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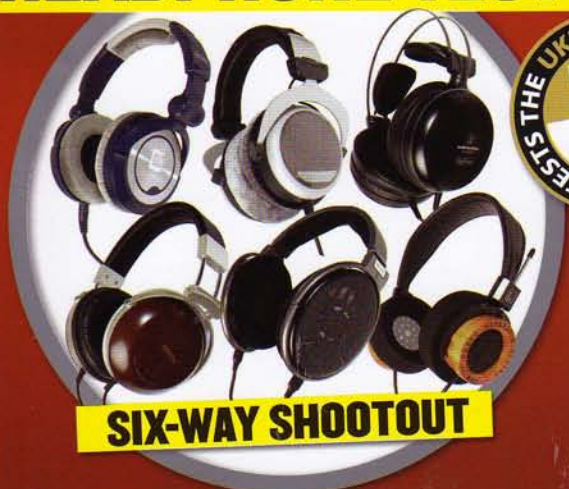
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CD MASTERCLASS

Audio Research CD5 joins the hi-fi elite



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EDITOR'S CHOICE

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magazine



American Idol

Audio Research claims this player will expand your taste in music and it's no idle boast

PRODUCT Audio Research CD5

TYPE CD player

PRICE £4,500

KEY FEATURES Size (WxHxD): 48x13.5x31.1cm

- Weight: 11.8kg
- Digital outputs: 1x BNC (unbalanced) 1x XLR (balanced)
- Analogue outputs: 1x RCA (unbalanced), 1x XLR (balanced)
- Crystal 24-bit DAC
- Philips PRO2M transport
- Pure Class A analogue output stage

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Not everyone can afford to spend big money on a CD player (the recent Credit Crunch notwithstanding).

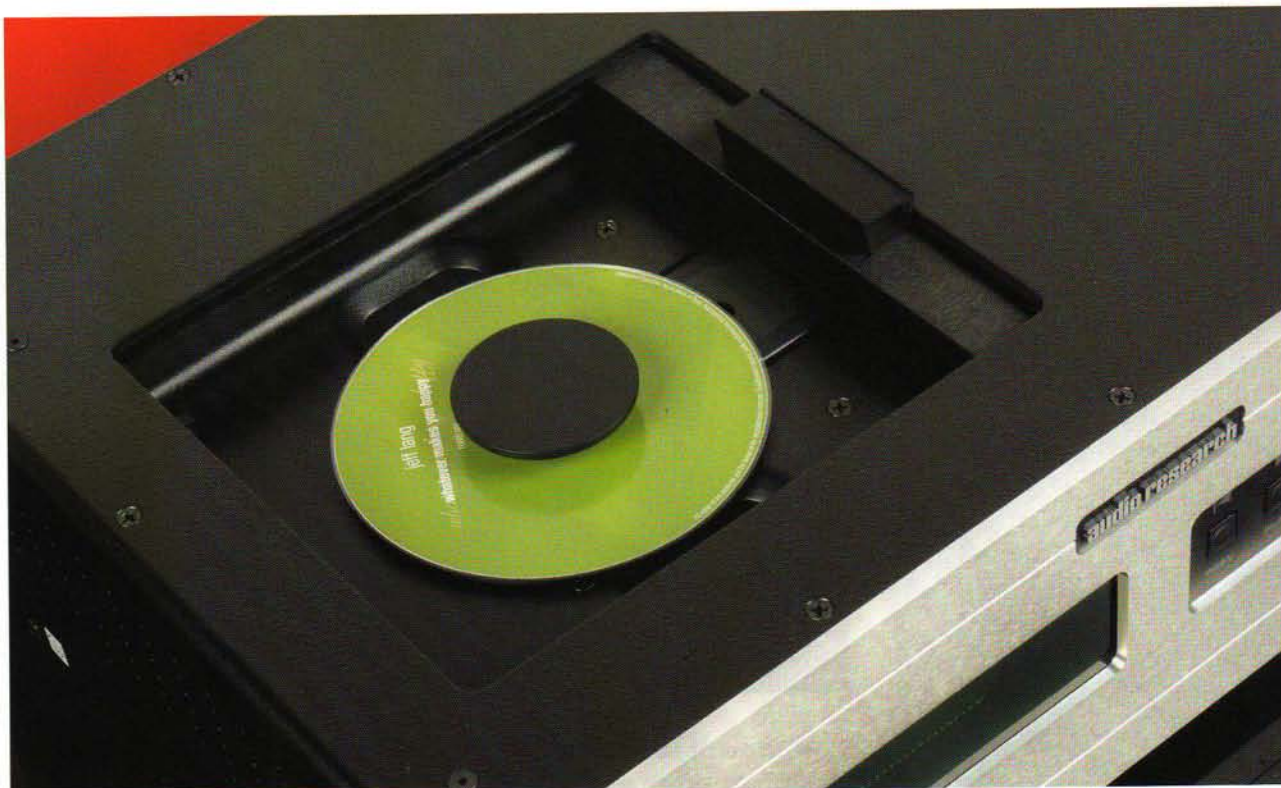
But, if it's the music that matters and you appreciate quality, then there are certainly worse ways to blow the better part of five-grand.

Mind you, the CD5 is not cheap, but then if you know anything about Audio Research kit, then you'll know that it will last you a lifetime.

And, if you ever do decide to sell it – well, you'll have plenty of willing punters fighting to take it off your hands.

The CD5 actually replaces the earlier CD3/II, but could be thought of as a scaled-down version of the £8,000 Reference CD7.

Essentially it's a conservative product. It doesn't scream 'expensive' at you, because you're buying sound quality here; not glitz or



“In fact, only the most knowledgeable visitor, or a highly educated audiophile burglar, will realise how much it costs.”

glamour. Or maybe, Audio Research has the laziest designers around. You choose.

Nevertheless, the Audio Research CD5 is certainly well-made and still manages to look quietly classy. The styling is classic 'ARC'; a simple rectangular black box with a brushed-alloy front panel. There's a choice of silver or black for the fascia. Controls are fairly minimal and, like a number of CD players, you'll need the remote handset to access some of the features. The impression is one of quiet understatement, rather than flashy ostentation and weighing in at about 11.8kg (26lbs), it's no sylph. In fact, only the most knowledgeable visitor, or a highly educated audiophile burglar, will realise how much it costs.

The CD5 is a top-loading player. This design allows for much better internal mechanical damping and jitter reduction than typical tray-load mechanisms. Audio Research developed its own proprietary damping disc (fitted over the drive spindle) which is specifically tuned (in materials, size, weight and so on) to the manner in which the laser transport is mounted within the chassis. So, essentially, the choice of a top-loading transport gives the CD5 much more design flexibility in achieving, what Audio Research refers to as a first-rate sonic performance.

Access to this disc transport is via a sliding panel on the top. The handle looks a bit cheap and reminiscent of a 1960s kitchen unit, but

the whole panel arrangement is very practical and user-friendly.

Unlike other top-loading players, where the disc transport cover actually comes off, you don't have to find somewhere to put the cover when you load a disc. So there's no risk of accidentally dropping the transport cover, or 'losing' it. And being a top loader, it's also easy to clean the laser, if it becomes necessary.

Track access is fast, but not spectacularly so. Indeed, the CD5 has a 'relaxed' sort of feel about it. It invites you to take your time. You slide the disc cover back, put the disc on the motor spindle, fit the magnetic puck (which holds the disc in place) and close the cover. The player then reads the disc's contents and you're away.

The CD5 is not something that encourages you to keep changing discs – the 'manual' disc loading system sees to that. So you're going to start at the beginning and finish at the end, because it sounds so good. ▶



Q&A

We talked to Terry Dom, president of Audio Research about the design process that went into creating the new CD5.



HFC: What are 'digital servos' and can you describe

the benefits over hybrid analogue servos'?

There are digital servos in the laser transport to control reading accuracy of data. We also use analogue servos in the output stage to inhibit the possibility of any DC offset.

Why did you choose the Burr-Brown chipset for the CD5?

We chose the two-channel, 24-bit Burr-Brown (now Texas Instruments) PCM1792 D/A package for its superior sonic performance compared to others we tried. It has lower noise, higher resolution and better musicality than the also-rans. It also allowed us some design flexibility in implementation – always an important factor.

Although an integrated CD player, Audio Research also describes the CD5 as a 'CD Transport'. But, could a CD5 user actually achieve any sonic benefit by using a good outboard DAC? Wouldn't you risk increasing jitter by doing this?

Theoretically, some improvements might be had because an external D/A would be relying on completely separate power supplies. But our experience shows that often these gains are offset by the extra jitter, noise and so on, introduced by the external digital cable and associated connectors.

In terms of sound quality, are the biggest gains to be made in the digital domain, or the analogue stages after conversion - or are both equally important?

Both are critical to achieving accurate, yet lifelike musicality. In our design process, there is no single element that we see as the lone necessary factor for success – every component is important, and nothing can be taken for granted. The musical magic is in the detailed knowledge hard-won through many years of empirical testing and design.

Do you feel CD players like the CD5 are getting close to maximising the sonic potential of CD, or is there still a long way to go?

While we know we have made significant strides there certainly remains ground to be gained. Just how much, we can't be sure. We are at a point in the history of CD technology where it is wise to maintain a certain sense of humility and keep pushing ahead. As with any artisan maker of musical instruments, you never really reach the end of the road – the possibility of further improvements pulls you along.



❑ The heart of the CD5 is a Philips Pro2M transport, mounted on a machined aluminium I-beam. The transport which reads CD, CD-R and CD-RW formats, also supports replay of the CD layer of a SACD, but not SACD itself. So, if you plonk a hybrid SACD in the transport, it will only be able to play the CD layer, in linear PCM. Audio Research isn't trying to claim the CD5 does something it cannot do, but the wording could leave people in some doubt as to the CD5's SACD replay.

The mechanism has a special damping system to ensure ultra-low mechanical jitter and the I-beam itself is bolted to a heavy aluminium plate, in a manner similar to that used in the Reference CD7. Audio Research has used the Philips mechanism in its CD players for several years and firmly believes it to be the finest device of its type available today – in terms of accuracy of performance, construction and reliability.

A Crystal 24-bit DAC is employed, but there's no fancy over-sampling. Instead, Audio Research has concentrated on getting its circuits right and paying attention to power supplies. The digital signal is also re-clocked

for reduced jitter. Essentially, the disc transport and the digital side of things are similar to the Reference CD7.

The main difference between the new player and its bigger brother is in the analogue output stages. Whereas the Reference CD7 employs four 6H30 twin triodes and an advanced tube-power supply, the CD5 has an all-new direct-coupled FET output stage with solid-state regulated power supply.

Apparently, the power supply used in the Reference player is very expensive, so Audio Research was compelled to take a different route with the CD5 to keep costs down. Instead, comparisons should be made with its predecessor; the CD3/II. The claimed result being a measurably better performance, as well as better sound.

Stereo separation is now 120dB (compared to the CD3/II's 92dB), while the signal to noise ratio is 114dB compared to the earlier player's 90dB. Interestingly, power consumption when idle, has been cut from 26 watts to just 14 watts with the CD5.

Apparently, the CD7 runs very hot indeed – comparable to some power amps – but the



CD5 barely changes temperature. Even after several hours use, it's not even warm to the touch and it's absolutely whisper-quiet during operation – with no discernible motor or disc noise or mechanical hum.

SOUND QUALITY

Audio Research suggests the CD5 will broaden your taste in music, encouraging you to listen to things with fresh ears. We would strongly concur with this statement, as the player has a very attractive sound that's engaging and involving. Tonally, it sounds very smooth and open, with a lovely clean top and deep firm bass.

It's a smooth refined-sounding player. Yet this is deceptive; it's also surprisingly assertive. While it can be very beguiling, it can also startle and shock. There's more than a touch of iron fists in velvet gloves with the CD5. It produces a very cultivated sound, but don't be fooled – the knockout blow will catch you by surprise.

The midband is very full and rich-sounding – unusually so for a CD player. This gives the sound a very 'analogue' sort of ease and warm tonality. The top end is beautifully clean. So dig out all your old harsh-sounding CDs and hear them transformed and rejuvenated!

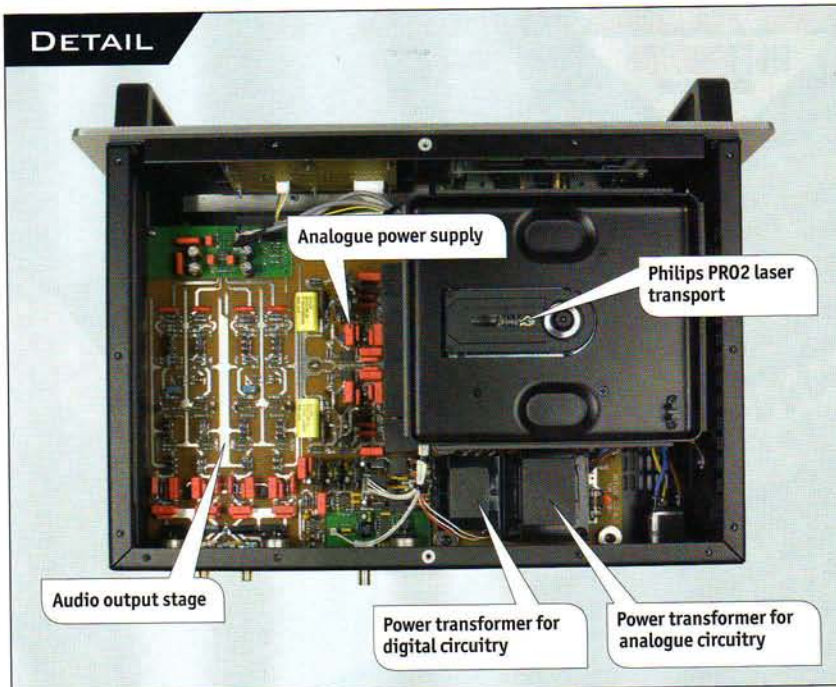
The bottom end is unusually powerful and deep, giving the music a proper sense of weight and fullness uncommon with CD. It's definitely a player with the ability to shock and surprise, as well as caress and beguile.

It presents the music in a very coherent manner that allows you to make sense of difficult, unfamiliar works. It's also very good on pitch definition and allows you to follow individual lines, without the loudest voice or instrument dominating. The presentation is attractive and pleasant, which encourages you to listen over extended periods.

Listening to the player first via its unbalanced analogue outputs, since this is (probably) how most CD5 owners are likely to use their player, we eventually switched over to 'balanced' and (as expected) heard a big improvement. The balanced option more or less doubles the output of the player from 2.6 volts to 5.2 volts.

This makes the sound 'bigger' and more assertive, increasing its scale and sense of power. The music seems to have greater depth and range and the loud passages appear to expand more. In fact, if your preamp has balanced inputs, then it's worth spending extra money to get a set of cables with XLRs to use the CD5's balanced output.

You'll get a very big improvement in dynamics and overall sound quality – though check to make sure the extra output can be handled without overload. The CD5 also offers



“It presents the music in a very coherent manner that allows you to make sense of difficult, unfamiliar works.”

balanced and unbalanced digital outputs for those wishing to use an outboard DAC.

Stereo soundstaging is very vivid and unusually holographic for CD, although we're uncertain as to whether the CD5's increased stereo separation from 92dB to 120dB would actually be audible in itself. Certainly, the CD5 images well.

Audio Research seems unimpressed with the compromises involved with CD sounds on SACD and have optimised the CD5 for replaying the 'other layer' of this dual-layer format. Playing CDs on the Arcam DV135, for example, a player with the ability to spin virtually every type of silver disc known to man, the CD5 sounds a lot richer and weightier. The Arcam does sound smooth and open, but lacks the CD5's dynamics and attack; the audio is less colourful and the music has less personality. It was only when the Arcam played the SACD layer (leaving the Audio Research playing the CD layer, of course) did we feel the Arcam gained back some of this lost ground.

Whereas the CD5 made virtually every CD sound good, some SACDs showed noticeably greater focus and precision, but no consistent pattern emerged. A good SACD can and often does out-perform a CD, but there's no denying that the CD5 get cracking results from compact disc and given the limited number of SACD titles available, maximising CD playback has to be a number one priority.

We've heard the CD5 stacked up against the flagship Reference CD7, in the context of an all Audio Research system. In this setting, you might expect the Reference CD7 to shine, and shine it did. Interestingly though, although distinctly better in many ways, it never once showed up the CD5. There's an additional sense of air, a more expansive soundstage and an added coherence that marks out the more expensive player, but not as marked as you might expect and the CD5 acquits itself very well. You could live very happily ever-after with a CD player of CD5's calibre. It doesn't get much better than this. **HFC**

Jimmy Hughes

VERDICT

SOUND ★★★★★	PRO If the Reference CD7 makes a strong case for best CD player money can buy, this comes astoundingly close to the performance for less money. A CD player to take on SACD – and win!
FEATURES ★★★★☆	CON It may be a justifiable expense in the light of the performance, but it's still a lot of money.
BUILD ★★★★☆	
VALUE ★★★★☆	

CONCLUSION
Not cheap, but fabulous sonics, very good build, and balanced analogue and digital outputs. Audibly better than most CD players on the market – natural, and refined, yet detailed, assertive and very dynamic.

HI-FI CHOICE OVERALL SCORE ★★★★★

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