

EDITOR'S CHOICE

HI-FI CHOICE
magazine



LYNGDORF

DIGITAL

ANALOG

MUTE

TDA 2200 Digital Amplifier



Perfect pitch

Lyngdorf's latest digital amp pitches up to perfect the sound in any room

PRODUCT Lyngdorf TDA 2200

TYPE Integrated stereo digital amplifier

PRICE £3,875 (as tested)

KEY FEATURES Size (WxHxD): 45x10x45.5cm

● Weight: 18kg ● Inputs: three single-ended RCA phono, one balanced XLR (with optional A/D converter module) ● Digital inputs: three coaxial, one AES/EBU balanced XLR, one Toslink optical ● Outputs: stereo phono outputs from DAC, loudspeaker terminals ● Microphone, trigger minijack inputs ● RS232 in/output ● Rated power: 200 watts per channel (8 ohms)

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In one guise or another, Lyngdorf has been at the cutting edge of digital amplification for as long as there has been digital amplification. Its best-known digital product, the Millennium, was (and, in Mk IV livery, still is) the first and best of the digital amp breed. Much of that Millennium genome can be

found in the more down-to-earth TDA 2200 integrated digital amplifier.

This is a very digital, very modular affair. In its basic layout, the £2,400 TDA 2200 doesn't even process analogue signals, save to output them to other sources or to loudspeakers. The A/D module (£275) brings line-level analogue inputs to the party, but the more significant module is the £1,200 RoomPerfect system. Together with a long length of cable and a very, very accurate measuring microphone, 'RoomPerfect' attempts to minimise the deleterious effects of room, listening position and loudspeaker idiosyncrasies to deliver the best possible sound. RoomPerfect isn't designed to make every system sound the same, though; it's designed to maintain the tonal balance of the speakers, but also compensate for the room's influence and mild peaks and troughs in the speakers' frequency

response. In other words, it's designed to bring out the hidden 'inner speaker' inside your existing loudspeakers, no less.

Here's how it works. Entering the RoomPerfect set-up menu on the scrolling blue dot-matrix front panel display, you position the microphone as close as possible to your optimum listening position. The TDA 2200 then goes through a series of eerie BBC Radiophonic Workshop style sound effects (your neighbours will think you are sitting through a *Blake's 7* retrospective) and then prompts you to reposition the microphone. This is the 'focus' measurement. You can make eight 'focus' presets on the TDA 2200, so you could have different positional settings for sitting slightly forward or back in the chair, or sitting to the side and so on. Next, place the mic randomly in the room (not between the speakers) several times until you have achieved



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a 90 per cent (or more) 'Room Knowledge'. Now you have a 'global' setting established. Fortunately, all this is guided by the menu system and is no more complex than setting up a home cinema system. Don't try to skip using the microphone stand, though, as the subtle micro-movements and your pulse will give false readings that will be automatically rejected by the TDA 2200.

You can add more measurements and refinements like your speaker/rear wall distance, too. These settings are attached to all the filter options on the amplifier. You can also by-pass the whole RoomPerfect system by pressing '0' on the Arcam/Linn-like remote handset (some better labelling would be nice).

Discounting the RoomPerfect and the A/D module, the TDA 2200 is a richly specified all-digital amplifier, delivering 200 watts into eight ohms and 375 watts into four ohms. It's designed to work up to 33kHz, so it's no SACD-enhancing, super-wide-bandwidth design, but it's claimed to stick within 0.2dB of a ruler flat 20Hz-20kHz frequency response and no analogue design comes close to that accuracy. It also includes upgradable voicing

curve filters, to soften, open up or remove sharpness from a digital recording. Some may think this 'cheating', but these are deliberate attempts at removing some of the more obvious tonal lifts and tweaks placed on recordings at source, to make them more airplay and download friendly.

Upgrades are key, too. Lyngdorf is constantly sampling new installations and adding them to the room and speaker correction database. These come through as periodic updates that can be squirted through the RS232 link via a PC. But, for all this complexity, the amplifier is deceptively simple to use and navigate, thanks to a handful of small multifunction buttons, a dirty great controller/volume dial and a useful display. This all sits in front of a well-built box, albeit one larger than most integrated amps.

SOUND QUALITY

If you speak to a non-audiophile electronics engineer or scientist, you'll hear the criticisms of the sceptic about all hi-fi: amplifiers, like CD players and (especially) cables, make little or no change to the overall performance. But, this time, the amplifier (with RoomPerfect in place)

makes a big difference. How big a difference depends on how far you deviate from the hi-fi hot seat ideal.

If you set up your system according to traditional hi-fi attributes (with the speakers well into the room to eliminate bass boom from the corners), RoomPerfect's 'focus' setting has its work cut out. This is not because the system is already as good as it is going to get, but because you are already, unconsciously doing the work for the amplifier. Move the speakers into their best position to deliver deep bass and the sound gets thick in the bass, but midband and treble are at their best. In this position, RoomPerfect helps to improve the bass without undermining the rest of the sound and the result is the best of both worlds.

Even in more traditional settings, the voicing curves help to improve performance with troublesome recordings. Although not applicable to every disc (voicing curves make a big improvement to modern pop recordings designed for MP3 replay and are best avoided on sublime classical cuts from the 1950s to the 1970s), these voicing shifts appeared to make an even bigger improvement than RoomPerfect in our test room. In fairness, it transpired that – in almost any listening position – this room just happens to be so perfect a match for the Studio 140 floorstanders we were using that ProAc should really consider putting up a blue plaque outside. But, as they say on the interweb, 'YMMV' (Your Mileage May Vary). ▶

[Review] Lyngdorf TDA 2200 integrated amplifier

Q&A

We spoke to Peter Lyngdorf, owner and founder of Lyngdorf Audio, about RoomPerfect and its place in a hi-fi system



HFC Is RoomPerfect a replacement for good set-up?

PL No correction system can remove reflections or change the directivity of the speakers. Therefore, it is desirable to place your speakers symmetrically in the room. Also, it is desirable to have a reasonable amount of absorption. It is quite important to control reflections from behind the listening position and from the floor in front of the speakers.

On the other hand, with RoomPerfect in your system, you should not try to 'control' the bass by moving the speakers far away from the boundaries. Keep the speakers where they produce too much bass and let RoomPerfect reduce the level in the correction filter. The net result will be tighter and more time-coherent bass, plus more dynamic range and less distortion.

How does the growing database of installations shape RoomPerfect?

Every month, we visit some of our clients to get a first-hand experience of how the system performs under very different conditions. Based on the first 50+ visits, we are now releasing a number of new voicings to accommodate personal taste and to compensate for less than perfect recordings. So far, we did not find any situation that required modifications to the RoomPerfect algorithms.

Can RoomPerfect work in the analogue domain?

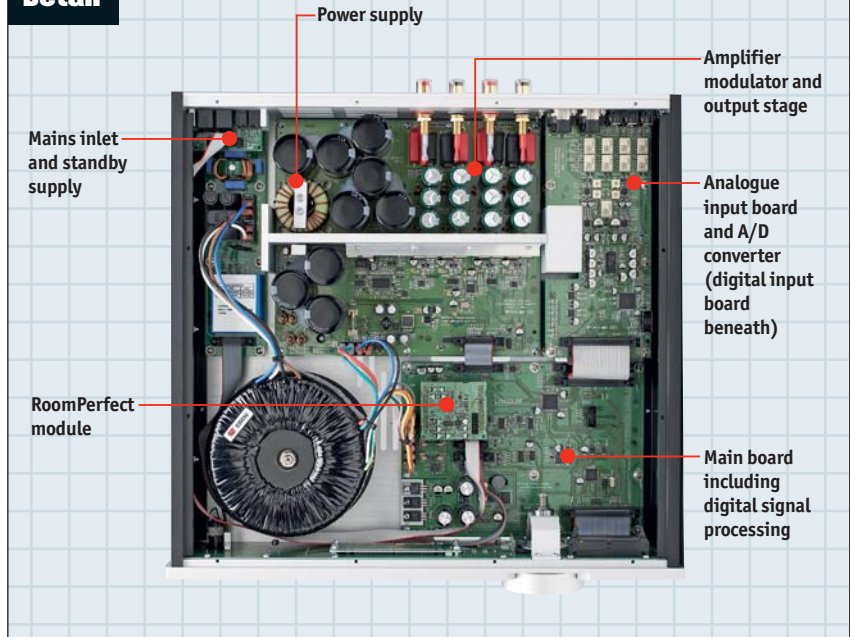
RoomPerfect will be available in stand-alone products, both as a preamplifier with digital and analogue inputs and outputs, and also as a pure analogue in/analogue out option, to be used between your preamp and power amp.

The strategy of Lyngdorf Audio is to enhance sound reproduction in listening rooms. Today we have the RoomPerfect technology, but we are working on other areas of improvement using our DSP and acoustics know-how. We now have more than 20 engineers working on R&D, which enables us to do real scientific research.

Will RoomPerfect technology be licensed to other manufacturers?

Yes – the first contract has already been signed for third-party consumer products, which will be much more expensive than existing Lyngdorf components. The first contract on the pro-audio side is also imminent.

Detail



Even in the best room for the task, there is still only one place where all the magic happens. If you sit even slightly off axis – too high, too low or too close – the sound of the speakers quickly deteriorates. It's here that RoomPerfect comes into its own. Set to 'global', the loudspeakers quickly become almost omnidirectional, giving everyone in the room a shot at good sound. Yes, this is the audiophile equivalent of a Pyrrhic victory; to achieve the best sound around the room, the quality of the sweet spot must fall. But the added felicity that comes from the rest of the room having a good time soon balances this out (besides, when the other listeners are gone, you can quickly turn things back to normal).

What is the TDA 2200 like without all the processing in place? The basics are all there, although it's not an amplifier that does 'mellow' well. This is an accurate, precise and clean-sounding amplifier, which could err on the side of brightness with metal-domed loudspeakers. It is powerful enough to deal with large dynamic swings found in complex modern classical music like Rachmaninov's *Symphonic Dances*, yet is also refined enough to cope solo female vocals and the complexity of be-bop rhythms. If you want a slight softening of leading edges (say, your musical tastes run from Maceo Parker to Fred Wesley

and the Horny Horns), use the analogue stage; it doesn't change the fundamental sound of the system, but it does make it less 'direct'.

This might sound more than slightly crazy, but even if we were unsure of the TDA 2200's basic sound, it would still be on our shortlist. The digital processing is so seamless and works so well that it's hard not to be impressed. Yes, the closer you get to traditional audiophile perfection in the system and the room, the less RoomPerfect seems to affect the sound, but this is a good thing – it doesn't intrude on systems where its presence is not vital, but is a welcome bonus to those who need it. We suspect that Lyngdorf will not be keeping RoomPerfect to itself for long and many digital-savvy companies will be beating a path to the Danish firm's door soon. Regardless, RoomPerfect lives up to the name. **HFC**

Alan Sircom

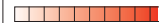


VERDICT

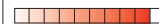
SOUND >> 88%



FEATURES >> 95%



BUILD >> 90%



VALUE >> 85%



PRO

Ingenious method of removing the room from the 'good sound' equation. Crisp, detailed sound, capable of flexibility in replay filtration. Upgradable, too!

CON

The better your system and the better your room, the less the need you have for RoomPerfect. Remote handset could do with better labelling.

CONCLUSION

If your system is perfectly sorted, this may be a solution in search of a problem, but a surprising number of speakers and rooms will benefit from this revolutionary approach to music replay. Those who really need it will never want anything else!

HI-FI CHOICE OVERALL SCORE >> **87%**