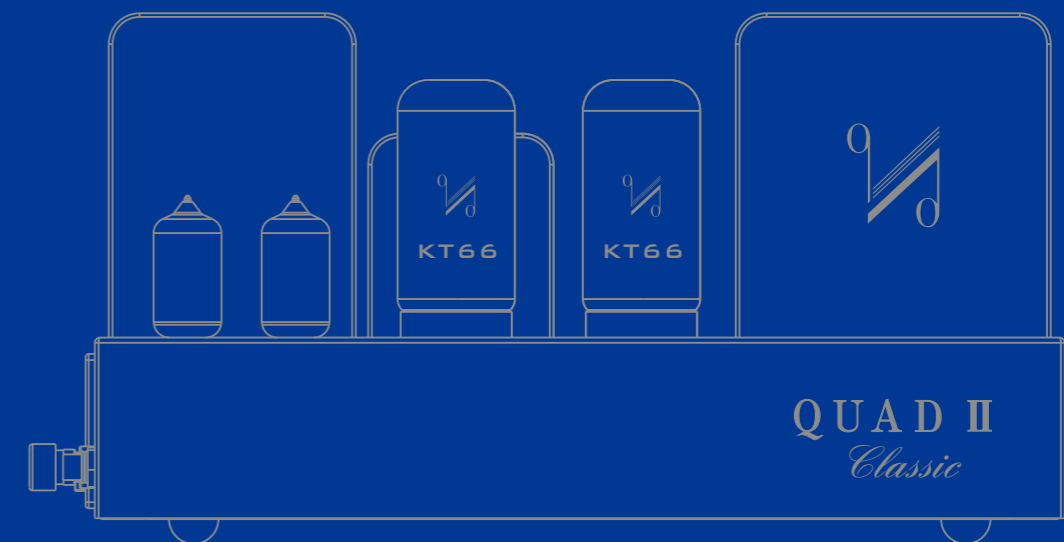


# QUAD

## Quad II *Classic*

Monobloc Valve Power Amplifier

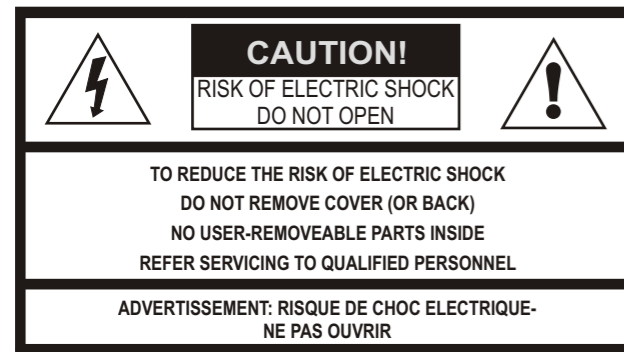


Owner's Manual

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## Important Safety Precautions - Please Read Carefully!

QUAD II *Classic*



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**Read Instructions:** All the safety and operating instructions should be read before the product is operated.

**Retain Instructions:** The safety and operating instructions should be retained for future reference.

**Heed Warnings:** All warnings on the product and in the operating instructions should be adhered to.

**Follow Instructions:** All operating and use instructions should be followed.

**Cleaning:** Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

**Attachments:** Do not use attachments not recommended by the product manufacturer as they may cause hazards.

**Water and Moisture:** Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement; or near a swimming pool; and the like.

**Accessories:** Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

**Moving the Product:** A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart to overturn.

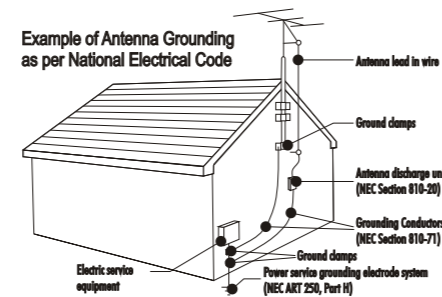
**Ventilation:** Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

**Power Supply Cords:** Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

**Power Sources:** This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

**Polarisation:** This product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

**Lightning:** For added protection for this product during a lightning storm, or when it is left unattended and unused



for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

**Antenna Grounding:** If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. (Refer to diagram)

**Power Lines:** An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

**Overloading:** Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

**Object and Liquid Entry:** Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

**Heat:** The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

**Servicing:** Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

**Damage Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply-cord or plug is damaged
- If liquid has been spilled, or objects have fallen into the product
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance - this indicates a need for service.

**Replacement Parts:** When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorised substitutions may result in fire, electric shock, or other hazards.

**Safety Check:** Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

**Warning:** To resist 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 - must be placed on the product.

**Service:** Equipment for servicing should be returned to the supplying dealer, or to the appointed service agents for your area. The addresses of Service Agents for the UK, USA and Canada are listed on the rear cover of this manual.

### WARNING

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

### CAUTION

Use of controls or adjustments, or the performance of procedures other than those specified may result in hazardous radiation exposure.

### IMPORTANT NOTICE

The IEC socket which fits into the mains connector located on the rear panel of this unit is a moulded unit. If this unit becomes damaged in any way do not attempt to repair or connect a replacement plug to the cord. Consult your dealer to purchase a suitable replacement.

### WARNING

This equipment uses valves (tubes) which get hot. Do **not** touch the glass envelopes of the valves while the equipment is in use or within 30 minutes after the equipment has been switched off.

## 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

IAG America, Inc.  
15 Walpole Park South  
Walpole  
MA 02081  
Tel: +1 508 850 3950

### 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

### CANADA

Korbon Trading Ltd  
6800 Kitimat Road  
Units 19-20  
Mississauga  
Ontario  
Tel: +1 905 567 1920

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](http://www.quad-hifi.co.uk)

## SPECIFICATIONS

### Quad II *Classic* Monobloc valve power amplifier

<b>Input sensitivity</b>	1.4V RMS
<b>Power output</b>	15W RMS
<b>Output Impedance</b>	8 Ohms
<b>THD @ 700 Hz</b>	0.3% @ 12w
<b>Residual hum and noise</b>	Better than -90 dB
<b>Frequency response</b>	10 Hz - 20 kHz (± 0.2 dB)
<b>Damping factor</b>	11.75 @ 700 Hz (referred to 8 Ohms)
<b>Power consumption</b>	90VA maximum
<b>Valves</b>	2 x EF86, 2 x KT66, 1 x GZ34
<b>Dimensions (mm)</b>	335 x 121 x 171
<b>Weight</b>	8.3 Kg

### 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.

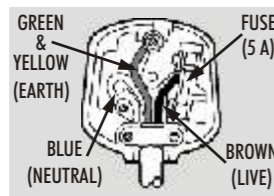
### Connecting a Mains Plug

The wires in the mains lead are coloured in accordance with the code:

**Blue:** NEUTRAL **Brown:** LIVE **Green & Yellow:** EARTH.

As these colours may not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

The wire coloured BLUE must be connected to the terminal marked with the letter N or coloured BLUE or BLACK. The wire coloured BROWN must be connected to the terminal marked with the letter L or coloured BROWN or RED. The wire coloured GREEN & YELLOW must be connected to the terminal marked with the letter E or coloured GREEN or GREEN & YELLOW or marked with the Earth Symbol (⊕)



As the valves start to wear out the sound will become less well defined and a lack of dynamics and power will become evident.

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 valves do so as pairs, and for best results use matched pairs.

### 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 *Classic* 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 not 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.

### CONCLUSION

Apart from a few very specialised fields, the valve has been obsolete in almost every walk of life for at least thirty years yet it remains the equipment of choice for thousands of music lovers and audiophiles the world over. Audio amplification has been with us for ninety years and for over fifty of those ninety, the name of QUAD has been synonymous with the best the world has to offer. In producing the QUAD II *Classic*, we have revisited our very roots. We hope the result lives up to your highest expectations.

## QUAD II *Classic*

### USER GUIDE



### INTRODUCTION

The QUAD II *Classic* power amplifier is a re-creation of the legendary QUAD II amplifier designed by Peter Walker, founder of QUAD and one of the guiding lights of early Hi-Fi reproduction. Like the QUAD II, the QUAD II *Classic* uses the uniquely simple and timeless circuit topology developed by Walker. To comply with modern international manufacturing and other standards certain aspects of the original amplifier have had to be changed but these are almost entirely superficial. The fundamentals are as they were when the original Quad II first saw the light of day, fifty years ago.

The QUAD II *Classic* 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 predecessor, 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 *Classic* amplifier carton contains:

- QUAD II *Classic* 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 1A 20mm Slow Blow

100 - 120V (USA, Japan, etc.) T 2A 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 *Classic*.

### 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 *Classic* 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 *Classic* 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

Valves require a high voltage to function. Do not open any of the cases. Also 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 or optical discs) close to these QUAD units.

### Valves are Microphonic

Because valves are constructed from fine wires and tiny metal parts they can pick up external vibrations. If you place the power amplifiers too close to the speakers the direct loud sound may vibrate the valves. 1 metre (3ft) to the side of each speaker should be considered a sensible minimum.

### Interconnects and Cables

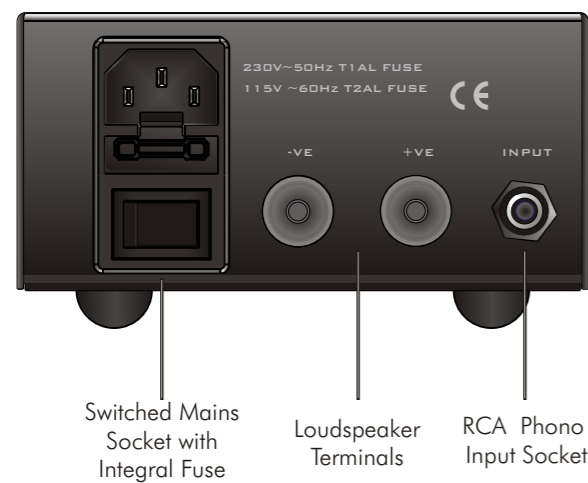
The signal input to the amplifier is via an RCA phono connector. As valve equipment works at high impedances, the phono interconnect from the pre-amplifier should be screened and of a low-noise, low-capacitance construction. To minimise capacitance and other effects, signal interconnects should be kept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

**Note:** Before connecting your amplifiers all components in the system must be unplugged at the mains and the master system volume control set at zero.

### Input Connections



The Quad II *Classic* must be connected to a pre-amplifier line output, or to the line output of a source component which has a variable volume control. You must **not** connect the amplifiers to any source which has only a fixed output.

Decide which of the two power amplifiers is to be the left channel and which the right channel and place the units in their intended locations.

Using an appropriate screened RCA phono cable, connect the **input** socket of each QUAD II *Classic* amplifier to the requisite line output socket of your pre-amplifier. As a general rule, the Right channel of the pre-amplifier will be colour coded Red, the Left channel White or Black. 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



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.

Connect the Red (Positive) terminal of the loudspeaker to the **+ve** terminal of the amplifier. Connect the Black (Negative) terminal of the loudspeaker to the **-ve** terminal of the QUAD II *Classic* amplifier.

Ensure that the Left and Right loudspeakers are connected to the Left and Right amplifiers respectively.

### Final System Connections

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.

### OPERATION: Read this section to maximise the performance and lifespan of your Quad II *Classic*.

Switch on the power at the wall. Switch on the power amplifiers and other source units.

When the amplifiers have warmed up, the system may be safely used (see below). Warming up (or running in) should always be done with the volume control at zero.

*Always remember to switch the power amplifiers off when they are not in use*

### Running In New Equipment

Most high fidelity equipment works better after it has been run in. 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. This is especially the case with the output valves and the output transformer.

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.

### Valve Lifetimes

The valves in the Quad II *Classic* 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 start to deteriorate. In the QUAD II *Classic* amplifier the KT66 output valves are likely to deteriorate first but the EF86 driver valves will also eventually wear out.

**Do not leave the amplifiers permanently switched on or you will seriously shorten the lifespan of your valves. Always switch the amplifiers off when not in use.**

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