99 Series Technical Overview

The 99 series Quad electronics are conceived of a desire to build a complete system of components capable of the finest standards of music reproduction according to the Quad design philosophy of '…the closest approach to the original sound'.

Launched early in 2000, the 99 series products have endured through a process of continued development, and a strong foundation of amplifiers and a pre-amplifier, which are still amongst the finest components of their type.

System integration.

The 99 series of electronics use two proprietary systems to transmit and receive system commands and balanced audio signals.

Quad Link

The Quad link system is used between source components and the pre-amplifier. As well as carrying the power for the FM tuner, should one be attached to your system, it also carries the balanced audio signal and system commands between these components.

This provides the benefit for the user of an extremely simple user interface and the knowledge that the audio signal is being transferred at the highest possible quality. Although in the latest versions of the 99CD players, the power supply is now included within the player, the Quad link system still provides the purest transmission of the audio signal and the ability to control the entire system from a single remote control.

AmpBus

The Quad AmpBus system is used between the pre and power amplifiers. The AmpBus carries the swithing information to automatically power on and off your power amplifier devices as well as carrying the balanced audio signals from Pre to power amplifiers.

The AmpBus system also facilitates the use of as many power amplifiers as desired to drive the customers loudspeakers. Bi or even tri-amping is easily achieved by simply daisy-chaining the amplifiers and using the selector switch on the rear of the amplifier to select which channel is to be reproduced.

99 Pre-amplifier

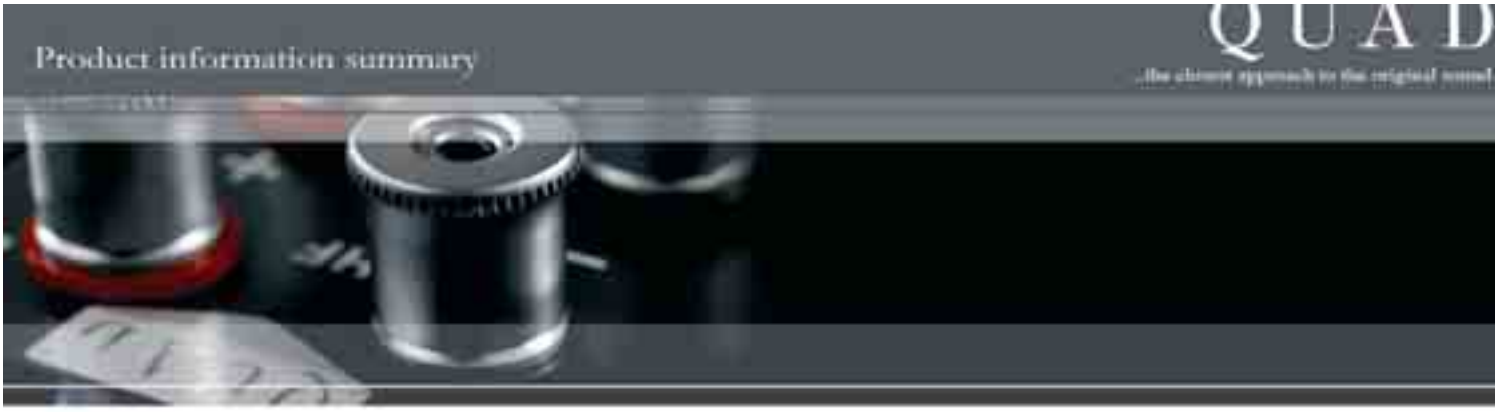
The QUAD 99 pre-amplifier offers the highest possible performance combined with all the facilities which the serious audiophile needs. It can be used with any of the QUAD 99 series amplifiers or any other suitable amplifier. It can be operated either from the push buttons on the front panel or the QUAD 99 remote control. Some of the pre-amplifier functions can only be accessed from the remote control. The 99 pre-amplifier has inputs for three line level sources, one RIAA equalised phono input and a tape loop in addition to those sources available on the Quadlink communications bus. This bus allows connection to other QUAD 99 'bus' sources.

The QUAD 99 pre-amplifier has tone controls and a straight through bypass circuit. These can only be accessed from the remote control. The EQ section of the pre-amplifier has a low pass filter, a bass boost and cut and the QUAD 'tilt' control, pioneered on the QUAD 44 and incorporated on every QUAD pre-amplifier since.

99 Tuner

Use the Quadlink cable to connect the 99 FM Tuner to the rest of the Quad 99 system.

There are two FM 75ohm co-axial sockets on the rear panel for aerial or cable signals. It is a truism that the performance of your aerial is the performance of your tuner. For best results, you should use a professionally installed multi-element FM aerial mounted on the roof, or at least in the loft space. If you are very close to a transmitter, you may be able to get acceptable results from an indoor aerial, but reception could be noisy and distorted, particularly



in stereo. If you plug a normal aerial into the cable input, you will lose much of your signal strength.

The cable input is so described because cable and satellite operators often offer FM radio channels. Its input sensitivity is specially tailored to accept signal levels from such service providers. Plugging a cable feed into the FM 99 aerial input may cause input overload and consequent distortion.

External Signal Connections

There is a line level phono output available for direct connection to the input of a DAT or tape recorder.

Operation

The front panel has 7 push buttons. The standby, cable, preset and mono buttons each have an LED indicator.

99CDP-2

The Quad 99 CD-P is a versatile CD player with several advanced features. The CD-P will play regular music CDs, music and standard CD-Rs (open or closed) and CD-RWs. Automatic upsampling increases the detail levels in your CD collection, and the ability to add three digital and three optical sources enables you to get the very best from your other digital media. An optical output is provided to connect the CD-P to other digital equipment.

Digital Input and Output Connections

The CD-P accepts three optical and three digital inputs. Minidisc and DAT players, or Digital Audio Broadcast tuners (DAB) will be significantly improved by connecting their digital outputs to the CD-P. The CD-P can accept incoming PCM digital signals to a maximum resolution of 24bit/96kHz.

The stereo output of DVD players can be enjoyed at higher levels of fidelity by connecting the digital or optical output of the DVD player to the relevant input of the CD-P. In the DVD player's menu, the digital output option should be set to 'PCM'.

Digital Input: This is via a single 75 ohm RCA phono lead connected between source and the CD-P. Your dealer will be able to supply you with a suitable digital RCA phono cable.

Optical Input: The optical inputs are blanked off when not in use. Remove the blanking plug from the chosen input of the CD-P and the source component and connect an optical TOSlink cable between them. Retain the plugs for future use.

CD Mechanism

The Quad CDP-2 mechanism was a major engineering project. Whereas most manufacturers use off-the-shelf transports, we wanted a unit which was particularly optimized to static CD players and employed a ‘lazy servo’ mechanism.

In all off-the-shelf CD mechanisms – even those used by high-end manufacturers, there are a number of compromises built into the device which mean that they can be used for a number of applications. With a new Quad mechanism, it could be safely assumed that the CD player would be sat on a farily rigid structure and vibration, whilst possible would be limited.

This enabled us to develop a proprietary ‘lazy servo’ mechanism, which involves the way the transport deals with disc data loss. Where most transports, upon loosing a data stream, move the optic (laser) back a forward rapidly to recover the lost data – ours just sits there and waits for the disc to come around. This has a significant benefit in lowering the noise floor of the player. Some innovative timing techniques used, also result in an industry leading jitter measurement of just 8 pS. These technical innovations combined with its versatility of use (particularly the 6 digital inputs and adjustable level output) make the CDP-2 one of the finest CD players on the market today at any price.

Power Amplifiers

99 Stereo

The 99 Stereo power amplifier is a conventional transistor amplifier of the very highest quality. It uses a dual complementary feedback circuit with exceptional stability margins capable of exemplary performance and an output of over 80 watts per channel into an 8 ohm load.

Overload recovery is instantaneous and the amplifier is fully protected against over-driving and misuse, without resorting to output line fuses or relays, which would degrade the quality of the signal fed to the speakers.

909 Stereo,

The 909 is derived from the multiple award-winning Quad 405 current-dumping amplifier developed by Quad in the late 1970s.

The current-dumping technology won Quad the Queen's Award for Technological Achievement in 1978 and has been a cornerstone of Quad amplifiers ever since. The modern 909 features greatly improved components and a massive torroidal transformer capable of delivering 140W per channel into an 8 ohm load.

The basic principle of current dumping is that a very low powered pure class A amplifier is used to produce pure, distortion free output. A much more powerful Class B amplifier is used to produce the muscle. The differences between the input and output of the high-powered amplifier are fed forward, cancelling out the distortion introduced by the lower quality class B section, yet retaining all the power of the class B amplifier and the quality of the Class A.