Technical Note

Dynamic Amplifier Behaviour

Introduction

The E Series is the MC² Audio solution to requests for a range of lightweight, powerful, touring amplifiers. To enable huge power output from a lightweight package, using standard mains supplies, requires sophisticated power control circuitry.

As the RMS value (heating power) of dynamic signals is far lower than that of sine wave or similar continuous signals, the E-series control circuits utilise this phenomenon by continuously monitoring both the RMS and peak signal levels. If the peak to RMS ratio exceeds that of music or speech signals, then the threshold of the limiters is lowered, keeping the amplifier within safe operating limits and the statutory mains inlet limits.

Amplifier Behaviour

Normal music or speech signals at full power are unaffected by this monitoring. However, sine waves and some heavily compressed music signals will be subjected to a power/time reduction process when operating into 2 Ohm loads.

The E-25, for example, maintains full power for over 500 milliseconds and then slowly reduces to 72% of full power, which we found was undetectable with even the most testing of bass signals.

Into most 4 Ohm loads the power will be unaffected and run continuously at the rated output regardless of input signal type.

When testing these amplifiers, especially into 2 Ohm loads, then a tone burst generator must be used. The results from continuous signals will be totally invalid.

Please contact us for details of our full test conditions if you wish to verify any specifications or compare our amplifiers against other manufacturers' similarly rated models.

Please also see associated technical notes:

Crest Factor and Amplifier Power
Amplifier Power Measurement

available from our website at www.mc2-audio.co.uk

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