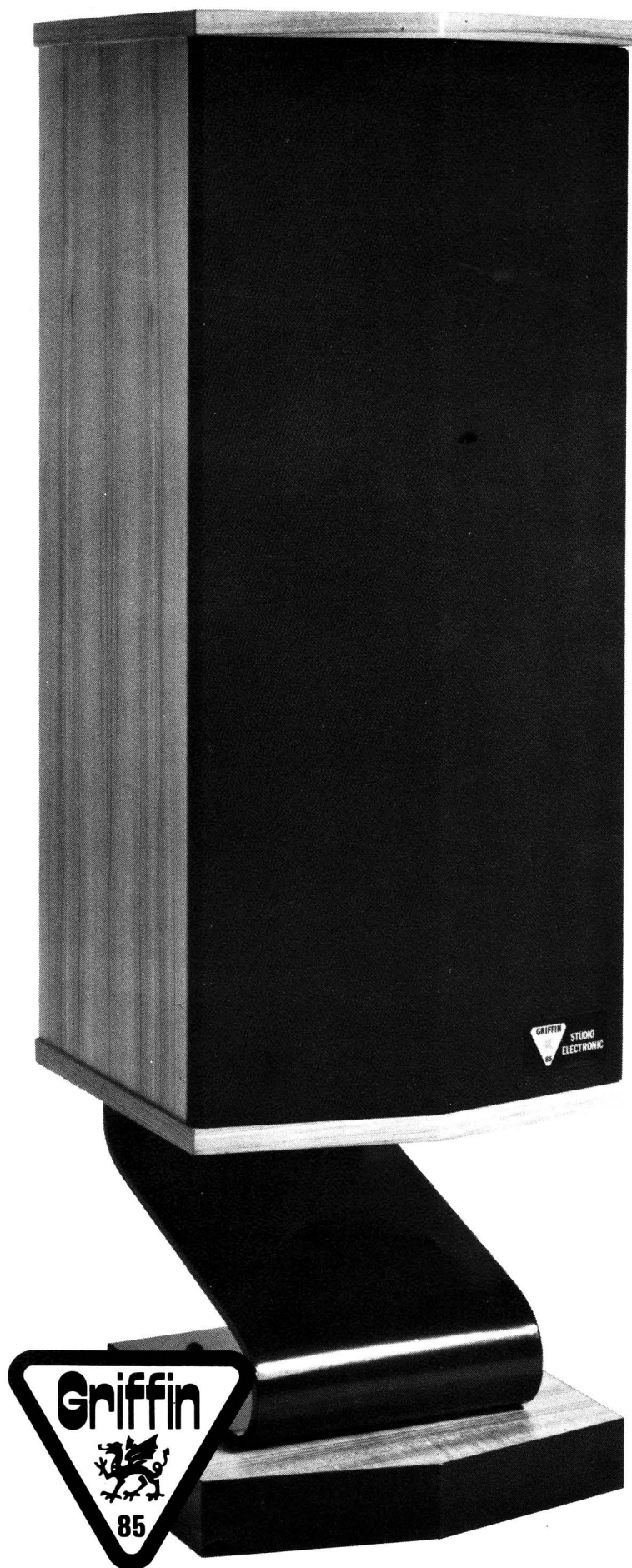


# Griffin 'Studio Electronic'

# 85

## Loudspeaker



Griffin loudspeakers are designed and manufactured with the following aims in mind: Perfection cannot be achieved when converting electrical signals into sound. However, the distortions normally present in this process can be reduced to an extremely low level. Any inaccuracies can be detected by the human ear/brain system. A trained 'ear' is far more sensitive to alterations in the original musical 'sound'.

The Griffin Studio Electronic 85 loudspeaker has been described as a loudspeaker of impeccable accuracy, and a 'significant advance in its field', being of an unusual and striking design. The loudspeaker unit is a five-speaker system with three built-in power amplifiers, one for bass, one for mid-range and one for treble. It features variable enclosure damping, level controls, and has a unique (patent applied for) bass system.

The use of amplifiers built into the loudspeaker, each tailored to suit the units they are driving, results in a response that can be controlled to within fine tolerances.

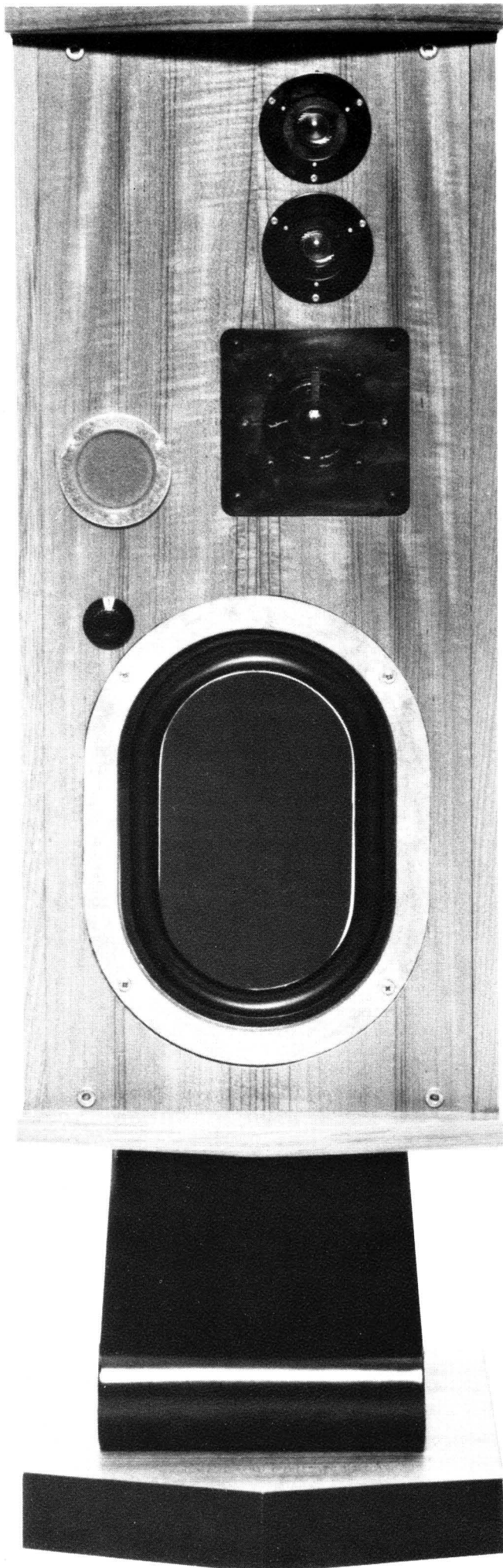
Griffin were the pioneers of this design and recognising the importance of coupling drive units directly to amplifiers with a high damping factor. The result is extremely faithful response to music with amazing realism.

The firm, well-controlled bass is a result of the tandem line bass system. The bass notes are well able to be distinguished from each other, making the loudspeaker both an accurate acoustical instrument, and a sound source that aids easy listening. The system is primarily intended for reference purposes, the unit being capable of high pressure levels with low distortion, and accurate response to transients. In these respects the design is a great advance on conventional speaker systems.

The cabinets are constructed of ultra high density chipboard, veneered inside and out with ultimum damping reinforcement, and a non resonant structure design. The veneers are selected and matched and finishes are Teak and Walnut.

The speakers are supplied complete with stand which is constructed using spring steel tuned to the mass of the speaker, absorbing and neutralizing any bass frequency and colouration from the cabinet, as well as placing the speaker in the optimum position.

## pure sound genius



## THE PRINCIPLES OF THE SPEAKER SYSTEM

### The tandem-line bass system (patent applied for):

This system consists of a primary driver KEF 139. This unit is driven directly by the bass amplifier and also in conjunction with this unit driven through an Infra-bass drive network is the Infra-bass drive unit. This unit is an extremely low resonance 8" unit. This is located half way up the cabinet forming two chambers, one above and one below (see block diagram and cross section drawing on back page). The Infra-bass unit is arranged to control the air masses within the cabinet, so that the primary drive unit is operating under perfect conditions.

The damping of this unit is adjustable, high damping for fast transient reaction, and medium and low damping for slower transient reaction. It is used in order to compensate for room acoustics.

This method of loading the bass unit is technically complex to describe the operation, however the result is a bass response that extends very low with high power handling capabilities and very low distortion. However, the main advance is the very fast transient ability. A bass note pulse applied to this system will start and stop six times faster than the best acoustic suspension system.

The boom and hangover colouration is therefore removed and this results in excellent clarity and better detail in the rest of the range.

### The Mid and Treble dome drive units:

Griffin have selected the highest quality units available in order to obtain excellent performance, with regard not only to frequency response smoothness, but also for their capabilities in reproducing rapidly changing musical transience which are the major components of music itself.

A further feature of this speaker is the line source dispersion characteristics for accurate image placement, the ideal polar pattern is  $180^\circ$  horizontal with a planar vertical dispersion. The unit arrangement give this pattern at all frequencies above  $4\text{kHz}$ . The stereo image as a result has very high stability and accuracy.

The speakers are very closely phase and response matched. The polar response at frequencies below  $4\text{kHz}$  is a consistent  $180^\circ$  due to the use of a 2" dome midrange unit crossing over to the bass system at  $700\text{Hz}$ .



## TECHNICAL SPECIFICATION

Drive units:	(1) Re-coned KEF B200 (Infra-bass), variable damping of 2.5, 1.5, 0.75
	(2) KEF B139
	(3) Radford MD6/1
	(4/5) Two STC 4001G Selected tweeters
Frequency response:	$22\text{Hz}$ — $30\text{kHz}$ -4dB +2dB (in 3,000 cubic feet room)
Dimensions:	Height: 44 inches (incl. stand)
	Width: 13 inches
	Depth: 13 inches
Weight:	110 lbs each (incl. stand)





## AMPLIFIER DIVIDING NETWORK

The tri-amplified plug-in unit is situated in the back of the loudspeaker. Each amplifier has its own level controls for treble, mid-range and bass.

The signal source is applied to the amplifier from any high quality pre-amplifier or pre-amplifier section of a high performance amplifier. The filter network tailors the response to suit the drive units and crosses over between them with a high slope.

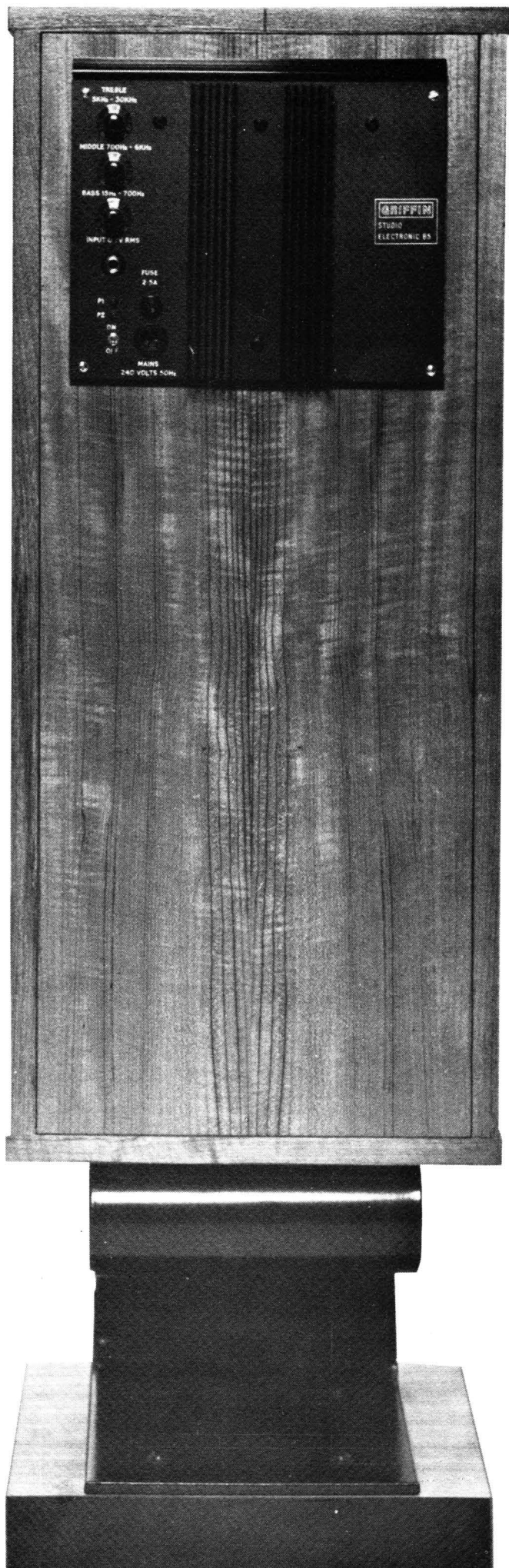
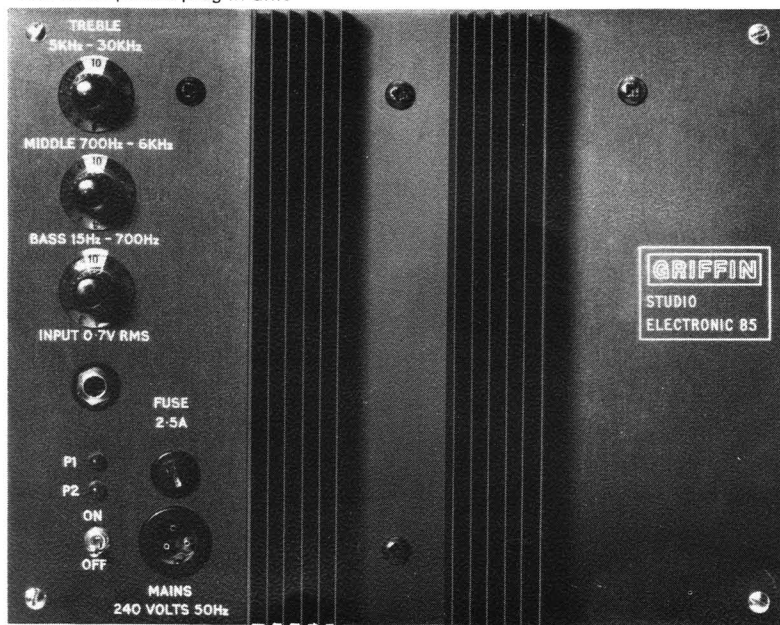
The phase response is arranged so that the system sounds perfectly integrated and is applied to quality power amplifiers of high output capability. The use of tri-amplification enables higher levels to be obtained, because the amplifier does not clip while handling music in all ranges. For example with a high level bass input the amplifier does not have to handle middle and treble and thus run near the limit. The tri-amplified system is equivalent to a single power amplifier with more than 500 watts R.M.S. power. The reliability is increased because running temperatures are lower for the same output level. (See block diagram of system — back page.)

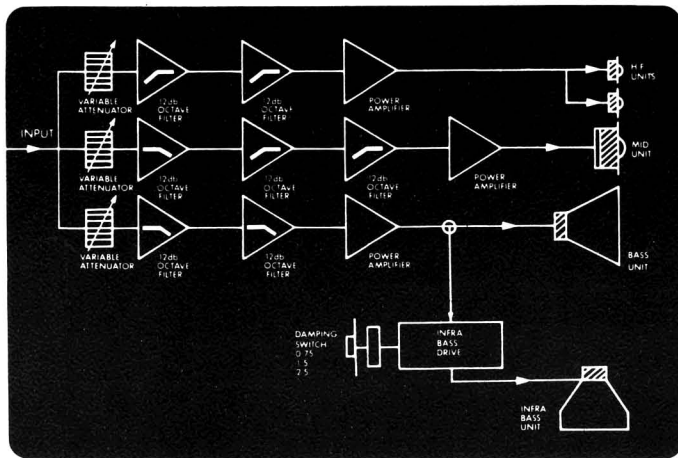


## TECHNICAL SPECIFICATION

<b>Treble:</b>	50 watts RMS: 24dB/octave slope, Turnover at 6kHz and 8kHz
<b>Mid-range:</b>	60 watts RMS: Highpass 24dB/octave slope, Turnover at 750Hz and 840Hz. Lowpass 12dB/octave slope, Turnover at 6kHz
<b>Bass:</b>	80 watts RMS: 24dB/octave slope, Turnover at 700Hz, lower limit 10Hz
<b>Damping Factor:</b>	Greater than 100 over entire range
<b>Input:</b>	0.3V into 3.3k ohms or 0.8V into 10k ohms.

The tri-amplified plug-in unit





Block diagram of system.

1. Exceptional high density cabinet material.
2. High Frequency units.
3. Mid Frequency unit.
4. Bass unit.
5. Infra bass unit.
6. Infra bass drive network.
7. Damping switch.
8. Plug-in tri-amplifier network.
9. Upper chamber outlet pipe.
10. Upper chamber (long haired fibre wool).
11. Lower chamber (long haired fibre wool).
12. Urethane foam for standing wave removal.
13. Fitted stand.
14. Wheel castors.

Griffin Speakers are constantly developing and improving their products. The right is reserved to change specifications without prior notification or public announcement.



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Cross section of 'Studio Electronic' 85 loudspeaker.

