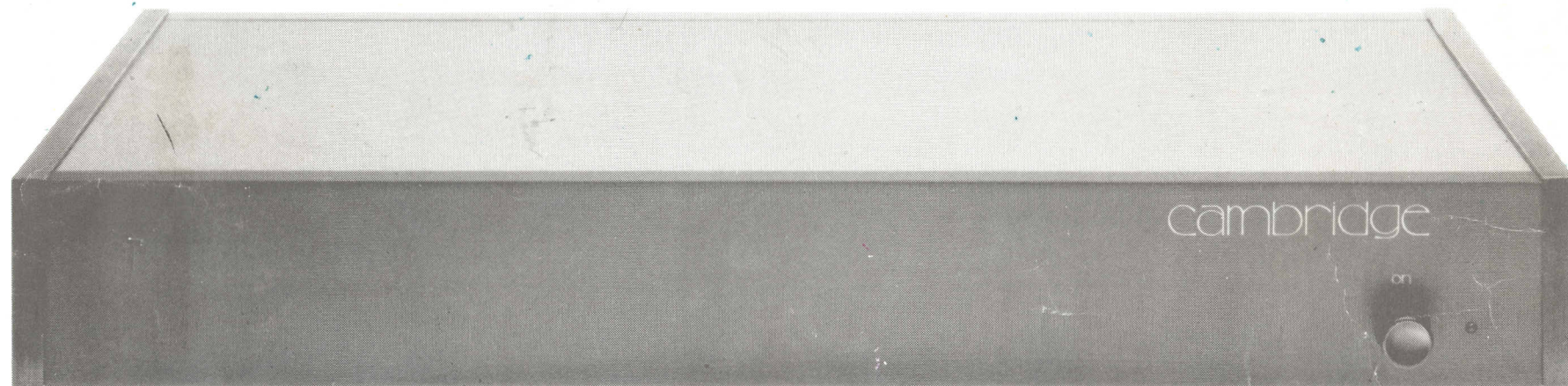


# cambridge audio



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a history of excellence

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## Cambridge Audio A75 Power Amplifier

Now nearly two decades after producing what is generally considered to be the world's first high performance hifi amplifier, the Model P40, Cambridge are proud to announce their A75 Power Amplifier, a product capable of exceptional standards of music reproduction revealing all the subtle nuances of tonal textures experienced in a live musical performance.

Drawing upon a wealth of design expertise Cambridge have produced an amplifier which whilst modest in price, incorporates a number of important design innovations.

The power amplifier circuits have a wide open-loop bandwidth ensuring minimum phase modulation and constant dynamic operating conditions regardless of signal frequency. The output stages use superfast transistors (typically a 0.3 microsecond switching time) with an exceptionally high peak current capability. This is of great importance since the loudspeaker system may require a massive amount of power for a fraction of a second and so it is important that the amplifier is capable of providing the levels of current required to achieve accurate reproduction of programme dynamics. The A75 has a 40 Ampere peak output current capability; a figure significantly higher than that of most competing products.

The power supply used in the A75 is rated at 400VA and is unusually substantial for a

nominally 75 Watt amplifier. Two toroidal transformers are used in a dual supply configuration incorporating two sets of rectifiers and reservoir capacitors to give a high current supply with the good regulation characteristics essential to convincing and well resolved bass reproduction.

The heart of each A75 amplifier is a thick film hybrid circuit specifically designed for this amplifier. This hybrid is a substrate carrying an array of transistors and resistors whose performance is monitored by a highly sophisticated computer which controls a laser beam which trims the component values to give exceptionally high accuracy in the operation of the amplifier.

This ensures good dynamic matching of the two channels of the A75 and consistency in the performance of all production amplifiers.

Considerable attention to component technology has contributed to the low levels of audible colourations and thus the transparency of the reproduced sound. All the resistors are 1% metal film types with the capacitors being mainly close tolerance polystyrene types with normal electrolytic capacitors being used only for power supply decoupling.

We believe this attention to detail has helped is to create a power amplifier of unusually good performance and superlative sound quality.



### Technical Specification

#### OUTPUT CHARACTERISTICS

8ohm load both channels driven 20Hz to 20KHz for less than 0.5% THD

75 Watts

Peak Current Capability 40 Amperes

Total Harmonic Distortion (75W into 8ohm, 20Hz to 20KHz) less than 0.06%

#### INPUT CHARACTERISTICS

Input Impedance 47 Kohm

Input Sensitivity  
(for 75W into 8ohms)

500 mV

Signal-to-Noise Ratio  
(ref, rated power output)

greater than 100 dB

FREQUENCY RESPONSE  
(ref. 1KHz) - 1dB points

5Hz

50KHz

#### DIMENSIONS OVERALL

Width 430mm (16<sup>15</sup>/<sub>16</sub> inches)

Depth 280mm (11 inches)

Height 66mm (2<sup>5</sup>/<sub>8</sub> inches)

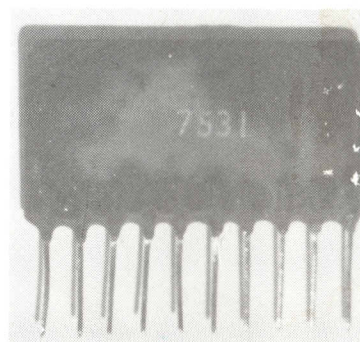
**Cambridge Audio have a policy of continuous product improvements. We therefore reserve the right to change the specifications, design, materials or dimensions of our products at anytime without prior notice.**

**The illustrations used in this brochure are intended as a guide only.**

### Thick Film Hybrid Circuits

A thick film hybrid circuit is based upon a ceramic substrate onto which is printed a conductive network of gold and palladium-silver together with resistive networks which can be trimmed to an accuracy of 0.01% or better by the technique of etching away the tracks with a laser beam whilst at the same time making in-situ test measurements. Thus the actual circuit performance and the matching between different sections can be precisely achieved with the bonus of commensurate temperature stability.

The active components such as transistors and diodes have their contacts welded to the conductive tracks through lengths of gold wire and, in comparison to the used of discrete components on a printed circuit board, the hybrid eliminates the potential unreliability and non-linearities inherent in the numerous lead soldered connections.



Because of the small and consistent dimensions of the circuitry in the hybrid pack there is the distinct and important benefit of improved high frequency performance, with short lead lengths and low capacitances there is a relative freedom from instability and interference.

In 1973 Cambridge Audio were probably the first audio manufacturer to use thick film hybrid circuits in commercially available hifi products.

The H1 and H2 circuits used in the "Classic" amplifier offered outstanding performance compared to contemporary designs and since that time Cambridge Audio has built up an enviable level of experience and expertise in the design and use of hybrid circuits. The thick film circuits used in the A75 Power Amplifier are our third generation of hybrids and encapsulate much of that knowledge and learning.



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