





# The Claim of Naim

The Naim CD 555 is one of those timeless hi-fi legends, in which quite simply no more improvement is possible.

By Hans-Ulrich Fessler

**E**xtraordinary ideas, no frills processing and noble sound: all of this stands generally for British high end. In addition to this the Salisbury-based company Naim Audio as producer of elite high end also cultivates a philosophy all of its own: in 1973 it produced its first integrated amplifier. And the first CD player of the up to then still vinyl-oriented British dates from 1990 – eight years after the CD had seen the light of day. But the developers then packed all of their know-how of 15 years of digital development into their flagship CD 555. Traditional and modern – these opposites are not combined in any other player as they are in the CD 555, priced 22,100 Euro.

An example: While the rest of the hi-fi world has pensioned off the good old DIN plugs, the 5-pole connection still lives cheerfully on at the back of the player. The British developers respect it as the most convincing interface in sound terms. From a technological point of view its undisputed advantage is in grounding: signal and housing ground, each deserves a connection of its own. It not only prevents ground loops, but also controls electromagnetic interferences. To acknowledge modern times Naim has gracefully decided to produce

additional (detachable) RCA jacks. But in order then, in the matter of a digital output, to exercise a strong veto: the sound suffers under the jack – this is what the Naim developers argue. And their reasoning is that the high frequency data flows on their way to their connection (and reflected from there) can be induced into the audio signal.

In the monolithic processing they allowed themselves to be more generous. The extremely heavy aluminium casing of the player electronics is like an armoured locker. The motor-driven opening to the disc compartment opens and clo-

ses silently. Before playing, however, manual contact has to be made. The magnetic Puck, which fixes and centres the disc, has to be operated manually.

When reading the disc it is then a matter of making sure that even the tiniest fragment of scattered light does not intrude. If the smallest particle of light does penetrate from outside to inside through the hermetically sealed roof window, the infra-red absorbent layer of the disc compartment swallows up even the smallest possible scattered light from the laser diode.

After light, the main concern of Naim is power supply. The gigantic toroid transformer with a total of five secondary windings and seven bias voltage regulators, according to them, were too big for the player casing. So, without further ado, Naim 'outsourced' the parts in a casing of their own that was just as handsome. From there two thick cables wind their way to the player. The digital section is fed by one strand, the analog section by another.

Naim has put up with no compromises with the player mechanism. It did not rely merely on the casing fortress to fend off unwanted attacks via sound waves from the air. Light vibration from the player base or an inaudible residual buzzing of the motor could provoke microphone-sensitive components to additional >

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Roy George, Chief Developer

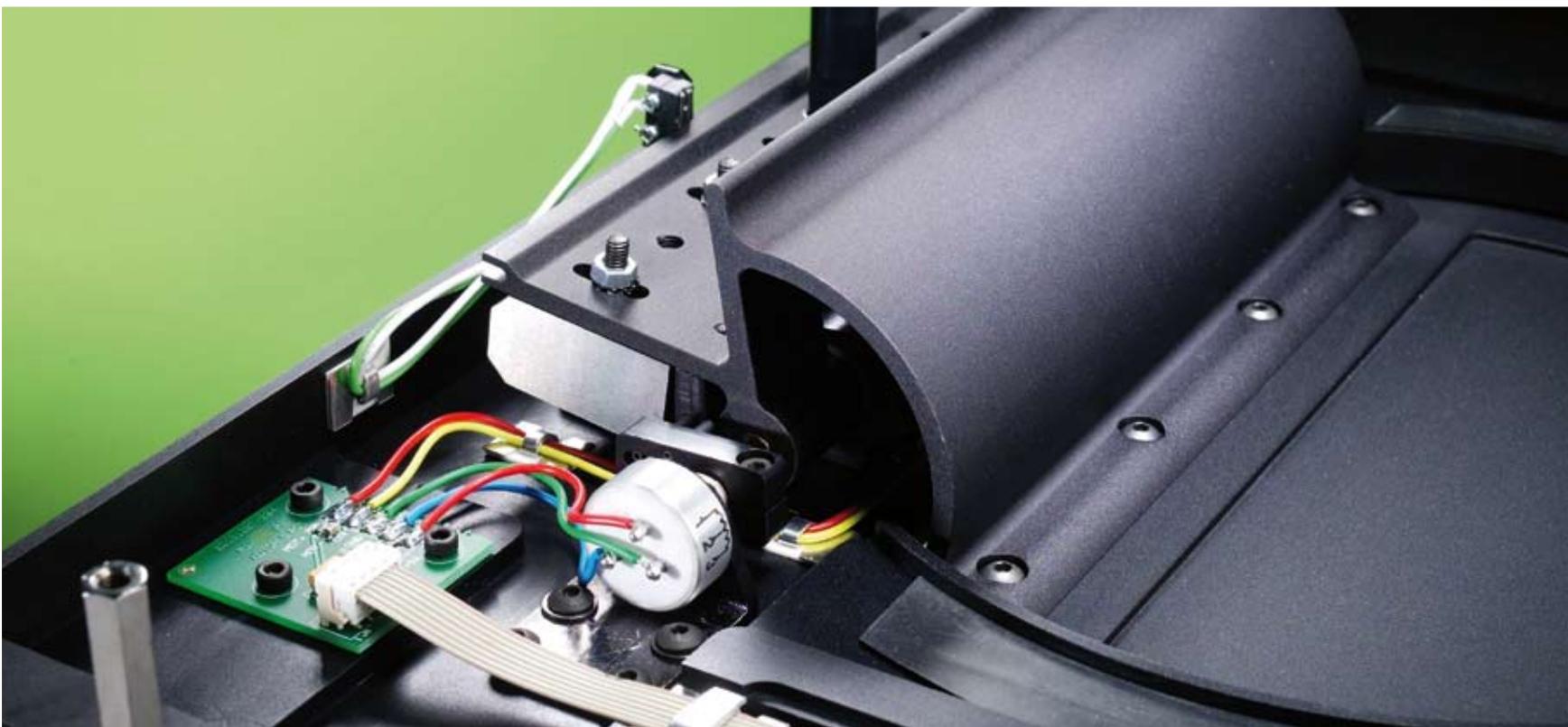
**The CD 555 does not try to reproduce DVD or SACD. It has neither a digital output nor a volume control. It plays only CDs. But in this it is outstanding.**

Worth an attempt: Naim-made adapter cable from DIN to RCA.





Clean spatial division: The picture above shows the digital section (left) mounted using SMD technology (links) and the conventionally equipped analog circuit board (right). Below: the casing top turned inside out with the driver cover and the motorization.



mechanical and electrical vibrations. Shock absorbers - pins in jacket on leaf springs - are meant to prevent this. They suspend the circuit boards responsible for processing digital and analog signals in a decoupled position. The springs for the drive and the circuit boards are adjusted differently in accordance with the signal properties.

The drive, including laser, which is embedded in a die-cast chassis, floats in a spring bed. The laser unit of Philips called CD Pro VAU 1254/31 is regarded generally as the reference for high end audio. Naim was unwilling to take over the control software, also offered by the Dutch, immortalized in semi-conductor chips 1:1, but rewrote it according to their requirements. The CD 555 not only plays the disc, but scans the surface very quickly beforehand and adjusts, according to their configuration (rewritable CDs reflect less light), the amount of light emitted by the laser diode. As a result the detected optical signal is always of unvarying intensity.



With clean signals of this sort the converter chip finds it easy to separate the control from the music signal. The latter is produced by an ultra-precise pulse generator directly in front of the converters. Naim has partitioned the quartz with triple regulated voltage and its own filters completely from the player electronics.

Cured in this way from heart rhythm problems, the data are allowed to proceed to a signal processor of the US company Pacific Microsonics. The software and hardware specialist is regarded

as the inventor of HDCD (High Definition Compatible Digital, an encoding procedure that increases the dynamic substantially) and has since sold its know-how to Microsoft. The computing unit divides the bit flows into two groups. If they originate from standard Compact Discs, the microprocessor acts like standard digital filter. If the data come from one of the approximately 5,000 on the market rotating discs mastered with HDCD, it uses the information in order to decode the still more finely quantized signal templates.

## Naim CD 555

List price: 22100 Euro

Guarantee period: 5 years

Dimensions W x H x D (cm): 43 x  
20,5 x 32

Weight: 35 kg

Finish:

Black

Connections:

Output DIN and Cinch

## Naim Contact

Distribution:

Music Line

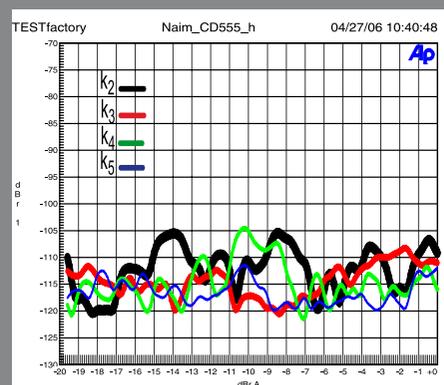
Hainbuchenweg 14-18

D-21224 Rosengarten

Telephone: 0049 (0)4105 / 77050

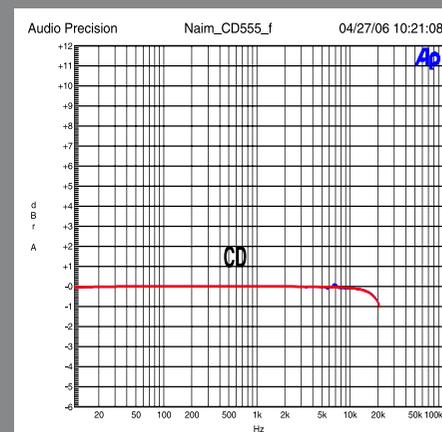
Internet: [www.music-line.biz](http://www.music-line.biz)

## THD: hardly any intrusions



Each player shows signal-dependent distortion components, but with they are extremely benign. They consist exclusively of harmonics, directly dependent on the measuring signal. Ideally the THD decreases with increasing frequency. There are no mains-induced disturbances of any sort or other phantom signals not belonging to the measuring tones.

## Frequency response: from 10 kHz slight reduction



In the case of standard players the frequency response runs dead straight up 20 kHz. Disadvantage: They 'scatter' the signal by ringing (before and after). The filters in the Naim 'resonate' shorter, and so have an 'analog' character. Disadvantage: a minimum frequency response cut-off above 10 kHz.



The drive and the circuit boards float on shock absorbers with different suspension.

The digital section is mounted using SMD. Operation is intuitive without remote control.

The 24 bit format of the output data words is a tailor-made fit for the 24-Bit-D/A converters of the US chip manufacturer BurrBrown. The semi-conductor packages with the designation PCM 1704 have been certified by the manufacturer with 'Sound Plus', the brand name that guarantees the highest-quality audio reproduction. The converter components do not react like modern converters to level changes, but model the amplitudes slice by slice.

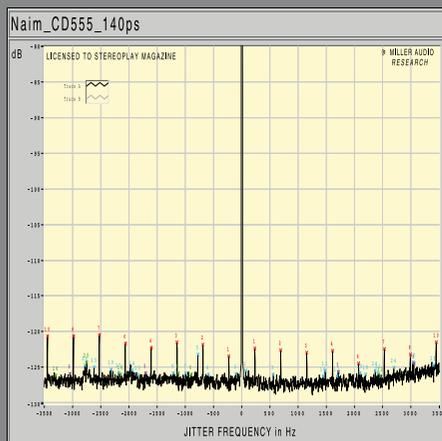
A mounting using SMD (Surface Mounted Device), with which the miniaturized

construction elements are directly piloted to the circuit board, is for Naim in the digital world a proven quantity. On the analog side it is by comparison flourishing in well-tried fashion. The filters and amplifier stages are mounted 'on foot' with transistors and full-blown passive components instead of integrated circuits. Unlike those with integrated differential amplifier components, which can be brought under control only with high negative feedback, the discrete switchings permit clearly more fine tuning. Which is documented in excellent lab

data: In the measuring lab the CD 555 exhibits very low THD values- The over-tones of the measuring signal are completely harmonic – an indication of natural sound. The electrical and mechanical shieldings around the quartz, the sterile signal transmission to the digital circuit board and the legendary stable power supply suffocate jitter (temporal anomalies in the data stream) at birth.

Values to one side: They are only an indication of error-free reproduction. For good sound other general factors >

## Jitter: extremely clean signal



Jitter means time shifting in the digital signal. The data words are correct, but come in the wrong time. Result: components in the analog signal that do not belong to the signal. The vertical bar represents the measuring signal, the belt shows low jitter-based distortion components in Naim.

## Philosophy Data and Rates

What do measurements have to do with the sound? The frequency response betrays the philosophy of the developer. If it runs linear straight up to 20 kHz, the filter in the player eliminates phantom frequencies completely on the other side of the frequency band. In the case of a slight cut-off from around 10 kHz, as with Naim, the developers have to make use of a less effective attenuation. But then the player is 'time-coherent'. It plays impulses cleanly. The THD's spectral analysis documents the distortion characteristics of the player. Important: the level of the upper oscillations of the measuring signal are supposed to decrease continuously at higher frequencies, as with Naim. Error correction is not a generally valid criterion. It says how

well the player being measured can correct the data losses with its computing power.



Master of Measuring:  
Peter Schüller, TESTfactory

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Steve Sells, Digital Developer

**We have followed, since our first CDP, the philosophy that the master clock has to be placed in isolation and in direct proximity to the converters. This minimizes time errors.**

are important. For example, the question of the optimal position. Or the appropriate mains cable. But also other apparently minor matters, such as: ‚How do I lay the connecting cable from the mains adapter to the player ?’

Questions such as these can be answered easily and appropriately by Naim’s competent distributor, Music Line in Rosendorf. It is recommended that players and mains adapters be separated spatially and that, under no circumstances, should the mains cables be laid beside the signal cables.

The connecting cable from the mains adapter to the player have to be laid without internal tensions and twist-free. Whether the Rack Naim Frame (the basic module costs 900 €, each additional level 550 €), similarly recommended by Music Line, has to be used, is definitely a matter of debate. But one thing is clear: the player sounds better on a ‚natural’ ground made of wood than, for example, on a marble base.

But now to enjoy the listening test. As listening chain, only official references of the sister magazines AUDIO and stereoplay were considered. Such as the 15,000 preamp Thorens TEP 3800 or the monobloc amplifiers Ayre MX-R at 19,800 €.

In the case of the transducers the AUDIOphile-team decided in favour of Magico M5 (110,000 €), praised in stereoplay 5/2010 as the currently most natural sounding speaker in the world’. With such suitable partners Naim has celebrated every type of music with incomparable understanding and composure.

The CD 555 extended an invitation not only to listeners, but integrated the listener with its emotional and stylish playing into the musical event and allowed him to participate in the messages sent out by the performers. Naim endowed the reproducing instruments with intensively brilliant sounds that and copied them with unimaginable plasticity.

At the same time tonal errors were not evident, but the music was built up from the bass upwards, not exactly doggedly, but rather bringing the musical content unfussily and consistently to a head. It had already become clear in the first trials: As in the first test in stereoplay 6/2006, it is still one of the best in the world.

The testers were able to add by way of comparison, what they wanted. In all cross-checks Naim revealed its strengths in full. Occasionally it turned out to be even more effortless, in the next confrontation with a similarly-priced quality player it went even deeper into the corners of the room. And in the case of David Munyon’s guitar and folksinging („Big

Shoes’ Stockfisch) it peaked with immense and unchallenged composure and with that special something that could perhaps be described as ‚music that speaks to you’.

After a musical excursion through the instruments of the orchestra (Beethoven, Piano Concertos 2 & 4, BBC Symphony Orchestra; PentaTone) – the tapes had been in the archive for 30 years before being published again in 2005 Hybrid-SACD – the jury became very enthusiastic because of the high tone quality of the piano. The ‚listenability’, even in the small levels, the effortlessness with which the Naim reproduced all players, in impeccable order and naturalness after the solos in the tutti passages, was unique.

Not that the CD 555 profiled itself only with small ensembles or classical music played with great emotion. It also allowed itself, in the case of raunchy rock, none of the widely diffused oversubscriptions of a tonal or dynamic sort. Whatever the testers put on, the CD 555 was able to capture the sound character, the shimmering philosophy of the sound engineer behind the mix with a clarity that is seldom encountered.

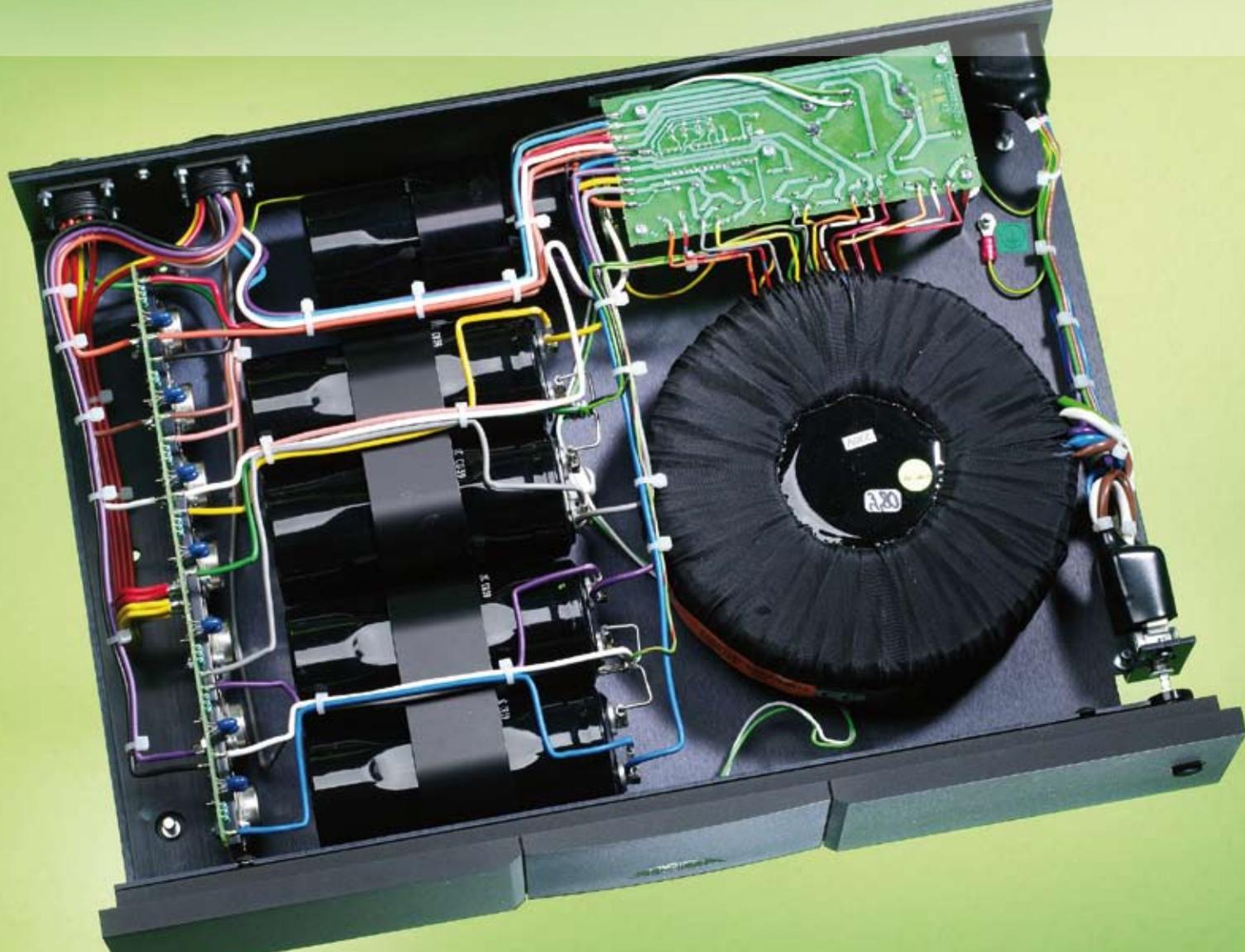
Where did the almost weightless musicality come from? What role do the shock absorbers under the drive play? If they blocked the testers by drawing in safety bolts, if the Naim turned out to be a little more covered, it lacked a bit of its driving force. With equal sensitivity it reacted to the screwing down of the conductor boards. Here too it answered with an almost sober appearance. Admittedly, the differences were small. But they prove that every apparently minor point contributes its little bit to the good sound.

The CD 555 should be treated like a sensitive diva and requires loving care. If this done, it develops an inimitable charm and puts out a sound that can infatuate and hook the listener. <

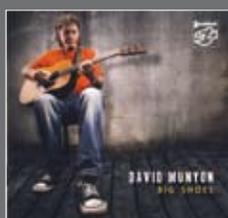


**The Author**  
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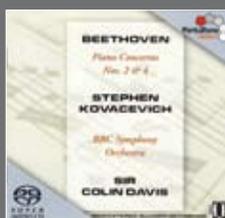
Born in 1948, an active journalist for 25 years, the author ranks as one of the doyens of the industry. Professional details: degree (Diplom-Ingenieur) in Media Technology, editor since 1985, later Head of Testing and Technology at the hi-fi magazine stereoplay. Freelancer for more than two years.



## CD Tips: Heard with these records



David Munyon: Big Shoes (Stockfisch SFR 357.6058.2 / non-acoustic)  
 On the 2009 album *des American singer/songwriter David Munyon* there are, surprisingly, no songs of his own, but songs of others, such as 'Who'll Stop The Rain', 'Imagine', 'Forever Young' or 'A Hard Rain's A Gonna Fall'. The selection benefits enormously from the charisma of Munyon's inimitable, soft, smoky voice and has been captured atmospherically to perfection by the studio ace, Günter Pauler.



Beethoven: Piano Concertos Nos. 2 & 4; Steven Kovacevich, Colin Davis (Penta Tone 5186101 / Codaex)  
 Already in 70s Philips Classics were putting more emphasis on multi-channel recordings. The Dutch label PentaTone inherited the tapes and played over them on SACD. An outstanding recording, in every respect, from 1975 was that of the two Beethoven Piano Concertos 2 and 4. Even the two-channel mix playable on every CD player is genuinely ravishing.

## AUDIOphile Profile

### The strengths

Maximum dynamics



Full, firm Bass



Lots of details at every level



Strict neutrality



Gripping emotionality



Great feel-good factor



Breezily effortless nuances



Great flexibility



Modest footprint

