

P TWO – digital power pack from Helix



Chip, chip, hooray!

► With the new P TWO, Helix extends its P-series by a two-channel amplifier, which impresses with enormous channel power. We examine what you can do with the P TWO.

By 2016, upon release of the P SIX DSP MK2, at the latest, Helix has proven that it is perfectly possible to interpret the „small digital amp“ subject in a different way than the mainstream. Instead of offering „merely“ performance in a minimum of space, the P SIX from the onset claimed a high-end position and addressed demanding music listeners, to whom size and practical aspects are not the only important issues. The first success in meeting this demand was achieved by the P SIX thanks to chip amps, i.e. power amplifier ICs, which are more likely to be found in

low-cost designs than in high-end amps. This was made possible by the latest generation of chips from Texas Instruments, which Helix's mother company Audiotec Fischer meanwhile has entered into development cooperation with. And now comes the P TWO. Of course, in the same noble housing as the P SIX DSP; however, it does not contain any signal processor and is rather meant as an extension

The amplification is to be found in the lower half, the powerful amplifier chips are located on the heat sink underneath the circuit board





In addition to speaker level inputs and RCAs, the P TWO also processes digital signals via the optical S/PDIF input

of the P SIX, even though it also cuts a fine figure on its own as a two-channel amp. For direct connection to a digital signal source, the P TWO has been provided with an optical S/PDIF, which can either operate through the crossover of the P TWO or lead directly up to the output stage. It is equipped in a very refined way with a low-noise 32-bit D/A converter. Apart from this, we once more find a quite cleverly designed power supply, which even belongs to the regulated kind, i.e. keeping the rail voltage constant (almost) independently of the supply voltage. The output stage is realized in the same way as for the P SIX by „Ultra HD Class D“ ICs, one each per channel. These ICs are characterized by their extended bandwidth. They have been specially developed for HiRes audio – our P TWO consequently operates up to over 80 kHz! The power chips are originally two-channel ones as in the case of the P SIX, and in the P TWO both internal channels operate on one output channel in parallel mode. This yields an enormous power output down to 2 Ohm, but it also results from this that the P TWO cannot be bridged. So if you want to drive a subwoofer, you should connect one with a double voice coil for stereo operation. Or right away operate two woofers, which the P TWO can easily handle. For the real sensation is its performance! In our lab the device achieves 292 watts into 4 ohms and 2 x 486 watts into 2 ohms – and all of this with two small amplifier ICs! Especially considering the HiRes bandwidth and the 456-kHz PWM rate, this is really sensational because normally you get either wattage or bandwidth but not both. And this power is even very neatly produced. At low power levels, the distortion drops below .01 %, and even with half-load, the P TWO's value is as low as .04 %. The damping factors and residual noise obtain equally satisfactory results.

Sound

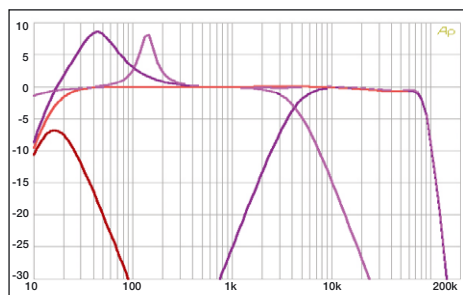
Although the P TWO may perhaps have been intended as a subwoofer extension of the P SIX, it would be a shame to use it for bass only with its HiRes ability. But it can do it, and in fact with excellence. With remarkable control, it also drives heavy-duty subs such as the new Q-woofers (test in this issue)

without working up a sweat. But also when connected to a compo system, it is one of the most crisp and most convincing two-channel amps in the market – independent of size and technical principle. And as one the sound of which also delights the most discerning ears. It impressively proves this with its fantastic voice reproduction and its accuracy over the entire frequency range. No matter whether deepest bass grooves or fligree treble details, with the P TWO you won't miss any of them. In addition to this, thanks to the immense power reserves, violent dynamics let the listener's eyes well up with tears. You will get music at its best at a quality level that is simply incredible for a chip power amplifier.

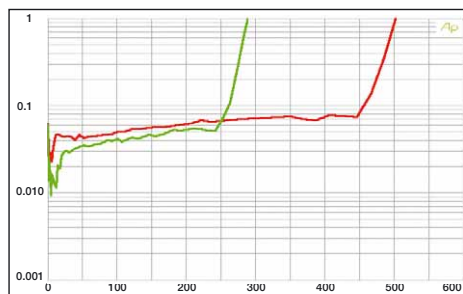
Conclusion

The P TWO in terms of power outshines everything, as far as compact digital amps are concerned. In addition, it scores points with squeaky clean technique, noble quality and HiRes ability. In terms of sound, it can at least keep up with any high-end amplifier, and among the small ones it is at the very top of the podium.

Elmar Michels



The P TWO runs up to and beyond 80 kHz (with a scale leading up to 200 kHz) and it has everything on board with a broadly adjustable band-pass and a boost



Into 4 ohms, there are already some 300 W, and into 2 ohms, there are 500, all with remarkably low distortion

Helix P TWO

Distributor	Audiotec Fischer, Schmallenberg
Hotline	02972 9788 0
Internet	www.audiotec-fischer.com

Sound	40 %	1,0	■■■■■
Bass	8 %	0,5	■■■■■
Neutrality	8 %	1,0	■■■■■
Transparency	8 %	1,5	■■■■■
Spatial imaging	8 %	1,0	■■■■■
Dynamics	8 %	1,0	■■■■■

Lab	35 %	1,1	■■■■■
Power	20 %	1,0	■■■■■
Damping factor	5 %	1,5	■■■■■
Signal-to-noise ratio	5 %	1,5	■■■■■
Noise	5 %	1,0	■■■■■

Practice	25 %	1,0	■■■■■
Features	15 %	1,0	■■■■■
Build quality electronics	5 %	1,0	■■■■■
Build quality mechanics	5 %	1,0	■■■■■

Specifications

Channels	2
Power 4 Ohm (x4/x2)	292
Power 2 Ohm (x4/x2)	486
Power 1 Ohm (x4/x2)	0
Bridged Power 4 Ohm (x2/x1)	0
Bridged Power 2 Ohm (X2/x1)	0
Sensitivity max. mV	1780
Sensitivity min. V	6,8
THD+N (<22 kHz) 5 W	0,015
THD+N (<22 kHz) Halblast	0,043
Signal-to-noise ratio dB(A)	81
Damping factor 20 Hz	257
Damping factor 80 Hz	257
Damping factor 400 Hz	257
Damping factor 1 kHz	230
Damping factor 8 kHz	38
Damping factor 16 kHz	11

Features

Low pass	25 – 4k Hz
High pass	15 – 4k Hz
Band pass	15 – 4k Hz
Bass boost	0 – 8 dB/45 – 120 Hz
Subsonic filter	via HP
Phase shift	–
High-level inputs	•
Separate gain control. (Autosense)	•, DC
RCA outputs	–
Dimensions (L x W x H in mm)	260 x 190 x 50
Others	optical digital input

Ratings

Price	800 Euro
Sound	40 % 1,0 ■■■■■
Lab	35 % 1,1 ■■■■■
Practice	25 % 1,0 ■■■■■

Helix P TWO

Absolute Top Class
 Top Class
 Upper Class
 Middle Class
 Entry Level

1,0

Price-Performance:
 Very good

CAR & HiFi

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„A miracle performer with hi-tech and high-end sound.“