

Top-Tips



The best amp we've made - ever!

Powerful 120 Watt stereo amplifier, built without compromise

The amplifier is at the heart of any audio system, therefore particular consideration should be given to performance and connectivity. Most amplifiers are compromised by the two types of standard amplification methods they employ. Class A offers high quality sound, but is inefficient, producing lots of heat which needs to be managed - and is therefore low powered. Whilst Class AB is more efficient and therefore more powerful, it's a lower quality sound as it introduces audible distortion.

Part of the flagship 8 Series, the 851A uses our patented Class XD amplification, developed to combine the benefits of Class A and Class AB amplification and overcome their constraints for the best sound. Our unique circuit design and use of the highest-grade components results in an effortlessly powerful, yet detailed sound, that is both punchy and refined. Our obsession with sound means the 851A is powered by not one, but two custom-designed toroidal transformers that perform without buzz, hum or interference to spoil the audio experience.

The inside story

How have we made it better?

- **2nd generation Class XD amplification**
- **3 amplifiers in one - two dual mono amplification blocks to deliver the best audio plus a discrete pre-amp dedicated to the front panel processes**
- **Two toroidal transformers**
- **New improved precision volume control**

2nd generation Class XD amplification

The two common forms of amplification are 'Class A' and 'Class AB'. Class A is typically used in extremely expensive amplifiers, whilst it does produce great sound, it's very inefficient generating substantial heat which needs to be managed - normally with many expensive heat sinks. Class AB is more commonly used because it is efficient, but generates distortion at the crossover point in high level frequencies which is audible. Not satisfied with either of these options, our engineers have developed our patented Class

XD amplification which adds voltage to shift the crossover point to a position where the distortion is not audible so giving uncompromised amplification. It also means your money is spent on premium hi-fi components and technologies for great sound, rather than dealing with heat.

The brushed metal finishes enhance the solid, all-metal casework - perfect for the 851A's components to work without vibration and distortion, and ensure it will look good in any room.

851A at a glance:

- | | | | |
|---|----------------------------------|---|------------------------|
|  | Class XD for best possible sound |  | Toroidal transformers |
|  | Audiophile-grade components |  | Versatile connectivity |
|  | Solid metal construction |  | User friendly display |

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Flexible high-end XLR connectivity

The 851A offers the flexibility of two balanced analogue XLR connections, used by high-end, studio and Pro equipment. These feature a ground pin to eliminate any ground hum in the positive and negative pins, for true audiophile pleasure.

Precision volume control

No detail has been left to chance which is why we've specified a high performance volume control from respected Finnish company Micro Analogue Systems (MAS). This greater accuracy and removes the relay 'ladder' and 'click' found in the 851A's predecessor.



Did you know?

33%

The main toroidal transformer accounts for a staggering 33% of the 851A's total weight.

Toroidal vs EI transformers

We strive for audio perfection which is why the 851A features not one but two powerful toroidal transformers. The main one provides the power to the dual mono amplification blocks, producing the awesome sound and there's a second smaller one which takes care of the pre-amplification processes – the front panel and standby. Cambridge Audio was one of the first manufacturers to use toroidal transformers in the 1970s, and we continue to use them today. Some of the benefits of toroidal transformers over cheaper and inferior EI transformers used by most other manufacturers are:

- ✓ High quality power output to the amplification circuits, with no clipping of the waveform, to provide a consistent signal
- ✓ No transformer noise, buzz or hum
- ✓ High power output, to allow large and demanding speakers to be driven at high volumes
- ✓ Sensational bass performance
- ✓ Large power reserves, to allow the transformer to deliver high peaks of volume when required
- ✓ Fully shielded against internal and external electrical interference, to maintain quality of power and signal



A typical cheaper EI transformer:

- ✗ Weak inconsistent signal
- ✗ No shielding
- ✗ Noisy
- ✗ Won't drive powerful and demanding speakers

Built without compromise, technologies and the

Control Bus

Compatible Cambridge Audio products can be linked and controlled from one remote.



Speaker terminals

Bi-wire or add additional speakers in second location

High performance connectivity

The 851A features two balanced analogue XLR inputs for connection of high-end audio and professional source equipment such as the Cambridge Audio 851C digital audio hub (Digital to Analogue Converter, CD player and pre-amp) and the Stream Magic 6 network music player. Plus the 851A has nine RCA/phono connections and recording loop connections.

Fixed level inputs for home cinema

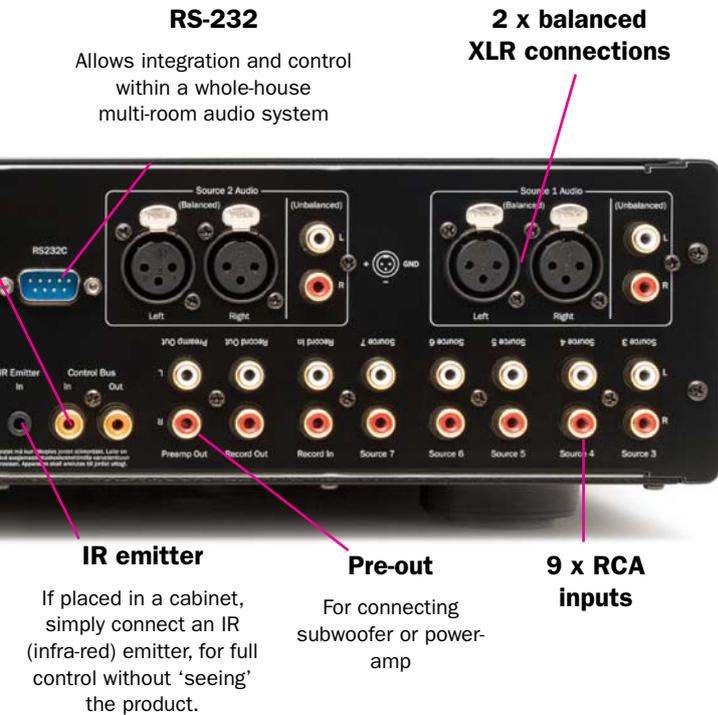
All inputs can be configured to be fixed level, bypassing the pre-amplification stage. This allows the 851A to act as a pure power amplifier, providing powerful sound to the front left and right speakers in a home cinema system for an even better movie experience.

CAP5 protection system

CAP5 (Cambridge Audio Protection 5) protects the 851A, plus connected equipment and speakers, ensuring ultimate reliability and peace of mind.

- **Over currents** – protects speakers from being driven too hard
- **Temperature protection** – in case of inadequate ventilation
- **DC Detect** – protects against the most common user errors in set-up
- **Short circuits** – to detect incorrectly connected speakers
- **Clipping** – gently takes volume down if the 851A is driven too hard

using a combination of our own patented world's finest audiophile components.



User friendly display



For added ease of use and convenience, the 851A's display can be customised to suit individual systems and user preferences. Every input can be renamed to the appropriate source, making it incredibly intuitive to use. What's more, you can choose between volume display options: decibels or numerical increments and have the ability to adjust the brightness of the screen to suit your mood.

Elegant, all-metal design



The ultra-rigid metal construction ensures components are completely isolated, eliminating vibrations for the very best possible performance. While the brushed metal front panel provides an elegant finish.

Perfect harmony

As output levels can vary by device, we've included a level trim function to adjust the level of an input. This means there will be no sudden jumps in volume when switching between sources.

Bi-wire sound or multi-room?

Two sets of speaker terminals adds to the flexibility of the 851A. You can bi-wire speakers, sending two discrete signals to each speaker so it can handle the bass /midrange separately to the high frequencies in the tweeter. Alternatively, you can add a second pair of speakers, delivering high quality audio in a second room too.

851A application guide



Home stereo systems:

The 851A delivers 120 Watts of big, punchy and yet detailed sound for an audiophile stereo experience, that's so easy to use, everyone can enjoy their favourite music.



Home theatre:

Fixed inputs allow the 851A to be used as a pure power amplifier for powerful, high quality audio to front left and right speakers in a home cinema system.



Great music in two locations:

The two sets of speaker terminals allow you to connect a second pair of speakers and enjoy high quality music in two rooms.

Designer's note



"The 851A's sound is big, punchy and full of detail. Class XD gives the 851A much more potency and it's got the ability to drive any speaker we've paired it to with ease."

*Chris Woolrych -
Electronic Engineer and
851 Series Designer*

Top reasons to buy an azur 851A

The 851A is simply the best amplifier we've ever made... here are the compelling reasons to choose the Cambridge Audio azur 851A:

- 1 Powerful audiophile performance:** The 851A has 120 Watts of extreme power under the hood, which will drive any speakers with ease, producing a big, gutsy and detailed audio experience.
- 2 Patented Class XD amplification:** Class XD combines the great sound of Class A and the efficiencies of Class AB amplification for the best possible audio. Just one example of when the technology available to us just wasn't up to the job in question, so we developed our own!
- 3 Three amps in one:** The primary toroidal transformer provides unrestricted power to the to the dual mono amplification blocks. It's a true audiophile transformer that will operate without distortion and with no buzz, interference or hum. While a second, smaller toroidal transformer takes care of pre-amplification processes.
- 4 High-end connectivity:** You will enjoy the flexibility of two balanced analogue XLR inputs for highest quality connection to your high-end source equipment. That's not to mention the other RCA/phono connections.
- 5 Precision volume:** The 851A has superbly accurate volume control and great stereo separation thanks to the MAS integrated circuit volume.
- 6 User friendly display:** Features such as changing input names on the display allow you to customise the 851A to suit your system, making it simple to select sources.
- 7 Use as part of a home cinema system:** Any input can be made a fixed input allowing the 851A to act as a pure power amplifier in a home cinema. Using the high performance qualities of the 851A to drive the front left and right speakers.
- 8 Always protected:** For peace of mind our CAP5 – 5 point protection system means you can be safe in the knowledge that no matter what limits you try and test your system to, the 851A, is fully protected!



851A amplifier (top) shown with the 851C DAC (Digital to Analogue Converter)

- 9 Serious heavyweight:** All-metal casework gives the 851A an ultra-rigid construction and structural integrity to ensure all components are completely isolated for the very best possible performance. What's more, the elegant brushed metal finishes means it'll look great in any environment too.
- 10 Private listening:** The 851A's headphone output will deliver high quality sound too, great when not wanting to disturb others.
- 11 Bi-wire or multi-room flexibility:** For the best performance you can bi-wire your speakers, or if preferred the 851A can be used to drive a second pair of speakers in a different room, providing high quality audio in two locations.

LISTENING TIP

Don't be limited to acoustic music when listening to the 851A. We're so confident about the performance of this amplifier, why not try a track such as Daft Punk's, 'Around the World' to really see what the 851A can do? Remember it needs to be paired with matching high performance speakers, like our Aero 6.