



99 SERIES

QUAD

...the closest approach to the original sound



“It is so much better in terms of high fidelity, in its purest sense. It reminded me how Quad retain an almost unique grip on the concept.” – Noel Keywood, Hi-Fi World

# The closest approach...



Since Peter Walker formed the company in 1936, all Quad products have displayed an originality in design, born from a full and proper understanding of every aspect of sound reproduction. A world leader in audio amplifier and electrostatic speaker design, Quad has, over the years, made a major contribution to the improvement of

sound quality. This contribution has been recognised by awards from around the world including the Queen's Award for Technological Achievement in 1978.

Quad owners enjoy the confidence of knowing that the complete system has been engineered to achieve optimal performance, free from compatibility problems.

The history of Quad is one of technical achievement in the field of sound reproduction. It is a story that began with the Quad 1 amplifier, which brought the benefits of 15 years knowledge and experience in professional audio and industrial products to the task of making the most accurate domestic audio amplifier of its age.

A few years later, in 1953, the product which set the standard for amplifiers was the Quad II power amplifier. This amplifier pioneered the principle of cathode coupling through the output transformer to reduce harmonic distortion to almost negligible levels. Such was its clear superiority that this model remained in production for 18 years.

Three years later, in 1956, Quad demonstrated the first true full-range electrostatic loudspeaker. This remarkable product (known later as the ESL-57) used a virtually mass-less plastic film as a moving diaphragm between two charged plates. Compared to the

loudspeakers of the time, the ESL was free of unwanted colourations and distortions. This product remained in production, virtually unchanged, for 28 years.

A decade later in 1967 Quad introduced its first transistorised amplifiers, the 33 Control Unit and the 303 power amplifier. These amplifiers introduced a new 'Triples' output stage that solved all the thermal instability problems that plagued early transistor designs. Radical in both circuit design and appearance, they went on to win a prestigious Design Council Award in 1969.

Amplifier performance took a further step forward in 1975 with the arrival of the Quad 405 'Current Dumping' amplifier. This remarkable new circuit topology remains one of the few truly original amplifier designs and has featured in Quad products ever since. For this technology Quad was awarded the 'Queen's Award for Technological Achievement' in 1978.

In 1981 Quad announced the ESL-63; a full-range electrostatic loudspeaker based upon two sets of concentric annular electrodes fed through sequential delay lines. This patented system produces a sound pressure pattern identical to the theoretical ideal of a point source origin. Once again a Quad Electrostatic loudspeaker became the reference standard around the world.

These are just some of the highlights from Quad's pedigree line of technological achievement. However, it must always be remembered that Quad has never indulged in technical 'one-upmanship'. The technology is there for a purpose – and that purpose has remained constant over the years. To reproduce music in a form that is *the closest approach to the original sound*.

“For those with a penchant for a spot of Mozart, or an ‘it’s been a long day’ wind-down with some Ella or Bird, the Quads are hard to beat.” – What Hi-Fi? Sound & Vision



# The Quad 99 Series

Quad sound systems have always been able to give their owners the utmost pleasure and passion when they listen to music. But now the 99 Series brings more. Conceived as a fully integrated component system, there is an assurance of absolute compatibility and the convenience offered by the high levels of intelligence exhibited in the control system.

Each component within the 99 Series is one of the finest examples of such available today. Excessively over-engineered in every respect – highly specified transformers, audiophile components, multi-layer circuit boards and the most advanced software appear in abundance throughout the system.

Our reputation, however, is based upon more than good engineering and innovation. Quad Hi-Fi units are famous the world over, not just for their high specifications and attention to detail, but more for the

enjoyment they have brought to the most discerning audiophiles.

The modern design of the 99 Series components has been developed to dovetail ease of use, style and elegance with one of the finest sounds available today. Intelligent control systems are used to create a seamless link between the various 99 Series components, allowing complete operation from a single remote control. Our unique ‘Quad Link’ bus connection system transfers not only system commands, but also fully balanced audio signals.

With the 99 Series, you are assured exquisite performance; convenience of use; quality of construction; enviable support, but most of all, the pedigree of a company that has built a long-term reputation on the ability to reproduce music in a manner that is the closest approach to the original sound.

The 99 CD-P combined with the 99 Stereo Power amplifier and the 11L Loudspeakers is a perfect entry to Quad and a stunning system in every respect.





The 99 series is timeless in design and quality. Newer models such as the multiple award-winning CD-P and timeless classics such as the 909 (which is still winning awards to this day) ensure that when you choose Quad, you invest in a piece of audio equipment that will not only last a lifetime, but will retain as much value and relevance for future generations as well.









### 99 CD-P

The 99 CD-P is an exceptional CD player – without doubt, one of the finest and most advanced machines available. It uses a state-of-the-art transport and DAC, and incorporates both fixed and variable level outputs so it can be used both with a Pre-Amplifier, or to maintain the very cleanest signal path, directly into a Power Amplifier. The transport has a remarkable specification with an ultra-smooth servo to dramatically reduce 'clock jitter'. The three laser pickup reads the disc with exceptional accuracy ensuring transparency and neutrality in reproduction.

The very latest 24 bit/192 kHz upsampling Crystal DAC produces breathtaking detail and resolution, opening a window to the recording to squeeze out every last subtle effect and sensation.

Six digital inputs, three coaxial and three optical allow other sources to benefit from the on-board DACs and in certain applications, negate the need for a pre-amplifier altogether.



### 99 CD-S

The 99 CD-S is a brand new model, offering a similar level of sound quality to the CD-P, but in a simple format. This model dispenses with the additional digital inputs and the variable output level of the full CD-P. Using a brand new transport, our own proprietary loading mechanism, control software and the most advanced decoding with the emphasis on reading data correctly, the CD-S produces a sensational performance without fuss.

Mains powered and offered with standard RCA connector or with a 'bus-link' to be connected through a Quad pre-amplifier, the CD-S is as versatile as it is practical. When used with the 'bus-link' system, the CD player is operated through the system remote control (supplied with the pre-amplifier) and dovetails seamlessly into the system. Power triggers, system commands and balanced audio signals are all communicated through the bus system. The CD-S uses Crystal 24bit/96kHz DACs for a high resolution, detailed soundstage.

### Stereo Power Amplifier

Quad power amplifiers have always been amongst the finest in the world. Over the years, they have earned a reputation for being 'straight wires with gain', because they neither add nor take anything away from the original music signal.

The 99 Stereo Power Amplifier uses a dual complementary feedback circuit with exceptional stability margins to achieve exemplary performance and an output of over 80 watts per channel. Overload recovery is instantaneous and the amplifier is fully protected against over-driving or misuse, without resorting to output line fuses or relays.



### Mono Power Amplifier

Power is something that this 99 Mono Power Amplifier has in abundance. Into a nominal 8 Ohm load it delivers well over 150 Watts and a breathtaking 220 Watts into a 4 Ohm load.

In all other respects, this amplifier is close to the 99 Stereo Power Amplifier and shares its technology and topology as well as its excellent standards of performance.

“The neutral, self-  
music flow. It has  
resolve masses of  
low frequencies and

– What Hi-Fi?





effacing Quad lets plenty of poke, can detail, and has taut and a smooth treble."

## Sound & Vision



### FM Tuner

In many countries FM radio still has the potential to provide the highest fidelity programme quality. The Quad 99 FM Tuner has been designed to make the best use of that potential.

The UK has gained a world-wide reputation for the high-quality music broadcasts transmitted by the BBC, and as a result British manufacturers such as Quad have considerable experience in designing tuners that receive and reproduce music realistically. The Quad 99 FM Tuner incorporates that experience in full. The 99 FM Tuner and 99 CD Player are both connected to the rest of the system via our 'Quad Link' bus system, which combines complete system control with balanced line audio transmission. Not only does this make the entire system remarkably easy to control, but provides the cleanest audio signal possible.



### Pre-Amplifier

State of the art performance combined with unique operating features sets the Quad 99 Pre-Amplifier apart from competing products. The combination of universal phono-socket connectors and Quad Link inputs gives the ability to connect an almost unlimited number of sources, each with optimal matching. All inputs, including those for moving-coil and moving-magnet cartridges, have adjustable sensitivity.

This flexibility also extends to the wide range of precise tone-control adjustments that can be made. In addition to the usual high-frequency filter, there are adjustments for the bass response, and the unique Quad 'Tilt' control which skews the entire frequency response to give a preferred tonal balance.

The Quad 99 Pre-Amplifier is packed with technical innovation including noiseless solid state signal switching and digitally addressed analogue volume and balance controls. These track both left and right channels with a previously unattainable accuracy of better than 0.1dB.



### 909 Stereo Power Amplifier

The 909 Stereo Power Amplifier incorporates Quad's patented current dumping technology and is one of the finest audio amplifiers available today.

The current dumping technique eliminates many of the problems associated with transistor amplifiers giving a consistent and predictable performance without a need for the fine tuning adjustments on the production line.

In current dumping amplifiers there is a very high quality low power output amplifier and a very high power output amplifier whose performance is not critical. This high power output amplifier controls the loudspeaker at all times and provides

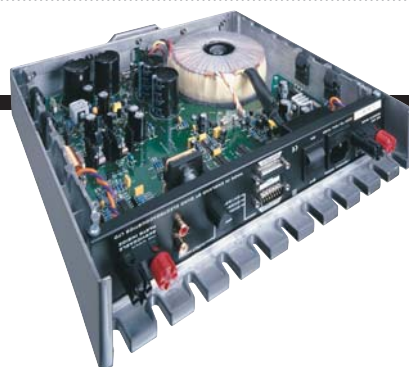
the current or 'muscle' to generate the sound. The low power output amplifier is arranged to generate a signal that compensates for errors between the input signal, and the signal fed to the loudspeakers. The result is that the quality and accuracy of the output signal depends only upon the performance of the low power amplifier. In the Quad 909 this low power output amplifier has been engineered to the highest standards. The problems of crossover distortion; quiescent current adjustment; thermal tracking and transistor matching all disappear. If such a thing as a perfect amplifier were to exist, then the Quad 909 would be very close to that perfection.

# Specifications



Model	CD-P	CD-S
Max. Line Output Level (RCA)	2.4V RMS	2.4V RMS
Max. Output Level (QuadLink)	5.3V RMS, Balanced	5.3V RMS, Balanced
Frequency Response	20Hz to 20kHz (+0dB/-0.5dB)	20Hz to 20kHz (+0dB/-0.5dB)
Total harmonic distortion (THD)	0.002% at 1kHz	0.002% at 1kHz
Signal to noise ratio (S/N)	110dB, 24bit (20Hz – 20kHz) 95dB, 16bit (20Hz – 20kHz)	110dB, 24bit (20Hz – 20kHz) 95dB, 16bit (20Hz – 20kHz)
Crosstalk	-100dB at 1kHz	-100dB at 1kHz
Gain Error	0.5dB (@-90dB, f=500Hz)	0.5dB (@-90dB, f=500Hz)
D/A Convertor		
Maximum resolution	24 bit	24 bit
Maximum sampling frequency	192kHz	96kHz
Upsampling	x2	x2
Digital Audio Inputs	3 x RCA Coax 75ohm, SPDIF 3 x Optical TosLink, SPDIF	n/a
Digital Audio Output	Optical TosLink SPDIF	Optical TosLink SPDIF
Disc Compatibility	CD-DA Conventional Audio CD CD-R Recordable CD (finalised & unfinalised) CD-RW Rewritable CD (finalised & unfinalised)	CD-DA Conventional Audio CD CD-R Recordable CD (finalised & unfinalised)
Dimensions (H x W x D)	80 x 321 x 310mm	80 x 321 x 310
Weight	4.5kg	4.5kg

Model	99 Stereo Power Amplifier	99 Mono Power Amplifier	909 Stereo Power Amplifier
Maximum Power Output	90 WRMS -8 ohms(0.5% THD) 120 WRMS -4 ohms(0.5% THD)	150 WRMS -8 ohms(0.5% THD) 220 WRMS -4 ohms(0.5% THD)	140 WRMS -8 ohms(0.5% THD) 250 WRMS -4 ohms(0.5% THD)
Maximum Output Current	11 Amps peak each channel	11 Amps peak each channel	11 Amps peak each channel
Total Harmonic Distortion	<0.05% (70 watts into 8 ohms; 20 Hz to 20 kHz)	<0.05% (140 watts, 8 ohms; 20 Hz to 20 kHz)	<0.02% (140 watts, 8 ohms; 20 Hz to 20 kHz)
Input Sensitivity (phono)	775 mV	775 mV	775 mV
Output Impedance	1.5uH parallel with 0.05 ohms	1.5uH parallel with 0.05 ohms	1.5uH parallel with 0.05 ohms
DC offset voltage	less than 10 mV	less than 10 mV	less than 10 mV
Frequency Response	3 Hz to 50 kHz (+0dB/-3dB)	3 Hz to 50 kHz (+0dB/-3dB)	13 Hz to 40 kHz (+0dB/-1dB)
Signal-to-noise ratio (70W)	110dB (20 Hz to 20 kHz)	110dB (20 Hz to 20 kHz)	108dB (20 Hz to 20 kHz)
Dimensions (H x W x D)	(70mm x 321mm x 310mm)	(70mm x 321mm x 310mm)	(140mm x 321mm x 240mm)





The 99 Pre-amplifier has an intelligent control system to communicate with all components connected via the 'Quad-Link' connector.

### FM Tuner

Tuning range	88 to 108 MHz
Channel spacing	50 kHz
Sensitivity (30dB quieting)	Mono 8 dBuV
Sensitivity (50dB quieting)	Mono 18 dBuV Stereo 18 dBuV
Full limiting	←-1 uV (1.2 dBf)
Signal-to-noise ratio (1mV, 1kHz)	Mono 72 dB (A) Stereo 67 dB (A)
Distortion (1kHz, 25kHz deviation)	Mono 0.03% Stereo 0.05%
Capture ratio	1.5 dB
IF rejection	→100 dB
AM suppression	→60 dB
Image rejection	→80 dB
Pilot tone suppression	→60 dB
Cross-talk	-40 dB at 1 kHz
De-emphasis	50 uS or 75 uS
Aerial input	2 x 75 ohms un-balanced
Dimensions (H x W x D)	(70mm x 321mm x 310mm)

### Pre-Amplifier

3 Aux & tape inputs	
Sensitivity	100, 300 or 775 mV
Signal-to-Noise-Ratio	>97 dB (A) ref.775 mV
Distortion	<0.002%
Phono inputs - MM (MC)	
Sensitivity	1,3 or 7.75 mV (100, 300 or 775 uV)
Signal-to-Noise-Ratio	78 dB (A) ref.775 mV (775 uV)
Distortion	<0.005% (<0.01%)
Pre-Amp Output	
Level	775 mV (3.3 volts maximum)
Source Impedance	100 ohms
AMPBUS Output	
Level	2 volts (8 volts maximum)
Source Impedance	20 ohms
Tape Output	
Level	100, 300 or 775mV (10V maximum)
Source impedance	330 ohms
Frequency response	
All inputs except MM & MC	10 Hz to 20 kHz +0dB /- 0.3 dB 3 Hz to 56 kHz +0dB/- 3 dB 20 Hz to 20 kHz +/- 0.5 dB
MM & MC inputs	7 Hz to 53 kHz +0.5dB/- 3 dB
Dimensions (H x W x D)	70mm x 321mm x 310mm







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