

Lyngdorf DP-1 - Translation from Finnish magazine *Inner World Audio* Issue 6, 1-2009

If one of the three selected speakers does not belong here, it is the Lyngdorf DP-1. You cannot buy it from a dealer, take it home and start to play. Well, you can, but it would not make any sense. The DP-1 is a satellite speaker, which has its own price, but is meant to be part of the Lyngdorf 2+2- loudspeaker setup. In fact, there is hardly much point in using it in any other configurations.

This Lyngdorf 2+2 setup does not only include the DP-1s and two BW-1 bass loudspeakers, one for each channel, but it also encompasses the TDAI-2200 ADC RoomPerfect integrated amplifier and the SDA-2175 power amplifier. There are so many technical features in the 2+2-system that it deserved its own dedicated broad assessment. However, the flower or vase like DP-1 is clearly designed for people who not only have an interest in sound reproduction but also in decorative factors. Thus, the DP-1 clearly qualifies as a Danish representative for this article.

The DP-1 is a dipole speaker. At Lyngdorf, it is taken for granted that the biggest sound colorations come from the loudspeaker enclosures and from the listening room. The former type of colorations are being avoided with a dipole speaker. The non-rectangle shape of the baffle is partly explained by the fact that the manufacturer has visually sought to highlight the missing loudspeaker enclosures. The baffle is made of 30 – 50 mm thick MDF painted in piano black. The steel feet keep the speaker firmly upright and provide a home for the DP-1 crossover and its connectors.

The mid-range driver is a 6,5" SEAS with a cone made of magnesium and suspension made of natural rubber. Thanks to the stiff cone, the driver is said to produce distortion far above its performing range, where the nonlinearities will be filtered. The basket is also made of magnesium. Instead of a regular dust cap, a metallic plug is used, which among other things levels out the heat variations of the voice coil. The tweeter is from the well-known Scan Speak Revelator series with some minor changes.

The frequencies below 300 Hz are reproduced through the passive Lyngdorf BW-1 BassDirect speakers with a 10" element in a closed cabinet. Lyngdorf calls the BW-1 a bass speaker and not a sub woofer; one reason being its broad frequency response.

The BW-1 is designed to be placed in a corner of a room (or at least close to the back wall) and on the floor – i.e. in some sense the worst position one can think of. Lyngdorf argues for the corner position by referring not only to the increased acoustic power and to the lesser effect of standing waves in the room, but also to the fact that the first floor/wall reflection will arrive at the listening spot around the same time as the direct sound. On the other hand, the daring positioning of the bass speaker tells us that the manufacturer has more tools to control the sound, most important of these: the TDAI-2200 integrated amplifier.

The TDAI-2200 ADC is a 2 x 200 W digital amplifier (2 x 375 W/4 ohms) to which, thanks to its sophisticated AD-converter, analogue sources can be connected as with normal stereo amplifiers. However, unlike the SDA-2175 power amplifier that drives the BW-1 bass speakers, the TDAI-2200 is not a common switching power Class-D amplifier. It is different in that it uses a fixed 400 Hz frequency pulse modulation, where the Equibit modulator converts the digital PCM-signal straight to a PWM-signal without DA-conversion or feedback.

Also, the TDAI-2200 is much more than just an amplifier; it is a complete digital signal processing control centre with an active cross-over for the bass speakers and room correction. With its room correction function, one can attack the second major source for sound colorations, the room. The amplifier comes with a microphone with which the system is measured from several spots in the listening room. The TDAI-2200 then corrects the frequency response on the basis of the measurement data, either to the listening position or more globally. The TDAI-2200's room correction program resembles that of the renowned TACT amplifiers.

It should be clear by now that even though the header reads DP-1, the evaluation entails the whole 2+2 system with the BW-1 bass speakers, the TDAI-2200 ADC RoomPerfect integrated amplifier, and the SDA-2175 power amplifier. The CD player was the Lyngdorf CD-1. The listening

room was small, around 20 m², almost square-like and with a slanted ceiling. In other words, it was far from an ideal surrounding for an objective evaluation of such a dipole system.

What was good with the listening room was that it showed what kind of influence a room correction can have on an acoustically problematic room. Briefly put: the influence was decisive. Without a room correction, the sound was just as colored as expected, especially given the positioning of the BW-1 bass speaker in the corner. With the room adjusted, the sound cleared up and leveled out significantly. The measurement was made from eight points, taking the distances between the speakers into consideration. The system used up 90 % of the adjustment possibilities, which shows how challenging the room was. Intuitively, the less adjustment, the better it is for the sound, even if the response was as smooth. All in all a great demo and a fresh reminder to all those audiophiles who think they can manage without taking the influence of the room into account.

The sound did not only become smoother, the spatial information on the record was better revealed too. The potential of the speakers to create a three-dimensional sound stage was more obvious, even though there still was some faltering in the sound. The wide dynamics of classic music was also easier to sense. The system seemed to like the amplifier output. The basses of the system dropped surprisingly low down and with force. The highest sounds of the music were also easier to pick out from the adjusted sound, even though the DP-1 did not emphasize the treble end in any way. As a whole, the adjusted sound made a lot of sense.

The tone color of the sound was a colorless grey. This is a third way of being neutral, perhaps the most extreme of those tested. It was just as if the description by Lyngdorf themselves of the sound of their TDAI-2200 amplifier - "It has no coloration, no sound of its own" – was heard through all the adjustment and filtration.

Even though the room correction takes the time lag between the speakers into consideration, the adjustment itself is only concerned with the frequency response. In a sense, a system that equalizes the frequency response makes the listener to listen to the sound through the frequency response, leaving other properties of the sound to lesser attention. With this in mind, the 2+2 Lyngdorf system is in one end of the scale on which the low output SET amplifiers with cross-overless wide bandwidth speakers are in the other end. In this respect, both the Marten Form and Amphion Prio 620 are closer to a traditional HiFi speaker.

But once again, one needs to keep in mind that a speaker that takes design aspects into account, performs better without excessive action in any direction. And this is exactly how the DP-1 & BW-1 combination, along with their helpers, function. With the help of this combination, someone who likes musical and visual experiences can be certain to receive a sound without errors of typical non-treated rooms and which most probably suits a wide range of music.