

34

# CONTROL UNIT

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INSTRUCTION BOOK

Q U A D

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## INTRODUCTION

The Quad 34 is a high quality control unit with inputs for CD player, tuner, tape recorder and disc. The required input is selected by light action press buttons and all switching is solid state for maximum reliability and silent selection.

Volume adjustment is by a precision stepped rotary control. Press button filters together with rotary tilt, bass and balance controls enable the listener to correct for certain room effects and programme balance.

Provision is made for changing the sensitivity of the CD input and the tape recorder input/output by replacing plug-in 'flags' (resistors) into resistor sockets on the main circuit board.

The performance of the Quad 34 control unit is as accurate as it is possible to achieve by careful design, selection of components and rigorous test procedures.

## GUARANTEE

The Quad 34 control unit is guaranteed for twelve months from the date of purchase. Within this period we undertake to supply replacement parts free of charge provided that the failure was not caused by misuse, accident or negligence. Return freight and third party labour costs are not covered unless by local agreement.

Within the UK this guarantee does not limit your statutory rights. A separate guarantee card is not supplied and your guarantee begins on the day of purchase.

## SERVICE

If the control unit requires service it should be returned to the supplier, the distributor for the country of purchase or Quad Electroacoustics Ltd.

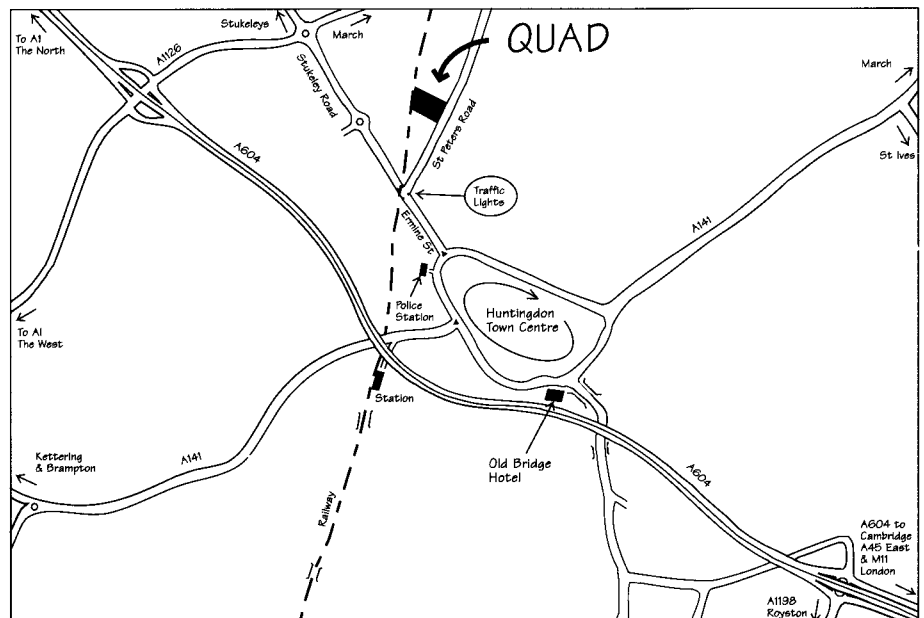
Please enclose a brief note giving your name and address and the reason for returning it.

Quad offer a same day service from Monday to Friday except for Bank holidays. Please contact us to make an appointment.

### *Important*

Retain the original carton and internal packing in case the control unit has to be returned for service.

### *How to Find us*



MAP2.CDR

## ACCESSORIES SUPPLIED

AC supply lead 2m long	Type No. QUKES2B
AC Euro type output connector	Type No. PPR0413
2x100 mV record flags	Type No. Q34100R
2x100 mV replay flags	Type No. Q34100P

## INSTALLATION

### Checking the AC Power Supply

The 34 control unit is designed to operate on one range of AC power supply only, 50/60 Hz. either 200-240V or 100/120V. The correct operating voltage is clearly marked on the back. It may be changed from 220V to 110V operation or vice versa by a suitably qualified technician.

**Before connecting to the AC power supply check that the voltage range marked on the back corresponds with that of the supply.**

### Connecting to the AC Power Supply

The 34 control unit is supplied with an AC power lead with a 13A 3 pin plug with 13A fuse. Do not cut off this plug or use it with its fuse cover removed. If however for any reason the plug has to be removed then it must be disposed of and **under no circumstances** plugged into a 13A socket outlet. A suitable plug can be fitted, as explained below:-

#### WARNING: THIS APPARATUS MUST BE EARTHED

**IMPORTANT** - Fitting a mains plug.  
The wires in the mains lead are coloured:

**Brown = Live    Blue = Neutral    Green/Yellow = Earth**

The **Brown** wire must be connected to the terminal marked L or coloured Red. The **Blue** wire must be connected to the terminal marked N or coloured Black. The **Green/Yellow** wire must be connected to the terminal marked E or coloured Green or Green/Yellow.

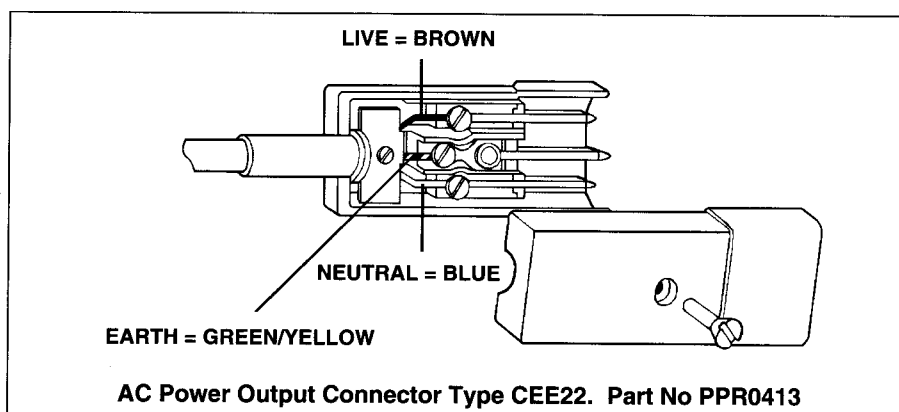
#### Note

When a fused 13A plug is used a 13A fuse (ASTA approved to BS1362) will be adequate for a typical Quad system. For other types of plug, then fit a 13A fuse either in the plug, or adaptor, or at the distribution board. If in doubt consult a qualified electrician.

### AC power Output

The control unit is fitted with a switched **AC power out** socket for feeding other units in the system. Quad power amplifiers and tuners are provided with the appropriate interconnecting cables and the diagram overleaf shows how the units should be linked together.

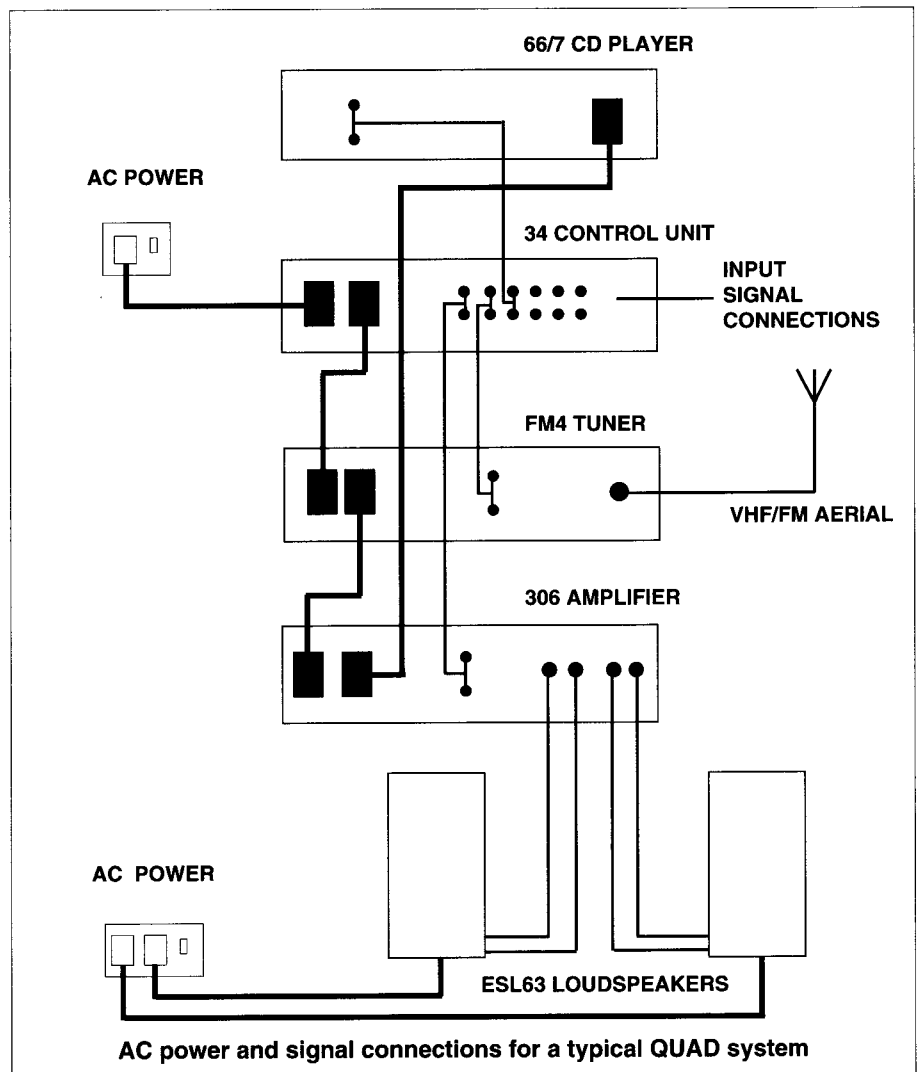
If required a spare AC output connector is provided which should be wired as shown in the diagram below.



### Positioning the Control Unit

The 34 can be positioned free-standing, panel mounted or stacked with other components. Never place it in persistent direct sunlight or near any heat source. Do not stand directly on top of a high power amplifier, such as the Quad 606, as such amplifiers can generate a substantial amount of heat.

For panel mounting the panel should have an aperture of 312x56 mm through which the 34 is fixed. Remove the 34 cover (two screws through the back), slide the unit through the aperture from the front and replace the cover from behind the panel. Refit screws initially finger tight then give one further half turn to lock the unit firmly in position (longer screws can be supplied on request, if the thickness of panel makes this necessary).



### Connection to the Amplifier

The output of the 34 control unit is 500 mV suitable for all Quad transistor amplifiers but this can be changed to suit different amplifiers (up to 1.6V max - see **changing output level chart** opposite for full details). Phono sockets are fitted and the cable supplied with the power amplifier should be used. Make sure that the plugs are pushed fully in, at both ends, to ensure good connections. Poor connection will cause hum.

## Changing Output Level

Changing Output Level Chart				
To <b>reduce</b> the output connect additional resistors in parallel with R119/122 as follows:	470Ω for 9 dB attenuation (180 mV)	180Ω for 15 dB attenuation ( 90 mV )	100Ω for 20 dB attenuation ( 50 mV)	
To <b>increase</b> the output change resistors as follows:	output (rms)	1V6	1V1	775 mV
	R118/121	shorted	1kΩ	1k5Ω
	R119/122	3k3Ω	2k2Ω	1k5Ω

## Signal Connections

All input connections are clearly marked on the back of the control unit. Phono sockets are used for all inputs and an earth/ground terminal is provided for the Disc input if separate grounding is required.

- DISC** The signal cable from the turntable should be plugged into the **DISC L** and **R** sockets. This will normally incorporate a separate earth/ground lead which must be connected to the **earth/ground terminal** to avoid hum problems. The 34 is supplied fitted with a disc input module suitable for most high quality moving magnet cartridges. Other modules are available with different input impedances and sensitivities for moving magnet and moving coil cartridges. Contact your dealer or Quad direct for further details.
- CD** The signal cable from the CD player should be connected to the **CD L** and **R** sockets. The normal input sensitivity of 300 mV is suitable for all CD players but this can be altered by replacing the plug-in 'flags' into resistor sockets R135/136. Flags for input sensitivities of 100 mV and 500 mV can be obtained either from your dealer or Quad direct. This input is intended primarily for compact disc players but can be used as an auxiliary input for a Nicam/Satellite receiver or similar source.
- RADIO** For a Quad FM tuner or other tuners of a similar output level. The tuner signal cable should be connected to the **RAD L** and **R** sockets.
- TAPE** The signal playback cable should be connected to the **REP L** and **R** sockets and the record cable to the **REC L** and **R** sockets. The record and replay levels of 300 mV have been chosen to suit most recorders currently available and can be altered by replacing the plug-in 'flags' into resistor sockets R135/136 (record) and R137/138 (replay). Alternative flags for sensitivities of 100 mV are supplied.

## SWITCHING ON AND OFF

To switch on press the **on/off button** on the front of the control unit. This has a sequential action so pressing it again will switch the unit off. Any equipment connected to the auxiliary AC outlet socket will also be switched at the same time. When switched on the 34 automatically selects **RADIO**. Other inputs and functions can easily be selected as required.

Normally any equipment connected to the auxiliary AC power out socket would be left switched on and the equipment turned on and off using the **on/off button** on the 34 control unit.

## CONTROL FUNCTIONS

Select the required input source by pressing the appropriate selector button. The **green LED** next to the chosen input will light to show which source is selected.

<b>Volume</b>	Turn the <b>VOLUME</b> control knob until the required volume level is obtained. Each step is approx. 4 dB at low levels and approx. 2 dB at high levels.
<b>Balance</b>	Adjust the <b>BALANCE</b> lever for correct interchannel sound balance. At the limits of its excursion it provides LH or RH channel output only.
<b>Mono</b>	When <b>MONO</b> is selected the LH and RH inputs are combined and the balance control acts as a mono mixer. In the centre position the sum of both inputs is fed to both loudspeakers. As the control is moved to either end the mix progressively changes so at the limits the signal fed to the loudspeakers is exclusively from the LH or RH input only.
<b>Tilt</b>	This control operates exactly as its name implies by tilting the audio frequency response about a centre point. This alters the overall sound balance without introducing unwanted colouration by producing a very gradual change in balance across the musical spectrum without changing the overall subjective level. Six tilt positions are provided, three boosting treble and cutting bass, and three cutting treble and boosting bass (see graph).
<b>Bass Lift/Step</b>	The <b>LIFT</b> positions provide three levels of smooth progressive boost for use with small loudspeakers of limited bass response. The <b>STEP</b> positions provide three levels of cut at low frequencies to remove unwanted low frequency resonance without rolling off the extreme lower bass. Extremely useful in removing the characteristic 'honk' due to room acoustics, particularly when loudspeakers are placed in or near a corner (see graph).
<b>Filters</b>	Operated by three press buttons providing four positions of cut at high frequencies to remove severe high frequency distortion without affecting the musical information, mainly used to reduce tracing distortion from records. Pressing either <b>F1</b> or <b>F2</b> alone will select single pole filters operating from 11 kHz and 7 kHz respectively. Adding the <b>SL</b> button converts them to 2nd order aperiodic filters at the same two frequencies, increasing the amount of high frequency roll-off (see graph). The <b>red LED's</b> show which filter combination has been selected, to cancel just press a filter button a second time.

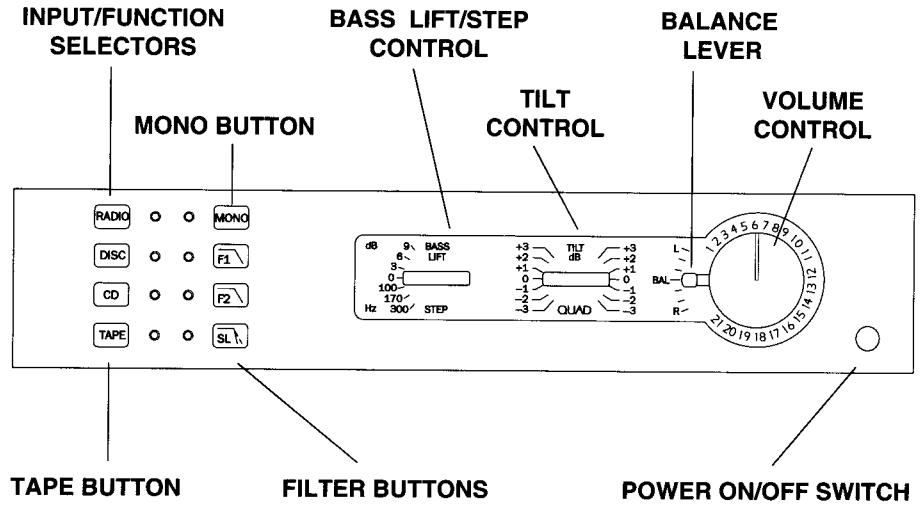
## TAPE RECORDERS

	A recorder may be connected to the <b>tape sockets</b> for recording from any input source. To make a recording it is only necessary to set the recorder to record. If necessary a second recorder may be connected to the <b>X1/X2</b> (unmarked) sockets for recording from the disc, radio and CD inputs only (dubbing between two recorders is not possible). If required both recorders can be operated at the same time, in record only.
<b>Recording</b>	Select the source to be recorded (eg Radio, CD, etc) which will be heard through the loudspeakers as well as being fed to the <b>tape out sockets</b> . Recording will commence as soon as the recorder is started. Monitoring is possible by pressing <b>TAPE</b> , the <b>green LED</b> will light. To return to listening to the source, press <b>TAPE</b> again, the <b>green LED</b> will go out.
<b>Monitoring</b>	Off tape monitoring is automatically provided from any input, when <b>TAPE</b> is selected, via a three head recorder connected to the <b>tape sockets</b> .

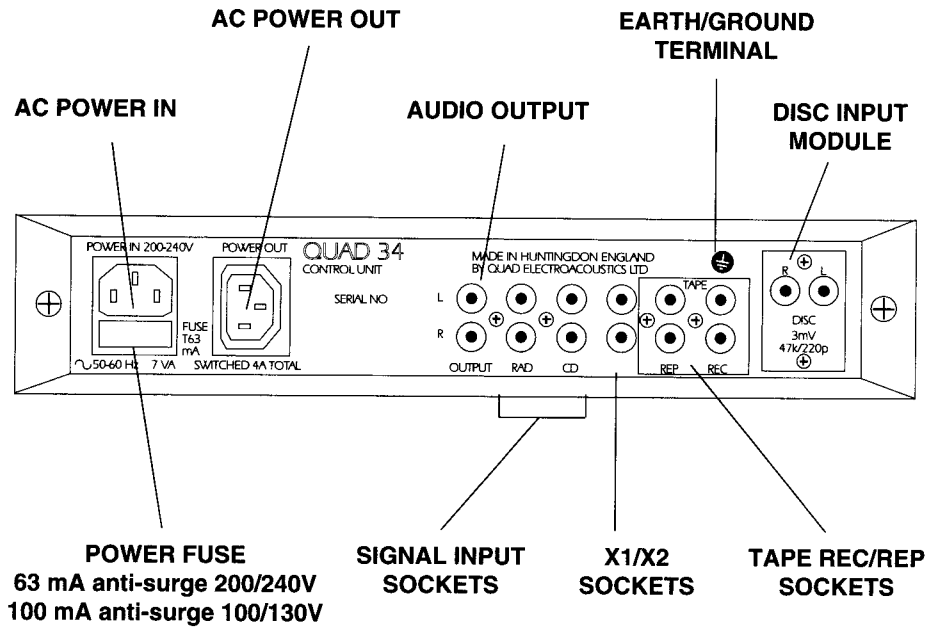
## MAINTENANCE

No routine maintenance is required. If necessary the case can be cleaned with a soft brush or, for more stubborn marks, a slightly moistened lint-free cloth. In this case remove the mains plug from the supply socket. Do not use cleaning agents, solvents or abrasives.

**FRONT VIEW**



**REAR VIEW**



**Connecting Sockets**

- Signal Input:** Audio inputs for radio and CD player.
- Disc Input:** For M/M or M/C cartridges.
- Tape:** For tape record and replay connections.
- X1/X2:** Output for second recorder - for recording from disc, radio and CD inputs.
- Audio Output:** Audio output to the power amplifier.
- AC Power In:** For the AC power supply input cable.
- AC Power Out:** A switched AC power outlet (4A max) for feeding power to other units in your Quad system.

## SPECIFICATION

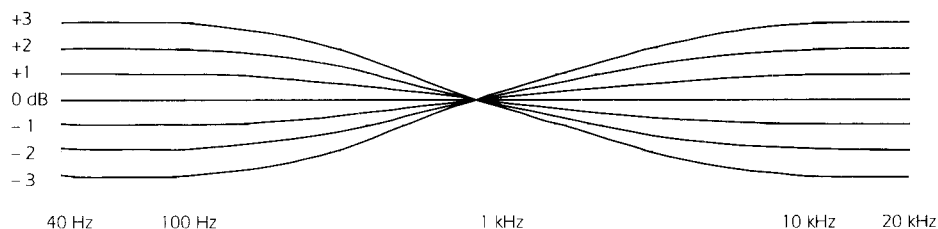
		S/N: Vol Max.	Vol at 15	
<b>Inputs:</b>	<b>Disc*</b>	3 mV / 47 k $\Omega$ /220 pF	75 dB	87 dB
	<b>CD*</b>	300 mV / 49 k $\Omega$	87 dB	98 dB
	<b>Radio</b>	100 mV/100 k $\Omega$	88 dB	99 dB
	<b>Tape*</b>	300 mV / 57 k $\Omega$	87 dB	98 dB
(Noise figures 'A' weighted , dB below 500 mV output)				
<b>Outputs:</b>	<b>Amplifier*</b>	500 mV/830 $\Omega$ (1.6V max).		
	<b>Tape*</b>	300 mV/2k2 $\Omega$ (tape record).		
	<b>X1/X2</b>	As tape (from disc, CD and radio only).		
<b>Distortion:</b>	Worst case, any input 0.05%.			
<b>Residual Noise:</b>	'A' weighted. Volume control at minimum -105 dB.			
<b>Frequency Response:</b>	Any input (except Disc) $\pm$ 0.3 dB, 30 Hz - 20 kHz. Disc RIAA flat within $\pm$ 0.5 dB, 30 Hz - 20 kHz.			
<b>Interchannel Balance:</b>	$\pm$ 0.5 dB volume control settings max. to -60 dB.			
<b>Filters,Bass Step and Tilt (+3 to -3):</b>	See graphs.			
<b>Mains voltage:</b>	110-120V or 220-240V (changed by links on PCB) 50-60 Hz: see rating plate on back of control unit.			
<b>Power consumption:</b>	7W approx.			
<b>Fuse:</b>	63 mA anti-surge, 200-240V. 100 mA anti-surge, 100-130V.			
<b>Dimensions:</b>	Width 321 mm; height 64 mm; depth 207 mm approx. (plus connectors)			
<b>Weight:</b>	3.2 kg approx.			

\* Other options available.

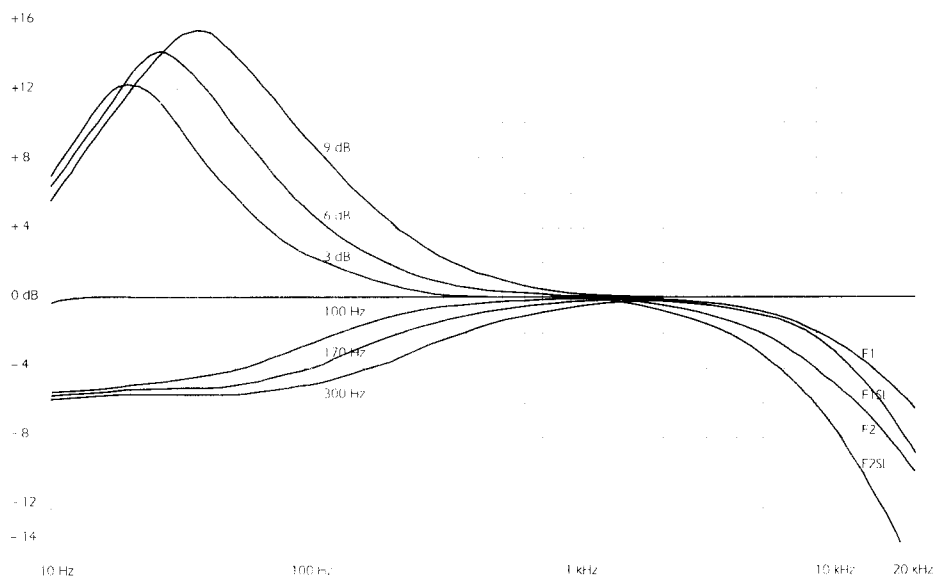
*The right is reserved to alter performance and specification as required.*

*This equipment complies with the radio interference requirements as laid down in EEC (European Economic Community ) regulations.*

## Tilt Control



## Bass Lift/Step and Filters

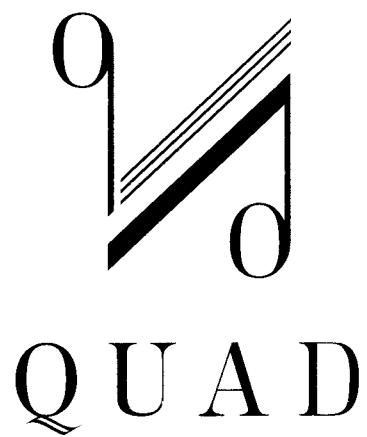


## ACCESSORIES

Quad accessories are designed to match Quad equipment and to provide the best possible performance. Please contact your dealer or Quad direct for further information.

<i>Item</i>	<i>Order No</i>
Disc module M/M 1 mV 47 k $\Omega$ /220 pF (3L)	Q34DMLG
Disc module M/M 3 mV 47 k $\Omega$ /220 pF (3M)*	Q34DMMG
Disc module M/M 10 mV 47 k $\Omega$ /220 pF (3H)	Q34DMHG
Disc module M/C 100 mV 100 $\Omega$ /22 nF (3B)	Q34DMBG
Disc module M/C 200 mV 100 $\Omega$ /22 nF (3A)	Q34DMAG
Disc module M/C 400 mV 100 $\Omega$ /22 nF (3C)	Q34DMCG
Quad rack FM4/34/306	QRACKC3
Quad pedestal	QPEDASG
Double sleeve for FM4/34 (grey)	QTUCOVG
19" rack mounting panel for 34/FM4/306 (grey)	M20341A
Signal lead Phono (0.5m)	QP2P2SA
Signal lead Phono (1m)	QP2P21A
AC interconnect supply lead Euro/Euro (0.45m)	QSPES5B
AC interconnect supply lead Euro/Euro (1m)	QSPES1B
AC supply lead Euro/free end (2m)	QESOE2A
AC Euro output connector	PPR0413

\* Supplied as standard



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