



Nordisch by Nature

Swank and glamour are no-gos in Northern Europe. But the Scandinavians really know how to party. So it comes as no surprise if high-end components bear the name of a rock band – and hence that of a philosopher as well.

No exception to the Hegel rule: The H4ASE stereo power amp follows the no-frills design philosophy of the manufacturer from Norway.



By: Stefan Schickedanz

It was one of those weekends that are just right for work: The weather was so lousy that you never got the feeling to miss something. So I'd rather be going for this picture-perfect combi. But soon a first obstacle appeared: What if absolutely no associations with the product and its maker would come up? All the while I had to think solely of the philosopher Hegel.

And since googling for Hegel also revealed me more interesting facts about the man than the brand, a kinky but indeed interesting approach came to my mind: How would Georg Wilhelm Friedrich Hegel have probably analysed his audiophile namesakes which, apart from the sheer size of the power amplifier, present themselves as rather inconspicuous? But I don't have a clue if this route to a scientific attitude will lead to abso-

lute knowledge as with Hegel or just end up in absolute chaos. Well, let's see ...

The morning after: The crackpot idea has been buried, instead my head is spinning. Hegel, the philosopher, is hard to understand. Since my relationship with a girl who studied social education over ten years ago I hadn't been in touch with such a strong stuff. Prudently I renounced

a visit to the Hegel house in Stuttgart. But then I finally got the eagerly anticipated input from the Scandinavians. I was amazed to learn why Hegel is named Hegel and how the company which is inseparably linked to live music came into being. The story is so fancy and exciting that I need to tell it to you in detail on page 75. Only that much: Hegel was a

”

Hegel founder Bent Holter:

”In view of the financial crisis of 2008 I felt the time had come for Hegel to stand up and conquer the world.“

band and the proto amplifier a stage amp. Now I was no longer surprised at my sonic impression. But more on this later.

At the Hegel company value is placed on the statement that they don't simply offer pre and power amplifiers in line with some popular recipe. Rather do the Norwegians follow a markedly autonomous concept. In the case of the P30 preamp the individual approach lies in the division of the circuit into two entirely separate blocks: The first preamp block contains a digitally controlled volume control with a subsequent voltage gain. The second unit takes care of the current gain which, due to its low-impedance RCA and XLR

outputs, enables the P30 to easily handle long cables.

The physical volume control merely routes the requested level to a network of gigahertz-fast MOS transistors which send the signal through a network of resistors to produce the desired attenuation.

All in all, on its way through the P30 the music signal hence passes only two transistors and between one and three resistors. For the first time the "Sound Engine" technology, which we know from the power amps, is used as an alternative to negative feedback in the output stage of a preamp. Like all Hegel preamps the P30 uses separate power supplies

behind the common transformer for the left and right channels to keep crosstalk as low as possible.

For a high dynamic range the Norwegians used balanced designs for all circuits between input and output. With the supplied RC2 remote control the user cannot only adjust the volume level, but also switch between inputs. The P30 offers both RCA and XLR connections. Inside a sophisticated power supply with a toroidal mains transformer and a lush armada of electrolytic caps is clustered next to

Norwegian pattern: Hegel implanted the filter caps of the power supply right above the transistors.





Quality before quantity: Behind the centre shadow we see the third foot which is typical of Hegel and ensures a safe ground contact.

the electronics with its discrete output stage. The overall finish of the two components is no doubt convincing, but gives hardware fetishists no reason to go down on their knees for worship.

In real life, however, the H4ASE power amplifier looks much more majestic than on photographs. Inside the amplifier, which is 21 cm (8 1/4") high and over 50 cm (20") deep, a mighty 2400 VA toroidal transformer provides a visual impact. Yet the particular thing about this 45 kg stereo power amp lies hidden in the Sound Engine concept that was patented by head developer Bent Holter. It uses a fast reacting detector for each single power transistor to generate and apply very precisely dosed correction signals right where the non-linearities occur. Instead of this adaptive Feed Forward circuitry conventional amplifiers use a relatively

slow negative feedback in the gain stages.

Another unique feature: The filter caps in the power supply with their overall capacitance of 320,000 µF are sitting in long rows on both sides of the housing right above the bipolar 15 amp high-speed power transistors, where the current is needed – a circuit with extremely short paths which does look fast. A key technology is represented by the dual power supply principle: To prevent the output stage with its high energy demand from affecting the input and voltage gain section with its delicate signals via the power supply, all integrated and power amps from Hegel are equipped with a dual power supply to energise both departments separately. The designers consider this an important step to the superb dynamics of their products.

But at least the encounter with the preamp had a very silent quality at first. Upon turn-on the P30 fell into a quiescent state. A perceived eternity of several minutes elapsed until the electronics reached its operating temperature and the relays activated the output. Not much slower does the night-loving author of these lines pick up pace in the morning, either, when he's given a start by some early riser over the phone. At least the preamp wasn't in such a grumpy mood after awakening like me: During the first minutes after getting up, my voice always tends to sound a bit like Tom Waits.

But the amplifying colleague needs some warm-up time, too: At the beginning of the listening check the H4A was conspicuous by its sonorous "idling noise". More exactly, it was the transformer that spoke out audibly. But don't panic



Nordic fun: With its direct input the Hegel chain can be used to amplify the front channels of a home cinema system.



The opulent power supply with its discrete 2-channel layout, located behind the toroidal mains transformer, occupies a large part of the housing. The volume is electronically controlled.

– after a warm-up phase of half an hour all components had apparently reached their operating temperature and all electrolytic capacitors were fully charged to the last electron so that the Hegel power amp itself kept quiet now and left the sound transformation to the loudspeakers.

In practice this doesn't matter anyway: With its explosive sound characteristic the H4A seduces the listener into an audiophile full throttle ride, the music will drown all background noises then. Exactly to my liking. After some experiments with the placement of the two column loudspeakers, the team play with the new Dynaudio Confidence C4 Signature had

won me over completely. The northerners favoured an utterly brisk pace with downright crisp, very articulate lows and fresh high and mids. Plus the huge Scandinavian loudspeakers produced a surprisingly tall image that was reaching fairly deep into the room.

This was just wonderful for operas such as Richard Wagner's "Mastersingers" with their choir passages. Actually, I like classical music only live or through high-class multi-channel systems; with a large screen things would be perfect. But this stereo performance totally convinced me – although it became manifest that, for the upper midrange, there exist even better combinations than the very present Danish lady on the extremely clear and forthright Norwegians. But the rest was

simply outstanding: The focus almost reminded me of point source speakers, the stability of the image resembled an oil painting.

What followed then was quite obvious: I pulled my rock classics out of my quiver and painted the town red. There are components which put every recording into the same imaginary room, always painting with the same limited range of acoustic timbres. Not so the quick-tempered Scandinavians. Every recording revealed a totally different fingerprint. It almost seemed as if the electronics was vanishing, leaving at best the proverbial wire in the signal path. Can an amplifier behemoth with cascades of transistors, which share the workload, get a better testimonial?

"Radar Love" by Golden Earring is so old that I used to have it already on a

desktop cassette recorder – a radio recording, far away from today's digital studio standards. But with the Hegels it sounded just infectious. Although there were still quite some tracks I wanted to listen into, I absolutely had to wait for the drum solo. The waiting was worthwhile – you won't hear it with so much power and punch every day. Like I know it from a real drumset in a cultural pub in my hometown where I sometimes listen to a technically pretty brilliant cover band at close range. The long-haired drummer is nicknamed "The Beast", which speaks for itself when he's punishing his huge drumkit in a sweat. Bestly good also the Hegels: The drums had the typical kick. Size, timbre and sustain were also consistent.

On one of my in-car CDs was then "Speed Demon" by Michael Jackson with its fat synthesizer bass notes and artificial engine sounds. This goes down to the core of a sports car and speed freak: truly "fat", but nonetheless controlled and not a bit boomy. Difficult to say when I last enjoyed music so much. So breathtaking, so authentic. But what's

the point of the most beautiful timbres when the drive is missing and the timing hits the wall? After all it's those factors which are largely responsible if the music goes straight into your tummy, making your feet tap and your head spin round.

But: More than once I caught myself playing air guitar and – which happens even more rarely – with beefy air drum solos. For these electronics manage the split: They live up to the highest demands from sound engineers with regard to tonality, resolution, stability, imaging, transparency and focus. On the other hand they can play extremely clean, crisp and loud and when teamed up with the Dynaudio C4, their attack and dynamics reminded me of a PA. This listening check, which I had approached with no expectations at all, therefore ended with an ardent enthusiasm for the intriguing performance. So the philosopher will probably no longer come to my mind first when I hear the name Hegel drop. Rather a rock band I was adoring in my early youth. <



Test-CD

Thomas Dolby
– A Map Of The
Floating City

Yes, he's still around, the brilliant sound freak from the 1980s („She Blinded Me With Science“). This may not be his strongest album, but at least it's a tasty production as usual and for once contains no remixes of old songs.

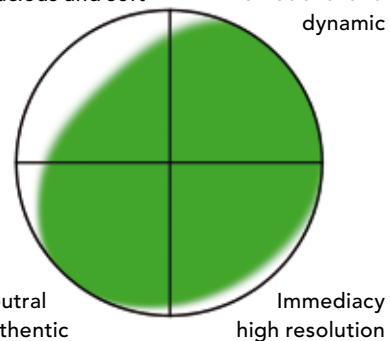


The Author
Stefan
Schickedanz

prefers classical music and jazz because of the natural instruments and pure voices to remove doubts as to tonality – even if the spatiality is not fully conclusive due to the spot microphones. When it's about fun, he's putting on rock and pop. <

AUDIOphile Character

effortlessly spacious and soft grippingly emotional and dynamic



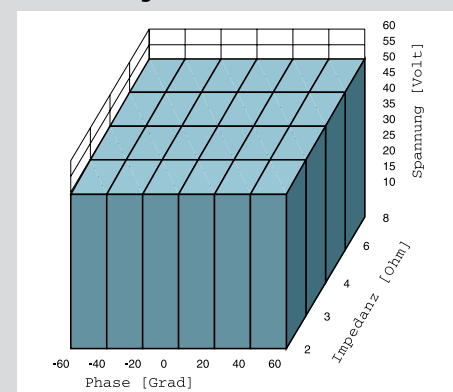
AUDIOphile Potential



Recommendation

Offers as much control and dynamic as possible at this price. Choice of speakers is only limited by owner's taste.

Stability



H4ASE offers an extremely wide and linear frequency response (not shown) and excellent Signal/Noise Ratio of 106 dB (via RCA). RMS output power is 2x 310/615 Watt for 8/4 Ohm load. Sounds like it looks: perfectly stable.

Hegel P30

List price: 5,800 Euro
Warranty period: 2 years
Weight: 10 kg
Dimensions (W x H x D):
43 x 8 x 30 cm
Surfaces: Silver, Black

H4ASE

List price: 7.000 Euro
Weight: 45 kg
Dimensions: 43 x 21 x 55 cm
Surfaces: Silver, Black

Sales:

Connect Audio
Neue Straße 11
D-65520 Bad Camberg
Phone: 0 64 34 / 50 01
Internet: www.connectaudio.de

Hegel Studies

If a band can't afford to buy the new desperately needed stage amplifiers, this is usually the end. In the case of talented musician, bandleader and electronics engineer Bent Holter it was the onset of an unprecedented career.

By: Stefan Schickedanz

When in the late 1980s some students in the remote Norwegian city of Trondheim form a

Thin Lizzy cover band, it's rarely to make musical history. Strangely enough that the performance of the microelectronics engineer Bent Holter and his friends reached cult status in the Norwegian "Samfundet" scene. But things got even better: Today the name of the Hegel band decorates the otherwise very plain front panels of the amplifiers from Norway which are valued by insiders from all over the world.

Not only do they owe their name to the group, but their existence as well. Because the students needed new stage amps, yet were lacking the necessary wherewithal, Bent Holter offered to build his own which he named Hegel Audio to match their purpose. The experience gathered on the way also inspired him to choose the topic of negative feedback for his diploma thesis. For while a negative feedback improves the bass control via the damping factor, it causes distortion to rise. At the university Holter was using one of the first computers for this

project which were able to simulate electronic circuitry. That research culminated in a patent which until today is the basis of all Hegel amplifiers: the "SoundEngine" with its adaptive feed forward concept. It improves the damping factor, reduces distortions and also the power consumption. During the mid 1990s this patented solution earned Holter the support of a big telecommunications firm who purchased Hegel company shares which he bought back then after the burst of the hightech bubble in 2000. The com-

pany which had collected a small profit every year used next stock market crash in 2008 as an opportunity to really step on the gas while others were stepping on the cost brake. Holter felt the time was ripe: "Hegel was supposed to get started and conquer the world." So he hired more engineers and skilled sales force, which brought the company a considerable growth. Apart from the amplifiers, which can't conceal their PA kinship, Hegel's reputation is based today on excellent DACs.



”

Hegel founder Bent Holter:

”Our band Hegel needed new stage amps, but couldn't afford to buy any. So I built my own.“



With a PA company founder Bent Holter made the first Hegel Audio components. >

<
The Hegel DACs enjoy an excellent reputation.



The cartoon illustrates the connection to the Hegel band Holter used to play with.