

Reinventing Audio



How it all started

It's hard to tell exactly when the Hegel adventure started.

It may have been the day Hegel founder Bent Holter's father introduced him to an electronics set experimentation. Holter was 12, and enthusiastic about his new hobby. Making circuit boards in the family home irritated his mother, it got rather messy... *"I also remember some sceptical looks when I went to the local pharmacy to purchase things I needed, such as acid for etching circuit boards"*, says Holter.

Besides his interest in electronics the young Holter also took interest in music. He played the clarinet in an orchestra in his small home town of Gjøvik in Norway. When he got a bit older he leaned towards rock music – playing in local rock bands, influenced by 70's groups such as Black Sabbath and Pink Floyd. This was the perfect opportunity to combine his two favourite hobbies: *"I started to build all the equipment for my guitar and the band myself, such as amplifiers and loudspeakers"*, says Holter.

He was eager to study electronics, but knowledge wasn't easily available in a small town in Norway in the late 70's. So he went to the library where he tried to get hold of drawings that described the construction of audio equipment. *"I sent letters to several distributors (importers) and suppliers of such products. Some of them actually sent me drawings. I even remember that I sent letters to producers of audio devices in the States, but I never got any answers"*, says Holter.

A scientific approach

After finishing high school and working for a year as a service technician, Holter started a four year degree in micro electronics at the technical university in Trondheim in 1986. *"I joined the voluntarily run student community, and after a while I was responsible for sound equipment for the concerts held in 'The Society' (a student run concert venue). I was also responsible for the concert sound mixing. This was an incredibly useful experience for me – perhaps as much so as my formal education."*

Through the sound mixing experience, Holter learnt how to seek out the balance between the sounds of the different instruments. This was especially important at acoustic or jazz concerts because of the difficulties reproducing all the information and details of the various instruments. Holter discovered that the equipment they used at 'The Society' wasn't good enough for acoustic concerts, so he started to develop his own.

"The hi-fi equipment they used at the time was built to the principles of old 70's technology. I felt the time had come to think in a new direction." Holter was trying for a unique, vibrant sound – a better sound through improved technology. After Holter started building equipment for the concerts held at 'The Society', teachers and students at the university came to him and asked if he could make similar ones for them too. He sold his first amplifiers in the autumn of 1990. And that's how Hegel, little by little, started. A local factory made the cabinets for him, and Holter financed the last semesters at the university with his small business. But most of the money was used to buy more and newer components.

When he had finished his university degree Holter started to work at an electronics firm that made equipment for television companies, but he continued to make amplifiers in his spare time. After two years Holter started to work at Tandberg, who had just begun to create systems for video-conferences before moving on to become a researcher at Sintef, where they mostly made electronics for the oil industry (specially adapted for use at very high temperatures).

It was important for Holter to gain knowledge about different sides of electronics, and to have a broad platform. He was now able to build upon his talent using the pillars of science and take a more scientific approach to the art of sound. While Holter worked at Sintef, he was introduced to investors, who were interested in his Hegel sound system. Telenor Venture, a company that specialises in investing in technology companies with high potential, believed that the system could be used to transfer sound over the internet.

Going all out

Having found some investors in 1997, Holter decided that the time was right to go all out with Hegel. The company had, at last, sprung from the seeds of Holter's lifelong commitment. In 1998 Hegel presented their system at the Consumer Electronics Show (CES) in Las Vegas, and not long after they got their first export customers in Japan. The first mass produced Hegel products were ready for sale in the autumn 1998 – a couple of years after the investors became involved. Holter wanted to show the world that there are differences between hi-fi products. And that he had truly made something else – something different. *"It was important for us to make very good sound at a moderate price."* The bursting of the "dot.com" bubble and resultant market corrections caused many investors to pull out of technology companies. So in 2001 the investors left Hegel completely and Holter gained complete control of the company. For Hegel, hi-fi was now the only thing that meant anything.

Dialectics of Hegel

Design is becoming more and more important in the hi-fi business, and Holter – who has no design education, but still designs himself – was awarded the "Award for design excellence" by the Norwegian Design Council. Expressing a third talent and adding another element to the moulding of the complete Hegel product.

"It is important for a small company to be ahead of the pack – but not too far ahead. We don't want to show all our potential too early." Hegel now has 25-30 distributors around the world. Their largest markets are Russia, Japan and China. Georg W.F Hegel was a 19th century German philosopher who challenged the existing ideas of his time. He represented a paradigm shift, but his ideas were not accepted and fully understood for many years. Holter finished the interview with this pearl of wisdom, "Like the ideas of Hegel, the philosopher, Hegel the audio system represents an enormous change and I believe that our technology will change the business – in the future".

"I believe the acoustics are better at another café around this time of day."



Meeting up with Hegel founder Bent Holter is a tricky affair. The man takes sound seriously and seeks out better acoustics for his interview. *"It comes with the territory"*, Holter explains. *"I guess you could call it an occupational disease"*.

Bent Holter
President - Hegel Music System AS



Photo: Balestrand in Norway

Noise is overrated

The fantastic **HEGEL SOUND**

“All inclusive!” - Is the basic description of the Hegel Sound. In our philosophy a CD-player or amplifier should sound as neutral and dynamic as humanly possible. If you like or dislike a specific “sound” you should tune it by choosing certain loudspeakers. Not by choosing a dull sounding amplifier. When buying a Hegel product we guarantee that you will get a perfectly neutral sound. All the bass, all the midrange and all the high frequencies.

Many manufacturers go the opposite direction, and may “soften” the high frequencies to camouflage the problems with distortion. Often resulting in a warm and comfortable, but by any definition wrong sound.

Hegel, on the other hand, attacks the problem by developing technologies to prevent distortion from ever occurring. In this way we do not need to tune down the high frequencies or pump up the mid-bass to cover up our tracks.

The biggest problem is called higher order harmonic distortion. When you send a tone through a transistor for amplification, the output will contain the original tone plus a series of harmonic tones. These are whole multiplications of the original tone. If the original is 1Khz, the harmonics will be at 2Khz, 3Khz, 4Khz and upwards. The human ear is very sensitive to this, and can easily experience “listening fatigue”. The SoundEngine™ and new FET-technology, designed in-house by Hegel, effectively reduce this. The result is a crisp, sharp and yet dynamic and “ear friendly” sound.



Remote control

All Hegel products are delivered together with a system remote control. Those with this symbol includes our RC2 remote, made out of a solid 17mm aluminium bar. You can also buy the RC2 as a separate item.



USB Input

Hegel products with this symbol has a USB input. The USB input allows you to connect a computer and play all your music, movies, network radio or games through your Hegel system with supreme sound quality.



Award for Design Excellence
Awarded by the Norwegian Design Council



Hegel **amplifier** technology



SoundEngine™

Our patented SoundEngine™ technology, designed by Hegel, is really the backbone of a Hegel Amplifier. Without using any sort of feedback loop, we are able to actively correct all distortion in the output stages of our amplifiers. The SoundEngine™ is especially effective when it comes to high frequency distortion, where the human ear is the most sensitive. SoundEngine™ is the main reason why Hegel amplifiers are considered the most neutral sounding ones in the world.



DualTech™ power supply and circuit topology

DualTech™ is about using separate power supplies and amplifying circuits, designed by Hegel, for the sensitive input stages of the amplifier. Technically we have totally separated the voltage gain stage and the current gain stage. In layman's terms it means that in different parts of the amplifier, the signal gets amplified more and more. The stronger end signal can easily influence and distort the less powerful input signal. By separating these stages we further reduce distortion.



New FET - technology, designed by Hegel

New J-FET and MOS-FET transistors are used in selected Hegel products. The use of these minimizes higher order harmonic distortion, giving you a more defined sound, and a better bass response.



Hegel **player** technology



CD DecoderBoard™ servo system, designed by Hegel

In a CD-player the laser pick-up needs to carefully follow a track about 1/100 the width of a human hair. To do this it uses high current servo motors that can easily influence the fragile optical analog signal read from the CD. Hegel has carefully designed new boards to separate the servo motors from the music signal.



Direct MasterClock™ generator, designed by Hegel

For the same reason as above, Hegel has moved the master clock away from the big servo motors. The clock controls timing between the laser and the D/A-Converter, and is a vital part of any CD-player to keep from losing information.



High Precision SyncroDAC™ system, designed by Hegel.

Hegel has designed its own D/A-Converter boards with a new type of synchronous upsampling that is reducing the chance of digital noise influencing the analog output signal.



Linear Phase LineDriver™, designed by Hegel.

Funnily enough the rate that the laser reads from the CD, 44.100 samples pr. second, can be heard... So there has to be a cross over to remove that. Hegel has designed its own low pass filter with extreme phase control.

Reinventing the wheel



Photo: Hardangervidda in Norway

Pure

The mirror image



All the electronic circuits inside the HEGEL CD-players are designed in-house by HEGEL in Oslo, Norway. In this way HEGEL can make sure that all the different parts in the CD-player are working together in an optimal way, to give the best possible sound quality.

Only HEGEL CD-players are using the new technological solutions Direct MasterClock™, Low Jitter CD DecoderBoard™, High Precision SyncroDAC™ and Linear Phase LineDriver™. All these individual technologies are designed to work together from the beginning, to give the best possible overall sound quality.

All this to reproduce a mirror image of your favourite CD's



Hegel CDP2A

The entry-level CD-player from Hegel gives you amazing value for the money. The Hegel CDP2A has an award winning design with only 2 buttons and a solid 20mm machined front panel. Still, this great design does not exclude the use of the best technology available on the market. The CDP2A is using true balanced multi level 24 bit 192kHz D/A converters with synchronous upsampling. It also includes the groundbreaking DecoderBoard, SyncroDac, Linear phase line driver and MasterClock technologies, designed in-house by Hegel. No wonder it was awarded "CD-player of the year" in both Norway and Sweden. Remote control is included.



Hegel CDP4A

Oscar Wilde once said, "My taste is simple. The best has always been good enough". Good old Oscar would choose the CDP4A. In comparison to the little brother, CDP2A, we have included even better 24 bit 352kHz D/A Converters with synchronous upsampling. It has true balanced and unbalanced analog audio outputs, and a much more advanced audio board. Much has been said about digital noise or jitter, and to reduce this we use Hegel SuperClock2. An extremely accurate clock mechanism. But the true difference between Hegel and competitors, when it comes to jitter, is our decoder board. People tend to forget that most digital noise is picked up directly after the information on the CD has been read. CDP4A was awarded CD-player of the year in France.

Powerful



Hegel H1

This powerful integrated amplifier has got a front panel with the characteristic HEGEL curve. The input selector and the volume control can be adjusted manually or by the included remote control. It has got ample power and easily drives difficult speakers down to 2 ohms. The amplifier delivers more than 2*120W in 8 ohms and a signal current in excess of 70 A. The H1 is based upon the patented SoundEngine amplifier technology from HEGEL.



Hegel H200

The extremely powerful integrated amplifier H200 fills the gap between the H1 and the P2A/H2A combination. With its powerful 2*200W in 8 ohms and a dual mono power supply it is much more dynamic than the H1. It has also got a Home Theatre RCA input for use with external surround sound systems. The H200 is using a basic version of the technology from the P2A/H2A combination. RC2 remote is included with the amplifier.



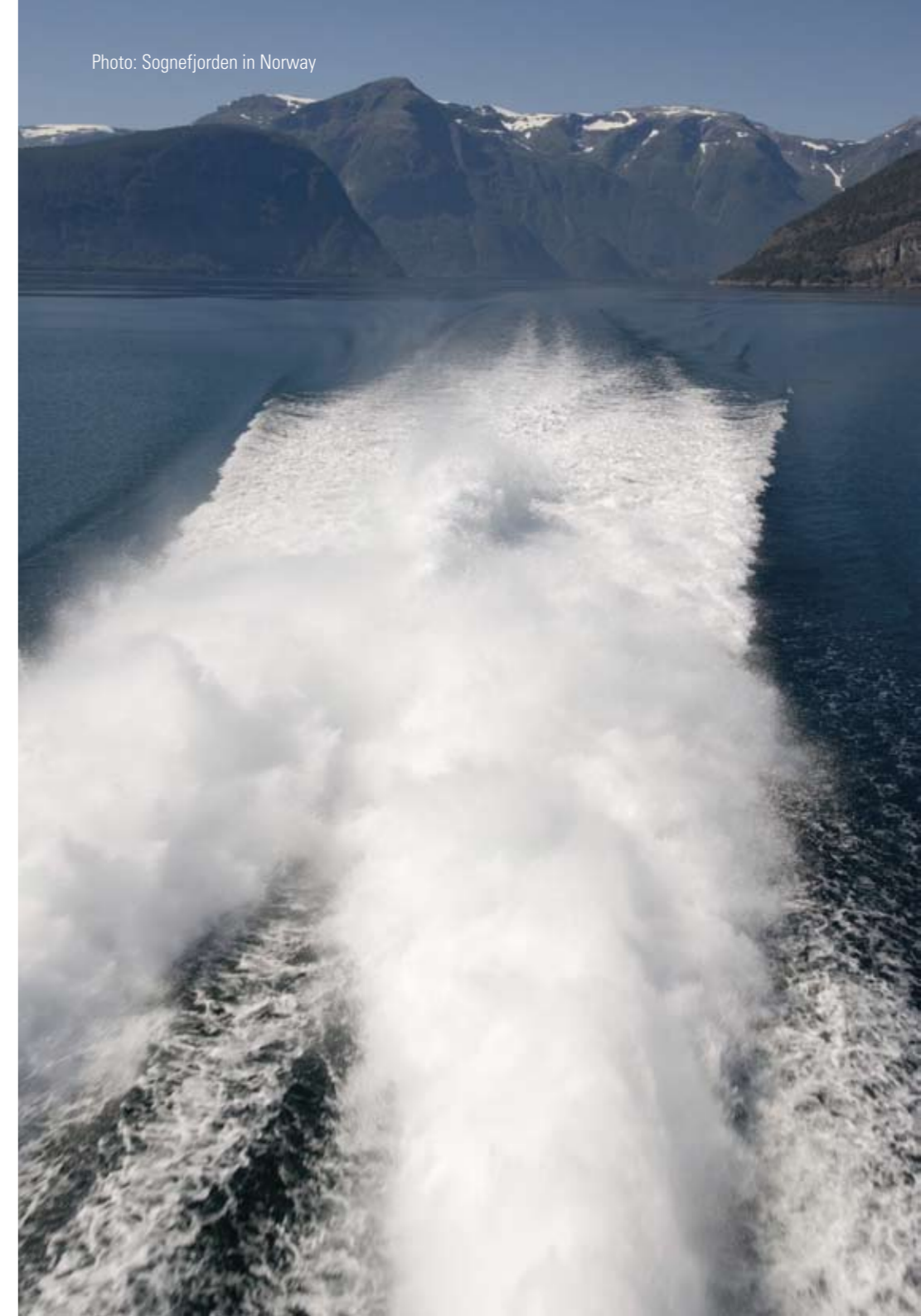
The **beast** within

All HEGEL integrated amplifiers are divided into 3 completely separate circuit blocks: the first amplifier block is using a digitally controlled volume control stage, the second amplifier block will amplify the voltage and the third amplifier block will amplify the current to drive the connected speaker.

All Hegel amplifiers use completely separate power supplies for the voltage amplifying block and the current amplifier block. This makes sure the sensitive voltage gain block is not disturbed by the high currents flowing in the current amplifier block.

These new and innovative technologies are designed to give each separate amplifier block the best possible work conditions, and to prevent the different amplifier blocks from having any influence on each other. This gives the best possible overall sound quality.

Photo: Sognefjorden in Norway



Modern



Photo: A not so famous bridge in Norway



Introducing the new **HEGEL H100**

You can dock and charge your iPod in almost anything these days. Everybody talks about it. But honestly... Why? We bet that you actually store most of your music on your computer. We bet you even download music to your computer. And given the chance and time, you might even play computer games on it. Then, how does a "2-dollar" iPod dock help you?

It doesn't. Therefore HEGEL set out to make you the ultimate audio entertainment system, the result being the spanking new HEGEL H100. It is based on the layout of our classic H1, and the technology from the award winning H200. So it works like a charm as a classic audiophile amplifier. But with the new built-in USB D/A converter it can also take over as soundcard for your computer. It will work with music, movies, games, internet radio as well as with iTunes.



Hegel H100

The new and groundbreaking integrated amplifier H100 lets you have a complete HEGEL system at a much lower price than ever before, as you can use your computer as a player. It is also an entertainment center for all digital audio on your computer. With its powerful 2*120W in 8 ohms, more powerful transformer and new inputboard, it sounds more potent and detailed than the H1. It has also got a Home Theatre RCA input for use with an external surround sound systems. Remote control is included.



Dynamic



Hegel H2A

The HEGEL H2A is the brother of the H4A reference amplifier. It has got ample power output at 2*200W in 8 ohms. The power amplifier can deliver an output current in excess of 130 A and can drive even the most difficult speakers. The H2A will of course also deliver its highly detailed output signal to small and medium size speakers. The H2A has got inputs for both balanced and unbalanced signals. This amplifier is also based upon the patented HEGEL SoundEngine technology, just like the reference model H4A.



Hegel H4A

The reference power amplifier H4A is the corner stone of the HEGEL High-End concept. This reference amplifier has got extreme power reserves and can drive absolutely all speakers. It will deliver more than 2*300W in 8 ohms and can deliver output currents in excess of 200 A. To keep the sound clear, organic and undistorted, the H4A is using precision laser trimmed versions of the patented HEGEL SoundEngine amplifier modules. The HEGEL H4A has been awarded "High End Amplifier of the year" Stereo Sound and Japanese radio comitee.



Divided

All HEGEL power amplifiers are divided into 2 completely separate circuit blocks: the first amplifier block will amplify the voltage and the second amplifier block will amplify the current to drive the connected speaker. Each has its own separate power supply.

These new and innovative technologies are designed to give each separate amplifier block the best possible work conditions, and to prevent the different amplifier blocks from having any influence on each other. This gives the best possible overall sound quality.

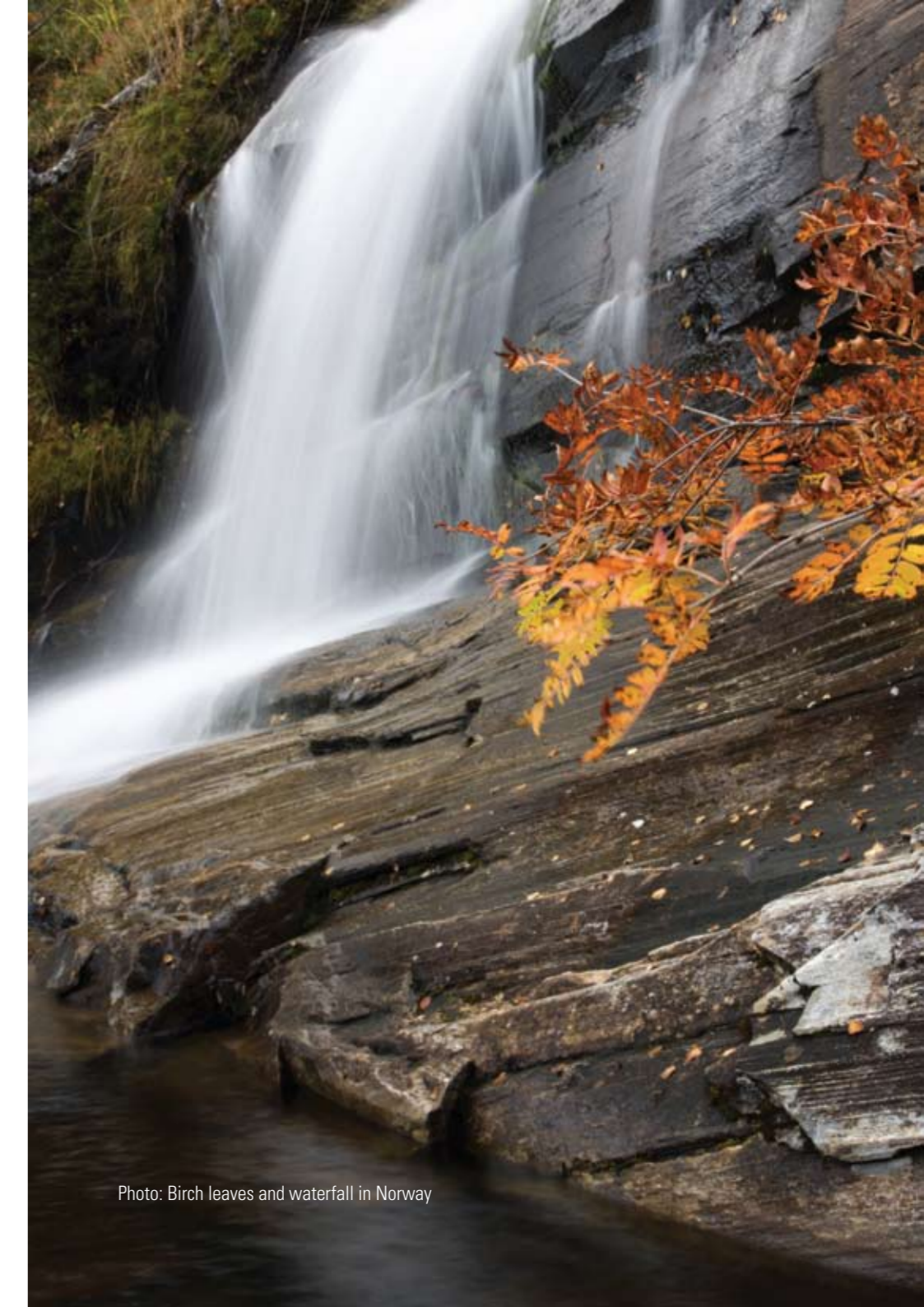


Photo: Birch leaves and waterfall in Norway

Photo: Briksdal glacier in Norway

Separation



Seperate **cool** from uncool



All Hegel pre amplifiers use completely separate power supplies for the left and the right channel. This makes sure the crosstalk between the Left and right channel is lowest possible

All HEGEL pre amplifiers are fully balanced from input to output, including the crucial volume control stage. This makes sure the distortion is the lowest possible and keeps the dynamic range as high as possible.

These new and innovative technologies are designed to give each separate amplifier block the best possible work conditions, and to prevent the different amplifier blocks from having any influence on each other. This gives the best possible overall sound quality.

Hegel P2A

The Pre amplifier P2A is the control centre of the HEGEL High-End System 2. The P2A is using true balanced signal preprocessing from input to output, based upon the same technology platform as the reference model P4A, and it is using very precise amplifying stages. The volume control and the input source selector can easily be adjusted by the accompanying remote control. The P2A has of course got both balanced and unbalanced inputs and outputs.



Hegel P4A

The HEGEL P4A collects the signal from any connected input source and delivers it without adding or subtracting, using state of the art technology exclusive to HEGEL. The input selector, mute and volume control can all be controlled by the accompanying HEGEL RC2 remote control. The HEGEL P4A has got both balanced and unbalanced inputs and outputs. Internally the P4A is using true balanced signal processing from input to output. The P4A is using more advanced line amplifier stages than the P2A with even better components and an even more precise volume control. So the P4A will have a larger dynamic range, a lower coloration and an even better output drive than the P2A.



Celebrate



The 10-year anniversary

For 10 years, HEGEL has been exporting high-end audio equipment all over the world. Japan, China, Russia, Germany, USA, Sweden, Holland and many others have praised the HEGEL Sound. So what better way to celebrate than to launch the best amplifiers we are currently able to make. An amplifier with the best possible implementation of our patented SoundEngine modules, a revolutionizing new volume attenuator and new components that greatly reduces distortion. All in all a fitting celebration to the man that dared to invent amplifiers all over again.

The HEGEL H10 and P10 will only be made as a limited edition. 30 numbered sets is all there is, and ever will be. Every single set comes with an anniversary label and a letter of authenticity. So what can we say, other than; THE PLEASURE IS ALL YOURS!



Hegel H10

Building on the core of our Reference power amplifier H4A, the HEGEL H10 takes it on to new heights. The HEGEL H10 includes a brand new input stage with hand-matched JFET transistor pairs and hereby removing higher harmonic distortion all together. To get the absolute best we tested 30.000 pcs of exotic high-end FET transistors to find the 300 we needed. The voltage gain stage and output stage is also upgraded, to further reduce distortion. The primary goal of course is a smoother and more detailed sound. The extra benefit is better bass control and a more "rhythmic" sound. The H10 gives you 2*300W in 8 ohms and a stunning 2*1000W in 2 ohms, representing the best implementation of our patented SoundEngine to date. The HEGEL H10 is only available in Black.

Hegel P10

The Hegel P10 might look like our other pre amplifiers, but not when you open the cover. It is a brand new construction, and a revolutionizing one at that. In the HEGEL P10, the music signal will only pass through 2 FET transistors. With this construction we have for the first time totally eliminated higher order harmonic distortion in a pre amplifier, while keeping the power that typical passive pre amplifiers lack. To further reduce noise, and increase channel separation, we have a new relay controlled volume attenuator. The HEGEL P10 has both balanced and unbalanced in-/outputs, and our sleek remote control RC2 is included. The HEGEL P10 is available in the same colour as a Ford T-model.

Hegel Anniversary **Technology**

The biggest problems when trying to achieve an organic, detailed and life-like sound in amplifiers are the components within the audio circuits. And the worst of them all are the transistors. Hegel knows this. As does most of the competitors. The reason is that when you send a music signal through the transistor, it comes out again with a rather powerful "make-up". Say, you pass a 1000 Hz signal through an ordinary bipolar transistor. It will come out as the same, but with an added echo at 2000 Hz. And another echo at 3000 Hz, at 4000 Hz, at 5000 Hz, at 6000 Hz, at 7000 Hz and so on. We call it "harmonic distortion". The higher up it goes, we call it higher order harmonic distortion, it becomes more and more destructive to the music signal. Most people will hear it as sounding harsh and unpleasant.

All amplifiers have this problem, but there are different ways to deal with it. The most common is to try and "diffuse" or "soften" the highest frequencies. The amplifier will then sound smooth and warm despite its problems. Hegel has never done this. It destroys the music. Removing or filtering parts of the original music, leaving it dull and without energy is not the right way. We try to address the problem by removing the cause of it. And we have finally succeeded doing so 100%.



Photo: P10 volume attenuator and Audio Precision



Volume attenuators

To the right you can see our volume attenuator for Hegel P10 preamplifier. Instead of a "super high-end" pot-meter we have used relay controlled resistor networks. This means almost 100% accuracy and extremely low distortion altogether. The volume control is a usual pot meter that sends the selected gain settings to an AD-Converter for translation. The ADC in turn tells the relay which configuration of resistors is to be used to get the desired volume.



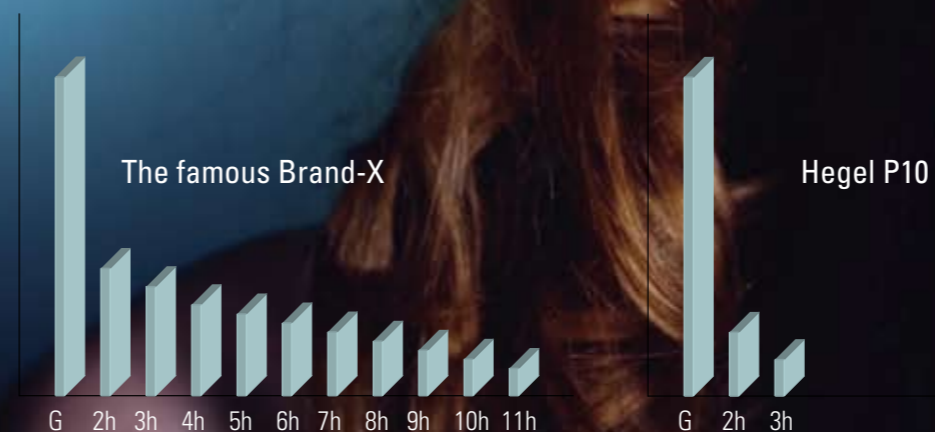
Hand-matched FET transistors

Another part of the P10 and H10 is the use of hand-matched JFET and MOSFET transistors on the input boards. We needed 300 pieces to make the 30 amplifier sets. To find them we bought 30.000 first grade Toshiba transistors. Measured all of them. Returned 29.700 of them. And put the last 300 in 16 categories. By this we got pairs that worked so well in a push-pull configuration that no more than one pair was needed. The result is that P10 has no higher order harmonic distortion whatsoever. Actually, there are only 2 transistors and 1 or 2 resistors in the signal path of the P10. You will find the same technology in the Power amplifier H10.

No mask needed

Measuring the difference

The two charts below describe the difference in distortion between Hegel P10 and a regular pre amplifier. If you think you have seen these types of graphs before and feel it is marketing "mambo-jambo", just pick any other pre amplifier and measure it. With the new Hegel H10 and P10 there is no longer any reason debating the need to cover up mistakes made by components in the signal path.



Technical specifications

Integrated Amplifiers

HEGEL H1



Remote functions	:	
Output power	:	Volume, source and mute 120W + 120W in 8 ohms
Line inputs	:	RCA unbalanced and XLR balanced, selector for 6 inputs
Line outputs	:	2 pre out RCA, Tape out RCA
Speaker outputs	:	heavy duty gold plated terminals
Frequency response	:	Less than +/- 0.2 dB deviation 20Hz-20kHz
Phase response	:	Less than 2 degrees deviation 20Hz- 20kHz
Signal to noise ratio	:	More than 100dB
Crosstalk	:	Less than -100dB
Distortion	:	Less than 0.005 % at 50W in 8 ohm
Intermodulation	:	Less than 0.01 % (19kHz + 20kHz)
Damping factor	:	More than 1000
Power consumption	:	30W in idle mode switched on
Dimensions/Weight	:	8cm x 43cm x 44cm (HxWxD), 15kg

HEGEL H100



Output power	:	Volume, source and mute 120W + 120W in 8 ohms
Line inputs	:	4 unbalanced, 1 XLR balanced, 1 USB and home theatre input
Line outputs	:	2 pcs pre out (RCA), Tape out (RCA)
Speaker outputs	:	heavy duty gold plated terminals
Frequency response	:	Less than +/- 0.2 dB deviation 20Hz-20kHz
Phase response	:	Less than 2 degrees deviation 20Hz- 20kHz
Signal to noise ratio	:	More than 100dB
Crosstalk	:	Less than -100dB
Distortion	:	Less than 0.005 % at 50W in 8 ohm
Intermodulation	:	Less than 0.01 % (19kHz + 20kHz)
Damping factor	:	More than 1000
Power consumption	:	30W in idle mode switched on
Dimensions/Weight	:	10cm x 43cm x 37cm (HxWxD), 16kg

HEGEL H200



Output power	:	200W + 200W in 8 ohms, 350W + 350W in 4 ohms
Line inputs	:	Volume, Input source and mute
Line outputs	:	3 unbalanced, balanced (XLR) and home theatre input
Speaker outputs	:	2 pcs Pre Out (RCA), 1 pcs Recording output (RCA)
Frequency response	:	Two pairs of heavy duty gold plated terminals
Phase response	:	Less than +/- 0.2 dB deviation 20Hz-20kHz
Signal to noise ratio	:	Less than 2 degrees deviation 20Hz- 20kHz
Crosstalk	:	More than 100dB
Distortion	:	Less than -100dB
Intermodulation	:	Less than 0.006 % at 100W i 8 ohm
Damping factor	:	Less than 0.01 % (19kHz + 20kHz)
Power consumption	:	More than 1000
Dimensions/Weight	:	60W in idle mode switched on 12cm x 43cm x 38cm (HxWxD), 25kg

Power Amplifiers

HEGEL H2A



Output power:	:	More than 200W + 200W in 8 ohms, Dual mono
Line inputs:	:	RCA unbalanced and XLR balanced
Speaker outputs:	:	Two pairs of heavy duty gold plated terminals
Frequency response:	:	Less than +/- 0.2 dB deviation 20Hz-20kHz
Phase response:	:	Less than 2 degrees deviation 20Hz- 20kHz
Signal to noise ratio:	:	More than 100dB
Crosstalk:	:	Less than -100dB
Distortion:	:	Less than 0.006 % at 100W i 8 ohm
Intermodulation:	:	Less than 0.01 % (19kHz + 20kHz)
Damping factor:	:	More than 1000
Power Supply:	:	1000VA dual mono, 90 000uF capacitors
Output stage:	:	20 pcs 15A 150W high speed bipolar transistors
Power consumption:	:	60W in idle mode switched on
Dimensions/weight:	:	12cm x 43cm x 37cm (HxWxD), 25kg

HEGEL H4A



Output power:	:	More than 300W + 300W in 8 ohms, Dual mono
Line inputs:	:	RCA unbalanced and XLR balanced
Speaker outputs:	:	Two pairs of heavy duty gold plated terminals
Frequency response:	:	Less than +/- 0.2 dB deviation 20Hz-20kHz
Phase response:	:	Less than 2 degrees deviation 20Hz- 20kHz
Signal to noise ratio:	:	More than 100dB
Crosstalk:	:	Less than -100dB
Distortion:	:	Less than 0.004 % at 100W i 8 ohm
Intermodulation:	:	Less than 0.01 % (19kHz + 20kHz)
Damping factor:	:	More than 1000
Power Supply:	:	2400VA dual mono, 320 000uF capacitors
Output stage:	:	56 pcs 15A 150W high speed bipolar transistors
Power consumption:	:	100W in idle mode switched on
Dimensions/weight:	:	21cm x 43cm x 55cm (HxWxD), 45kg

HEGEL H10



Output power:	:	More than 300W + 300W in 8 ohms, Dual mono
Line inputs:	:	RCA unbalanced and XLR balanced
Speaker outputs:	:	Two pairs of heavy duty gold plated terminals
Frequency response:	:	Less than +/- 0.2 dB deviation 20Hz-20kHz
Phase response:	:	Less than 2 degrees deviation 20Hz- 20kHz
Signal to noise ratio:	:	More than 100dB
Crosstalk:	:	Less than -100dB
Distortion:	:	Less than 0.003 % at 100W i 8 ohm
Intermodulation:	:	Less than 0.01 % (19kHz + 20kHz)
Damping factor:	:	More than 1000
Power Supply:	:	2400VA dual mono, 320 000uF capacitors
Output stage:	:	56 pcs 15A 150W high speed bipolar transistors
Power consumption:	:	100W in idle mode switched on
Dimensions/weight:	:	21cm x 43cm x 55cm (HxWxD), 45kg

CD-Players

HEGEL CDP2A



System	:	24bit 192kHz multilevel DACs with synchronised upsampling
Jitter level	:	Less than 14ps (Hegel SuperClock)
Analog outputs	:	RCA Unbalanced and XLR balanced
Digital output	:	75 ohm SPDIF RCA connector
Frequency response	:	Less than +/- 0.1dB deviation 20kHz
Phase response	:	Linear phase filter
Noise floor	:	Less than -120dB
Crosstalk	:	Less than -100dB
Distortion	:	Less than 0.002%
Intermodulation	:	Less than -110dB (19kHz + 20kHz)
Signal level	:	2.3V for balanced and unbalanced outputs
Dimensions/weight	:	8cm x 43cm x 29cm (HxWxD), 10kg

HEGEL CDP4A



System	:	24bit 352kHz multilevel DACs with synchronised upsampling
Jitter level	:	Less than 10ps (Hegel SuperClock)
Analog outputs	:	RCA Unbalanced and XLR balanced
Digital output	:	75 ohm SPDIF RCA connector
Frequency response	:	Less than +/- 0.1dB deviation 20kHz
Phase response	:	Linear phase filter
Noise floor	:	Less than -130dB
Crosstalk	:	Less than -100dB
Distortion	:	Less than 0.002%
Intermodulation	:	Less than -110dB (19kHz + 20kHz)
Signal level	:	2.3V for balanced and unbalanced outputs
Dimensions/weight	:	8cm x 43cm x 29cm (HxWxD), 10kg



Hegel RC2 Remote Control

The RC2 remote control can control any Hegel components. It is supplied together with all pre amplifiers, CD-players, H1 and H200 integrated amplifiers.

Pre Amplifiers:

HEGEL P2A



Remote functions	:	Volume, source and mute
Line inputs	:	5 unbalanced, 1 balanced (XLR)
Line outputs	:	1 unbalanced, 1 balanced (XLR)
Frequency response	:	Less than +/- 0,05 dB deviation 20Hz - 20kHz
Phase response	:	Less than 0,5 degrees deviation 20Hz - 20kHz
Signal to noise ratio	:	More than 115 dB balanced mode
Crosstalk	:	Less than -100 dB
Intermodulation	:	Less than 0.001% (19kHz+20kHz)
Dimensions/weight	:	6cm x 43cm x 29cm (HxWxD), 10kg

HEGEL P4A



Remote functions	:	Volume, source and mute
Line inputs	:	5 unbalanced, 1 balanced (XLR)
Line outputs	:	1 unbalanced, 1 balanced (XLR)
Frequency response	:	Less than +/- 0,05 dB deviation 20Hz - 20kHz
Phase response	:	Less than 0,5 degrees deviation 20Hz - 20kHz
Signal to noise ratio	:	More than 115 dB balanced mode
Crosstalk	:	Less than -100 dB
Intermodulation	:	Less than 0.001% (19kHz+20kHz)
Dimensions/weight	:	6cm x 43cm x 29cm (HxWxD), 10kg

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Remote functions	:	Volume, source and mute
Line inputs	:	5 unbalanced, 1 balanced (XLR)
Line outputs	:	1 unbalanced, 1 balanced (XLR)
Frequency response	:	Less than +/- 0,05 dB deviation 20Hz - 20kHz
Phase response	:	Less than 0,5 degrees deviation 20Hz - 20kHz
Signal to noise ratio	:	More than 130 dB balanced mode
Crosstalk	:	Less than -100 dB
Intermodulation	:	Less than 0.004% (19kHz+20kHz)
Dimensions/weight	:	6cm x 43cm x 29cm (HxWxD), 10kg



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