

Ayre Apparent?

AYRE C-5XE (£4495)

Ayre is hoping to become the new 'Masters of the Universal' in a dimension where two-channel reigns supreme



Tested by Paul Miller

Boulder, Colorado might be better known in the audiophile community for spawning a series of massive, and massively costly pre/power amplifiers, but it's also home to Ayre with its own, unique slant on all things audio. This C-5xe is a case in point, a £4495 'universal' player, so-called because it will handle all CD (R/RW), DVD (LPCM, Dolby Digital and DTS), DVD-A and SACD media you might care to throw at it. But with one caveat – the C-5xe is a two-channel stereo player only, so it's the two-channel layer of a multichannel disc that gets played. In the event you load a disc with 5.1 channel audio only, then the C-5xe delivers a stereo downmix from both its single-ended and balanced XLR analogue outputs. Did you think 'U2' just referred to an irritatingly popular stadium rock act?

The C-5xe represents an exercise in wringing the very best from stereophonic sound, a state-of-the-art CD player that just refused to stop evolving. So while the bedrock of the player is culled from one of Pioneer's universal DVD solutions, Ayre has extensively customised the clocks, DSP and analogue electronics where it employs discrete rather than IC-based op-amps.

The remote control, meanwhile, uses short or long button presses to assist in the location of groups, tracks, titles and chapters, depending on media. If a button is held down for too long, as it might if the handset disappears between cushions in the sofa, then the micro goes to 'sleep' conserving the battery life. Ayre has also added a little column of LEDs to the player's display, indicating the sample rate (44.1/48kHz, 88.2/96kHz or 192kHz) of the loaded disc.

AYRE-BORNE

Ayre has done its level best to ensure the C-5xe combines a universal disc compatibility with an elegant front panel and handset design. However, navigating through music DVDs or DVD-A media with an interactive video component is less straightforward than it might be as the C-5xe has no video outputs – not even a grotty composite connection for monitoring purposes. Perseverance is the key, especially as I found the remote control was less than slick in operation with anything other than pure audio CD or SACD media.

It doesn't take hours of listening or tweaking with different interconnects, power cables or equipment

SMOKE AND DIGITAL MIRRORS

Rather than build a universal player from scratch, Ayre chooses an existing universal transport and decoder solution from Pioneer as its foundation. Ayre has replaced the multiple clocks for CD, DVD and SACD audio, for the MPEG video decoder plus the system and display microprocessors in favour of just two audio-specific (44.1kHz and 48kHz) master oscillators that address the BB DSD1792 DACs directly.

This universal DAC accepts both LPCM data from CD, DVD and DVD-A plus the DSD data extracted from SACDs. It also includes two digital filter algorithms for LPCM data, a standard 'brick-wall' FIR filter selected by Ayre's 'Measure' switch and a lower-order interpolative filter by the default 'Listen' position. The latter trades a slightly rolled-off treble and increased incidence of digital aliasing distortion for a reduced group delay and 'ringing'. Coincidentally, I covered the pros and cons of these filter types in our review of the Esoteric DV-60 last month.

Ayre's DIP switch also includes selections labelled 'Reserved C' and 'D'. These flip between two of four SACD filter modes within the Burr-Brown DAC, the top 'C' position offering the best sound at half the level of either CD or DVD-A playback. Beware of this if you switch between SACD and CD or DVD media without first reducing the volume...



supports to realise the C-5xe is a very special sounding player. Of course, the moment its gentle but thoroughly beguiling strain of music-making fills your room, you'll *want* nothing more than to listening for hours on end, to delight in the articulation and overwhelming presence of vocalists like Melissa Stott (*Why Now*, Feetfirst CD 5004) while relishing the contrast between powerful plucked bass and the brush of percussion. Its music has a sense of poise, of balance and see-through transparency that's immediately engaging, despite it lacking the force or hyped-up dynamics of products that might initially catch your ear. I hesitate to draw upon such a well-worn refrain, but the C-5xe has a distinctly 'analogue' sound. Perhaps it's what it lacks that best describes the sound of the C-5xe, a sound

ABOVE: Balanced (XLR) and single-ended (phono) audio outputs are joined by an AES/EBU (XLR) digital output. The DIP switch, to the far right, includes the option of either high- or low-order digital filter settings

'Is the luxurious and yet revealing sound down to the black magic know-how of its analogue stages?'

free of grain, coarseness or any sense that despite the detail on offer, a call to finish the washing-up is still more compelling. No, the C-5xe is genuinely beguiling and especially so with SACD media where the 'lightness of being' suggested with CD takes on an added depth, determination and richness of tonal colour. The distinct tenor of the Stratocaster, Danelectro, Gretsch (electric) and Gibson and Washburn (acoustic) guitars

BELOW: If only Ayre's remote control was as slick as this ring-style navigation feature...



UNIVERSAL PLAYER TEST

The main decoder and DAC boards are taken from a Pioneer universal DVD player, augmented with Ayre's own low-jitter master clock module

Two substantial transformers feed separately regulated power supplies for the digital and analogue sections of the player

Ayre's know-how is evident in these proprietary analogue filter and output stages, using fully-discrete components in a balanced 'zero-feedback' topology

deployed across East's *Pathfinder* SACD (Opus3 22061) are revealed in their respective glories by the C-5xe which casts the bite of the Strat against the richer resonance of the Gibson, for example, in a wholly sympathetic light, revealing everything, embellishing nothing.

And before anyone suggests I've been taking the player on too easy a ride, the C-5xe maintained its characteristically cool demeanour even when faced with the likes of Chris Rea's live *Road to Hell and Back Again* (Polydor CD). To hear his gravel-laced lyrics so clearly lit against the backdrop of strings and ready beat of drums was a delight, for here was a player capable of illustrating the energy and raw edge of a live performance without taking a rasping file to my sensibilities.

But is the C-5xe's luxurious

and yet intrinsically revealing sound all down to the black magic know-how of its bespoke analogue stages? Not necessarily, because a flick of the DSP brings in Ayre's alternative FIR digital filter (the 'Measure' option) and a sound that has just a bit more bite, a pinch more potency and the incautious energy required to breathe life into any too-laid back system. The 'Listen' filter mode has a velvety texture and so-easy treble sweetness that'll have you hankering for more, but the 'Measure' option gives it to you straight-down-the-line, a

little tougher perhaps but arguably closer to the data on the disc. Whatever way you choose to cut it, at least the C-5xe gives you the *choice* on how best to serve the digits: with a light sauce or plain *al dente*. ☺

FOR:
Beguiling and
enthralling
sound

AGAINST: Tiresome
navigation of some DVD
media



Verdict AYRE C-5xe (£4495)

FEATURES



SOUND QUALITY



BUILD QUALITY



VALUE FOR MONEY



This is a costly product and not a purchase to be considered lightly, but for the resolutely two-channel audiophile, the C-5xe represents one of the most seductive choices available today. Navigating some music DVD(A) media without the benefit of an OSD might be tiresome, but listen for more than a moment and you're sure to be hooked.

Hi-fi news 17/20

OVERALL RATING

Review system breakdown

AMPLIFIERS Arcam AV9 pre-amp, Arcam P1 monoblocks

LOUDSPEAKERS B&W Nautilus 802

CABLES Townshend Interconnects, QED XT400 Speaker cable

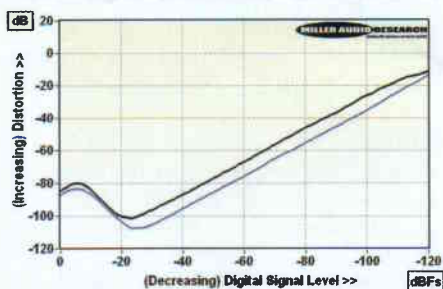
Contact numbers

UK DISTRIBUTOR: Symmetry Systems **TEL:** 01727 865488

WEB: www.ayre.com

Lab report

Ayre C-5XE Universal Player: Distortion vs Digital Signal Level (16bit vs 24bit)



The graph (above) illustrates the improvement in performance achieved with 24-bit (DVD-A, blue trace) versus 16-bit (CD, black trace) data, although the increase in distortion noted with all data over the top 20dB of the C-5xe's dynamic range (0.01% at 0dBFS vs 0.001% at -20dBFS) is due to stresses in the final analogue output stage. Via the balanced (XLR) connection, the maximum output reaches a full 4.1V, contributing to a wide 108dB A-wtd S/N ratio. As expected, the low-order digital filter used in the 'Listen' mode offers a mere 8dB rejection of digital images, so some in-band IM distortion must be anticipated with some amplifiers.

The response is necessarily influenced as the HF roll-off, starting around 10kHz, falls to -3.6dB at 20kHz (CD), -3.6dB at 40kHz (96kHz DVD-A) and -6.8dB at 80kHz (192kHz DVD-A). This alone may be sufficient to encourage a smoother treble aspect, in addition to the benefits of reduced group delay and very low jitter (~120psec with 16-bit data, <10psec with 24-bit data). Incidentally, as SACD data is handled by an alternative filter, its response is some -10dB at 100kHz which is 'flatter' than most SACD players these days and very different from the characteristics of CD and DVD-A replay. Full QC Suite Reports for all CD, DVD-A and SACD modes are available at www.milleraudioresearch.com/avtech. PM

Hi-fi News lab specifications

Maximum Output Level	4.1V rms (balanced outputs)
A-wtd S/N Ratio	108.0dB
Distortion 1kHz, 0dBFS/-30dBFS	0.03%/0.004%
Distortion 20kHz/40kHz, 0dBFS	0.015%/0.008%
Digital Jitter, CD/DVD-A	120psec/<10psec
Resolution @ -100dB, SACD/DVD-A	±0.1dB/0.1dB
Stereo separation (20Hz-20kHz)	>106dB