



# A MENACING PHANTOM?

Devialet's „Phantom“ Wi-Fi active speaker has been turning heads since its launch announcement. But does this unusual design threaten established High End thinking?

**W**e've rarely seen a product as polarizing as Devialet's Phantom: some revel in the power and uncompromising design of the Wi-Fi system, while others object to the challenge to our understanding of "High End" presented by such a "sphere". The familiar blogs and forums are jam-packed with discussions and comments, and we're happy there's such controversy, due at least in part to the anything but shy communications

of the manufacturer from Paris. After all, as long as people argue over HiFi in general and High End in particular, the topic is alive – so we really could some more thought-provoking products.

However, one effect of all the 'debate' is to give the Phantom an aura that makes an objective assessment all the more difficult. That's a shame: when you look at the Phantom soberly and without prejudice, you'll find a wealth of technical

sophistication and innovation, which in itself is quite extraordinary.

As Devialet's Italian Sales Manager Giovanni Menato told us a few weeks ago when he visited, the Phantom concept was the original trigger for the foundation of the company. At the time, almost ten years ago, the transition from the iPod to the iPhone occurred and it dawned upon the French that design-oriented, but especially network-capable, HiFi compact

systems would soon conquer the hearts of the mobile generation.

However, development was repeatedly put on hold since the technical capabilities didn't yet exist to integrate the desired wattage and sound performance in such a compact device. For this reason, it was with amplifiers – especially the D-Premier we presented in STEREO 4/2011 – that Devialet made its market debut.

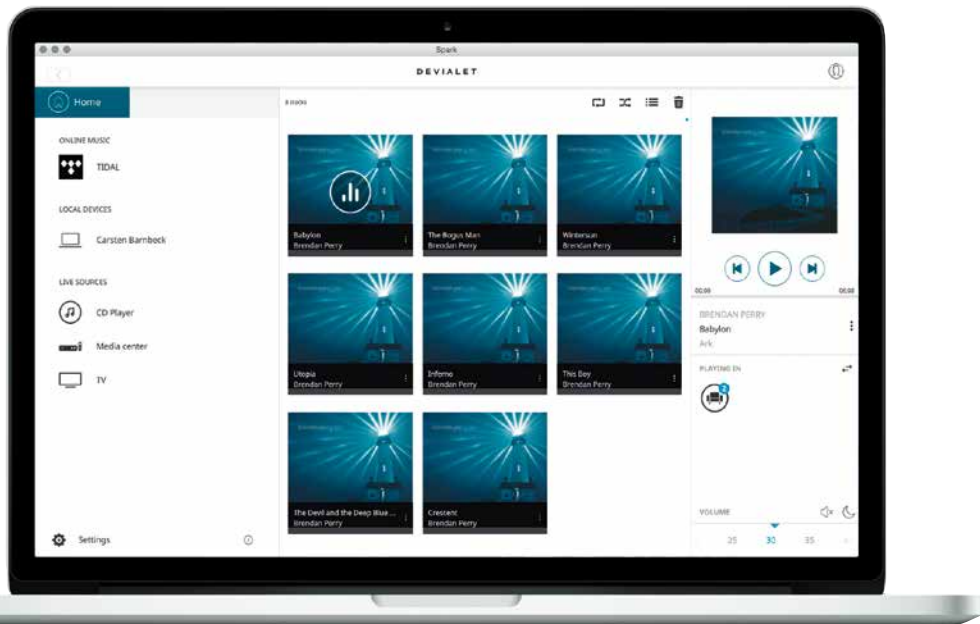
The turning point was ADH technology. The acronym stands for “Analog/Digital Hybrid” and it pretty much says it all: the Phantom, like the company's amplifiers, is based on real Class A design, which (according to the developers) bears major responsibility for the sound of the active speakers. However, as the preamp is completely digital, the processors already know what requirements the next impulse will bring long before the Class A power amp finds out: Devialet uses this time delay to muster up help if necessary. If required, several parallel class D amps kick in and pump out additional power into the speaker cable.

In principle, ADH follows the same route as Musical Fidelity did with its “Supercharger” 550K power amps: the character of a small amp is used, boosted by downstream performance monsters. The Phantom Silver we tested together with its boosters reaches a total output of up to 3000 Watts. The smaller model (about 1690 Euros), simply called Phantom, makes do with ‘only’ 750 Watts. But ADH goes further, the linearity and speed of Class A, the power of the switching amp, and the intelligence of fully digital signal processing meshing seamlessly.

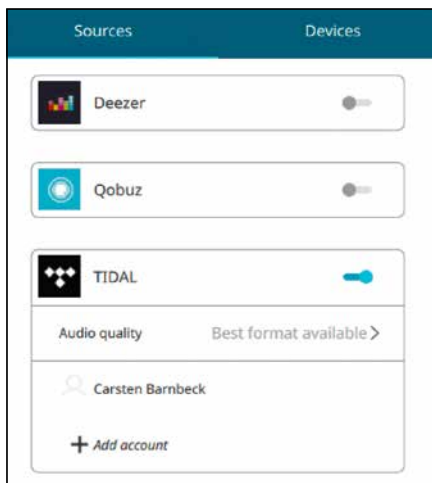
However, the remarkable thing is not the technical logic in itself but its spatial implementation: the entire circuitry – not including the Class D cells – is housed on a chip surface of only one square centimeter.

**A “Class A/D” amp**

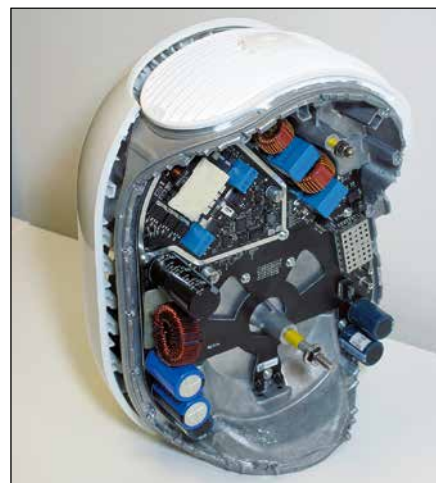
Devialet's second core technology is SAM (Speaker Active Matching), introduced in the amplifier line some two years ago



▲ Well-organized and intuitive: ‘Spark’ guides the user through the setup of the Phantom and manages all settings.



▲ Deezer, Qobuz, Tidal, and others are integrated into the speaker. The services can be managed jointly in playlists.



▲ Compact construction: The bass drivers (not depicted) are mounted on a central metal bar directly over the signal circuit boards.

and using software to correct any linearity foibles of the speakers being driven. In the Phantom, SAM not only takes into account the frequency response of the drivers but also the entire behavior of the acoustic system, both ensuring the drivers' linearity and at the same time monitoring their impedance and maximum load capacity. The correction thus works on both preamp and power amp sections, ensuring the drivers aren't overloaded by the power of the booster amps.

This sensible system will certainly extend the life of the active speakers, but has the effect of making it impossible to

measure them precisely. As soon as we ran loud, wide-band white noise through the Phantom, they regulated down. We were unable to tease more than 87 dB of sound pressure out of them this way – one of many arguments why we are presenting these active speakers without a rating. But don't worry about the volume: with real music, the conditions are different. The initial kick of a bass drum or the percussive impact of a guitar live in a narrow frequency band, and the Phantom drove such impulses with impressive levels of more than 100 dB.

Another technical trick in the



◀ The pedestal of the Phantom is optional and costs 700 Euro (per pair).

repertoire of this musical marble is HBI, “Heart Bass Implosion”, described by the manufacturer as a method of simulating large speakers in a small housing. This system isn’t focused on a single algorithm but rather is a comprehensive concept including filters and the entire construction of the Phantom.

The active speaker is mounted in a perfectly worked metal housing, at the core of which is a massive aluminum beam: after the chassis and circuitboards are mounted to this, there’s less than six liters of displacement left. The Phantom compensates for this missing ‘lung capacity’ not just with its power, but also with the untiring work of its two deep-midrange drivers. They manage to move an air column of almost 2 cm in every direction and are thus able to shift a lot more air than you would believe.

On the other hand, their extraordinary mobility makes an open construction impossible since the breathing noises of the bass reflex opening would become unmistakable. The glued housing thus hermetically seals the interior of the Phantom, and while there has been a lot of speculation over the extraordinary pressure in the speaker, Devialet itself lists it as 10,000 Pascal. 10,000: that sounds like a lot, but when you consider that this value is the equivalent of 0.1 Bar, or less than 1.5psi (and a bit less than in a normal balloon), things get markedly less impressive. Still, Devialet says the demands on the deformation stiffness of the aluminum membranes are higher than in normal speakers.

In addition, the suction and pressure effect of the closed system has a damping effect on the drivers: SAM also takes these parameters into account, and does so well: the Phantom manages a claimed frequency range from 16 Hz to 25kHz.

Since the two in-phase bass drivers face each other exactly, their forces almost completely cancel one another out, which makes the housing extremely quiet. Another nice construction detail is the lack of sharp edges, which reduces surface and edge reflections to an absolute minimum. So the undeniably successful design of the Phantom does not only have visual benefits.

### Set It Up!

Before you can listen to music, you have to guide the active speaker through a setup. This is done using the “Spark”, software offered for Windows, OSX, Android, and iOS, and also allows the selection of the Phantom’s various configurations: you can run it as a mono system or group several into a stereo pair, for which you’ll need the “Dialog” communication device, at about 300 Euro. This small box can address up to 24 Phantom speakers and thus supply 12 stereo sets in the entire house with signals or run five stereo and 14 mono systems, the communication being achieved via the local home network.

For the optimal sound, one should connect all Devialet products to one router, but you can also do it over Wi-Fi, and the

#### KEYWORD

##### No UPnP:

The data are indexed directly by the remote app, which makes operation faster and smoother than with UPnP.



▲ The optional remote control only controls the volume. Source selection is handled by the app.



The Dialog regulates the communication of several Phantoms with each other. By the way: the USB jack only serves for updates. ►



Phantom even has Powerline networking built-in. Dialog checks the connection quality of all options and selects the optimal one.

The Phantom accompanies its setup with an almost meditative sound curtain and an occasional pumping of the bass drivers, and once in a while you have to touch a sensor on the speaker to activate it, meaning the user always knows which speaker is being configured at any one time. Once all units are registered, you can associate them with the desired zones and playback channels via clicking and dragging on the app. If all that sounds laborious, it isn't: the installation is well thought out and took us just about four minutes.

At first glance, the Phantom has just a few inputs: in addition to LAN/WLAN it receives aptX Bluetooth, and each speaker and the Dialog has optical inputs (max. 24/96), so you can connect up to three digital playback devices to the stereo set. OK, that's not exactly connection overkill but, since the network connection includes web streaming – including Deezer, Qobuz, Tidal, and Spotify Connect –, the speakers actually offer quite a lot.

However, there's no simple UPnP to help you on your home network: instead, you have to tell the system in which index of the NAS your music is stored, after which the indexing and data transfer is handled by the Phantom itself, this working very well, even recognizing and tapping iTunes libraries. All the usual sound formats up to 24/192 are accepted, but DSD is not supported at the moment.

Apart from the clinically white surface, which is certainly a question of taste, Spark is one of the best organized and fastest remote app solutions we have come across: we had not one glitch or connection disruption and were able to use the program quite intuitively. Via individual control windows one can name the speakers (useful for Bluetooth pairing) and deactivate unused optical inputs and, after a few days' use, we can conclude that Devialet's concept is also well-rounded in terms of functionality.

### Active speaker with character

In the sound booth we were astonished especially by how lively, responsive, and relaxed these handy Wi-Fi speakers were. The Phantom reproduces impulses extremely cleanly and deep bass frequencies pound down into your stomach, while the spread of sound has something pleasantly spherical about it, and does an excellent job of filling the space. Despite good localization of voices and instruments it can't compete with the focus and clarity of a fully-grown floorstanding speaker, but in view of its special chassis arrangement it does sound surprisingly three-dimensional.

In fact, it makes sense to put some effort into the placement and angling of the speakers since they are sensitive to both of these factors: this is now simplified by the recent availability of stands, at 750 Euro a pair. However, if we had to find a weakness, we would probably mention its loudness effect, although this has been adjusted as to complement the vibrant sound, allowing the Devialet to sound assertive even at low volumes.

Is the Phantom the herald of a rethink of classical hi-fi thinking? That's is a question of perspective: if you're happy with your High End combination, you're unlikely to be tempted, not least due to the limited connection possibilities (no analog in). However, for a new generation of music lovers who use digital media and mobile devices every day, this could be a tailor-made solution, and a

milestone in moving such buyers beyond the sound level of murky BT speakers. As I said, one thing is sure: this is a speaker design likely to divide opinion.w

*Carsten Barnbeck*

### DEVIALET PHANTOM SILVER



Price: ca. €3980 per pair,  
Warranty: 2 years  
Contact: Audio Components  
Tel.: 040/401130380  
[www.audio-components.de](http://www.audio-components.de)

Perfect design, superb operation, and flawless sound. Devialet's Phantom really is a dream system for every sworn „mobile media“ user.

#### CONCEPT/EQUIPMENT

Wi-Fi active speaker with 3000 Watts, plays all formats (max. 24/192) via LAN, WLAN, or DLAN, web radio, one optical input (max. 24/96), „Dialog“ (299€) couples up to 24 Phantoms into a multiroom group, free remote app „Spark“

#### STEREO - TEST

DESIGN	★★★★★
OPERATION	★★★★☆
SOUND	★★★★☆