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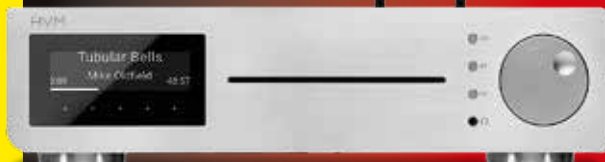
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AVM Inspiration CS 2.3

The latest all-in-one compact Class D streaming system from the German company features an enhanced network audio platform – but that’s only the start of its appeal
 Review: James Parker Lab: Paul Miller

As the model designation suggests, this isn’t the first all-in-one network audio system from German high-end company AVM. Replacing its existing Inspiration CS 2.2 model, the new Inspiration CS 2.3, selling for £5250 in black or silver finishes, with a chrome ‘Cellini’ finish available as a somewhat glitzy extra-cost option, is based around the company’s latest streaming platform. Designated the ‘X-Stream Engine’, this is already used in the flagship Ovation CS 8.3 all-in-one system as well as various other network-capable components in the brand’s extensive lineup.

With that upgrade comes a new control app, the AVM RC X, available for both Apple iOS and Android devices. In practice, it’s best to resign yourself to app control of this system, as no conventional handset is supplied in the box. Instead, the company’s IR/RF remote control, complete with recharging docking station is available as an optional extra, setting you back the better part of £500. Ouch.

SLICK OPERATOR

Yes, you can control the CS 2.3 using the display, but this isn’t a full touchscreen device. Instead, up to four little white dots light up across the bottom of the panel which must be touched to make changes, all of which seems rather fiddly compared to the slick operation via its RC X app [see screenshots, p51]. Indeed, the new ‘engine’ and app is at the heart of turning the CS 2.2 into the 2.3 version we have here, the company saying that ‘Simple, intuitive operation and a clear and beautifully designed user interface make managing even large music collections child’s play’.

As supplied, the system handles network audio, Bluetooth 4.2 and Apple AirPlay 2, and can stream from HighResAudio, Qobuz, Spotify and Tidal (with the appropriate

RIGHT: Phono stage and preamp [lower right] are joined by ESS9038 DAC [lower centre], X-Stream processor [blue PCB] and slot-loading TEAC CD drive [top]. Screened Pascal Class D amp [black box] has additional PSU reservoir [right]

subscriptions), and also Internet radio. We’re also promised that this provision will be expanded – the unit can be upgraded via USB or ‘over the air’ via its network connection – and that Roon is on the way. As it is, the CS 2.3 will show up in Roon’s list of available devices even though it hasn’t yet completed certification.

A REAL CD PLAYER

The Inspiration CS 2.3 is comprehensively equipped and includes a slot-loading CD player using a dedicated Teac drive, not a more commonly used DVD-ROM computer part. And despite its relatively compact dimensions at just 34cm wide it’s a true ‘just add speakers’ system, and one whose 140W-rated Class D amp modules are

seemingly capable of driving a wide range of speakers [see PM’s Lab Report, p53].

It also has a comprehensive set of inputs, which isn’t always a given with systems of this kind, including digital on HDMI for TV sound, while the analogue provision includes MM/MC phono, with impedance adjusted via a supplied set of plug-in adapters. There are also two line inputs, configurable in the menu-system to

‘bypass’ mode for use with home cinema processors, and as well as its speaker outputs the Inspiration CS 2.3 offers both fixed and preamp-level outputs. Yes, deep in the menus you can turn off the internal power amps should you wish at some stage to use this integrated

‘It offers the right balance of intimacy and passion’



ABOVE: Seen in its black livery, the CS 2.3 has CD, BT and input selection buttons, plus a multi-function rotary. Configuration is possible via its display or, better, via the AVM RC X app [below]

solution purely as a preamp. There’s also a headphone output on the front panel.

On the digital side, the new streaming engine has brought the CS 2.3’s file-handling capability up to DSD128, and as well as the network audio connection – via Ethernet or Wi-Fi – there’s also a USB-A port that’ll accept audio on storage devices. A second USB-A is also fitted, but that’s provided merely to power the ‘base station’ for the RC 9 handset if required.

‘Conventional’ digital inputs and outputs are provided on both optical and coaxial sockets, and the CS 2.3 can also be combined with other AVM products in multiroom mode. Also buried in the menu are a whole range of configuration options, including input sensitivity and renaming; the ability to skip unused inputs; start-up and maximum volume settings; tone control and parametric loudness, applied either globally or to individual inputs.

If all that gives the impression of a device both skilfully designed and thoroughly considered, that’s exactly what the Inspiration CS 2.3 is, right down to AVM’s superb standard of finish. Indeed, the only fixings visible are screw-heads hidden away to the rear and below, giving the whole thing an impression of solidity and quality. And that’s how it sounds when used with a variety of speakers and

external components: just like a much larger system, but rendered in miniature.

BIG-BONED STREAMER

Whether with CD, streaming services, music from local stores or indeed vinyl, the sound is smooth and precise, and while there are systems out there able to extract more detail from what’s being played – the Naim Uniti Nova [HFN Nov ’17] and NAD’s mighty M33 [HFN Aug ’20], both of which undercut the CS 2.3 – there’s no arguing with the confidence and sheer musical impact the German-built system can muster. That it does all this from so small a package while directing the attention on the performance, not the minutiae of the hi-fi experience, is testament to the focus of AVM’s engineers.

Playing the stripped-down arrangements of The Specials’ *Protest Songs 1924-2012* set [Island Records 3840699], the system, driving Neat’s Iota Xplorer speakers [HFN Jul ’18], delivers a big-boned presentation of the heartfelt performances, notably the cover of Talking Heads’ ‘Listening Wind’, in which the spare



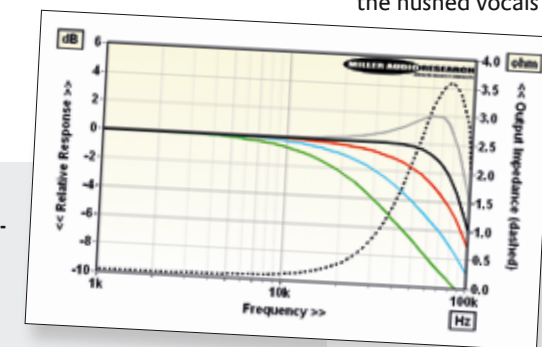
instrumentation is rendered as impressively as the close harmonies and the hushed vocals of Hannah Hu. And with Lynval Golding’s take on ‘Get Up, Stand Up’, the AVM system treats us to just the right balance of intimacy and passion.

That fine handling of timbres and textures is also much in evidence with the Bernardi Fumagalli Gattone Trio’s jazz take on Leonard

Bernstein’s *West Side Story* [Forward Music FMICA990012101; DSD128]. Here AVM’s Inspiration CS 2.3 does an impressive job of conveying the live, straight-to-DSD recording process with an immediacy to the sound that’s enhanced by the speed and control of the rhythms of all three performers. This system may be warm and refined rather than upfront, but it boasts a deftness of touch and dynamic ability

SPEAKER SYNERGY

Recently, AVM’s amplifiers have had a technology tie-in with Pascal’s Class D modules, the U-PRO 2S being the card of choice for the CS 2.3 [the beefier S-PRO 2 was employed in the Ovation CS 8.2, HFN May ’17]. As we saw in that, and other Class D amps of this type, the CS 2.3’s response is still influenced by speaker load impedance, the treble falling away as impedance drops [see inset Graph: no speaker load, grey trace; 8ohm, black; 4ohm red; 2ohm, blue; 1ohm, green]. So while noise and spurious are low in this design [see Lab Report, p53] the ‘traditional’ Class D architecture with inductive output filtering outside of the feedback loop causes its output impedance [dashed trace] to rise steeply at extreme treble frequencies. So, although the CS 2.3 offers a uniform 0.04ohm source through bass and midrange, this increases to 0.3ohm/20kHz and 3.2ohm/75kHz. Put simply, if the impedance trend of your speakers rises significantly in the treble then the CS 2.3 will likely sound a little fizzier, and vice-versa. PM



AVM INSPIRATION CS 2.3



ABOVE: Two analogue line ins are joined by MM/MC phono (custom loading via adjacent RCAs) and digital in on wired/wireless LAN, BT, HDMI (ARC) and USB-A (for HDD connection). Digital in/out is available via coax/optical alongside fixed/variable preamp outs (RCAs) and a pair of 4mm speaker cable binding posts

that gets into the heart of whatever you choose to play, presenting this excellent recording with crispness and control, and allowing the listener to appreciate the quality of the musicianship on offer.

FUNKY FEELING

That combination of insight without overt 'hi-fi-ness' is what this system does so well – yes, there's plenty of information on offer, and the sound is always precise as well as rich and sumptuous, but what all this does is contribute to the music, rather than distracting from it. That's just as true with the blue-eyed soul of Robert Palmer's 1974 album *Sneakin' Sally Through The Alley* [Island CID 9294], where the quality of Palmer's voice is as striking as the tight, funky band assembled round him.

This tight control plus room for the music to breathe is equally effective with the atmospheric *From Spirits And Ghosts* set by Tarja Turunen [Ear Music 0215399EMU], with its chilly, ethereal take on seasonal music combining the singer's voice in all its brittle clarity with rich, gothic orchestrations. It's more ghostly spirit than festive cheer, but the Inspiration CS 2.3 brings out all the ambience – even if it was recorded in a Caribbean summer – to the extent that listening alone on a cold evening is perhaps not to be recommended!

Moving upbeat with the slightly odd *Total (From Joy Division To New Order)* compilation CD [Rhino 5052498647958], which is a not entirely cogent attempt to bring the two bands together in one sequence, the CS 2.3 shows it's not all about an even-handed delivery of super-clean recordings. Here it's just as adept when it comes to slamming out the dense lo-fi mixes of 'Love Will Tear Us Apart', 'Temptation'

or 'Blue Monday' at room-shaking levels, and generating plenty of excitement in the process.

With its mix of warmth, control and seemingly unburstable power, it's hardly a surprise that this little system is well-suited to the demands of classical music, whether a tight little chamber ensemble or a 'big-band' symphony. It flows beautifully through the largely unfamiliar works on The Hague String Trio's *Celebrating Women* recital [Cobra Records COBRA0083; DSD 128], all that definition serving well this recording of an all-female ensemble playing works by female composers.

BIG GUNS

While notable with Dame Ethel Smyth's lushly romantic string trio, it's just as convincing with the orchestral big guns of the Pittsburgh Symphony/Manfred Honeck's 192kHz recording of Brahms' *4th Symphony* [Fresh! FR-744]. Not only does it give the listener a well-judged sense of an ensemble located in a realistic acoustic, it also has a lovely generosity of sound to complement all that clarity and definition. ☺

HI-FI NEWS VERDICT

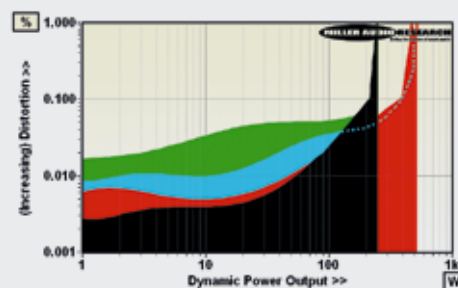
Some may wish for a bit more bite, but the Inspiration CS 2.3 is all about generous, beautifully controlled music-making, ensuring listening is as easy as it is rewarding. Add in superb build quality, a comprehensive feature-set and ease of use via the new RC X app, and this unashamedly luxurious little system has the wherewithal to win over buyers, even in the face of more keenly-priced competition.

Sound Quality: 84%

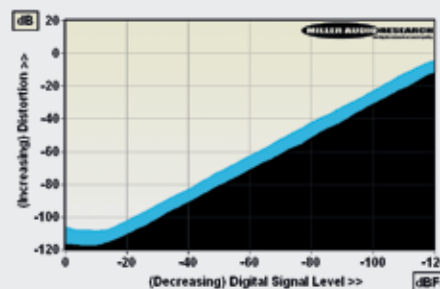


Although the datasheet for Pascal's U-PRO 2S Class D amplifier module(s) tallies with AVM's own 2x140W/8ohm specification the PSU configuration endows both the module, and AVM's CS 2.3, with vastly higher output under both single-channel and dynamic conditions. Thus 2x145W/8ohm becomes 240W/8ohm and 345W/4ohm, one channel driven, and 248W, 524W, 475W and 250W into 8, 4, 2 and 1ohm loads for 10msec at <1% THD [see Graph 1, below]. So, in the 'real world', the CS 2.3 will achieve far higher SPLs with any given speaker than the brand's simple specification might suggest. Otherwise, overall gain is very high at +48.1dB and the A-wtd S/N ratio a little below average at 82dB (re. 0dBW), though this is an innocuous white noise. The 'character' of the CS 2.3 is also shaped, as a matter of design, by both distortion and response, the former a very low 0.0025-0.0065% from 20Hz-2kHz before increasing to 0.05%/10kHz and 0.19%/20kHz. I discuss the impact of speaker loading on response in our boxout, p51.

The CS 2.3's ESS9038-based DAC/preamp stage is very 'clean', offering a wide 110dB A-wtd S/N ratio, very low <15psec jitter (all sample rates, 24-bit data), and resolution good to within ±0.1dB over a full 100dB dynamic range. Distortion is a fabulously low 0.0001-0.0006% at peak output (20Hz-20kHz) and lower still at 0.00009-0.0003% over the top 20dB of its range [see Graph 2]. The 'Steep' and 'Smooth' digital filters are both linear phase types offering a consistent 100dB stopband rejection and near-identical response of ±0.01dB (20Hz-20kHz) with CD and 48kHz sources. Only with 192kHz files is there a small difference (-2.3dB vs. -6.9dB/90kHz, respectively). PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 15.8A



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

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	145W / 190W
Dynamic power (<1% THD, 8/4/2/1ohm)	248W / 524W / 475W / 250W
Output imp. (20Hz-20kHz, Pre/Amp)	46ohm / 0.04-0.28ohm
Freq. resp. (20Hz-20kHz/100kHz)	-0.07 to -0.01dB/-5.9dB
Digital jitter (CD / S/PDIF)	118psec / 11psec
A-wtd S/N ratio (DAC/Amp)	110.2dB (0dBfs) / 81.8dB (0dBW)
Distortion (DAC, 0dBfs/Amp, 10W)	0.00012-0.0006%/0.002-0.09%
Power consumption (Idle/Rated o/p)	14W / 326W (1W standby)
Dimensions (WHD) / Weight	340x100x320mm / 7.1kg