1 for distances between 25 m (80 ft) and 50 m (160 ft), and HFC2 for distances further than 50 m (160 ft).

The CPL (Coupling) circuit compensates for coupling effects between the cabinets. These effects increase as the length of the line array is extended. CPL begins gradually at 1 kHz, with the maximum attenuation below 400 Hz, providing a balanced frequency response when T10 cabinets are used in arrays of four or more. The function of the CPL circuit in these amplifiers 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).