



SUB



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Enhancing the Emotional Experience.

Do you know that feeling you get when you experience a large symphony orchestra performing live with large kettledrums? The tingling on your skin when you hear the thunderous surround-sound effects in a movie? To feel as well as hear the deepest natural bass or sound effects, a high performance, well-engineered subwoofer is an absolute must for any advanced multi-channel audio/video or hifi stereo system – deep bass you can not only hear but also feel throughout your body enhances the emotional experience.

But not all bass is truly deep, precise bass. And positioning a subwoofer is not quite as straight-forward as often it is thought to be. The notion that the placement of the subwoofer is uncritical, and that bass can't be localized doesn't really hold true, as correct positioning and adjustment is crucial to achieving an optimized overall performance. Dynaudio has taken this into consideration in the dedicated subwoofer developments. Every Dynaudio SUB model delivers the seamless integration of a perfect audiophile grade subwoofer to complement the advanced performance of a Dynaudio loudspeaker system.





Technology I

High performance drivers

To achieve the same high performance level for the new subwoofers as the full-range loudspeaker offerings, Dynaudio developed completely new proprietary MSP (magnesium silicate polymer) woofers for these models. The new drivers are long excursion designs and in combination with Dynaudio's extremely powerful magnet systems, allow for much longer linear excursion and greater control of the driver diaphragm while also offering superior reliability with increased power handling in the all-important bass region. As with the legendary stand-mount and floor standing Dynaudio speakers, the resulting phase- and impulse-response are near-perfect.

Extremely rigid cabinet

The new subwoofer drivers all feature extremely rigid frames geometrically formed for optimized airflow. This detail is of great significance, as energy otherwise reflected off the rear of the frame would directly interfere with the precise movement of the cone. The contradictory requirements for an open-frame structure, yet one with high mechanical integrity presented a



true challenge – a challenge readily overcome through Dynaudio’s vast engineering prowess. For long-term reliability, the electronics are directly mounted to a massive heat sink, which in turn is integrated into the solidly constructed, resonance absorbing MDF cabinet.

CEC technology

Dynaudio’s engineers also developed completely new, proprietary amplifier modules using the advanced Dynaudio CEC (Cone Excursion Control) technology. The CEC circuitry takes all performance parameters of the drivers into account, and continuously monitors the incoming signal to derive the most efficient and optimum power delivery. As a result, the Dynaudio subwoofers utilizing the CEC technology will play deeper and louder, with higher dynamics and lower distortion than subwoofers quoting even much higher amplifier power ratings.

Remote control

Almost all subwoofers require trips back-and-forth to the subwoofer during setup and tuning. The solutions

on offer in the Dynaudio SUB 300 and SUB 500 models are extremely intuitive, as these models come supplied with a remote control handset through which all subwoofer parameters can be adjusted and set from there where it matters most: the listening position. In these models, output level, phase selection (0°, 90°, 180°, or 270°), cross-over frequency selection (60 Hz, 80 Hz, 100 Hz or Flat), extended bass mode (On, Off) and memory presets (1, 2, 3, 4) are all under direct fingertip control. The four fully programmable presets on the remote can each store all parameter settings into the subwoofer memory. Therefore, it is easy to switch from settings ideally suited to a subtle music concert to those more tailored to a gut-wrenching action film.

Recording engineers handle sub-bass in quite a different manner between these genres, requiring different settings for fully optimizing the playback of each. The presets can also be used to suit a particular listening scenario, e.g. to remain civil with the neighbours, one could also program in a preset suited for late night listening.





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Technology II

The Multi-SUB concept

There is also a consideration to be made for better bass as opposed to strictly more bass. Dynaudio has paid great attention to matters affecting the quality of the low frequency response in the sub-bass region. One qualitative approach is to combine multiple subwoofers into a system to achieve an improved bass response. By incorporating multiple subwoofers in a system it is possible to precisely balance out the unavoidable bass nodes one would typically experience through utilizing a single subwoofer in any given room. Bass notes become less directional, and dynamic headroom is increased, even at extremely high sound pressure levels. With multiple subs, placement close to a wall poses no concern. When using multiple subwoofers in a system, a more controlled, more balanced and more precise sub-bass response is easily achieved, and a substantially larger quality-optimized "sweet spot" is realized. Problems that even expensive electronic room-correction systems or elaborate room treatment could not solve are now easily correctable as well. The most common multiple-sub setup would consist of dual woofers – usually one each positioned adjacent to the left and right mains respectively up front, or one placed up front and another behind the listening area. Either setup will yield a much more balanced bass response when compared to a single sub installation in the same room. The Master/Slave function facilitates doing so in a very convenient manner. More

ambitious systems can be easily comprised - such as 5.5 or even 7.7 multi-channel setups, for example. To facilitate the multiple-sub setup, one subwoofer is defined as the "master" unit and another as the "slave" unit, where the settings for the master subwoofer will be automatically programmed into the slave. A single cable connects each subwoofer to the next, whereby all subwoofers in the chain will follow the settings of the master subwoofer without requiring individual adjustments to the slave units themselves.

Extended bass

The EXT (extended bass mode) function is useful on material containing extreme sub-bass information. As there is very little source material available that will reach these low frequencies, the normal bass setting will provide full performance with most material and at the same time allow for very high sound levels. By selecting the EXT setting on the remote control models SUB 300 and SUB 500, the already impressive low-bass performance of the subwoofers can be further enhanced to extend even deeper when needed or desired, albeit at a slightly reduced maximum output level.

Finest Grade Veneers

With a choice of maple, cherry, rosewood, or black ash real wood veneer, the Dynaudio SUB models will easily integrate into any room or décor.

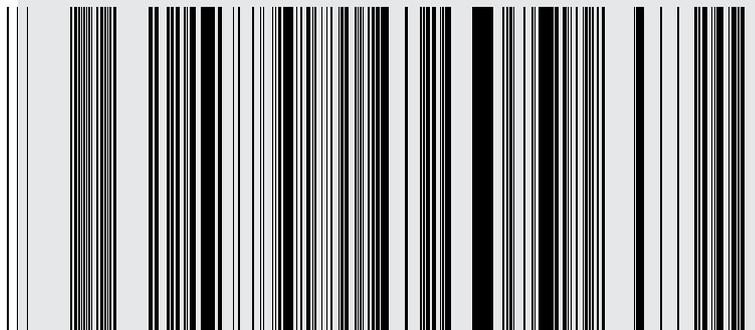


SUB 500

The SUB 500 is the perfect complement for ambitious multi-channel systems where deep and dynamic sub-bass is coveted and true Dynaudio sound quality is desired.

A 12" woofer, featuring a die-cast aluminium frame, is integrated into a metal baffle in a sealed cabinet. Mounting the driver to the cabinet follows Dynaudio's established design principle where a multi-layered sandwich construction is employed: Fusing the thick, stiff metal baffle to the MDF enclosure is a sheet of special dampening material. This construction effectively eliminates any unwanted resonance and serves as the perfect foundation to optimize the fast and powerful transient signals from the driver. It is powered by a 250 Watt amplifier utilizing the innovative Dynaudio CEC (Cone Excursion Control) technology, and features full remote control operation of all adjustments: Selecting level, phase, cross-over frequency, extended bass mode, and the four individual memory presets. Its back panel is outfitted with both RCA and XLR inputs and outputs, the master/slave switch, as well as the memory protect switch.

The subwoofer driver may be concealed from view by the elegantly sculpted removable black fabric grill, which is itself attached to the baffle via concealed magnets.



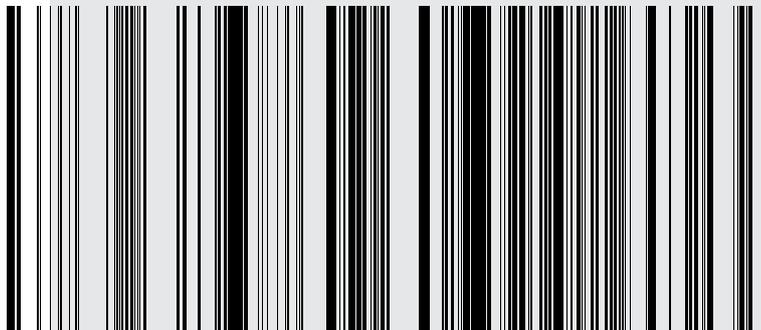
SUB 300

Designed to perfectly complement high-performance multi-channel setups in smaller to medium sized rooms, the SUB 300 brings true Dynaudio sound quality and real deep bass augmentation to any audio-video system in a relatively compact and most convenient to use package. The SUB 300 utilizes a high-tech 10" woofer with a pure aluminium voice coils and a powerful magnet system. It is powered by a 250 Watt amplifier featuring the Dynaudio CEC circuit, and is integrated into the characteristic metal baffle in a fairly compact cabinet fitted with a downward-firing port to deliver even deeper bass extension. The airflow-optimized port was specifically designed for noise reduction by minimizing air turbulence. Dynaudio also provided the SUB 300 with the full feature set of remote control functionality with all adjustments for selecting level, phase, cross-over frequency, or extended bass mode, and the four individual subwoofer setting memory presets. The back panel contains RCA and XLR inputs and outputs, the master/slave switch, and the memory protect switch as found on the SUB 500 model.



SUB 250

A subwoofer serves to provide more to a system than simply add deep bass. Incorporating a subwoofer to augment the low frequency performance of any stereo or multi-channel loudspeaker system offers an additional benefit: by reducing the strain on the speakers in terms of reproducing extreme bass information, the overall quality of midrange frequencies and the soundstage reproduction in general are greatly improved. The High-Pass filter on the SUB 250 crossover enhances the general performance and imaging of the main speakers by reducing inter-modulation distortion. The SUB 250 model is the most compact sub-bass solution from Dynaudio. Utilizing its powerful 10" woofer in a sealed enclosure that measures less than a cubic metric foot, the SUB 250 delivers a very high level of performance in multi-channel or sub/sat applications where only a modest sized subwoofer would fit. Incorporating a 200 Watt amplifier, its back panel features a selectable gain setting, a variable Low-Pass Filter (50 Hz to 150 Hz), and a selectable phase switch (0° or 180°). There is one LFE RCA input and output, as well as an RCA SAT/SUB Input and an RCA SAT output. The SAT Highpass Filter is also selectable (Flat, 60 Hz, or 80 Hz). The band-pass filtered inputs and outputs make it perfectly suited as a mate for any of the Dynaudio compact monitors in a high quality sub/sat stereo system, where it would produce a purely audiophile grade performance.



Technical Specifications

	SUB 500	SUB 300	SUB 250
Frequency Response	18–250 Hz (+/-3db)	25–250 Hz (+/-3db)	29–250 Hz (+/-3db)
Amplifier Power	250 W	250 W	200 W
High-Pass Filter	-	-	Flat/60/80 Hz
Low-Pass Filter	Flat/60/80/100 Hz	Flat/60/80/100 Hz	Flat, 50–150 Hz
Phase adjustment	0°/90°/180°/270°	0°/90°/180°/270°	0° or 180°
Input/Output	RCA / RCA XLR (balanced)	RCA / RCA XLR (balanced)	2 x RCA / 2 x RCA
Drive Unit	12" (30cm), long throw	10" (24cm), long throw	10" (24cm), long throw
Bass Principle	Sealed	Ported	Sealed
Power Consumption	max. 480 W	max. 480 W	max. 325 W
Standby	5 W	5 W	14 W
Dimensions (W x H x D)	360 x 378 x 568 mm 14,2 x 14,9 x 22,4"	320 x 338 x 466 mm 12,6 x 13,3 x 18,3"	289 x 294 x 318 mm 11,4 x 11,6 x 12,5"
Weight (net)	30,5 kg	19,0 kg	10,0 kg

The SUB models are available in a choice of the finest real wood veneers: maple (1), cherry (2), rosewood (3) and black ash (4).

Please note that the images can not give a true impression of the finesse and structure of a Dynaudio cabinet finish.



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