

Top Chord

CHORD ELECTRONICS CPA 5000 (£10,000)

Chord Electronics has crowned its range of Reference audio amplifiers with a flagship preamplifier



Tested by Andrew Harrison

A good pre-amp should do nothing and it should do everything. Sitting between a choice of source components and the power amplification, it needs to provide easy, intuitive control over incoming audio signals, allowing all-important volume adjustment of that signal – and at the same time it should do nothing with that signal, neither adding nor subtracting from the music. It sounds easy, yet it's remarkable how much impact this crucial link in the chain can make to the final sound.

Chord Electronics' first preamp was the CPA 4000, a model that remained the company's flagship preamplifier from 1994 until the appearance of this new 'Reference' branded design. The '4000 offered a choice of balanced and unbalanced ins and outs, two headphone sockets on the front, and an interesting 'Bus' system that allowed two different sources to be routed to either of two record outputs. The '4000 remains in the line-up, but it is bested in many functional areas by the new CPA 5000. Like its antecedent, the '5000 pre-amp is precision built from a selection of machined aluminium sections, making a sturdy stronghouse to accommodate the sensitive circuitry inside. Along with most of Chord Electronics' range now, circular cutouts on the top plate allow an eery indigo blue light to spill out, showing off electronic components within.

GOING TO POT

There's a large blue-lit fluorescent display, normally showing the selected source in big capital letters, which momentarily turns into a volume display when the large chrome-finished knob is turned. Volume is controlled by a four-gang pot behind this flush-mounted volume dial, with the potentiometer itself screened off inside the chassis by a large metal can. With a sealed and dehumidified atmosphere within, this is said to provide an hermetic seal to the pot, extending its longevity. Also inside and visible through the high-tech porthole is a screening can for the preamp's power supply, which for the first time among Chord's full-size pre-amps, is now



LEFT: The current remote control handset, subject to being replaced shortly, is a learning unit with touchsreen control



'Within the front display window is something rarely seen nowadays – stereo bargraph-style VU meters'

a high-frequency switch-mode unit. Chord Electronic's speciality was in the use of such supplies for high-power amplifiers, but given its expertise in such technology, it's not surprising to see it employed for a line-level component, where it still confers the advantages of freedom from normal mains-borne colorations. To minimise any intrusion from RF noise and to ensure that incoming signals are similarly stripped of potentially detrimental hash, a low-pass filter in the preamp shelves off unwanted signal above 200kHz.

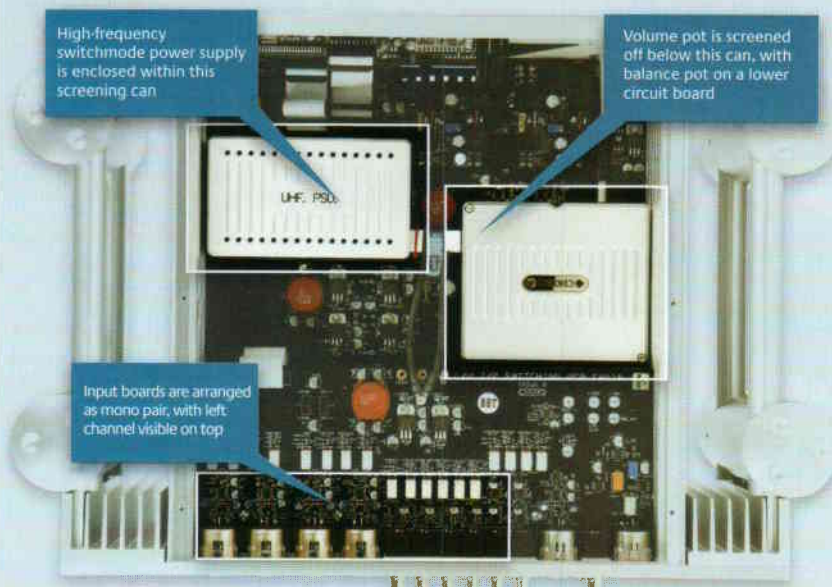
Other new features include the addition of two more XLR line inputs, to make a total of four – although the CPA 5000 has lost the second set of preamp XLR outputs seen on previous models. There is an extra set of inputs to make life easier constructing a home

ABOVE: Chord Electronics offers the CPA 5000 in silver or black finishes, with side rods and solid milled feet

VOLUME STRATEGIES

Adjusting gain in a pre- or integrated amplifier can be accomplished in several ways. Traditionally, a variable resistor in the form of a three-tag potentiometer is used as a potential divider, with a wiper sliding across a resistive track of carbon or plastic. Using fixed resistors is another practice, these selected by a rotary switch or via electronic relays. In the digital world, level can be adjusted only by shaving 'bits' from the digital signal, leaving this as the least desirable route for maintaining audio quality. A technique that can provide peerless performance is through tapped transformers, although this requires very high precision manufacture of wound components to get the required results. Chord has chosen to use a high-grade motorised Alps pot in its preamps, with a microprocessor reading the track to provide numerical user feedback. There is a tiny lag between movement and display change but nevertheless the simple potentiometer is felt by some to provide the finest sounding solution, and is seen on other reference preamps such as the Naim Audio NAC552.





cinema system around this stereo preamp, namely the 'A/V' XLR balanced inputs. And within the front display window is something rarely seen nowadays – stereo bargraph-style VU meters, which in use recall the meters of a classic cassette deck. These give a clear representation of the music's dynamics – not essential by any means but a fun piece of eye candy, which can be switched off by a panel button if not needed.

ON THE BUSES

Some care is needed when using the record out system, with its Bus A and Bus B setup which can leave you wondering where the music's gone... until you realise you were listening to the 'wrong' bus. For most users who are not having to tackle recording from two different sources at once, you can safely ignore the second Bus and treat this preamp as a single tape out unit.

The volume dial took a little familiarisation. Instead of grasping a cylindrical protrusion, you need to drag the slippery dial around with your fingers. The 'law' of the control is such that across the middle of its range, I found gain was only changing rather slowly. This does mean, of course, that small increments of volume change are very easy to accomplish, which may be preferable to a 'coarser' scale. Like any other preamp, the CPA 5000 inevitably leaves something of

its hallmark on the overall musical picture. It proved exceptionally clean and tidy in its presentation, adding absolutely no detectable noise, hiss or hum to the sound (as you would expect at this level, yet not always the case with similarly priced offerings). Images were holographically locked in space, and if it was not as nakedly unveiled as is possible by, for example, bypassing a preamp entirely, then it can still be warranted as an incredibly transparent control unit.

Stereo width was fractionally narrowed, not enough to worry soundstage precision, just part of the tidying effect already noted. Front-to-back depth remained admirably deep, obvious in layered mixes like 'One

And Only' from Beady Belle's *Cewbeagappic*. Overall voicing showed a well-lit acoustic space, lean and free of smear and overhang. This was very much a 'resolving' preamp, able to let flow the subtlest of detail at the lowest level. Not through spurious highlighting of leading edges and the gentle lifting of treble, but through sheer resolving power, like passing a precision-ground magnifying lens over a picture.

In control terms it makes a technologically attractive interface between your hi-fi and the music. And in sonic terms, this preamp does little or nothing to the signal, as is required! ☺

FOR:
Clean and transparent with style

AGAINST: Slippery volume dial and single XLR outputs

Verdict CHORD ELECTRONICS CPA 5000 (£10,000)

FEATURES



SOUND QUALITY



BUILD QUALITY



VALUE FOR MONEY



A flagship product at an elevated price, the CPA 5000 nevertheless demonstrates clear high-end transparency, unique styling and aesthetics. A selection of XLR and RCA inputs is only compromised by the absence of a second set of outputs to facilitate bi-amping. A large remote-controlled volume dial is the gateway to a clear and fresh sound that enables the pre-amp to work without sonic intrusion between the very best sources and highest resolving of loudspeakers.

Hi-fi news 17/20
OVERALL RATING

Review system breakdown

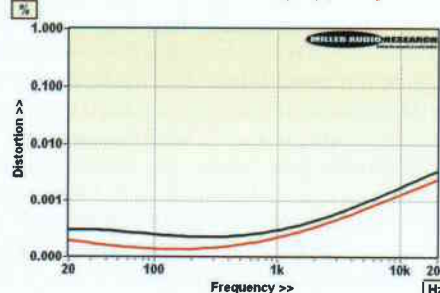
SOURCES: Linn LP12 Vector/LV11B/Orpheus, Ancient Audio Lektor Grand CD transport, Chord DAC 64 D/A converter
AMPLIFIERS: Ypsilon SET 100, Chord SPM 1200C
LOUDSPEAKERS: B&W 802D

Contact numbers

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Hi-fi News lab report

Chord CPA5000 Pre-amp: Distortion vs Frequency (Left & Right channels)



This preamplifier has four selectable gain settings, notionally offering x1 (ie, no gain), x1.5, x1.75 and x2 although, in practice, these amount to -2.6dB/-8.9dB or x0.74/x0.35 (balanced/unbalanced outputs), 3.0dB/-3.3dB (x1.4/x0.7); 7.6dB/1.3dB (x2.4/x1.2); 9.7dB/3.5dB or (x3.1/x1.5); 11.6dB/5.4dB (x3.8/x1.9) and 13.0dB/6.8dB (x4.5/x2.2). Our tests were conducted via the balanced outputs at the +3.0dB gain setting, which offers sufficient headroom to drive most conventional power amplifiers from a 2V line-level source.

Distortion is remarkably low at ~0.0003% through bass and midrange, only climbing to 0.005% at the highest treble frequencies (1V out, 20kHz, see graph above). The second-order nature of this distortion is equally benign. In fact, the slight penetration of 'grassy noise' (~100dBV at ~15kHz), possibly an artefact of the switch-mode power supply, has a greater impact on its spectral if not subjective purity. This has no enduring effect on the wide 95dB A-wtd S/N ratio or other areas of its superlative technical performance, including the flat and extended response (just -1dB at 95kHz) and 0.08dB channel matching. Readers may examine the Chord CPA 5000's performance in more detail by logging onto www.milleraudioresearch.com/avtech.com. PM

Hi-fi News lab specifications

Input sensitivity for 1V output	726mV
Overall gain (unbalanced outputs)	-8.9dB to 6.8dB
A-wtd S/N ratio	95.0dB
Distortion, 20Hz-20kHz	0.0003% to 0.005%
Frequency response, 20Hz-100kHz	+0.01dB to -1.55dB
Stereo separation 20Hz-20kHz	>69dB