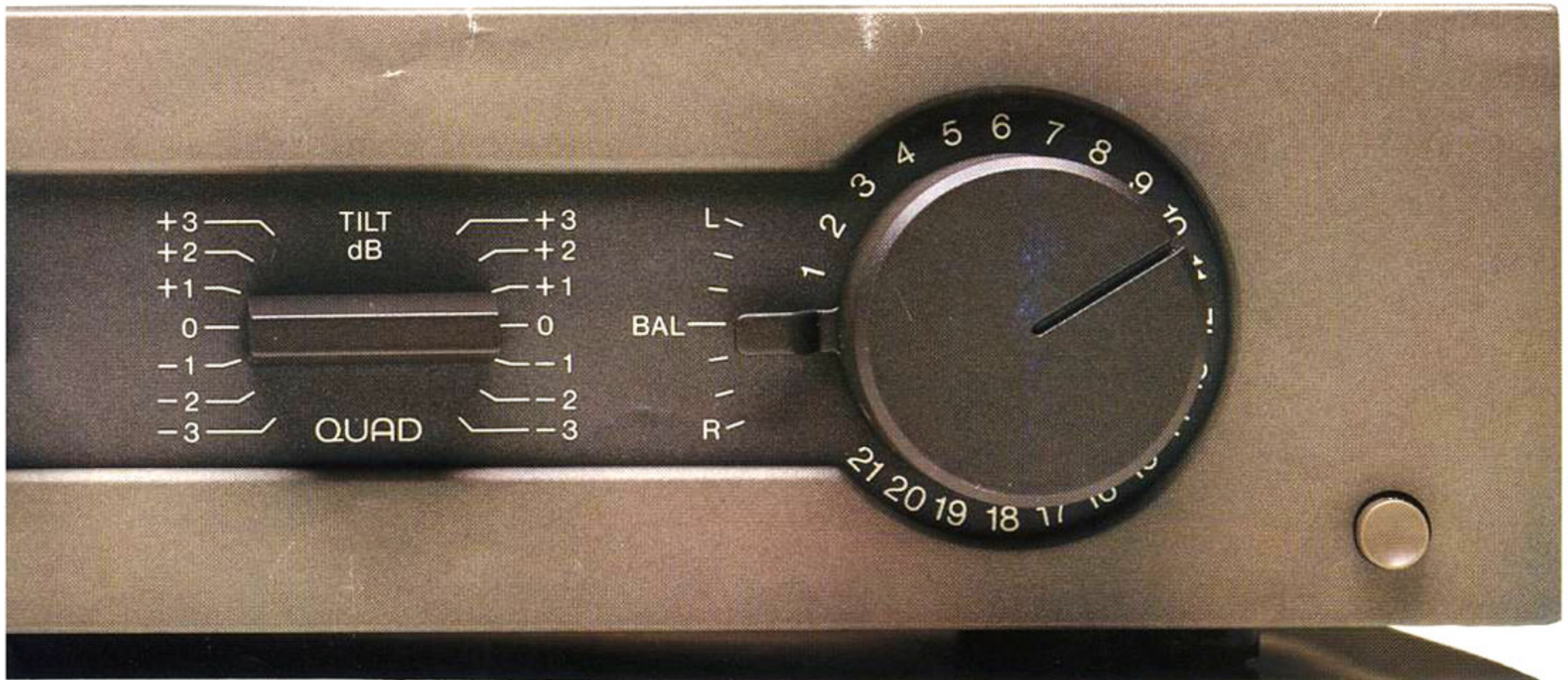


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# The QUAD 34

## CONTROL UNIT



The Quad 34 provides the serious music listener with everything necessary for the full enjoyment of music from radio, disc, tape and compact disc and continues a process of evolution which began more than thirty years ago with the original Quad control unit.

Inputs are selected by pushbutton controlled solid state switches and all inputs are fully isolated so that one can switch from one to the other without turning down the volume control or switching off unwanted sources.

Filters, selected by pushbutton, provide optimum characteristics to remove distortions inherent in the record playing system and leave more of the music.

The Tilt control changes the programme balance to compensate for the difference between the reverberation of the actual listening room and the recording engineer's concepts. The tilt control is a highly sophisticated eight pole filter that is smooth in operation with no abrupt changes of response and no unwanted colouration.

The Bass control fulfils one of two functions: as an equaliser for use with small loudspeakers in the lift mode when it provides smooth progressive bass boost to compensate for the low frequency roll-off of small enclosures, and as correction for low frequency exaggeration due to floor or corner placement, in the step mode.

In short, the Quad 34 provides correct input matching and compensation for programme and room effects with excellent ergonomics, everything necessary to obtain enjoyment from the widest possible variety of programme. The Quad 34 also incorporates those intangibles which existing Quad owners take for granted but can come as something of a pleasant surprise to those who have not dealt with a serious but friendly and helpful manufacturer before, intangibles which make ownership of Quad a pleasure which improves with time.

## INPUTS

### Disc

Correct disc input matching, both of impedance and sensitivity, and accurate RIAA equalisation, is essential for optimum results. The Quad 34 is supplied with two disc input modules, one to suit

most moving magnet pickup cartridges with a load of  $47k\Omega//220pF$  and sensitivity of  $3mV$ , and one to suit most moving coil pickup cartridges with a load of  $100\Omega//22nF$  and sensitivity of  $100\mu V$ . A range of modules is available to match pickup cartridges not covered by the two standard modules. When pickup and input are correctly matched, optimum performance is achieved with the signal from the cartridge positioned well above the noise threshold and well below the overload ceiling of the disc input.

### Tape

Quad use DIN connectors because of their superior electrical and mechanical characteristics, but the Quad Tape Record/Replay socket is intended to interface with the standard line input/output found on modern cassette machines. Tape out for recording is at  $100mV$  or  $300mV$ , adjusted by inserting a couple of resistors into spring loaded contacts, with a source impedance of  $2.2k\Omega$ . Replay sensitivity is similarly  $300mV$  or  $100mV$  with a load of  $120k\Omega$ . Monitoring when recording is achieved simply by pressing the TAPE button.

### Radio

The Radio is a flat high impedance input, designed primarily for use with the Quad FM4 tuner. When listening to weak FM transmissions which are too noisy in stereo, MONO override is provided.

### Aux

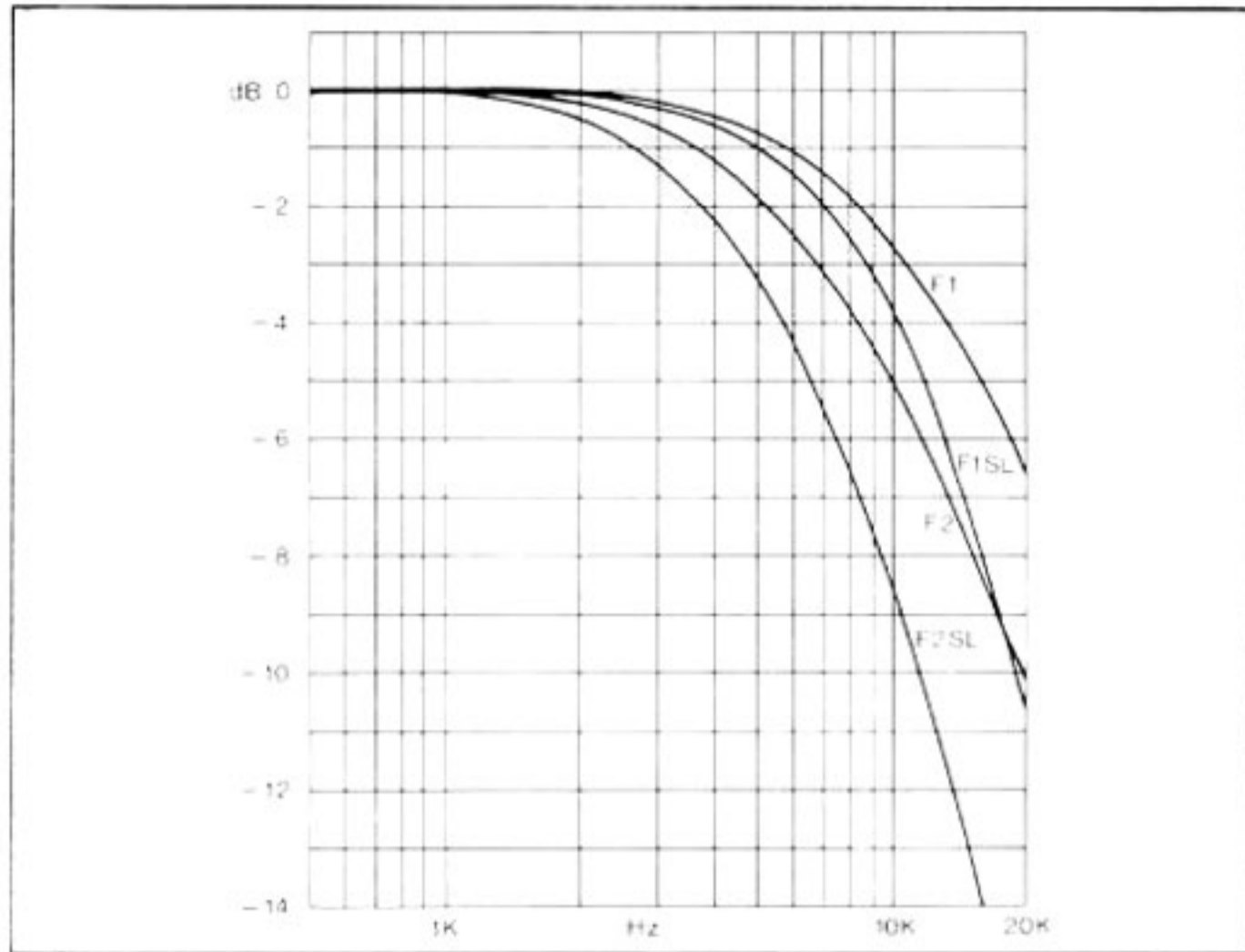
The Auxiliary input is intended for use with a compact disc player, but can also be used as a second tape record/replay socket, suitable for use with two head cassette recorders.

## FILTER & TONE CONTROLS

### Filters

Even with modern stylus shapes, the tracing distortion from a gramophone record doubles for every half octave increase in frequency, and at high frequencies and high modulation levels the distortion can rise to 50%. A well designed filter system intelligently used can remove most of this distortion without removing the musical information, enabling the listener to have more of the music and less of the hi-fi. The Quad 34 filters are operated by three push buttons and give four filter characteristics, as shown on the accompanying curves.





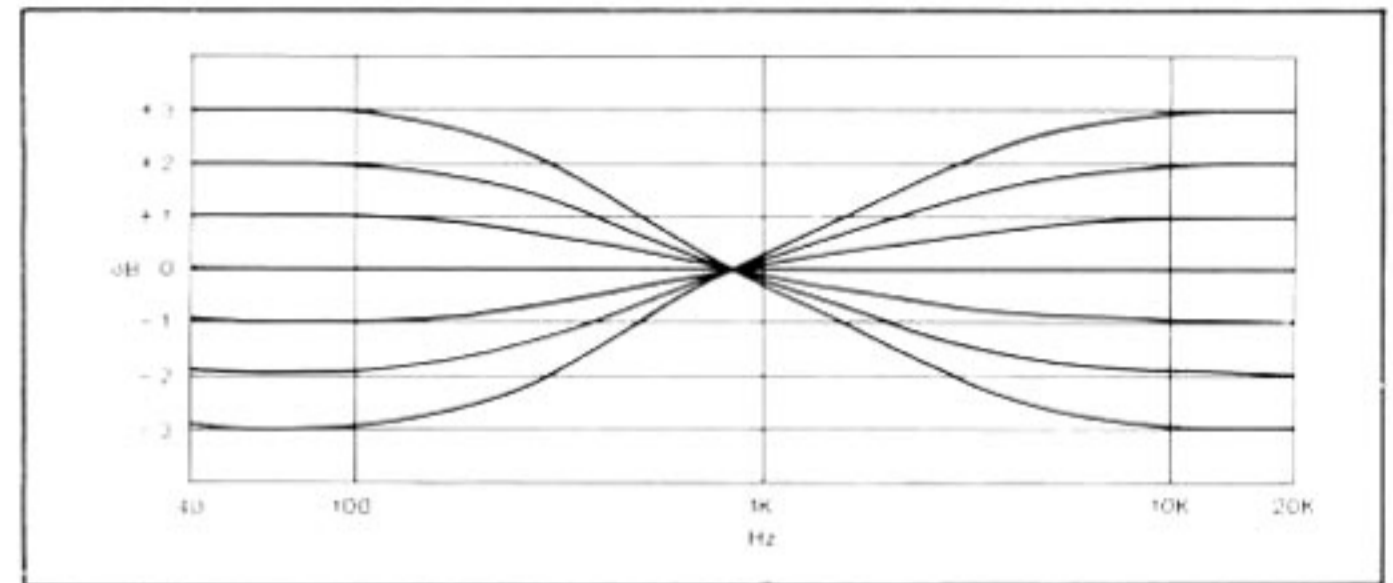
### Tone Controls

The results obtained from any programme depend upon the aggregate effect of the listening room and the recording environment together with corrections applied by the recording engineer, and the characteristics of the equipment of the producing chain. It is not difficult to understand that it is extremely unlikely that the arbitrary combination of these variables which occurs when listening at home will yield the closest approach to the original sound. It is only necessary to play a good recording on first-class equipment in a number of different rooms to realise just how much variation there can be. Room effects are delayed in time with respect to the original sound, so that only certain types of error are correctable by frequency response shaping. The tone controls on the Quad 34 provide a positive contribution to one's listening pleasure.

### Tilt Control

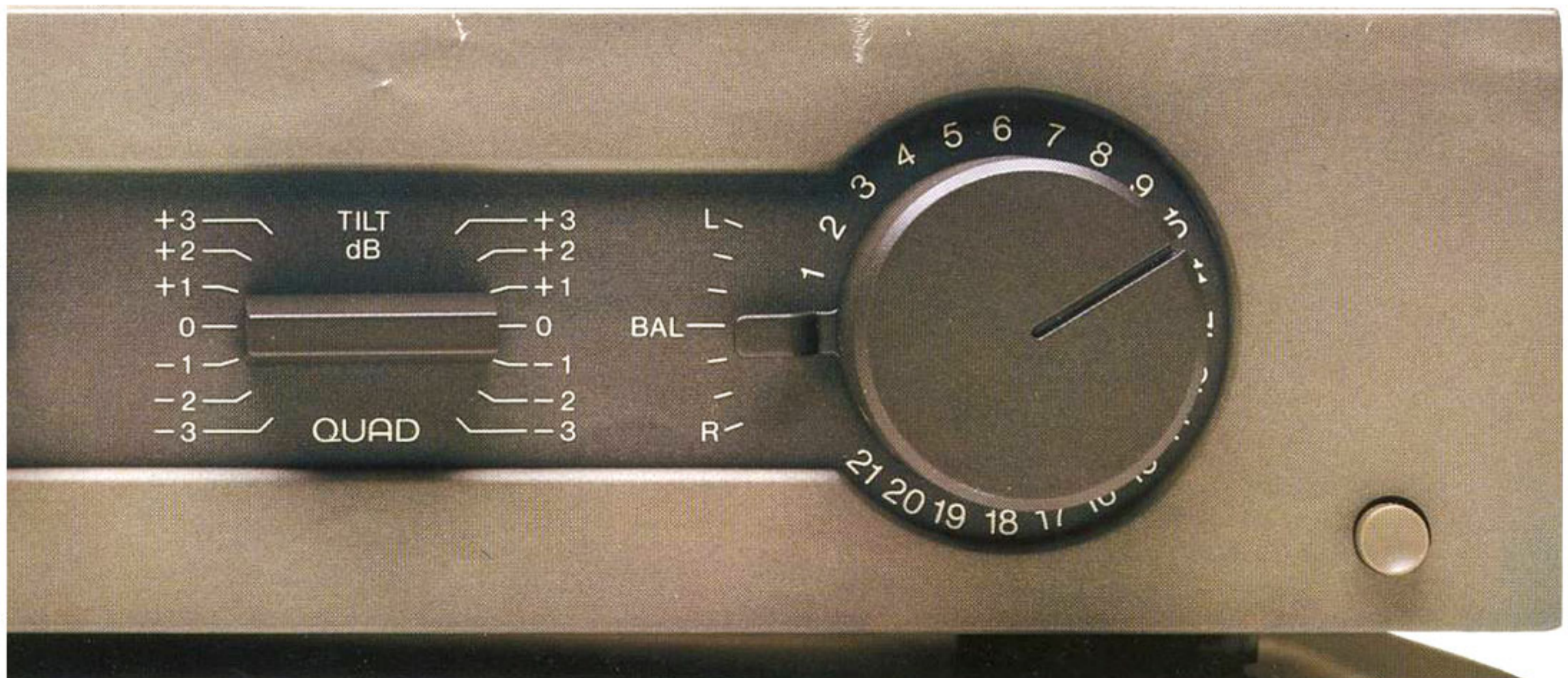
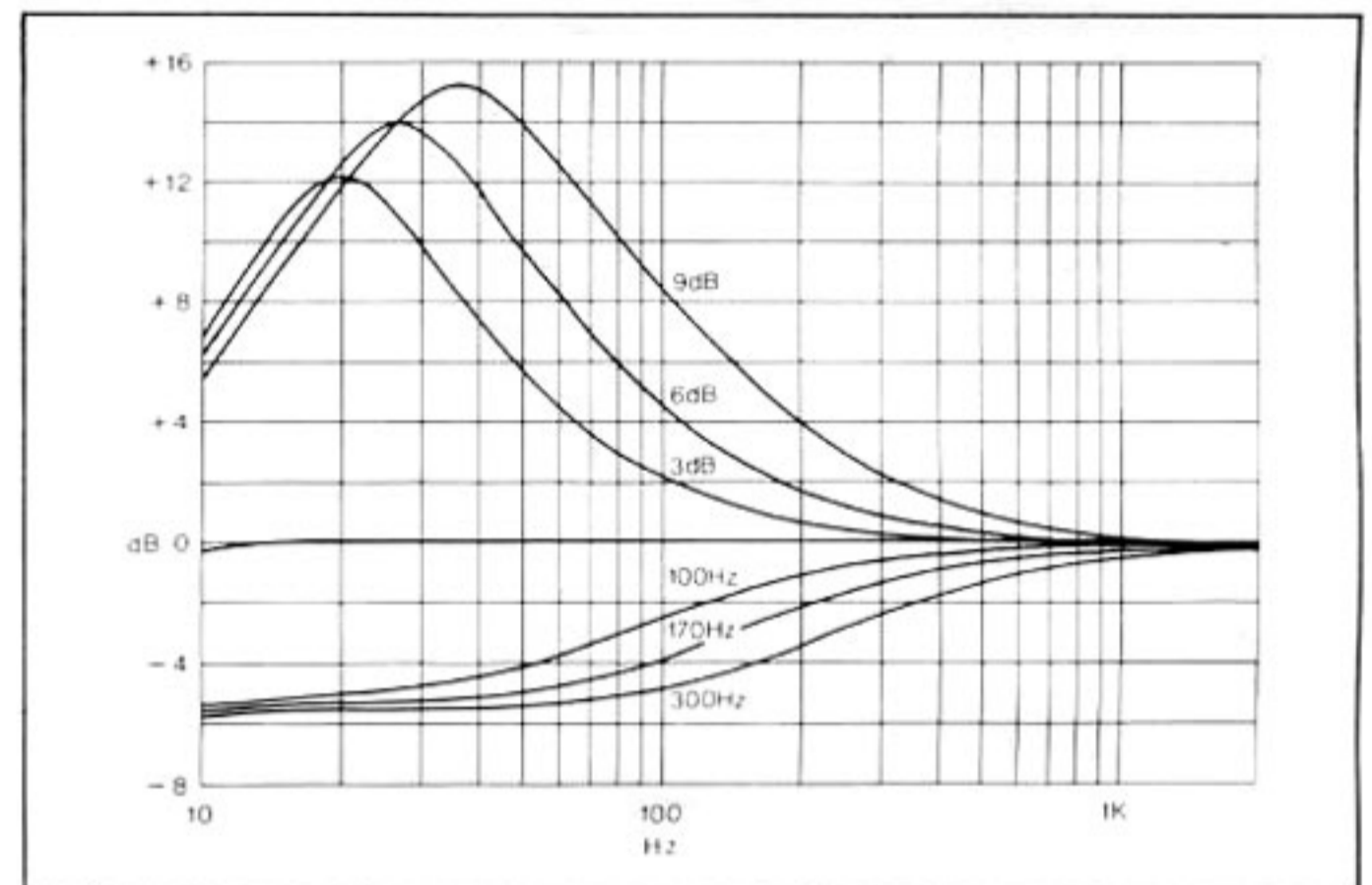
The TILT control operates exactly as its name implies and produces a very gradual change in balance across the musical spectrum without changing the overall subjective level. When set for +1 -1 there will be a gradual fall of 2dB from bass to treble with a maximum rate of change in the centre of not more than 1/2 dB per octave. This absence of sudden change means that there will be no 'colouration' added to the sound. The sound will remain entirely natural but with a slight added

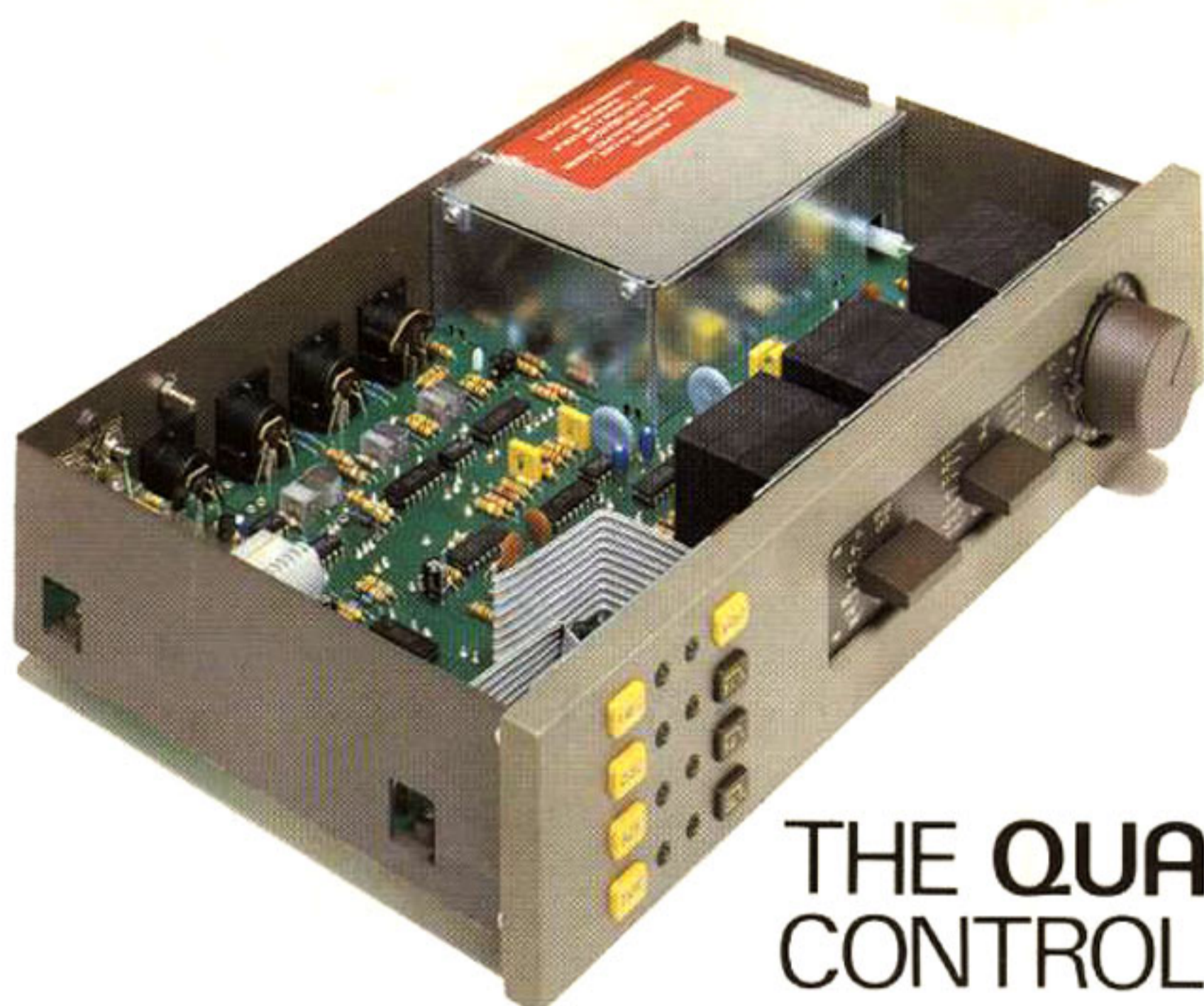
warmth. Such a setting will be used if the recording and/or the listening room are slightly analytical or overbright. Conversely, if both the recording environment and the listening room are rather lush sounding, the -1 +1 (or even -2 +2) would be used to restore detail. In using this control the extreme bass and extreme treble should not unduly influence judgement because they are separately adjustable.



### Bass Lift and Step

In the LIFT position the BASS control acts as a smooth progressive boost for use with small loudspeakers of necessarily limited bass response, and the profile of the Bass lift response provides optimum equalisation. In the STEP mode the control acts as a step filter, producing a 5dB drop in output centred on either 100Hz, 170Hz or 300Hz. This will be found to be extremely useful in removing the characteristic 'honk' caused by the excitation of the room's eigentones by the loudspeakers, particularly when they have to be placed in or near a corner.





## THE QUAD 34 CONTROL UNIT

SPECIFICATION All voltages quoted are rms.

<b>Distortion</b>	Worst case, any input .05%.
<b>Residual Noise</b>	'A' weighting. Volume control at minimum -105dB.
<b>Frequency Response</b>	Any input except Disc, any output $\pm 0.3$ dB. Disc RIAA $\pm 0.5$ dB.
<b>Tilt, Bass &amp; Filter</b>	See curves inside.
<b>Interchannel Balance</b>	$\pm 0.5$ dB with Volume control varied from maximum to -60dB.
<b>AC Input</b>	100-130V or 200-250V 50-60Hz. Maximum continuous consumption 4.5VA
<b>Dimensions</b>	321mm wide 64mm high 207mm deep.
<b>Weight</b>	3.2kg.

### Outputs

To	Output Level	Source Impedance
Power Amplifier	0.5V	830 $\Omega$
Tape Recorder	100mV*	2.2k $\Omega$

### Inputs

Source	Input Sensitivity for full Output (at 1kHz)	Maximum Input (at 1kHz)	Load Impedance	Signal to Noise 'A' weighted Input loaded
Disc	3mV* 100 $\mu$ V	150mV 5mV	47k//220pF* 100 $\Omega$ //22nF	-75dB -68dB
Radio & Aux	100mV	5V	100k $\Omega$	-88dB
Tape Replay	300mV*	15V	120k $\Omega$	-87dB

\*others available

Quad Electroacoustics Ltd.,  
Huntingdon, Cambs., PE18 7DB.  
Telephone: (0480) 52561

**QUAD**   
for the closest approach  
to the original sound



The Quad 34 control unit with the  
Quad FM4 tuner.