

AUDIO TEST

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TEST PDF
VELODYNE ACOUSTICS DEEP WAVES 1

9 x LAUTSPRECHER VON EINSTIEG BIS HIGH END

TRAUMWANDLER

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DYNAUDIO FOCUS 30

High End Aktivbox mit Dirac Live Raumeinmessung



STREAMING-DUELL

Cambridge Audio MXN10 und Rotel S14



KOPFHÖRER-TEST

4 verschiedene Konzepte im Vergleich: B&W, JBL, JVC & Sennheiser



Velodyne Acoustics Deep Waves 12

High swell

Velodyne's new Deep Waves 12 subwoofer promises enormous levels and a present performance as well as extensive customization options. An extensive app control rounds off the package. In this test, we will find out whether the Velodyne Deep Waves 12 will also make waves in a home theater.

Simon Mendel



The subwoofer manufacturer Velodyne Acoustics was founded in 1983 in Silicon Valley, USA. In the same year, Velodyne attracted attention with a new type of technology that later

led to the ULD-18 subwoofer and earned the manufacturer the 1984 Special Engineering Award. Since then, many innovations have followed from the low-frequency blacksmiths, such as a sub-

woofer with a distortion factor of less than 0.5% in 1998 or the first automatic room calibration for subwoofers in 2003. But Velodyne has also earned its name outside of acoustics. Velodyne Acous-

tics has been developing lidar products since 2005. A kind of radar system with laser technology, if we break this complex issue down to the absolute simplest. Incidentally, "Velodyne Lidar" has been spun off since 2016 and operates as an independent company. But Velodyne is also active on the high seas. For example, Velodyne Marine developed a ship called the „Martini“. The special feature here is the active suspension with self-stabilization of the boat, so that not a drop should be spilled on board even in high waves.

But that's it from our digression into Velodyne's breadth of business. Back to the subject of audio and Velodyne Acoustics. Mansour Mamaghani – Managing Director of Audio Reference, Velodyne's longstanding distributor in Germany – has been the owner of the US audio brand since 2019. This is also the reason why Velodyne Acoustics moved its headquarters to Hamburg in 2021.

The Velodyne subwoofers are regular guests here in AUDIO TEST and we are happy to be able to get to know the brand new Deep Waves 12 better for this test. This was presented alongside a number of other new models from Velodyne at the Integrated Systems Europe (ISE) 2023 in Barcelona and promises enormous levels with a comparatively small driver size of 12 inches. When developing the Deep Waves 12, Velodyne drew on the good experiences with its ultra-compact MicroVee X series.

The look

The Velodyne Deep Waves 12 is housed in a fairly simple matte black MDF case. The 12-inch driver is mounted on the front. A fabric cover can be attached to protect it from external influences. The connections and controls are then

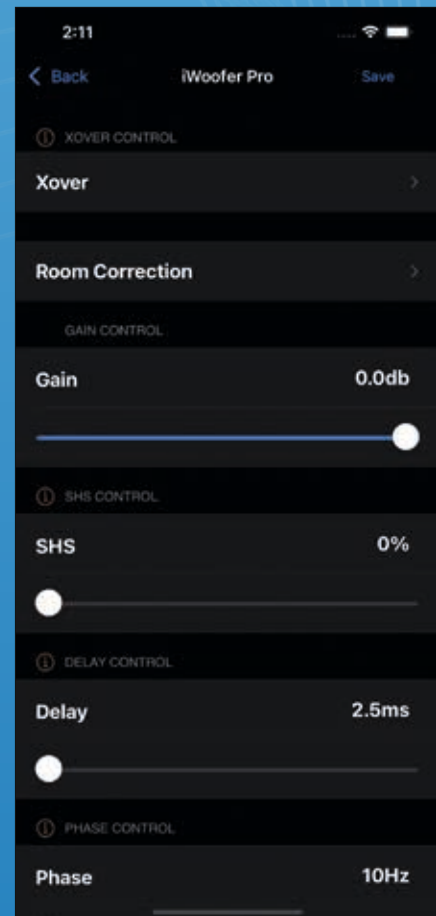
located on the back. The Deep Waves 12 features gold-plated RCA low-level inputs and nickel-plated high-level inputs for speaker cables. A pair of cinch sockets are available on the output side. The volume can be adjusted using the rotary control on the back, similar to the crossover frequency. We can turn the phase by 180 degrees using a toggle switch in order to adapt the sound waves of the subwoofer to those of the main loudspeakers. Another toggle switch is labeled „App DSP“, which switches the remote control on or off using the iWoofer app. But more on that later. You can also activate the „Autopower“ mode, in which the subwoofer switches off automatically as soon as there is no signal for several minutes.

Technical details

The built-in basket driver has a high deflection and is double-ventilated. The membrane is made of polypropylene. The voice coil has four layers and is 63 millimeters in size. Two 12-inch passive radiators on the side also help the driver to ensure the widest possible depth. Inside the Deep Waves 12 subwoofer, a class D amplifier is responsible for driving the home cinema speaker and achieves an output of 400 watts RMS. This ensemble achieves a frequency response of 25 to 180 Hz. The crossover frequency can be adjusted between 50 and 180 Hz.

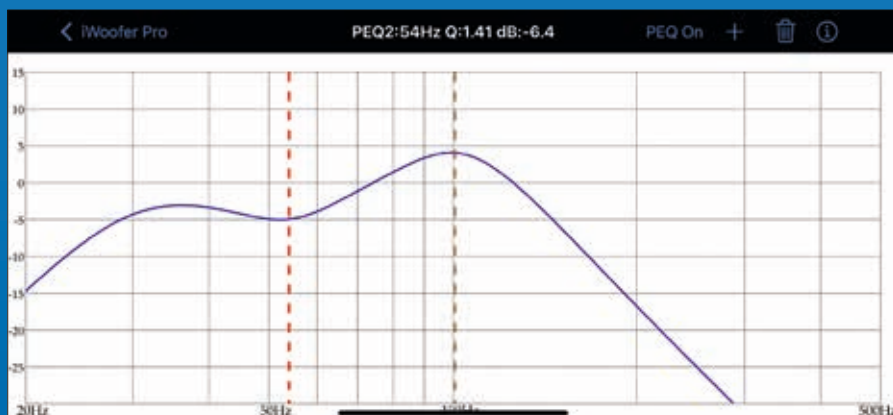
App control

Much of the subwoofer's control is done through the iWoofer app. This is available free of charge for iOS and Android devices. There is also a Pro version that costs 5.99 euros and allows room measurement, but only iOS devices are supported. This is probably due to the fact



The app control allows a room correction as well as the control of the delay and the phase – very handy

that as an app developer you never really know exactly which individual parts are installed in Android smartphones. It is therefore never entirely clear what the sound quality of the microphone in Android devices is. We also know this from apps from other manufacturers in the hi-fi sector. With Apple products, on the other hand, the technical details are largely known. As Velodyne informed us, all customers who register after a purchase of the subwoofer and email a copy of the invoice to the manufacturer will receive a voucher for the Pro version of the app. The iWoofer app may not be the most elegant of looks, but it turns out to be quite a practical solution. Registration or login is required. Pairing with the subwoofer via Bluetooth and is easy. If the two devices are now connected, the phase and the crossover frequency can be continuously fine-tuned in addition to the volume. The latter in particular takes a little practice, but then the tuning works quite well. You can also add a subharmonic synthesizer using the iWoofer app. This generates harmonics at half the frequency



The room measurement feature of the iWoofer Pro App costs 5.99 euros, but customers can get a voucher for free



On the back of the Velodyne Deep Waves 12 we can adjust crossover, phase and of course the volume. An automatic power-off can also be activated

of the original signal. These undertones basically work as "bass restoration" for songs with weak bass.

Practical test

As is well known, Velodyne subwoofers are not only used in home cinema. They also want to provide the bass foundation for music and gaming. So we first hear ourselves through a wide variety of playlists and genres. Here the Velodyne Deep Waves 12 cuts a consistently good figure. It snuggles up very subtly and with a lot of power under the sound of the main loudspeakers. We even had to turn down the volume of the subwoofer several times, since the Deep Waves 12 is quite voluminous even at low levels. Every bass hit is precise and powerful. The subwoofer can be very powerful, but always tasteful. It also sounds very balanced at higher levels thanks to its balanced frequency response.

Now let's move on to the movie section. Among other things, we watch the superhero blockbuster "Spiderman: Far From Home". Director Jon Watts' action

film was released in 2019 and follows the events of the same year's "Avengers: Endgame". The film begins quite leisurely and rich in dialogue. When the first fights, explosions and the orchestral soundtrack start, you immediately realize what the Deep Waves 12 is capable

SUMMARY	
The Velodyne Deep Waves 12 combines precise and enormously powerful bass with extensive app control. Whether music or film sound, the low-frequency foundation generated by the subwoofer is always voluminous and very tastefully reproduced. We recommend home cinema professionals to use the Pro version of the iWoofer app with an additional room measurement feature, for which customers receive a voucher when purchasing the subwoofer.	
FEATURES	
<ul style="list-style-type: none"> • Control via iWoofer app • Subharmonic synthesizer 	
Advantages	+ powerful performance, even at low levels + very precise
Disadvantages	- none

of. The subwoofer sounds big and effortlessly fills our listening room (40 square meters) with powerful bass. The explosive battles typical of superhero epics are staged impressively and with enormous depth. The Deep Waves 12 sounds titanic and stylish at the same time. With rich and clean bass, the subwoofer offers the right low-frequency foundation for every situation and does not shy away from high levels. Thanks to the two passive radiators, the subwoofer has enormous depth and sounds very balanced. The Velodyne Deep Waves 12 is flexible and versatile - a real all-round sub. In addition, the iWoofer app is a powerful tool that allows the user to personalize the subwoofer quickly and easily. ■

FEATURES	
General	
Device class	Subwoofer
Price band	Upper range
Manufacturer	Velodyne Acoustics
Model	Deep Waves 12
Price (EIA)	1 899 Euro
Dimensions (H/W/D)	41 x 48 x 41 cm
Weight	25 kg
Information	velodyneacoustics.com
Technical Information (manufacturer)	
Method of operating	Active
Construction type	Closed
Frequency response	25 - 180 Hz (± 3 dB)
Power	400W RMS
Connection to source	Analog
Room recommendation	20 m ² - 42 m ²
Individual sound adjustment	Crossover frequency
Inputs	2 x cinch, 1 x speaker cable
EVALUATION	
Bass reproduction	65/70
Reproduction quality	65/70
Equipment/workmanship	8/10
User-friendliness	8/10
Appreciation/Depreciation	+3
Interim result	84 of 90 points
Price-performance	Good 8/10
Result	Excellent 92%

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