



Audio Note

# P2 SE

*POWER AMPLIFIER*

OWNER'S INFORMATION



## ! IMPORTANT SAFETY INFORMATION

**⚠ HEAT:** BY THE NATURE OF VACUUM TUBES, THIS PRODUCT GENERATES HIGH LEVELS OF HEAT. ADEQUATE VENTILATION MUST BE PROVIDED. DO NOT RESTRICT THE AIRFLOW THROUGH ANY OF THE VENTILATION SLOTS OR PLACE THE AMPLIFIER ON ANY SURFACE THAT MAY RESTRICT AIRFLOW.

**CAUTION:** THE VACUUM TUBES AND OTHER NEARBY PARTS OPERATE AT EXTREMELY HIGH TEMPERATURES - KEEP SUCH PARTS OUT OF THE REACH OF CHILDREN.

**⚠ HUMIDITY:** DO NOT STORE OR OPERATE THIS UNIT IN AREAS OF HIGH HUMIDITY, OR IN CLOSE PROXIMITY TO WATER/DAMPNESS. DO NOT EXPOSE THE UNIT TO LIQUID.

**⚠ EARTHING:** THE PRODUCT MUST BE EARTHED - ENSURE THAT THE MAINS SUPPLY CABLE IS EARTHED.

**⚠ SHOCK:** INTERNAL OPERATING VOLTAGES ARE LETHAL! DO NOT REMOVE THE TOP COVER. DO NOT ATTEMPT TO REPLACE THE FUSE WITHOUT DISCONNECTING THE UNIT FROM THE MAINS SUPPLY.

**⚠ SAFETY COMPONENTS:** INTERNAL FUSES AND OTHER SAFETY COMPONENTS ARE LOCATED INSIDE THIS UNIT IN ACCORDANCE WITH BS 60065 REQUIREMENTS.

IN THE EVENT OF SUCH COMPONENT FAILURE, THEY MUST BE REPLACED WITH THE SAME PART TYPES ONLY. SUCH REPLACEMENT MUST BE CARRIED OUT BY A QUALIFIED SERVICE TECHNICIAN.

## CE DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product is in conformity with the following standards or standardised documents:

BS EN 60065 in accordance with the regulations 73/23/EEC, 89/336/EEC (from 1st January 1997).

CE 94

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*Congratulations* on your purchase of the Audio Note P2 SE power amplifier. The P2 SE is a pure class A, single-ended vacuum tube amplifier offering a level of performance and technology previously unavailable at this price.

Audio Note would like to thank you for your custom in a market so crowded with products. The P2 SE is part of the only complete product range available from a single high-end manufacturer. This allows you to buy a consistent approach from phono cartridges through to digital components.

Please read over this manual carefully in order to obtain the best possible performance and longevity from your amplifier.

The P2 SE's design is derived from Audio Note's key technological features originally embraced by the world-famous Audio Note On Gaku and Kego amplifiers. These features include:

- [1] Pure Class A operation.
- [2] Zero Negative feedback.
- [3] Single-ended output stage.
- [4] Valve rectification.
- [5] Directly heated, triode output stage.
- [6] Materials and component quality.

The sonic performance (and so the level) of our products can be measured by the number of these features included. The P2 SE meets Level 2 requirements.

**Pure Single-ended operation.** The P2 SE is a single ended amplifier. This means that the complete music wave form reproduced by the amplifier is preserved as one "whole". Consequently, a true single-ended amplifier *must be* pure class A and operates in a coherent and natural way.

This produces significant sonic advantage compared to conventional push-pull amplifiers since push-pull amplifiers demand that a new "mirror" image wave form be created for the topology to work. Creating this perfect mirror image of the original wave form is rather a tall order and far from the only problem associated with push-pull amplifiers!



## UNPACKING & INSTALLATION

Take care when unpacking the amplifier as its weight is considerably more than the size might suggest! We recommend that you store the packaging materials in case the unit requires shipping at a later date. Also, check that no transit damage has occurred before installing the amplifier.

Next, select a suitable location for the unit, ensuring that adequate ventilation clearance is provided. This is an important consideration as the amplifier generates substantial heat during normal operation. In the interest of safe, reliable operation, situate the amplifier away from dampness or direct sunlight. Site the unit on a flat and firm surface capable of sustaining the amplifier's (substantial) weight.

Worthwhile sonic improvements may be obtained by locating the P2 SE on a purposely designed audio component support system.

### Connections

**SPEAKERS:** Each channel is equipped with three, colour coded binding posts for connection to your speakers. Connect the P2's black speaker output binding post labelled as 'O' to the black (also marked "-") on the speakers. Connect the red (also marked "+") terminal of the speakers to outer most red binding post, labelled as (8 ohm) on the P2. Repeat this procedure for both left and right channels.

The central red binding posts, labelled as "4  $\Omega$ " may be used with 4 ohm speaker systems. If you are uncertain whether your speaker system is of a 4 or 8 ohm type, try the following test once all other connections are made and the amplifier is operational: Compare the sound quality using a familiar recording with the speakers connected to the 8 ohm connections and then the 4 ohm connections respectively. The selection that produces the best frequency balance and maximum dynamics should be used.



## **Connection of Sources**

**MAIN INPUTS:** One pair of RCA sockets on the back panel is available for connection to your pre amplifier. The sockets are labelled and colour coded as Left and Right. White indicates the Left hand channel and Red the Right hand channel.

Connect the corresponding outputs from your pre amplifier to these sockets.

The P2 SE has a volume control and so a pre amplifier is not necessary if you are only using a single line level music source such as a CD player. This makes for a high quality, compact music system. To use the P2 SE without a pre amplifier, simply connect the "line out" from the source component to the P2's RCA inputs.

**MAINS CONNECTION:** Use the supplied mains cable to connect the amplifier to the local mains supply.

**GROUND POST:** A ground post is provided for connection to a pre amplifier or source components that also use a separate ground post (such as the Audio Note pre amp's and DAC's). Most other source components do not provide a separate ground terminal and so in these cases, no connection is required.

**Special Note:** Make sure that all connections are tight and clean. For best performance, use good quality audio interlinks. Although several companies manufacture good quality interlinks, those manufactured by Audio Note are especially good!

*Always ensure that the amplifier is turned off before making any connections.*



## USING THE P2 SE

Turn the main volume control to a low position before proceeding.

Once all connections are completed and checked, rotate the rotary type main "on/off" switch located on the front panel's right-hand side clockwise to the "on" position. The red front panel indicator should now be glowing. The amplifier is of a vacuum tube design and requires approximately 45 seconds' initialising time before it is ready for operation. During this time, ensure that the volume control is at a low setting.

If you are using a pre amplifier, set this unit as required and then adjust the main volume control on the P2 so that the pre amplifier's volume control is operation over a comfortable range. Usually, the P2's control would be set between the 12 o'clock and full volume positions.

If a pre amplifier is not being used, simply set the P2's control to the desired volume setting.

**Bedding in time:** The new amplifier requires about 200 hours of initial use (called "bedding in time") before the circuitry becomes stable and optimum performance is realised. As the amplifier "beds in", the sound will become more lucid, detailed and expansive.

Once the amplifier is "bedded in", a warm-up time of approximately 30 to 45 minutes is required each time the unit is turned on before *optimum* sonic performance is reached.



## AFTER CARE

Cleaning the P2 is best performed with a soft brush - some photographic stores are able to provide suitable brushes. Alternatively, a soft cotton cloth, lightly *moistened* with a mild, natural soap/luke warm water solution may be used for removing dirt build-up. Strong or alcohol based solvents may damage the finish of this amplifier. Do not wet the unit! No internal servicing is necessary and we recommend that the top cover is not removed as there are *dangerous* internal voltages!

**Transportation:** If the amplifier needs to be moved, allow time for the vacuum tubes to cool down first. The vacuum tubes are particularly fragile when they are hot and may otherwise become damaged. Also repack the unit in its original packaging materials if long distance transit is required.

**Tube replacement:** The vacuum tubes used in the P2 SE should provide up to 8000 hours of operation. Audio Note has used specially selected and matched tubes for this amplifier and so we recommend that that the tubes should only be replaced with such.

Please consult your Audio Note dealer should the performance of the amplifier deteriorate so that arrangements for tube replacement can be made.

## WARRANTY AND SERVICING

Audio Note warrants this product free from defects in materials and workmanship for one year from original date of purchase from an appointed Audio Note dealer. The vacuum tubes are warranted for three months.

In the event that your Audio Note product requires servicing, please contact your Audio Note dealer. If the component needs to be shipped, please use the original packaging materials and include a copy of the sales purchase with a note, explaining, in as much detail as possible, the problems that you are experiencing with the unit.

If you require technical support, new vacuum tubes or have any questions, please direct them to your local Audio Note dealer or alternatively to:

Customer Support  
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Unit C, Peacock Industrial Estate  
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## TECHNICAL BACKGROUND

The P2 SE is a pure Class A, single-ended amplifier. Its development is the result of Audio Notes ongoing research to find ways to make better audio products. Aside from the six key features on which the design is based, a technique called "Comparison by Contrast"\* is used to ensure that the product is developed with the most important specification of sound quality as the overriding factor.

The P2 SE is derived from the Soro Line SE amplifier.

The stage uses one 6SL7 dual triode per channel. These tubes are connected in a SRPP method and this stage generates most of the required gain.

Since the amplifier is single-ended, no complex phase splitting circuitry is required and the signal from the 6SL7 tubes can be coupled to the output stage. Here, Audio Note aluminium foil, paper in oil capacitors are used instead of the inferior quality film types used so commonly in the audio industry.

The final output tubes are 5881 (6L6) devices operated in pure Class A. They are parallel connected in a triode configuration. The choice of 6L6 vacuum tubes has allowed us to develop a full 18 watts of single-ended power at a modest price level.

The output transformers (one of the most critical components in a vacuum tube amplifier) are of custom Audio Note design and provide previously unavailable performance characteristics. These transformers use massive cores to reduce saturation effects. This allows the P2 SE to produce impressively extended and controlled bass performance.

\* An essay titled "The Road to Audio Hell" describes the Comparison by Contrast technique and is available from Audio Note on request.



## **SPECIFICATIONS**

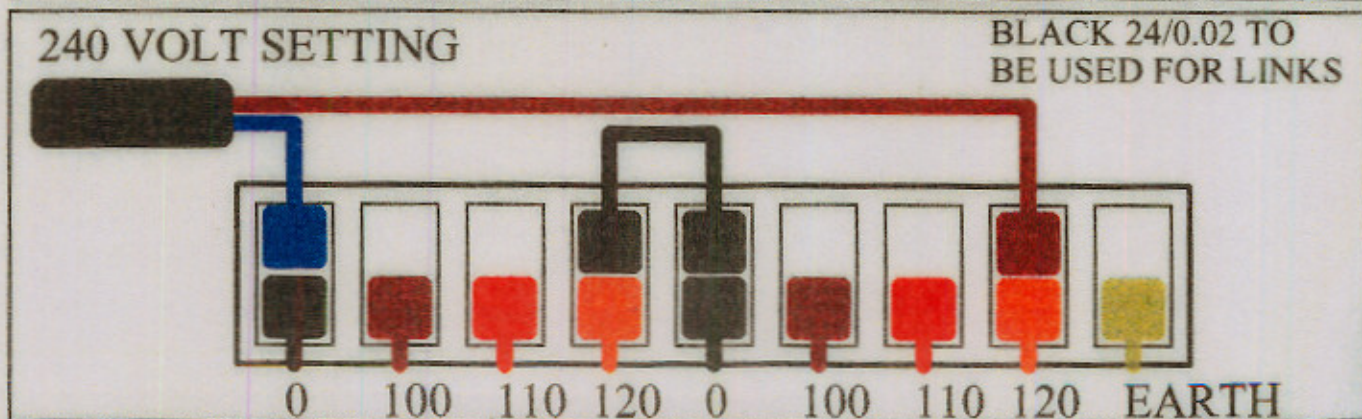
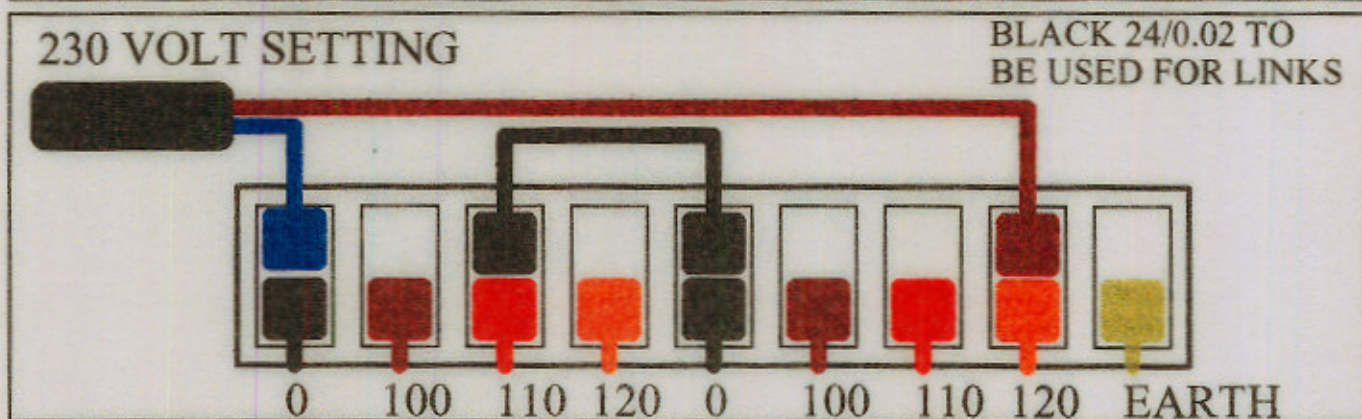
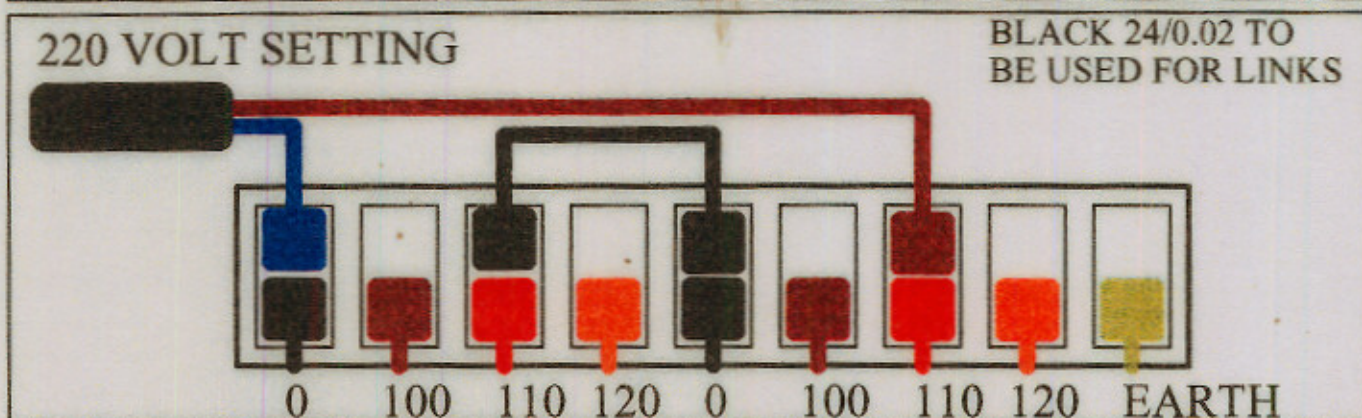
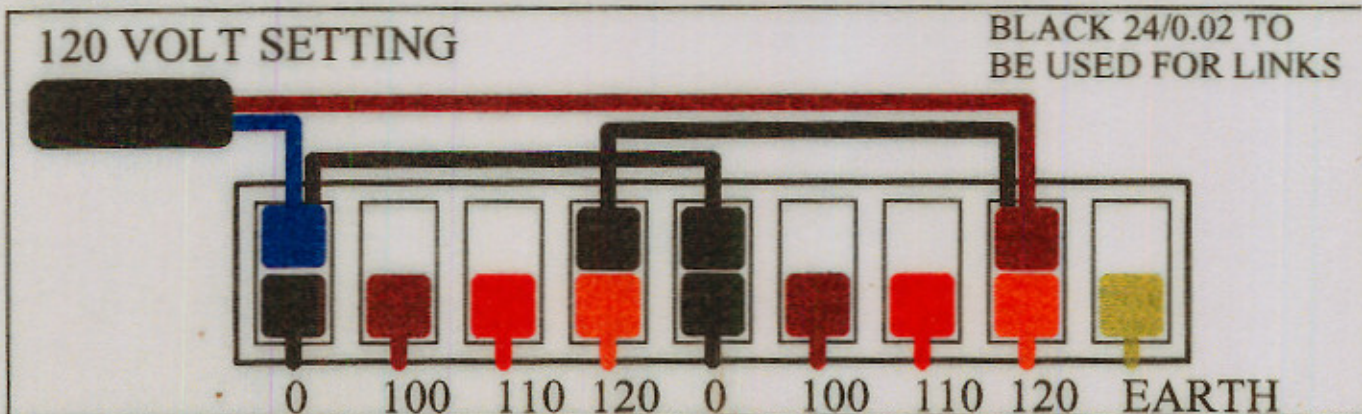
<b>Weight</b>	19 kilograms
<b>Dimensions</b>	140(h) x 300 (w) x 410 (d) (mm)
<b>Power consumption</b>	165VA
<b>Fuse ratings</b>	2A anti-surge (110 to 120V supply) 1.2A anti- surge (220 to 240V supply)
<b>Input impedance</b>	100K ohm
<b>Maximum output</b>	18 Watts RMS per channel into 4 or 8 ohm loads
<b>Tube compliment</b>	6L6/5881 (Four) 6SL7 (Two)

**Note:** Due to Audio Note's ongoing research and development programme, specifications are subject to change without notice.

**THIS PRODUCT COMPLIES WITH CE STANDARDS.**



# P2 MAINS TRANSFORMER VOLTAGE SETTINGS



CHANGE FUSE IN MAINS SOCKET TO 2A



# P1SE MAINS TRANSFORMER SETTINGS

