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# Hegel H90 integrated amplifier

by Alan Sircom



I've made no secret of the enjoyment I've extracted from the Hegel H80 integrated amplifier. The starter amp from the Norwegian electronics expert has fought above its weight category for the last four years, often being the cheapest link in an otherwise very expensive chain. The H90 replaces the H80, and improves on its predecessor in almost every way, but without incurring a price penalty. And, although they ostensibly look the same, share a similar chassis, and occupy the same space in the catalogue, they couldn't be more different.

Hegel has changed a lot in the intervening years between the H80 and H90. The H80 was one of the first of the company's 'refreshed' line, featuring improved versions of the company's long-standing 'SoundEngine' circuit design, but subsequent developments have radically improved the performance of Hegel's amplifiers still further.

Hegel is big on nomenclature, and the H90 bristles with several of the company's key technologies, encapsulated in

pithy names like 'DualAmp' and 'DualPower', alongside the aforementioned 'SoundEngine'. It's worth looking at Hegel's own documentation to get more loquacious descriptions than we can muster here, but in essence, 'DualAmp' technology separates the voltage and current gain stages into two distinct amplifier modules, while 'DualPower' relates to provision of discreet power supply feeds to the input/voltage gain stage of the preamplifier section, and the current output stage of the power amplifier stage, with separate taps from the transformer feeding independent power supply sections. 'SoundEngine' meanwhile is a form of local error cancelling in place of global feedback, which in sound quality terms makes an amplifier with Class AB efficiency and something close to Class A performance. These all combine to create Hegel's 'Organic Sound' voicing, which is unconnected to a specific engineering concept, and more to do with listening tests and the generalised application of technology to ensure the amplifier sounds as natural as possible. We're not reinventing ►



► the wheel here, and this approach to amplifier design works well for other companies without the need to create names and little orange logos for each aspect, but it bespeaks of the application required to make an amplifier sound good.

The new DAC section still includes conventional S/PDIF and USB interfaces, but now brings Ethernet network streaming to the party. This remains a 24-bit, 192kHz PCM-based DAC; those seeking a more DSD-related performance from Hegel should look at one of the two DACs made by the company, and MQA is presently not in Hegel's line-up at all. This section also comes in for its own share of the nomenclature: 'USB' is – as you might guess – discussing the USB input, however Hegel's pin on this is to have effectively its own custom sound card at the USB input. Meanwhile, the company's 'SynchroDAC' system is an internal jitter and synchronised upsampling system, in direct opposition to the now more commonplace asynchronous conversion found in most USB converters. Hegel suggests asynchronous technology converts jitter into amplitude errors within the signal, thereby undermining the digital data on input.

There are two radical components to the H90 when set against the H80. First, the front panel is now a composite instead of metal, although unless you plan on using the H90 for a game of 'guess the material' this should be about as relevant to the performance as the logo on the cardboard box used for delivery. Then, the H90 is actually less powerful than its predecessor, on paper at least. This is now a 60W amplifier

where the H80 achieved 75W per channel. Paradoxically, the H90 is a more powerful amplifier in terms of what it does with those 60W, as evidenced in part by the amplifier's high damping factor of more than 2000, effectively doubling the power supply 'stiffness' of its predecessor. In practice, the only real omission between H80 and H90 is the removal of the XLR input for pseudo-balanced operation. As the H80 sounded slightly better through single-ended phono sockets anyway, getting rid of these connections in favour of leaving just the original two RCA inputs and one output is no big loss at the price.

In reality, the H90 has more in common with Hegel's Röst than the H80. It has the same inherently readable fluoro display, and now includes Ethernet streaming alongside a single coaxial input, three Toslink optical inputs, and one USB input. In fact, aside from the white finish and the Control 4 architecture, you could think of the H90 as Röst for traditionalists. This is a very different approach from the earlier H80 amp design, as Ethernet streaming was an omission on the older generation of amplifiers. There is also an Apple Airplay option. Hegel has avoided the networking money pit of custom designing its own apps, and recommends a combination of QNAP network storage devices, Twonky (for the network storage controller) and either Linn Kinsky (as media player for iPhone users) or Bubble UPnP (for Android owners). You could also use PlugPlayer or a host of other apps, because the 'joy' (which to some could be spelled 'curse') of UPnP is the 'U' part – Universal. Everything (in theory) speaks to everything ►

*“That change applies just as much to the H90, and it represents the best sounding amplifier in the standard Hegel line at this time.”*



▶ else. However, it does work successfully and the clever part is Kinsky/Bubble ‘talk’ to the volume control motor rather than simply bit-chopping the data. Or, you can just use a Naim UnitiServe (or new Uniti Core) and force-feed the Hegel that way. Regardless, Hegel’s solution is a successful one, although if you are new to networked audio, you should put your trust in a good dealer, as Hegel’s support is limited to the documentation online.

From a sound quality perspective, the interesting thing is how close to the Röst things have now come. The H80 had a sense of authority over the sound (which allowed it to work with surprisingly up-scale loudspeakers, such as Wilsons and Magicos), but that is taken to the next level in the H90, as its sense of grip over the drivers of loudspeakers far beyond its expected price partners is exceptional. I felt the Röst became the best sounding Hegel amplifier, so long as you didn’t need H360-levels of grip in part because of that increased sense of authority, and due to some additional smoothness and balance in the upper registers. That change applies just as much to the H90, and it represents the best sounding amplifier in the standard Hegel line at this time.

I have to admit to looking at my notes both for the Röst and H80 in compiling this review, and found myself in agreement with myself, which is handy. In other words, this new H90 is a distillation of all that’s good about the Röst for the audiophile without the Control4 architecture, and yet it sounds more like a combination of the best of Hegel’s audiophile amplifiers (like the H80) and the Röst in sound quality terms. That makes it virtually unbeatable!

I almost automatically went back over the same pieces of music, so close is the performance between H90 and Röst. I wrote about *Art of Fugue* by the Emerson Quartet [DG] and Herbie Hancock’s *River: The Joni Letters* [Verve] last time I was faced with a Hegel amplifier and I did it again this time. Why? Because they work, they fit the overall Hegel sound, and because they sit on an ‘Audiophile test music’ playlist on my computer and my music server. As with the last visit to Hegel-land, they had a free and open sound, with excellent dynamics, authority, and a pervasive sense of refinement throughout. If a good audio company is about consistency of design from drawing board and out of the factory door, then Hegel is on a roll; the H90 is so obviously a Hegel amplifier in terms of performance, because it strives to have no obvious character, just like its predecessors.

Hegel’s presentation is typically very clean and slightly forward sounding, but this has been successively tempered in each generation of Hegel amplifier. The H80 was less bright than its predecessors, and the H90 is more ‘brisk’ and ‘clean’ than ‘bright’. It makes for an expensive sounding, extremely detailed presentation, that is at once insightful of good recordings and more forgiving of bad ones. It’s not an analytical beast – The Unthanks’ ‘Because He Was A Bonny Lad’ [*Here’s the Tender Coming*, EMI] can sound undynamic and cheaply recorded (because it was), but through the H90 you get the performance first, the recording second.

The cut in power between H80 and H90 is a trivial aspect of performance, because the H90 is in all practical senses the more powerful sounding device. It also controls a pair of ▶

*“Hang a pair of alarmingly high-end loudspeakers from the terminals of the H90 and you are met with a fine sound.”*

► speakers with the kind of grip Hegel is praised for, only more so. The only way you’ll know this is the entry level amplifier in the Hegel range is if you listen to music with the invoice printed out in front of you. Hang a pair of alarmingly high-end loudspeakers from the terminals of the H90 and you are met with a fine sound, far better than you might ever expect. It’s only when you really try to push things too hard – like attempting to play ‘Dachau Blues’ from Beefheart’s *Trout Mask Replica* [Reprise] at late-night-drunk levels – that any sense of ‘pushing too far’ was achieved. And ‘too far’ was almost ‘we’ll call the police’ loud. Impressive!

This really is an amplifier made for the people, in that streaming brings in a new generation of buyers to Hegelian philosophy. OK, so most of those won’t play a surreal album from almost 50 years ago through a pair of loudspeakers that cost 20x as much as the H90 itself, but if it can pass muster on such a test, it can make anyone’s audio pleasure more enhanced. And the streaming aspect adds to that pleasure, because that’s one of the main ways we listen to music now.

Another way we listen to music is through headphones, and once again Hegel scores highly on the on-board amplifier stakes. This isn’t an afterthought, and while there are better standalone dedicated headphone amplifiers, this is an extremely good example of what can be done inside a dedicated two-channel amplifier. The H90 really could wind up being the cheapest component in the whole chain and never once give the game away.

There’s an almost mandatory set of recommendations here, some of which I chose to ignore in the course of the listening test. First, the Hegel goes well with good, mid-level Nordost cable. I used Blue Heaven from one-end of the system to the other (adding in my current favourite CD source, the Mohican from the same brand), and messed around – successfully – with SortKones under both player and amplifier. These are not there to bolster up a product with poor support; it’s that the justification for spending a lot of money on accessories like this is so much more significant when the amplifier is this good, and the Nordost sound goes well with the Hegel sound. And here’s the bit I didn’t follow – Hegel and KEF seem to be working so well together that KEF uses Hegel electronics (and vice versa) in their demonstrations. Instead, I felt no problems in using the H90 to evaluate every

## TECHNICAL SPECIFICATIONS

**Type:** Integrated amplifier with internal streaming DAC

**Power output:** 2 × 60W in 8 Ohms

**Minimum load:** 2 ohms

**Analogue Inputs:** 2 × unbalanced (RCA)

**Digital Inputs:** 1 × coaxial S/PDIF, 3 × optical S/PDIF, 1 × USB, 1 × Network

**Line level Output:** 1 × unbalanced variable (RCA)

**Frequency response:** 5Hz–100kHz

**Signal-to-noise ratio:** More than 100dB

**Crosstalk:** Less than –100dB

**Distortion:** Less than 0.01% @ 25W 8 Ohms 1kHz

**Intermodulation:** Less than 0.01% (19kHz + 20kHz)

**Damping factor:** More than 2000 (main power output stage)

**Dimensions (H×W×D):** 8 × 43 × 31cm

**Weight:** 11kg

**Price:** £1,500

**Manufactured by:** Hegel

**URL:** [hegel.com](http://hegel.com)

**Tel:** +47 22 60 56 60

loudspeaker in this issue, as well as using it with my reference Wilson Duette Series 2.

The point of the Hegel H90 is it’s a ‘do no harm’ amplifier. It simply takes the signal and makes it sound like it should through loudspeakers. If the music is well-recorded, it will sound good. If the music isn’t well recorded, it will sound... OK. But the joy of the H90 is that it can do this to far more exotic loudspeakers than you might ever imagine a £1,500 amplifier doing. And with loudspeakers more in line with the price, the combination sounds excellent. Ultimately, this is an amplifier with staying power, like the H80 before it. You could happily use the H90 with a pair of reasonably priced loudspeakers today, upgrade the speakers significantly without needing to touch the amplifier. Like its predecessor, only more so, the H90 is a solid, powerful recommendation at this price and way beyond! +