

# Nagra HD AMP

Inspired by its own VPA amplifier, but with the intent to drive the ultimate high-end systems in large rooms, Nagra set to work designing its 'Statement' monoblocks  
 Review: **Ken Kessler & David Price** Lab: **Paul Miller**

Look at the photos: the Nagra HD AMP's slim, vertical layout will remind fans immediately of the company's first power monoblock amplifier, the VPA. This vertical stance is not all that common – remember Halcro? – while the small footprint it affords makes a vertical model instantly appealing for those who value floor space. Nagra's new, top-of-the-range unit, however, is purely a solid-state device which – profile aside – is the antithesis of the all-valve VPA, which was rated at 50W in 'Pure Class A'.

By contrast, its HD AMP (£62.5k a pair), can also do 'the Class A thing' up to a rated 30W, but one suspects that anyone purchasing these 56kg brutes will want them for their 250W/8ohm capability. As Nagra is known to use power-swallowing speakers from Wilson Audio for hi-fi show demos, more-than-ample grunt is no luxury: it's a practicality [see PM's Lab Report, p39].

## AGNOSTIC AMPLIFICATION

Like precious few brands – McIntosh and Audio Research spring to mind – Nagra continues to offer both solid-state and valve electronics. Says Matthieu Latour, the company's Audio Division Director [see boxout, p35], 'Nagra's philosophy has always been to use the best technical solution for the best result, whether tube or transistor. We are not "religious" about tech, we just want to make the most of it.'

'Our top series is called HD or "High Definition" and has no limit on size or price. This has allowed us to release the HD DAC, HD AMP and, at CES 2018, the HD PREAMP.' The HD AMP reviewed here, according to Latour, 'took three years to develop and many improvements were made throughout our listening sessions. Many components that had the same specs were A/B-tested, and we always went for the best sonic result, whatever the cost.'

**RIGHT:** With a massive 1.6kVA toroid [far right] as its foundation, the HD AMP's extensively conditioned PSU is smoothed through a bank of 264mF (264,000µF) Mundorf capacitors [top right]. The MOSFET amp stage is located beneath

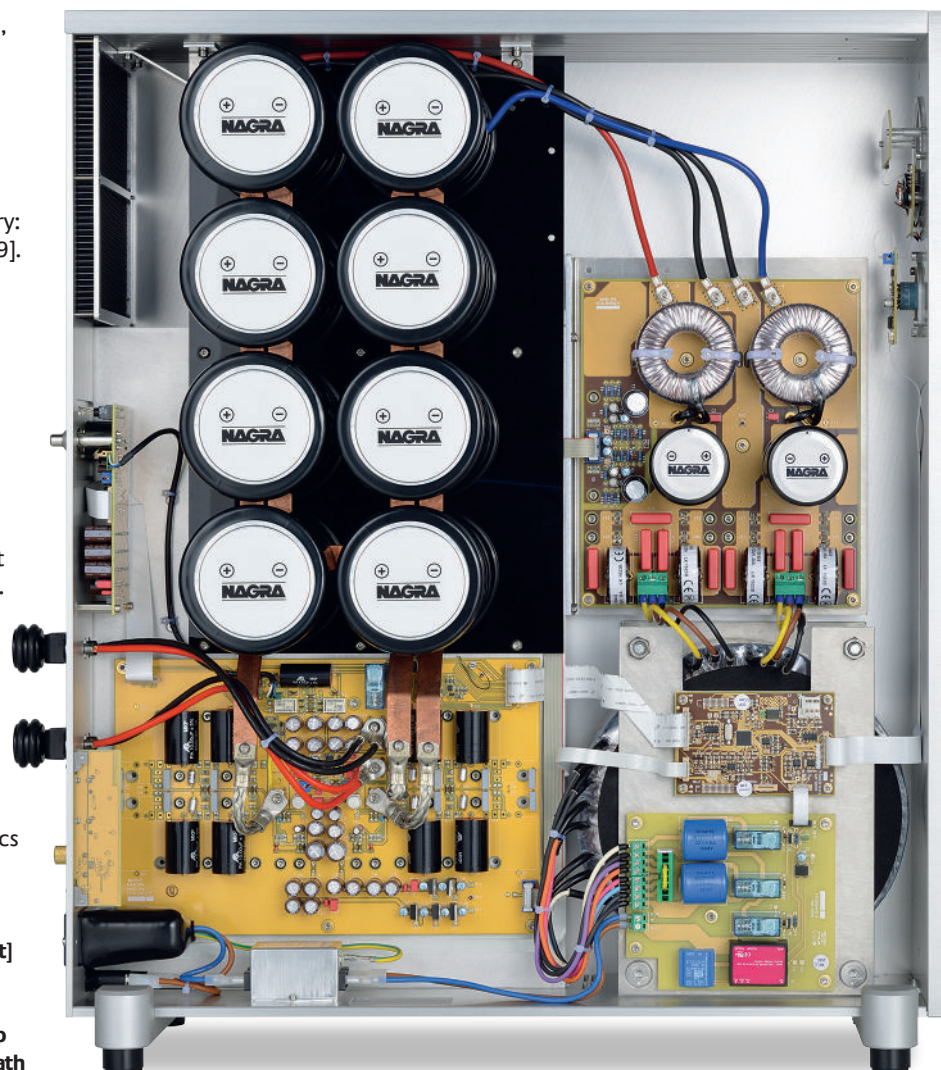
It's arguably more practical to design a 250W transistor amp than 250W tube amp in terms of reliability, heat dissipation, size and so on, but the HD AMP still tips the scales at the same weight as a teenager, a St Bernard or, indeed, four VPAs.

Its uncluttered and wholly functional fascia is typically Nagra-esque, complete with signature 'Modulometer', and an on/off rotary with 'Mute' position. As the Modulometer is a key selling point of nearly all Nagra products, the fact that it can be

dimmed or darkened completely might seem a moot issue. Who'd switch it off?

## FLAIR FOR FUNCTION

Brief aside: however busy the company's legendary portable tape recorders may have looked, it was always truly a case of form following function. Every single knob, switch, pulley and dial has a clearly-labelled purpose, and it's the same with the HD AMP. That said, the back, too, is minimalist, when you consider how much



## NAGRA'S MILESTONES

For the first 45 years of its existence, Nagra produced professional tape recorders. Its high-end audio story began in 1997, with the phono-equipped PL-P preamp, the first aimed at domestic audio users. It was an immediate hit, not least because Nagra already had a following in the audiophile community thanks to the use of the Nagra IV-S as a high-end open-reel tape deck. The company swiftly followed the preamp with units that would form a complete Nagra system, with 1998's much-loved VPA vacuum tube power amplifier and, a year later, the MPA MOSFET solid-state power amplifier. While more of a curiosity than a viable primary sound source, the limited edition SNST-R 'hi-fi' version of the SNST spy recorder was introduced. Since then, the range has grown to include the PL-L line-level preamp, a DAC, the PMA Pyramid Mono and PSA Pyramid Stereo amps and, in 2006, the CD-T/P/C range of CD players and transports. Completing its first decade in high-end audio, in 2007 Nagra released the VPS valve phono stage.

**LEFT:** Rotary selects auto (remote on), on and mute modes. Is the Modulometer accurate? Pretty much – the 5W and 50W/4ohm marks are just exceeded by the needle, so the scale under-reads by a mere 5%

real estate is available to a unit standing 238x644x542mm (whd). But then, this is a power amp, and all that any amp requires are inputs, speaker outputs and mains ingress.

For its HD AMP, Nagra has included (from the top) an air vent, a choice of single-ended RCA and balanced XLR sockets, and a filter toggle that cuts the DC of incoming signals. Input sensitivity can also be adjusted. Below that are Nagra's massive speaker terminals, in-and-out sockets for remote triggers and a USB input for servicing. Lastly, the HD AMP is equipped with the larger flat-bladed style of IEC mains socket.

## POWER MOSFETS

Inside, and you can immediately recognise Nagra's 'pro' approach to construction. Everything is readily accessible, as if designed for on-site, on-the-fly-servicing, with four primary modules and smaller 'daughters'. Along with the USB comms, this should be an easy amplifier to update should any modifications become available.

Handling the unit's massive weight is made simpler, though not necessarily easier, thanks to the location of the huge 1600VA toroidal in the lower part of the chassis. Its other sub-sections include the main audio PCB hosting Nagra's regular choice of

matched power MOSFET devices and a huge board, occupying the lion's share of the available space, equipped with eight custom-made Mundorf reservoir caps.

As with all Nagra power amplifiers – let's be honest: as with *all* power amplifiers unless they incorporate outré technology like 1920s valves – set-up is a straightforward matter bar the weight issue. Everything is easily accessed and the amplifiers were swiftly installed in editor PM's review system which included a dCS Vivaldi One CD/SACD/network

DAC, also pressed into service as preamp [HFN Feb '18]. Speakers included the ELAC Adante AF-61 [p40] and B&W 800 D3 [HFN Oct '16] floorstanders. Where Nagra again shows its professional

roots is in the adjustability of items including sensitivity and DC filtering – set to 2V, as the best match for the Vivaldi One, and 'off' in this instance.

## THE BIG MATCH

There's no mistaking the sound of this amplifier, whatever type of music you choose to play. It's the hi-fi equivalent of a floodlit sports stadium – things are presented on a grand scale yet all the players on the ground are clearly visible, well lit without dazzling. There's not one iota of doubt about what is going on – what each individual strand of the recording is, and where it should be.

Yet despite the fact that each HD AMP issues vast amounts of detail with riflebolt precision, there is never any sense of it being overly forensic or artificially sterile. In other words, the Nagra HD AMP has sublime space and great pace. It performs that special magic trick that so

'The HD AMP tips the scales at the same weight as a St Bernard'



## POWER AMPLIFIER



**ABOVE:** The elegant tower chassis of each HD AMP belies its prodigious 56kg weight, the exterior decorated by the trademark Modulometer. Some 80% of the interior is occupied by Nagra's massive but sophisticated (heavily regulated/filtered) power supply

few amplifiers can, of taking you right to scene of the original recording, to enjoy a thrilling musical performance.

Chris Rea's 'On The Beach' [*New Light Through Old Windows*; WEA 243 841-2] sounds rather dated these days. Despite being a great classic pop song, many aspects of its production might have been improved at the time. Its multiple layers of instrumentation and percussion, for example, are all tightly compressed to give a wall of sound and are hard for most amplifiers to unpack. But not so with the HD AMPs, which took the album apart piece by piece with consummate ease.

From the song's opening bars, Nagra's 'Signature' amplifiers got a complete grip on the drum machine work – the beat shuffled along with spontaneity and speed, with oodles of filigree detail revealing every stroke and tap of percussion. The way that Rea's lead guitar work syncopated with this was a delight, the ensemble sounding deliciously tight and fast. Over this, his gravelly vocal worked not just as a melodic instrument but a rhythmic one – his phrasing beautifully carried, glueing the whole song together. Beneath this, a taut, tight '80s-style bass guitar added extra impetus and the result was a thrilling, edge-of-the-seat listen. The wonderfully propulsive sound of this amplifier was able to eke out the music's natural rhythm regardless of the quality of the recording.

*'It's the high-end hi-fi equivalent of a floodlit sports stadium'*

Feed it better material, and the HD AMP really picks up its skirts and runs. Sting's 'Fields Of Gold' [*Ten Summoner's Tales*; A&M Records 540 075-2] was recorded only five or so years later than Chris Rea's album, but the Nagra monoblocks showed just how far technology had advanced by the early '90s. It served up a breathtakingly spacious recorded acoustic, one that seemed to make editor PM's B&W 800 D3 loudspeakers vanish.

### SONIC SUMMONS

We were both summoned into this cavernous soundscape, as wide and deep as you have a right to expect from a pop record. Inside this, the startlingly open and clear midband let us peer right to the back of the recording, picking out a wealth of detail that lesser designs simply

miss. The images of instruments were chiselled with granite-like certainty into the soundstage, every last strand of the mix played with complete impunity – never obstructing other instruments and/or the flow of the song.

The gentle classical guitar work embellishing the song was there in all its glory, set right behind the powerful, gliding keyboard backing. The maracas and rim-shot percussion were clear to hear, locked right in the middle of the soundstage; the latter particularly striking for its long, natural decay. Sting's voice sounded rich ➞

### MATTHIEU LATOUR

Matthieu Latour – recently promoted to Audio Division Director – notes that 'We still have gaps in our ranges and are working to fill them. Our ambition is to continue developing products that offer a complete end-to-end solution from source to amp.'

With the inexorable move towards non-physical media, one wonders if Nagra has plans for streaming or servers. 'A difficult question as we offer top digital recorders, and often music lovers use them to playback in a home environment. It wouldn't be technically very challenging to make a "home" version, though we feel the market is full of questions at this time. We are waiting to see if streaming services take over traditional playback, if standalone servers will become obsolete or if a real hardware player is still needed.'

'Another problem is that Nagra components can run for decades, when a computer-based solution is obsolete after about three years. How do we provide customers with a long-lasting solution? We have yet to find a satisfying answer.'

With the niche revival of open-reel, the brand's fans are hoping for a return of the Nagra IV. A new model or a reissued IV-S or TA would be a major coup, but Latour says that, 'It would probably cost a very high price. The big question mark is the heads. Nagra used to manufacture 100% of the recorders in house, including the tape heads, which were unique. I am not sure we could build them in-house today or find suppliers that could build to the same quality.'

'Today we still service many analogue Nagras and we still have a few new heads!'





**LEFT:** Balanced (XLR) and single-ended (RCA) inputs may be selected with the option of a DC filter and 1V or 2V input sensitivity. The screw-clamp bi-wire speaker terminals are ideal for spasen

said, there's no added romance, for the HD AMPs made the likes of Constellation's Taurus Stereo – a much-liked reference power amplifier [HFN Dec '17] – sound just a little euphonic by comparison. This wasn't because the HD AMPs were obviously brighter, but the Taurus was slightly 'fluffier' and more diffuse – like a Monet painting.

### NEVER BORING

In fact, this amplifier is one of the most translucent I have ever heard. Whether it's the ability to scythe through the complex soundscape of the Pet Shop Boys' 'Being Boring' [Behaviour; Parlophone CDPCSD 113] or to carry the scale and power of Pink Floyd's epic 'Breathe' [Dark Side Of The Moon; EMI 7243 582136 2], the HD AMP remains utterly unflustered.

Turn up the volume, and the soundstage just keeps getting bigger, and an ever greater wealth of detail comes to the fore. At the same time, you begin to appreciate its superlative bass; so fast and lithe yet never overblown or flabby, the Nagra monoblocks are able to cook up great power when called upon. As things get louder, this amplifier stays absolutely consistent, maintaining the beautiful rhythmic flow of the song while its enveloping vibrancy pulls the listener closer and closer. ☺

### HI-FI NEWS VERDICT

This is an exceptionally high resolution device, a superlative power amp that's as devoid of faults as might realistically be demanded given the equally superlative price. Even 'difficult' loudspeakers are driven to high levels and all but commanded to deliver a sound that is at once smooth and exquisitely detailed, gentle yet resolutely powerful. For a few lucky owners, the HD AMPs will be a partner for life.

Sound Quality: 90%

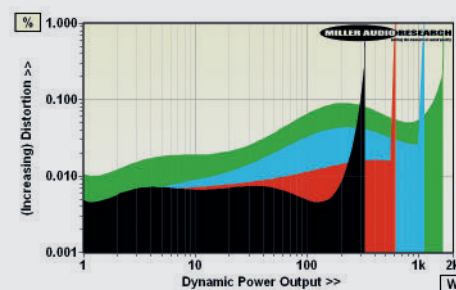


## LAB REPORT

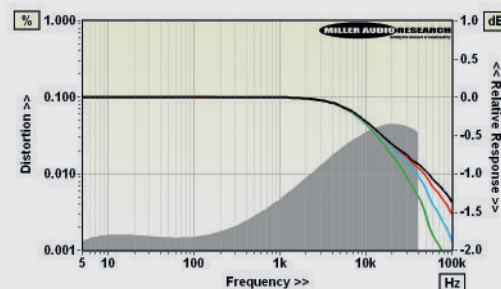
### NAGRA HD AMP

Nagra, not unlike Naim [HFN Jun '15], describes its flagship power amplifier as a 'Statement'. Neither is kidding and both amplifiers – despite being rated very differently at 250W and 746W/8ohm, respectively – achieve pretty much the same maximum power/current at 1.65kW and 1.59kW/1ohm. So Nagra's HD AMP has it by the nose at 40.6A at which point its electronic protection kicks in. Protection also prevents the HD AMP from clipping under continuous conditions, or at least beyond 0.5% THD at 290/8ohm and 475W/4ohm. Both figures are above Nagra's specification but it's the dynamic performance of 330W/8ohm, 621W/4ohm and 1.11kW/2ohm that really tells the story of the HD AMP's unburstable demeanour [see Graph 1].

There is absolutely no difference in distortion versus level or versus frequency between the 1V and 2V input sensitivity options (33dB vs. 27dB gain), though the former does offer an improved A-wtd S/N ratio of 84.6dB (re. 0dBW). Distortion holds to within 0.002% through bass and 0.005% through midrange frequencies over the first 150W of its range, although this increases at high frequencies to 0.035%/10kHz and 0.045%/20kHz in line with an increase in output impedance (flat at 0.02ohm from 5Hz-20kHz) of 0.045ohm/40kHz and 0.142ohm/100kHz. This distortion trend is revealed in Graph 2 [grey infill] alongside traces of the HD AMP's frequency response into 8, 4, 2 and 1ohm loads. While all Nagra's specifications are met by a wide margin, the '+0/-0.5dB, 0Hz-120kHz bandwidth' is not, but the 'engineered' -0.1dB/5kHz, -0.3dB/10kHz, -0.6dB/20kHz response shelf is both exceedingly mild and ingenious in its subjective impact. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Maximum current 40.6A



ABOVE: Distortion vs. extended frequency at 10W/8ohm (grey) vs. response into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green)

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	290W / 475W
Dynamic power (<1% THD, 8/4/2/1ohm)	330W / 621W / 1.11kW / 1.65kW
Output imp. (20Hz-20kHz/100kHz)	0.019-0.022ohm / 0.142ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.0 to -0.6dB / -1.38dB
Input sensitivity (for 0dBW/250W)	65mV / 1030mV (balanced)
A-wtd S/N ratio (re. 0dBW/250W)	84.6dB / 108.6dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0015-0.044%
Power consump. (idle/rated o/p)	161W / 430W
Dimensions (WHD) / Weight	238x644x542mm / 56kg (each)

and enveloping, and almost ethereal in the way it hovered over the musical proceedings.

This combination of speed and scale is a compelling one, and will surely bring any loudspeaker to life. Yet it's important to appreciate this isn't achieved by shrillness or brightness, for the Nagra HD AMPs brilliantly capture what is on the recording in the first place without recourse to any artificial edginess. This unalloyed, unsullied exposition of the original recording also revealed another 'vintage CD' – Tracy Chapman's 'Fast Car' [from Tracy Chapman; Elektra 960 774-2] – in a fresh new light.

Female voices soon expose hard-sounding amplifiers but Nagra's HD AMPs remained silky-smooth here, projecting the distinct tone, colour and passion of her voice with a compelling immediacy. This