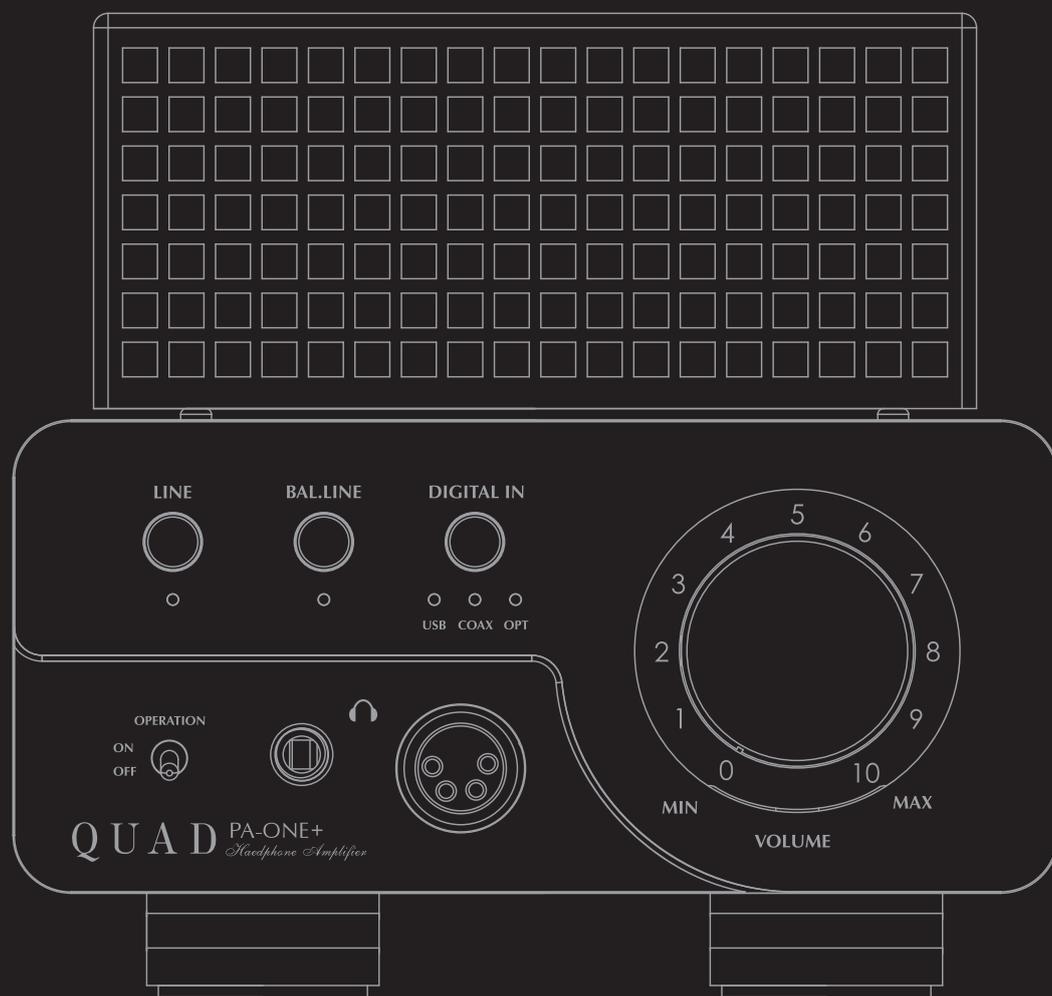
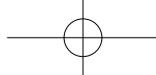


PA-ONE+

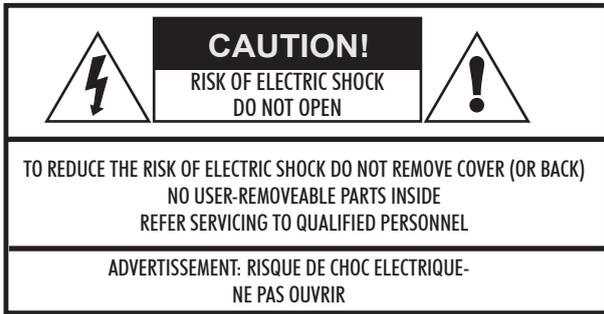


Owner's Manual

QUAD *the closest approach to the original sound*



IMPORTANT SAFETY INFORMATION



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water. Clean only with dry cloth.

Do not block any ventilation openings.

Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding plug.

A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wider blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.



Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

Unplug the apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Do not install this equipment in confined or built-in spaces such as a bookcase or similar unit, and keep well ventilated

in open space. The ventilation should not be impeded by covering the ventilation openings with items such as newspaper, table-cloths, curtains etc.

WARNING: Only use attachments/accessories specified or provided by the manufacturer (such as the exclusive supply adapter, battery etc.).

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and objects filled with liquids, such as vases, shall not be placed on apparatus. No naked flame sources, such as lighted candles, should be placed on the apparatus.

WARNING: Terminals marked with symbol of "⚡" may hold voltage of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by qualified personnel or the use of ready-made leads or cords.

WARNING: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

WARNING: The battery (battery or batteries or battery pack) shall not be exposed to excessive heat such as sunshine, fire or the like.

WARNING: Excessive sound pressure from earphones and headphones can cause hearing loss.

WARNING: Listening to music at high volume level and for extended duration can damage one's hearing. In order to reduce the risk of damage to hearing, one should lower the volume to a safe, comfortable level, and reduce the amount of time listening at high level. Headsets should comply with EN 50332-2 requirements (for GS certification).

WARNING: The mains plug is used as disconnect device; the disconnect device shall remain readily operable. The mains switch and circuit breakers are not provided with the apparatus; The installation shall be carried out in accordance with all applicable installation rules.

This equipment is a Class II or double insulated electrical appliance. It has been designed in such a way that it does not require a safety connection to electrical earth.

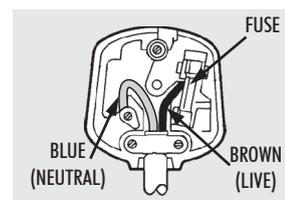
IMPORTANT NOTICE TO UK USERS

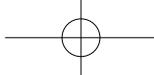
The appliance cord is terminated with a UK approved mains plug fitted with a 5A fuse. If the fuse needs to be replaced, an ASTA or BSI approved BS1362 fuse rated at 5A must be used. If you need to change the mains plug, remove the fuse and dispose of this plug safely immediately after cutting it from the cord.

Connecting a Mains Plug

The wires in the mains lead are coloured in accordance with the code: Blue: NEUTRAL; Brown: LIVE; Green and Yellow: EARTH. As these colours may not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

The BLUE wire must be connected to the terminals marked with the letter N or coloured BLUE or BLACK. The BROWN wire must be connected to the terminals marked with the letter L or coloured BROWN or RED.





CONTENTS

IMPORTANT SAFETY INFORMATION Inside Front Cover

USER GUIDE 1

CONTROLS AND CONNECTIONS 2

SETUP 3

CAUTION 3

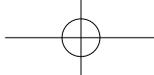
USING THE USB SOURCE 3

TECHNICAL FEATURES 4

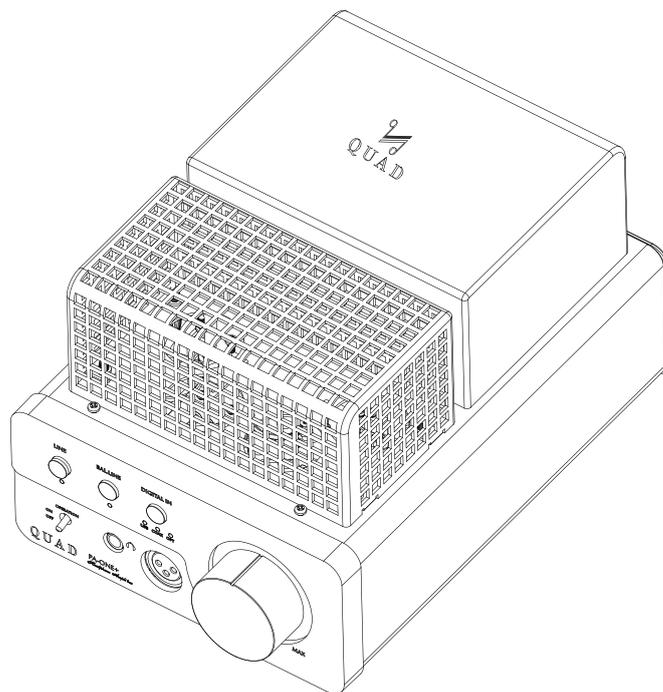
FURTHER ADVICE 4

SPECIFICATIONS 5

INTERNATIONAL SERVICE CENTRE ADDRESS 5



USER GUIDE



INTRODUCTION

The QUAD PA-ONE+ is designed for the music lover. We make no exaggerated performance claims and are content to let the results speak for themselves. Thank you for purchasing this QUAD equipment. We hope that it will bring you many years of listening pleasure, and that, like its illustrious predecessor, it will be a treasured possession for you and for future generations of music lovers.

PRELIMINARIES

The QUAD PA-ONE+ carton contains:

- One QUAD PA-ONE+
- One IEC mains lead fitted with an appropriate mains connector
- Instruction Manual and Warranty Registration form
- One set of packing materials

Consult the dealer from whom you purchased the equipment if any item is missing. Please retain the packing materials for future transportation of the product.

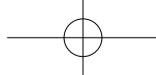
Please read this manual in full before installing your new amplifier and retain the manual and your purchase receipt for future reference.

MAINS SUPPLY

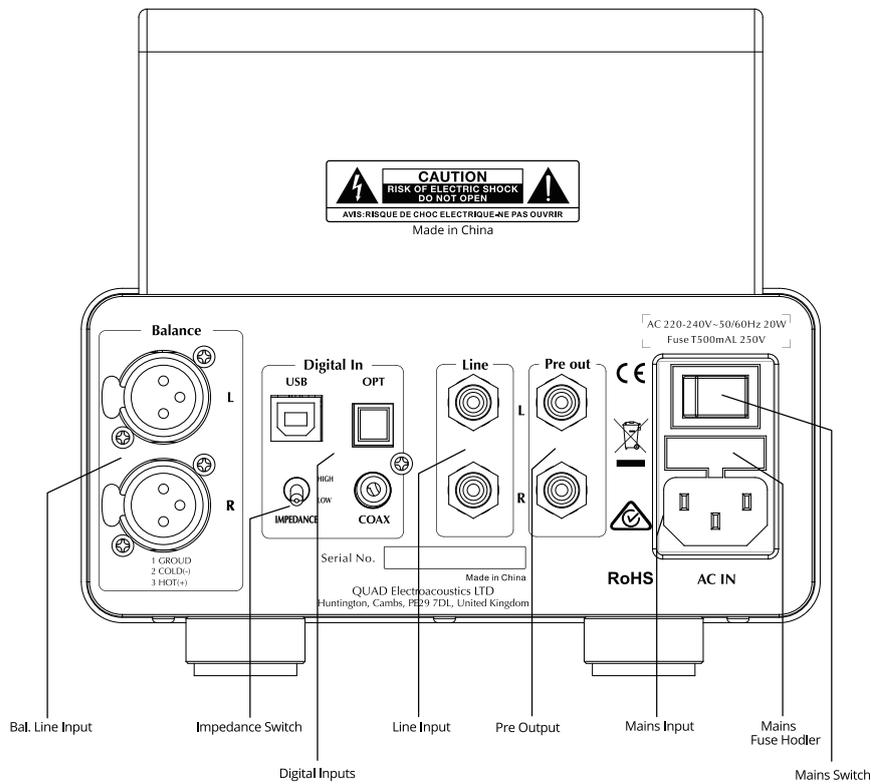
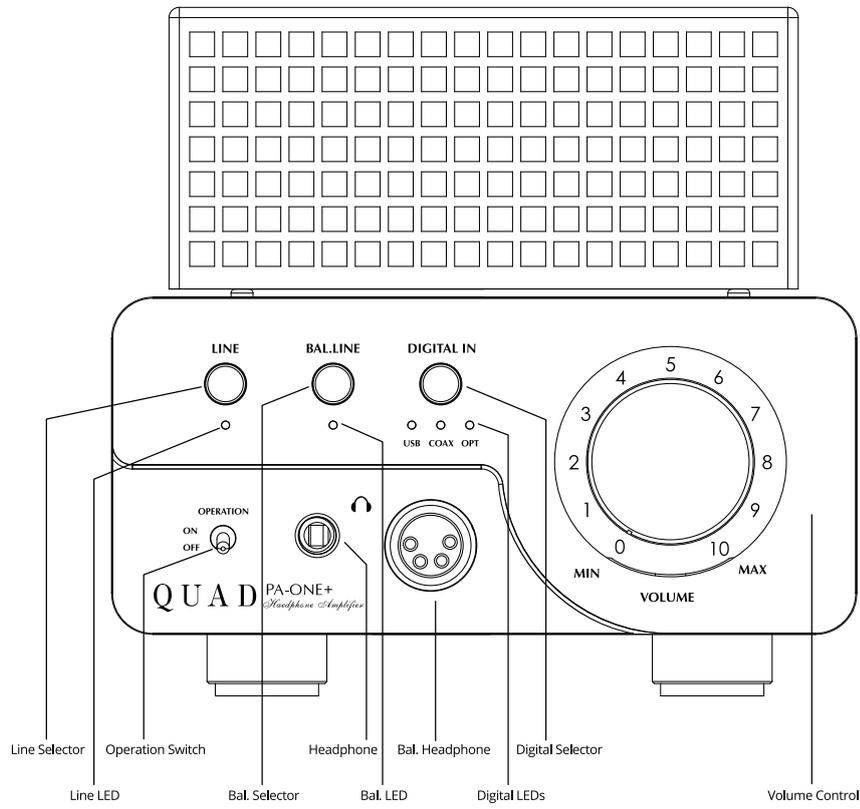
The mains operating voltage of the unit is indicated on the rating plate attached to the unit. If this voltage does not match the mains voltage in your area, consult your QUAD dealer about converting the unit. The fuse rating should be:

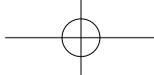
220-240V T500mA 20mm

100-120V T1A 20mm



CONTROLS AND CONNECTIONS





SETUP

Connect the music source to a suitable input on the unit and select the balanced or unbalanced line input as appropriate for analogue signals. Plug your headphones into one of the front panel sockets according to the connection style of the headphones. Set the volume to minimum, connect the unit to the mains supply and switch on. The amplifier takes 30 seconds or longer to warm up before you can use it.

The PA-ONE+ is able to drive both high and low impedance headphones, selected via a switch on the rear panel. 'High impedance' means 100ohms and above; 'low impedance' is below 100ohms. (Typically, high impedance headphones are 200ohms or 600ohms, while low impedance types are 32ohms.)

A specification for impedance will normally be included in the instructions that come with the headphones, or you can judge the impedance type of your headphones by following the steps below.

Connect your headphones and switch to LOW impedance. Turn up the volume slowly while listening to a familiar music track. If the volume seems low, even at maximum volume, your headphones are probably high impedance. Turn the volume down to minimum level and switch to HIGH impedance. Turn the volume up slowly again and check that the volume is satisfactory. High impedance headphones will clearly play louder when matched to the HIGH impedance setting. Low impedance headphones will play slightly louder when the LOW impedance setting is selected.

Analogue interconnect cables should be low capacitance and well screened. Avoid excessively long cables for both analogue and digital connections.

CAUTION

The volume should be set to minimum when you switch on the unit. When the unit is playing a music track, adjust the volume knob slowly and keep the volume at a comfortable level. Listening to loud sounds for a long period can damage your hearing permanently. If you feel uncomfortable while listening, or if there is a whistling in your ears after a listening session, you may be listening too loud. Turn the volume down.

There are no user adjustable settings inside the unit. Please do not remove the top cover as this will expose high voltage parts which present a danger to life.

The unit generates heat while working, so it should be placed in a well ventilated position, and enough space is required behind it to ensure that leads are not unduly strained or damaged.

Very frequent switching on and off of any electronic equipment puts some stress on components, particularly in the power supply. The unit should be switched off when not in use to save electricity and to maximize operating life of the valves.

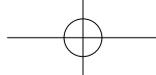
Do not plug in rechargeable headphones or earphones as these may cause damage.

USING THE USB SOURCE

With the increased popularity of downloadable or streaming digital files, the PA-ONE+ USB D/A converter allows consumers to enjoy listening to digital music sources from a computer (Windows or Mac) via the USB connection.

This product is USB 1.1 and 2.0 compliant and supports sampling frequencies ranging from 35kHz to 384kHz (supports DSD64 DSD128 DSD256) via the high quality Digital-to-Analogue converter (DAC). The DAC defaults to a 48kHz input sampling frequency. With a digital source connected and playing, the PA-ONE+ USB DAC will detect the sampling frequency of the input data automatically. The front panel indicators will then indicate the presence of a digital signal and the source selected.

Note: Windows does not support 192kHz sampling frequency. Owners of computers with Windows OS are advised to install corresponding software provided in the accompanying CD-ROM. Simply follow the software installation instructions included.



TECHNICAL FEATURES

QUAD PA-ONE+ uses 6SL7 valves, with 6SN7 valves as the enhanced drive of 'triode mode', properly matched to the load through alternative impedance taps of a high-performance audio transformer, selected by the rear panel switch, to deliver nearly 1W of high quality, low distortion power into high or low impedance headphones.

It can also be used as pre-voltage amplifier due to its pre output function. The circuits use cathode feedback instead of a negative feedback loop, contributing to very low distortion and excellent dynamic performance.

With the versatility of the digital USB, coaxial and optical inputs, the amplifier can be connected to sources from computers or other devices.

All components in the amplifier have been carefully selected to give consistent high performance over a long period.

FURTHER ADVICE

Burn In New Equipment

Burn in is very important. Valve components work at high voltages and temperatures and when new they should spend an extended period at those temperatures to bed in. We recommend you burn in the amplifier for at least four or preferably twelve hours before first using it for serious listening. If you run in your equipment for this extended period, make doubly sure that all the safety conditions covered in this manual are fully met. Supervise the equipment for the first hour or so and if you have to leave the unit unattended thereafter, look in occasionally to make sure all is well.

Warming Up Before Use

Ideally allow at least fifteen minutes for the amplifier to fully 'warm up', or at least 1 minute before use. If you play loud music while the system is cold the output valves will not be fully operational and the amplifier will be starved of voltage and current. The resulting distortion is unpleasant and may lead to potential damage to the amplifier's valves and your headphones. Intensive use of the equipment before it has warmed up will shorten the valve's life.

Valve Lifetimes

Valves contain a heating element. This heats up the valve's cathode which is coated to give off a steady stream of electrons. After a few years this coating will begin to wear out and performance will gradually deteriorate. The 6SL7 output valves are likely to deteriorate first but the driver valves 6SN7 will also eventually wear out.

As the valves start to wear out the sound will become less well defined and a lack of dynamics and power will become evident. Replacing the valves with a new set will fully restore the audio performance of the amplifier. When replacing valves it is essential to use the highest quality available. Poor quality valves will adversely affect the sound quality and may in extreme cases damage the amplifier. When replacing the output valves, use matched sets for best results.

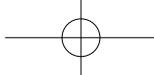
Do not leave the amplifier permanently switched on or you will seriously shorten the lifespan of your valves!

Output Transformer

After installing or changing the connection to your headphones, keep the volume control at zero, let the amplifier warm up and turn up the main volume gradually. If you don't hear sound, switch off immediately and investigate.

The output transformer is designed to match the high voltage, low current conditions in which the output valves operate to the low voltage, high current requirements of headphones. Although robust, an output transformer can be damaged and in extreme cases wrecked, by careless use. If you play a valve amplifier into a short circuit, the output transformer will soak up a lot of energy before failing, but if the short persists the transformer could be damaged. Operating a valve amplifier at high output level with headphones disconnected can also damage an output transformer.

The amplifier must be used with the correct load conditions, otherwise it may cause damage to the output transformer.



SPECIFICATIONS

General Description	Headphone Amplifier
Input Impedance	50k Ω
Output Power	500mW @ 32 Ω
Output Impedance	32 Ω ~300 Ω
Input Sensitivity	300mV (500mW @ 32 Ω)
Frequency Response	15Hz~30kHz (+0.5dB,-0.5dB)
Distortion	0.5% @ 1kHz
Channel Balance	\pm 0.5dB
S/N Ratio (ref. 500mW)	105dB (IHF-A)
Stability	Measurements made with 230V supply
Inputs	1 x Balanced input, 1 x RCA input, 1 x Coaxial input, 1 x Optical input, 1 x USB input
Outputs	1 x Standard + 1 x Balanced headphone socket (high/low impedance), 1 x RCA output
Digital Resolution	44.1kHz, 48kHz, 88.2kHz, 96kHz, 176kHz, 192kHz USB (PCM384kHz, DSD256)
Power Supply Voltage	AC110~120V or AC220~230V - (50/60Hz)
Valve Complement	2 \times 6SL7, 2 \times 6SN7
Size (WxDxH)	180 x 260 x 170 (mm)
Net Weight	6.5kg

INTERNATIONAL SERVICE CENTRE ADDRESS

IAG House

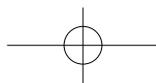
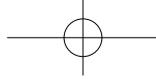
13/14 Glebe Road, Huntingdon, Cambridgeshire, PE29 7DL

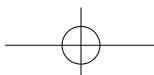
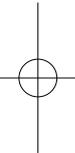
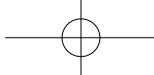
UK

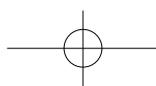
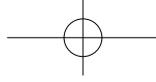
Tel: 01480 452561 Fax: 01480 413403

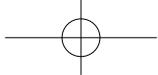


Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.









QUAD

IAG House, 13/14 Glebe Road, Huntingdon, Cambridgeshire, PE29 7DL, UK
Tel: +44(0)1480 452561 Fax: +44(0)1480 413403 <http://www.quad-hifi.co.uk>
IAG reserves the right to alter the design and specifications without notice. All rights reserved © IAG Group Ltd.
Quad is a member of the International Audio Group. Code: QH14-MNL002a

