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QUAD

THE 99 SERIES

For the closest approach to the original sound...

“For those with a
with some Ella or

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*.



a penchant for a spot of Mozart, or an 'it's been a long day' wind-down
for Bird, the Quads are hard to beat." – *What Hi-Fi? Sound & Vision*





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 – the only one ever presented to an audio hi-fi equipment manufacturer.

For many people, buying their first Quad sound system can be a life changing experience. They enjoy the confidence of knowing that the complete system has been engineered to achieve optimal performance, free from compatibility problems. They relax in the knowledge that Quad's legendary service department will give support throughout the system's useful life. They derive pleasure from knowing that Quad is a company of individuals who care about both the design and construction of their products, while sharing their love of

music. These are just some of the reasons why we now serve the children and even grand children of our first customers.

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, the time of Queen Elizabeth's Coronation and the year in which Mount Everest was finally conquered. 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 landmark 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 the 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 electro-

static 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 ESL loudspeaker became the reference standard around the world.

The arrival of the radical 77 Series in 1993 introduced the concept of a fully integrated sound system operated with a two-way remote control system. The system boasted numerous new types of circuit technology as well as some of the most advanced control software seen in a consumer product. Two years after the launch, Quad was presented with the 'European Amplifier of the Year' award for the 77 Series Integrated Amplifier.

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*.



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.



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.



"It is so much better in terms of high fidelity
Quad retain an almost unique grip on the



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. The 99 Stereo Power Amplifier can be safely used to drive most types of loudspeaker, both Quad's own ESL models and conventional models made by other manufacturers.



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.



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.



ity, in its purest sense. It reminded me how
concept.” – Noel Keywood, *Hi-Fi World*

Specifications



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



Model	Pre-Amplifier
Aux. & Tape Inputs	
Sensitivity	100, 300 or 775mV
Signal to noise ratio	>97dB (A) ref. 775mV
Distortion	<0.002%
Phono Inputs MM (MC)	
Sensitivity	1, 3 or 7.75mV (100, 300 or 775uV)
Signal to noise ratio	78dB (A) ref. 7.75mV (775uV)
Distortion	<0.005% (<0.01%)
Pre-amp Outputs	
Level	775mV (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 (10 volts maximum)
Source Impedance	330 ohms
Frequency Response	
All inputs except MM/MC	10Hz to 20kHz +0dB/-0.3dB 3Hz to 56kHz +0dB/-3dB
MM/MC inputs	20Hz to 20kHz +/-0.5dB 7Hz to 53kHz +0.5dB/-3dB
Dimensions (H x W x D)	70 x 321 x 310mm



Model	909 Stereo Power Amplifier
Maximum Power Output	140W RMS into 8 ohms (0.5%THD) 250W RMS into 4 ohms (0.5%THD)
Total Harmonic Distortion	<0.02% (100W into 8 ohms - 20Hz to 20kHz)
Input Sensitivity (phono input)	775mV
Output Impedance	1.5uH in parallel with 0.5 ohms
DC Offset Voltage	less than 10mV
Frequency Response	13Hz to 40kHz (+0dB/-1dB)
Crosstalk at 1kHz	-90dB at 1kHz
Signal to noise ratio	>108dB (20Hz to 20kHz)
Dimensions (H x W x D)	140 x 321 x 240mm



“The neutral, self-effacing Quad lets
has taut low frequencies and a smoo



Model	Stereo Power Amplifier
Maximum Power Output	90W RMS into 8 ohms (0.5% THD) 120W RMS into 4 ohms (0.5% THD)
Maximum Output Current	11 Amps peak each channel
Total harmonic distortion	<0.05% (70W into 8 ohms – 20Hz to 20kHz)
Input Sensitivity (phono input)	775mV
Output Impedance	1.5uH in parallel with 0.5 ohms
DC Offset Voltage	less than 10mV
Frequency Response	3Hz to 50kHz (+0dB/-3dB)
Signal to noise ratio (70W)	110dB (20Hz to 20kHz)
Dimensions (H x W x D)	70 x 321 x 310mm



Model	Mono Power Amplifier
Maximum Power Output	150W RMS into 8 ohms (0.5% THD) 220W RMS into 4 ohms (0.5% THD)
Maximum Output Current	11 Amps peak each channel
Total harmonic distortion	<0.05% (140W into 8 ohms – 20Hz to 20kHz)
Input Sensitivity (phono input)	775mV
Output Impedance	1.5uH in parallel with 0.05 ohms
DC Offset Voltage	less than 10mV
Frequency Response	3Hz to 50kHz (+0dB/-3dB)
Signal to noise ratio (100W)	110dB (20Hz to 20kHz)
Dimensions (H x W x D)	70 x 321 x 310mm



Model	FM Tuner
Tuning Range	88 to 108MHz
Channel Spacing	50kHz
Sensitivity	30dB Quieting Mono 8dBuV 50dB Quieting Mono 18dBuV 50dB Quieting Stereo 18dBuV
Full Limiting	<1uV (1.2dBf)
Signal to noise ratio (1mV, 1kHz)	Mono 72dB (A) Stereo 67dB (A)
Distortion (1kHz, 25kHz deviation)	Mono 0.03% Stereo 0.05%
Capture Ratio	1.5dB
IF Rejection	>100dB
AM Suppression	>60dB
Image Rejection	>80dB
Pilot Tone Suppression	>60dB
Cross-talk	-40dB at 1kHz
De-emphasis	50uS or 75uS
Aerial Input	2 x 75ohms un-balanced
Dimensions (H x W x D)	70 x 321 x 310mm



s music flow. It has plenty of poke, can resolve masses of detail, and
both treble.” – *What Hi-Fi? Sound & Vision*



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