

## NETWORK-ATTACHED AMP

Integrated amp with network/USB inputs. Rated at 303W/8ohm  
Made by: Hegel Music Systems AS, Oslo, Norway  
Supplied by: Auden Distribution Ltd, Lancs  
Telephone: +47 22 605660  
Web: www.hegel.com; www.audendistribution.co.uk  
Price: £10,500

AUDIO  
FILE

hi-finews  
OUTSTANDING  
PRODUCT

# Hegel H600

Built into an enhanced H590 chassis but featuring 'sound tuning' from the P30A/H30A pre/power, Hegel's fully-networked flagship integrated gets off to a flying start  
Review: **Jamie Biesemans Lab: Paul Miller**

After an extended period of Covid and component shortage-related calm, Oslo-based Hegel has seemingly shifted into overdrive, launching multiple new products in just half a year. First up in 2023 was a major update to its flagship pre/power system in the form of the P30A and H30A [HFN Jun '23], followed by the Viking CD player [HFN Sep '23]. The third act is the launch of the H600, which takes over from Hegel's popular, top-tier H590 integrated streaming amp, and sells for £10,500 in a very dark grey, almost matt black finish.

With the H590 only five years old, few were expecting it to be replaced so quickly – especially by a product that at first glance seems quasi-identical to the unit it supersedes. But Hegel, owned by electronics wizard Bent Holter, is very much an engineering-driven company. So, if you're an H590 owner looking for change, look for it under the hood...

### MORE POWER... JUST

Sure, there are familiar sights, such as the dual-mono Class A/B amp stage, powered by a huge toroidal transformer and now rated – with a touch of Nordic humour – to deliver 2x303W/8ohm rather than the 2x301W of the H590 [although, as shown by PM's Lab Report, p63, this powerhouse is capable of more]. Hegel's bespoke SoundEngine 2 error-correcting circuit regime also remains, as does the brand's obsession with achieving a high damping factor. But there are other enhancements, foremost of which is a new DAC stage supported by a fresh streamer board.

Hegel's love of minimalist design is very much on show here. As with all its products, the Norwegian marque isn't aiming to capture the hearts of nostalgic hi-fi buffs, nor those who prefer their amplifiers fitted with touchscreens

**RIGHT:** Six pairs of ultra-fast high current power transistors are deployed per channel [heatsinks, left and right], fed from a huge toroidal transformer and linear PSU. The new digital board [bottom] offers USB and network access

and more functionality than a sonic screwdriver. This subdued, nearly austere design approach results in an amp with a clutter-free fascia. It will blend into most interiors, making the H600 especially attractive to the crowd that believes hi-fi should be heard but not seen.

Switching the amplifier on – or rather, waking it from sleep mode – is done by reaching underneath, leaving only two large rotary knobs visible on the front. These flank a white OLED screen which is used to display the selected input and volume level – just don't expect any metadata to be shown when streaming. There are some subtle modifications, however. The controls are slightly larger than before and have a smoother action thanks to new rotary encoders, and when turning the volume knob, changes are made by an analogue attenuator inherited from Hegel's P30A reference preamplifier.

A special mention should be made of the RC10 remote [see p63], which is a Hegel regular bundled with its more expensive hardware. This might be slender and the buttons tiny, but it is a neat unit that feels as sturdy as the amp itself. Don't drop it on the floor, it might crack the tiles.

### BOARD GAMES

In the past, Hegel tended to prefer AKM DAC chips, but the component shortages plaguing the hi-fi industry forced the company to explore alternative options. This has led to the design of a DAC stage based around an ESS ES9038Q2M device, which is compatible with inputs up to 384kHz/32-bit and DSD256 (DoP) via the USB-B port on the rear or 192kHz/24-bit and DSD64 via network streaming.

Talking of which, the H600's new streaming board supports Tidal Connect, Apple AirPlay 2, and UPnP at launch, with



Roon certification and Spotify Connect due to follow soon. Hegel says this is 'only the beginning', as its new 'highly advanced streaming engine will ensure the amplifier is always up to date with the latest options'. However, there's no company-specific playback app, so you'll need to use a generic UPnP controller. I had no issues with either BubbleUPnP or mconnect Player.

Although integrated streaming is a large part of the H600's appeal, there are physical inputs in abundance too. These include two sets of XLRs, which pair nicely with the balanced/dual-mono circuit design, plus optical and (RCA/BNC) coaxial ins. Added to this are two input-related functions I particularly liked on the H590: the amp's ability to understand the IR commands of a TV remote, and a 'DAC-Loop' to connect an outboard DAC with two cables. This way you can use the streaming input of the

H600, send the digital signal to the DAC, and play the analogue output via the amp – bypassing the internal DAC stage, should you wish for an upgrade.

### PURITY AND AUTHORITY

Hegel's H590 has been my daily driver for my Focal Sopra N°2 floorstanders [HFN Sep '15] for a few years now, so swapping in the H600 allowed for an intriguing comparison between old and new. In terms of sound signature the new amplifier is still recognisably 'Hegel', offering an honest and detailed depiction underpinned by a purity and authority, but there's now an even greater sense of detail and nuance. It's as fine-sounding as the price tag suggests.

Whether streaming a review favourite like Hans Zimmer's bombastic *Live In Prague* [Eagle Records EDGCD670; 48kHz/24-bit], or the more refined sounds

**ABOVE:** The H600 is an object lesson in Hegel's trademark simplicity, albeit writ large. Source and volume controls join a headphone socket, and a power button hidden under the fascia

of Benjamin Clementine's *At Least For Now* [Behind 472 235 3; 44.1kHz/24-bit], the H600 – like its predecessor – kept the reins tightly in hand, so expect no deviation here. Yet there was a more insightful view of the music on offer during Clementine's 'London', especially when looking past the vocals of the English singer and focusing on the nimble piano accompaniment. This extra clarity and naturalness of harmonic color added authenticity to the performance, making me almost forget I was listening to a recording.

### CRACKING THE CODE

The piano playing on the following track 'Adios' saw the H600 capably handling the dramatic transients, and this ability was more in evidence during 'Chevaliers de Sangreal', a fascinating theme on the Zimmer album from the rather less captivating Tom Hanks feature film *The Da Vinci Code*. It's built around the violin of Rusanda Panfili and the slender electric cello of Tina Guo, and the H600 not only recreated the scale of the live venue in Prague but wove these two main melodies together as the orchestra and choral background slowly built to a huge climax. Zimmer, a master of epic overstatement, pulls out all the stops on this piece, but at no point did the H600 let the recording down. Even at epic volumes it delivered – though there are probably situations where this integrated would be bested by the P30A/H30A pairing. But not many.

Connecting a Pro-Ject X2 B turntable and Phono Box S3 B preamp [HFN Sep '22] to one of the H600's balanced inputs, and swapping the Focal speakers for KEF



### VIKING POWER

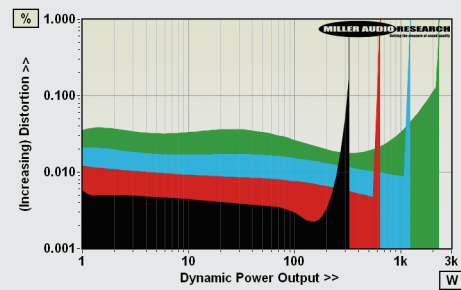
Hegel makes no special claims for the prodigious output of its H600, in fact the only specification is a humorously precise '303W/8ohm' [see Lab Report, p63]. In practice, however, the H600, like its H590 predecessor, resides in the top drawer of the world's most powerful integrated amplifiers. Its 315W/8ohm and 600W/4ohm output is very close to Musical Fidelity's latest Nu-Vista 800.2 [HFN Aug '23] which achieves 325W/8ohm and 575W/4ohm. Both amplifiers have big PSUs, tight regulation and 'relaxed' protection, achieving maximum dynamic peaks of 2.3kW (48.0A) and 2.2kW (46.9A), respectively, into 1ohm. McIntosh's MA9500 [HFN Jul '22] delivers 420W/8ohm but fares less well into low impedances (1.03kW/1ohm) in much the same way as Rotel's Michi X5 [HFN Jul '21] pumps out 446W/8ohm and 770W/4ohm but falls away to 590W/1ohm under dynamic conditions. Historically, only Krell's S-550i amplifier [HFN Jul '13] was marginally beefier at 2x336W/8ohm and 2.4kW/1ohm (49.4A). Judged by these standards the H600 looks to be more tolerant of insensitive and very harsh loudspeaker loads than almost any contemporary pretender to the crown of 'world's lustiest integrated'. We will keep watching, and testing... PM

# LAB REPORT

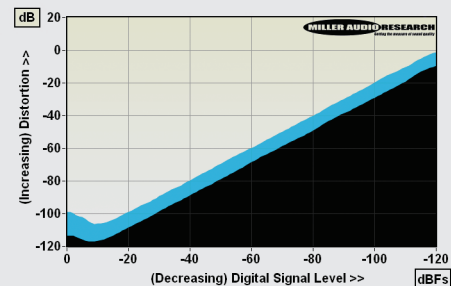
## HEGEL H600

Hegel's dry wit is illustrated by the very precise '2x303W into 8ohm' specification for its H600, a figure met in practice at 2x315W and 2x600W into 8/4ohm, respectively. These numbers are largely unchanged from the outgoing H590 flagship [*HFN* Oct '18] as is its near-identical dynamic prowess of 327W/8ohm, 641W/4ohm, 1.24kW/2ohm and a huge 2.30kW (48A) into 1ohm [see Graph 1]. The +32.9dB gain is unchanged but despite this common 'gain/power' envelope, the H600 has been fettled for lower noise – and a wider 93.3dB A-wtd S/N ratio – alongside a very different distortion profile. The H600 has higher THD into lower loads, but the trend is otherwise very linear from 0.0057%/1W to 0.0045%/10W and to 0.003%/300W (all 1kHz/8ohm). THD increases slightly at LF (0.007%/20Hz) and HF (0.01%/20kHz/10W) with only a slight further increase up to 100W/8ohm. Response is flatter too – now just -0.11dB/20kHz to -0.8dB/100kHz/8ohm.

The H590's AKM AK4490 DAC is replaced by an ES9038Q2M converter on the H600's digital PCB, although Hegel's preferred choice of minimum phase filter type is retained, offering a 75dB stopband rejection with no (acausal) pre-ringing. Tested via the fixed (2.43V) line out, the response 'shape' shows a mild but consistent HF lift with all sample rates, reaching +0.2dB/20kHz, +0.75dB/45kHz and +1.7dB/90kHz (and +2.0dB/80kHz) with 48kHz, 96kHz and 192kHz media, respectively. THD is 0.0002-0.0013% (20Hz-20kHz) with peak (0dBFS) digital inputs and falls to a minimum of 0.00009-0.0004% over the top 30dB of its dynamic range [see Graph 2]. Again, the 107.3dB A-wtd S/N ratio is a marked improvement over the H590 and jitter is almost entirely suppressed to <5psec at all sample rates. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 48.0A



ABOVE: Distortion versus 24-bit digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	315W / 600W
Dynamic power (<1% THD, 8/4/2/1ohm)	327W / 641W / 1.24kW / 2.30kW
Output impedance (20Hz-20kHz)	0.027-0.058ohm (554ohm, pre)
Freq. resp. (20Hz-20kHz/100kHz)	-0.15 to -0.11dB/-0.8dB
Digital jitter (S/PDIF at 48kHz/96kHz)	<2psec / <5psec
A-wtd S/N ratio (re. 0dBW/0dBFS)	93.3dB (Analogue) / 107.2dB (Dig)
Distortion (20Hz-20kHz; 0dBW/0dBFS)	0.0045-0.013%/0.0002-0.0013%
Power consumption (idle/rated o/p)	85W / 1.014kW (1W standby)
Dimensions (WHD) / Weight	430x171x445mm / 22kg



ABOVE: On the lower right of the rear panel are fixed and variable preamp outputs, alongside five line inputs (two balanced on XLRs, three single-ended on RCAs). Digital ins (above) include three optical, two coaxial (RCA/BNC), USB-B and wired Ethernet

R7 Metas, introduced some major sonic changes. Although the £3999 R7 Metas are relatively affordable compared to this £10,500 amp, the combination showcased the H600's incredible grip and agility.

*My Back Was A Bridge For You To Cross* [Rough Trade RT0393LP], from Anohni And The Johnsons, was a personal favourite this past (wet) summer. There aren't large amounts of low-end content or epic dynamics for the H600 to strut its stuff with, but instead the album serves up songs replete with emotional engagement and frailty. The challenge here is to take all those fine nuances and deliver them with the emotion intact – something the H600 does without embellishment, opting for a natural representation that's ultimately more authentic.

Granted, Anohni's slightly nasal voice might not be everyone's cup of tea, but it was delivered faultlessly. Nor was the quality of the H600's performance limited to the vocals. As with Clementine's songs, there's detailed playing in the background – one impressive highlight was the mellow 'It Must Change', where the sound of a softly played electric guitar was rich and full of texture.

During the years I have used an H590, many times I have attached an external DAC – T+A's DAC200 is a favourite [*HFN* May '22] – via the DAC Loop function and

LEFT: Hegel's RC10 system handset offers input, volume, mute and display adjust for the H600



noted an improvement in terms of clarity, spatial information and timing. Looping the DAC200 and a Musical Fidelity M6x [*HFN* Jul '22] through the H600 indicated that the need for such an addition was far, far less obvious. The new DAC stage in the H600 really delivers the goods – upgrading is still possible via the Loop function or analogue inputs, but as the H600 raises the bar, you'll have to look for a very superior type of DAC to better it.

### FAT CONTROLLER

Returning to Hegel's H600, *au naturel*, the fat, throbbing bass notes underpinning the analogue-sounding synth on Moderat's 'Bad Kingdom' [//, Monkeytown Records MTR035CD; 44.1kHz/16-bit] required it to make a bit more of an effort. But it's not just the power reserves on tap that impress while listening to this techno classic, there's also the exacting control the amp has over the proceedings. Most tracks on // are laidback in terms of tempo but feature taut, strictly defined beats. The H600 delivered it all with a punch as massive as you (and your speakers) can handle. ⚡

### HI-FI NEWS VERDICT

There was very little wrong with the H590, but Hegel has still managed to create something even better. The resulting H600 is powerful on a scale you wouldn't expect from an integrated design, and has excellent streaming options and connectivity. This is a top performer, offering supreme control and an 'as-is' musical depiction that will let you savour everything your chosen loudspeakers have to offer.

Sound Quality: 89%

