



Top-Tips

# Azur 651W Power Amplifier

The Azur 651W is a two channel power amplifier, designed specifically to be partnered with a high quality -pre-amplifier such as the Stream Magic 6.

By separating out power amplifier functionality, our engineers were able to give this amplifier the time and dedication that it needs to deliver the ultimate performance.

By featuring both fully balanced XLR and unbalanced RCA analogue audio inputs, the 651W is, of course, designed to work in perfect synergy with a dedicated Cambridge Audio pre-amplifier. By connecting a digital pre-amplifier such the Stream Magic 6, the 651W provides the powerhouse in a truly astonishing digital music system!



A digital pre-amplifier like the Stream Magic 6 is the perfect partner for the 651W



## The inside story

**Helping us to achieve this incredible sound are some other key features rarely seen at this price point.**

- **Immense power.** Into 8 Ohms, the 651W outputs 100W per channel in stereo mode. Into 4 Ohms, this figure increases to 150W per channel!
- **Toroidal transformer.** The 651W uses an audiophile grade oversize toroidal transformer and substantial extruded heatsink to deliver perfect power, with extremely low distortion.
- **Output transistors.** Two pairs of high current output transistors per channel allow the 651W to drive almost

any speaker with ease, with excellent bass response and dynamic control.

- **Dual mono design.** The 651W uses a clever dual mono amplifier design – this means that we take separate feeds from the large toroidal transformer and process the left and right channels separately, meaning that the 651W is effectively two mono block amplifiers put together in one chassis – this gives superior stereo imaging and sound-staging to the competition.
- **Further improvements.** By featuring both fully balanced XLR and unbalanced RCA analogue audio inputs, the 651W provides a versatile and high-end-friendly range of connections.



## Toroidal vs EI transformers

We strive for audio perfection which is why the 651W features a powerful toroidal transformer.

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 a toroidal transformer, over the cheaper, inferior EI transformers used by most other manufacturers are:

- ✓ High quality power output to the amplification circuits, with no clipping of the waveform signal, to provide a consistent signal
- ✓ No transformer noise, buzz or hum
- ✓ Sensational bass performance
- ✓ High power output, to allow large and demanding speakers to be driven at high volumes
- ✓ 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



### Did you know?

The 651W has two pairs of speaker outputs, allowing you to bi-wire a suitable pair of speakers, or to drive two pairs of speakers simultaneously.

## Digital Pre, with Analogue Power!

Why not connect the Stream Magic 6 directly to the 651W power amplifier, to create a truly astonishing digital music system!

Unlike many digital pre-amplifiers, the Stream Magic 6's digital pre-amplifier is the highest possible quality thanks to the powerful Analog Devices DSP (Digital Signal Processor), which we also use to drive our ATF audio upsampling system. Most digital preamplifiers use 'bit reduction' to adjust the level of the volume output, however this results in much lower sound quality because digital information is being cut out of the original audio signal.

Instead, the Stream magic 6 digital pre-amplifier uses the Analog Devices DSP to control the level of the volume output, meaning that the entire digital signal remains fully intact for the best possible sound.

### Designer's note



"With so much of my music in the digital domain, I rarely need a traditional analogue pre-amp anymore – now I can connect my DacMagic Plus directly to the 651W and control everything from there."  
[Dave, Electronic Design]

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## Hot Tip!

The 651W features an Audio Detect mode. When an audio input signal is detected, the 651W will automatically power up. When the audio signal stops, it will then automatically power down after 30 minutes.



## Superior connectivity

The 651W features both unbalanced RCA and balanced XLR audio inputs – the latter ideal for connecting to modern high-end sources. Plus flexible trigger and IR inputs, and control bus options make it easy to connect to modern pre-amplifiers for power syncing.

## All metal design

Electronics (and therefore sound quality) are particularly susceptible to vibration; that's why we've used a low resonance, acoustically-dampened metal chassis to eliminate as much vibration as possible, ensuring that the most sound quality is extracted from each source.

## CAP5 (Cambridge Audio Protection 5)

Protects the 651W, plus any connected equipment and speakers, ensuring ultimate reliability and peace of mind.

- Over current – 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 – prevents damage if the 651W is driven too hard

## Vital statistics:

Power output:	100W per channel into 8 Ohms 150W per channel into 4 Ohms
Dimensions:	115 x 430 x 340mm (4.5 x 16.9 x 13.4")
Weight:	10.7kg (23.5lbs)

# Top reasons to buy the Azur 651W

This power amplifier delivers exceptional audio quality. Here are 10 reasons to choose the Cambridge Audio Azur 651W over other power amplifiers...

- 1 Immense power.** Into 8 Ohms, the 651W outputs 100W per channel in stereo mode. Into 4 Ohms, this figure increases to 150W per channel!
- 2 Toroidal transformer.** The 651W uses an audiophile grade oversize toroidal transformer and substantial extruded heatsink to deliver perfect power, with extremely low distortion.
- 3 Output transistors.** Two pairs of high current output transistors per channel allow the 651W to drive almost any speaker with ease, with excellent bass response and dynamic control.
- 4 Dual mono design.** We take separate feeds from the large toroidal transformer and process the left and right amplifier channels separately, effectively making the 651W is two mono block amplifiers put together in one chassis.
- 5 Superior connectivity.** Balanced and unbalanced analogue audio inputs for superior connectivity unbalanced RCA and balanced XLR – the latter ideal for connecting to modern high-end sources.
- 6 CAP 5 protection.** Protects the 651W, plus any connected equipment and speakers, ensuring ultimate reliability and peace of mind.
- 7 Flexible connections.** Audio detect mode (Auto Power Up and Down), trigger connections, IR and control bus connectivity make the 651W ideal for Custom Install integration and power synchronisation with pre-amplifiers.
- 8 Speakers A and B.** The 651W has two pairs of speaker outputs, allowing you to bi-wire a suitable pair of speakers, or to drive two pairs of speakers simultaneously.
- 9 Full Metal Jacket.** All the above points would mean nothing if this power amplifier was not built to last! From the all-metal casework and ultra rigid chassis, to the high-quality, high-power toroidal transformer, every component in the 651W is designed to give many years of listening pleasure.
- 10 Two finishes.** The 651W is available in beautiful brushed aluminium black and silver finishes.

