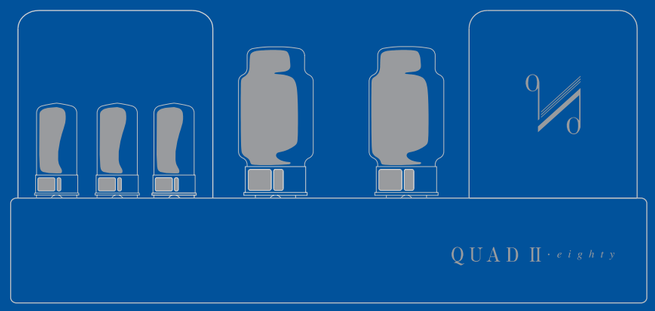
QUAD

QUAD II·*eighty*

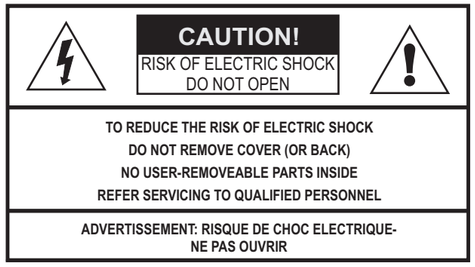
Monobloc Valve Power Amplifier



Owner's Manual

Quad Electroacoustics Ltd, IAG House,
Sovereign Court, Ermine Business Park,
Huntingdon PE29 6XU
England
www.quad-hifi.co.uk
Tel: 01480 447700 Fax: 01480 431767

Important Safety Precautions - Please Read Carefully!



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.

IMPORTANT SAFETY INFORMATION

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 type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are 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 plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only attachments/accessories specified by the manufacturer.

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

Unplug this 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.

Warning: To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture. The product must not be exposed to dripping and splashing and no object filled with liquids such as a vase of flowers should be placed on the product.

No naked flame sources such as candles should be placed on the product.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.

Warning: The mains power switch for this appliance is located on the side panel. To permit free access to this switch, the apparatus must be located in an open area without any obstructions.

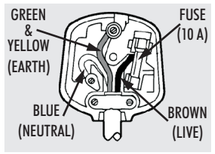
IMPORTANT NOTICE TO UK USERS

The appliance cord is terminated with a UK approved mains plug fitted with a 10A fuse. If the fuse needs to be replaced, an ASTA or BSI approved BS1362 fuse rated at 10A 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 terminal marked with the letter N or coloured BLUE or BLACK. The BROWN wire must be connected to the terminal marked with the letter L or coloured BROWN or RED. The GREEN & YELLOW wire must be connected to the terminal marked with the letter E or coloured GREEN or GREEN & YELLOW or marked with the Earth Symbol ⏚



SERVICE & INFORMATION

If your QUAD equipment requires servicing (including valve replacement) you should return it to the dealer from whom the equipment was purchased.

If you are abroad and there is no suitable dealer in your area, please contact the distributor for the country in which it was purchased or QUAD Electroacoustics Ltd.

It is user's responsibility, whether the equipment is under warranty or otherwise, to ensure that equipment for service is returned carriage paid and in the original packaging. You should enclose a brief note with your name and address and the reason for returning the equipment.

Authorised QUAD Service Centres in the U.K. and North America

USA
Taiga LLC
310 Tosca Drive
Stoughton,
MA 02072
Tel: 781-341-1234
Fax: 781-341-1228
Email: service@taigallc.com

U.K.
QUAD Electroacoustics Ltd.
IAG House, Sovereign Court,
Ermine Business Park,
Huntingdon,
Cambs PE29 6XU,
England.
Tel:+44 (0)1480 447700
Fax:+44 (0)1480 431767

For information on authorised service centres worldwide contact QUAD Electroacoustics Ltd. A worldwide distributor list is available on the QUAD website: www.quad-hifi.co.uk

SPECIFICATIONS

QUAD II · *eighty*

Monobloc valve power amplifier

Input sensitivity (nom)	1V RMS for full output
Power output	80W RMS
Output Impedance	4 Ohms or 8 Ohms, selectable
THD at 80 Watts	0.2% - 1kHz 0.5% - 30Hz to 15Khz 1.0% - 20 to 20 Khz
Residual hum and noise	Better than -94 dB
Frequency response	10 Hz to 30 KHz +0 -0.5 dB 3Hz to 50 Khz -3dB
Damping factor	16 at 1 kHz (referred to 8 Ohms)
Power consumption	240VA maximum
Valves	2 x 6SL7, 1 x 6SN7, 4 x KT88

Valve Lifetimes

The valves in the Quad II *eighty* will perform to specification for years if used properly.

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. In the QUAD II *eighty* amplifier the KT88 output valves are likely to deteriorate first but the driver valves 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 amplifiers permanently switched on or you will seriously shorten the lifespan of your valves.

Output Transformer

After installing or changing the wiring to your speakers, 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 the most expensive component in a valve power amplifier. It is designed to match the high voltage, low current conditions in which output valves operate to the low voltage high current requirements of a loudspeaker. Although robust and capable of lasting a lifetime, 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. Remember, operating a valve amplifier at high output levels with *no* loudspeaker connected can also damage an output transformer.

Overall Volume Levels

Always turn the volume control down before changing sources as the resulting surge could damage your loudspeakers.

Output levels from different source components in a high fidelity system can vary widely. A CD player can produce levels significantly higher (>18 dB) than an FM tuner. It follows that the position of the volume control is not a guide as to 'how loud' the equipment will go. Though the overload characteristics of the QUAD II *eighty* are such that you will be able to play your music at surprisingly high levels, if the sound is distorted, you are overloading your equipment whatever the position of the volume control.

CARE AND CLEANING

The surface of the equipment may be cleaned with a damp cloth provided that the power has been removed first. Solvent based cleaning materials should never be used as they may damage the paint finish.

GUARANTEE AND PRODUCT REGISTRATION

Your QUAD equipment is guaranteed against any defect in material and workmanship for a period of one year from the date of purchase with the exception of the valves, which are warranted for three months. Proof of purchase is required for warranty claims.

Please complete and return the enclosed Warranty registration form. Within the warranty period QUAD will undertake replacement of defective parts free of charge provided that the failure was not caused by misuse, accident or negligence. Your statutory rights within the territory in which you purchased the equipment are not affected by this warranty.

QUAD carries out a regular review of its products and reserves the right to adjust the specifications and performance from time to time.

There are no user replaceable or serviceable parts inside this equipment. Unauthorised attempts to service or modify this product will void the warranty.

QUAD II · eighty

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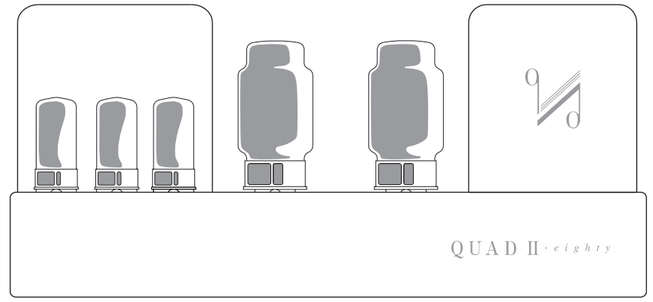
USER GUIDE



INTRODUCTION

The QUAD II *eighty* power amplifier is the latest of a series of outstanding valve amplifiers based on the legendary QUAD II amplifier designed by Peter Walker, the founder of QUAD and one of the guiding lights of early Hi-Fi reproduction. To cater for modern requirements the amplifier has been upscaled to provide a power output of 80 Watts. Although certain aspects of the original amplifier have had to be changed the fundamentals are essentially as they were when the original Quad II first saw the light of day, over fifty years ago.

The QUAD II *eighty* 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 can only hope that it will bring you many years of listening pleasure, and that, like its illustrious predecessors, it will be a treasured possession for you and for future generations of music lovers.

Although this equipment has primarily been designed for use with QUAD components, it may be connected to any high quality audio source component and loudspeaker system.

PRELIMINARIES

The QUAD II *eighty* amplifier carton contains:

- QUAD II *eighty* valve power amplifier
- 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.

INSTALLATION

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 (UK, Korea, etc.) T 1.5AL 20mm Slow Blow
100 - 120V (USA, Japan, etc) T 4AL 20mm Slow Blow

If this is your first valve amplifier please familiarise yourself with some important issues surrounding the safe use of the QUAD II *eighty*.

Valves Get Hot

Valve power amplifiers generate a lot of heat even with no input so it is vital to ensure adequate ventilation for your power amplifiers. QUAD II *eighty* power amplifiers should not be placed on a rack; each unit should be on a stable solid well-ventilated surface with at least 1m (3ft.) of free space above. Although the protective cage over the QUAD II *eighty* gets hot it is very unlikely to cause a burn. For absolute safety the units should be placed out of the reach of children and pets and away from heat-sensitive objects.

Valve Amplifiers Work at High Voltages

Do not open any of the cases. Ensure that nothing is poked, dropped or poured into an amplifier's case. The environment should be dry and free from litter. Do not place magnetically or thermally sensitive objects (i.e. credit cards) close to these QUAD units.

Valves are Microphonic

Valves are constructed with glass, fine wires and tiny metal parts. If you place the power amplifiers too close to the speakers the valves may vibrate at high sound levels. 1 metre (3ft) to the side of each speaker is a sensible minimum operating distance.

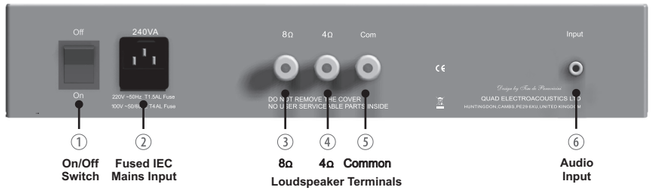
Interconnects and Cables

The signal input to the amplifier is via an RCA phono connector. As valve equipment works at high impedances, the phono interconnect from the pre-amplifier should be screened and of a low-noise, low-capacitance construction. To minimise capacitance and other effects, signal interconnects should be kept as short as possible.

Choose good quality loudspeaker cable designed for the purpose rather than general purpose 'zip' or 'bell' wire. It should be of adequate gauge to maximise bass performance.

CONNECTIONS

Before connecting your amplifiers unplug all active components in the system.



Input Connections

The QUAD II *eighty* must be connected to a line output which has a variable volume control.

Decide which of the two power amplifiers is to be the left channel and which the right channel. Using an appropriate screened RCA phono cable, connect the input socket of each QUAD II *eighty* amplifier to the requisite line output socket of the pre-amplifier. The input interconnects to the power amplifiers should be the same length.

When running signal cables, keep them away from sources of interference. Do not run signal cables parallel to cables carrying mains or digital traffic.

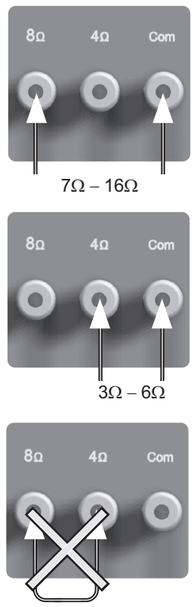
Loudspeaker Connections -1

Strip any outer sleeve from the cable to a depth of around 40 mm (1.5").

Strip the top 7mm of sleeving to expose the bare wire. If you are using stranded cable, lightly twist the strands to gather any loose ends.

Partially unscrew the knurled portion of the terminal to expose the cross hole at the terminal base.

Push the bare end of the cable into the hole. Ensure that the polarity is correct and there are no loose strands which could touch adjacent terminals. Tighten securely.



Loudspeaker Connections - 2

The QUAD II eighty has three output terminals – Common, 4 Ohms and 8 Ohms. Check the manufacturer's handbook for your speakers and use the terminal pair that most closely matches your speakers. Even though a loudspeaker may be rated at 8 Ohms or 4 Ohms its impedance varies with frequency -some experimentation may be necessary.

For loudspeakers with nominal impedance of 7 Ohms and above:

- Connect the Red (Positive) terminal of the loudspeaker to the 8 Ohm terminal.
- Connect the Black (Negative) terminal of the loudspeaker to the COM terminal of the QUAD II eighty amplifier.

For loudspeakers with nominal impedance between 3 and 6 Ohms:

- Connect the Red (Positive) terminal of the loudspeaker to the 4 Ohm terminal.
- Connect the Black (Negative) terminal of the loudspeaker to the COM terminal of the QUAD II eighty amplifier.

Some basic cautions:

- NEVER drive loudspeakers using the 4 and the 8 Ohm terminals together
- NEVER short any terminals out.
- NEVER connect or disconnect loudspeaker cables whilst the QUAD II *eighty* is switched on.

OPERATION

- Ensure that the mains switches on the power amplifiers are switched OFF and that the pre-amplifier volume control is at minimum.
- Connect the IEC mains leads from the wall sockets to the mains inputs on each amplifier.
- Plug in the mains leads to the other units.
- Switch on the power at the wall.
- Switch on the power amplifiers and other source units.
- Allow the amplifiers to warm up before use (see below). *Warming up (or running in) should always be done with the volume control at zero.*
- After use always switch the power amplifiers off.

Running In New Equipment

With valve amplifiers running 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 a running in period of at least four and preferably twelve hours before you first use the equipment. If you decide to 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 equipment unattended thereafter, have someone look in every so often to make sure all is well.

Warming Up Before Use

Allow at least fifteen minutes for the amplifiers to 'warm up' before use.

Valve amplifiers need time to reach their correct operating temperature. 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 both voltage and current. The resulting distortion is unpleasant to listen to and potentially damaging to the amplifiers' valves and your loudspeakers.

Intensive use of the equipment before it has warmed up will also shorten valve life.