

# ALLEN&HEATH



# RPS11

## Rack Mount Power Supply

## USER GUIDE

Publication AP2725

# Warranty

## LIMITED ONE YEAR WARRANTY

This product is warranted to be free from defects in materials or workmanship for a period of one year from the date of purchase by the original owner.

To ensure the high level of performance and reliability for which this equipment has been designed and manufactured please read the User Guide before use.

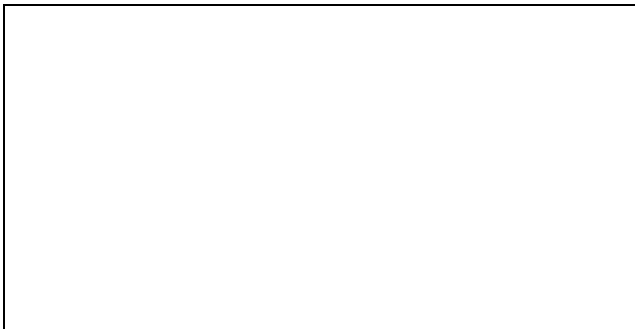
In the event of a failure notify and return the defective unit to ALLEN & HEATH or its authorised agent as soon as possible for repair under warranty subject to the following conditions:

### **CONDITIONS OF WARRANTY:**

1. The product has been installed and operated in accordance with the instructions in the User Guide.
2. The product has not been subject to misuse either intended or accidental, neglect, or alteration other than as described in the User Guide or Service Manual, or approved by ALLEN & HEATH.
3. Any necessary adjustment, alteration, or repair has been carried out by ALLEN & HEATH or its authorised agent.
4. The defective unit is to be returned carriage prepaid to ALLEN & HEATH or its authorised agent with proof of purchase.
5. Units to be returned should be packed to avoid transit damage.

In certain territories the terms may vary. Check with your Allen & Heath agent for any additional warranty that may apply.

### Allen & Heath Agent:



Allen & Heath Limited,  
Kernick Industrial Estate,  
Penryn,  
Cornwall.  
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No part of this manual may be reproduced, stored in a retrieval system, or transmitted, in any form or by means, electronic, electrical, mechanical, optical, chemical, including photocopying and recording, for any purpose without the express written permission of ALLEN & HEATH.

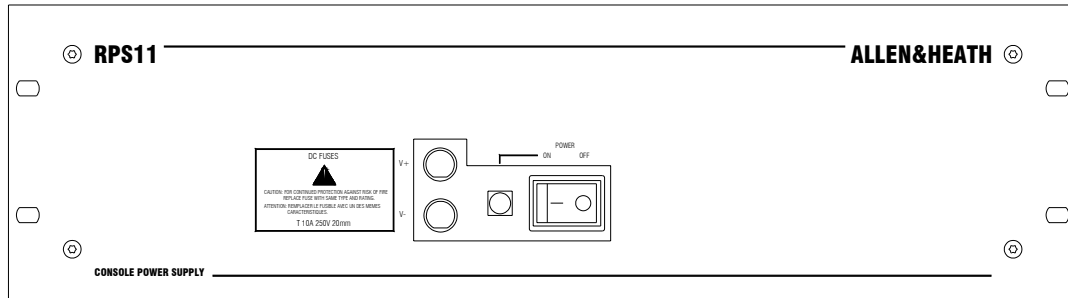
It is recommended that all maintenance and service on the product should be carried out by ALLEN & HEATH or its authorised agents. ALLEN & HEATH cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorised personnel.

# RPS11 Power Supply

## INTRODUCING THE RPS11

The RPS11 is a linear power supply which, like other linear supplies, produces DC voltages by rectifying, smoothing and regulating AC voltages from the secondary windings of a mains transformer.

Allen & Heath mixing consoles employ a number of DC voltage supply levels in their operation and these are provided at the output of the power supply unit.



**IMPORTANT:** Please read this manual carefully before connecting your RPS11 power supply to the mains.



This product complies with the European Electromagnetic Compatibility directives 89/336/EEC & 92/31/EEC and the European Low Voltage directive 73/23/EEC & 93/68/EEC.

**IMPORTANT:** Any changes or modifications to the equipment not approved by Allen & Heath could void the compliance of the console and therefore the users authority to operate it.

## Precautions and Safety instructions

### General Precautions

Avoid storing or using the RPS11 in conditions of excessive heat or cold, or in positions where it is likely to be subjected to vibration, dust or moisture. Do not use any liquids to clean the exterior of the unit: a soft, dry cloth or brush is ideal.



**SOLVENTS MAY CAUSE DAMAGE TO PAINT OR PLASTIC PARTS**

### Handling and Transport

The RPS11 is supplied in a specially designed cardboard box. If it is necessary to move the unit any distance after installation, it is recommended that this carton is used to protect it. Be sure to disconnect all cabling before moving. If the RPS11 is to be moved regularly (e.g. touring) it is recommended that it is installed in a foam lined case. At all times avoid applying excessive force to any switches or connectors.

# Installation of the RPS11

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## **Free Standing**

The RPS11 can be operated as a free standing unit without requiring any special cooling arrangement, but should not be accidentally or deliberately covered in any way. Always stand the unit on a firm flat surface well away from any soft furnishings or carpet.

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## **Rack Mounting**

The RPS11 is designed as a 19 inch rack mount unit and will occupy 3U (5.25 inches) of rack space.

An important consideration when rack-mounting the unit is the need for natural convection of air flow over the whole unit.

Good ventilation below the unit, in the floor or back of the rack, will ensure a path for continuous air flow.

Other equipment in the rack which is known not to produce a significant amount of heat should be mounted below the unit. Equipment which also relies on good air flow within the rack (i.e. most power amplifiers and other power supplies) should be given due consideration and some space should be provided between such units and between the RPS11 unit. Forced convection, by means of a fan-tray, may be desirable in this situation.

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## **Location**

As with any power supply that contains a mains voltage transformer, it is preferable to provide a degree of physical isolation of the unit from other equipment, particularly that which carries low level audio signals, to avoid any possible hum pick-up. For this reason the unit is provided with a long (3m) output cable to enable it to be positioned away from the mixing console. For the same reason, when rack-mounting it is preferable to avoid locating the unit adjacent to signal processing equipment.

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## **Earthing**

Finally, some consideration should be given to the earthing arrangement of the system, at the centre of which is the console and the RPS11. The console chassis is earthed, to the mains earth, via the power supply. When rack-mounting the RPS11 care should be taken to avoid any possible "ground loops" in the system which would introduce audible hum to otherwise clean audio signals. Ground loops may occur where signal processing equipment, patched to the console, has its signal earth connected to the equipment chassis. A ground loop is formed if the chassis of the signal processing equipment and the RPS11 chassis are in electrical contact through the fixing rails they share in the rack. The RPS11 has audio 0V and mains earth connected internally.

# Using the RPS11



**ALWAYS MAKE SURE THAT THE POWER SUPPLY HAS BEEN SET TO THE SAME AC MAINS VOLTAGE AS PROVIDED FROM THE MAINS SOCKET OUTLET**

Always switch the power supply off before connecting or disconnecting the console power cable, removing or installing modules and servicing. In the event of an electrical storm, or large mains voltage fluctuations, immediately switch off the power supply and disconnect from the mains supply.

During normal operation some heat is generated. This is dissipated by the rear heatsinks and chassis ventilation.



**DO NOT COVER THE UNIT DURING OPERATION**



**THIS UNIT CONTAINS NO USER SERVICEABLE PARTS, REFER ALL SERVICING TO A QUALIFIED ENGINEER, THROUGH THE APPROPRIATE DEALER NETWORK**

## Mains Voltage Setting



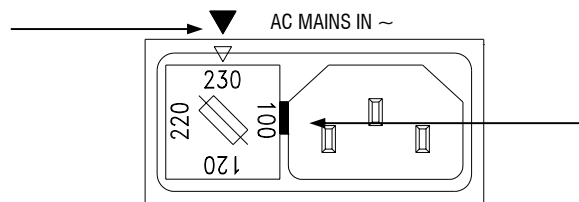
**SPECIAL ATTENTION SHOULD BE GIVEN TO THE FOLLOWING INFORMATION**

The RPS11 is capable of operating over a wide range of AC mains input voltages by means of a mains voltage selector. It is important to check that the RPS11 has the correct voltage setting as marked on the rear panel of the power supply. Confirm that the voltage setting matches the local AC mains supply in your area.



**DO NOT CHANGE THE AC MAINS VOLTAGE SETTING WITHOUT FIRST DISCONNECTING THE MAINS LEAD FROM THE AC MAINS SOCKET**

Check the arrow indicates the correct AC mains voltage setting for your local AC mains supply.



To alter the setting of the AC mains input voltage, lever out the fuseholder with a suitable tool. Pull the fuse carrier assembly clear of the unit and rotate it until the required voltage aligns with the arrow. Push the fuse carrier back into place.

**Check the correct fuse is fitted for the selected mains input voltage.**

### Set the voltage selector to:

- 100 V for ac mains input voltages between 100-115 V ac
- 120 V for ac mains input voltages between 115-125 V ac
- 220 V for ac mains input voltages between 210-230 V ac
- 230 V for ac mains input voltages between 230-264 V ac



**DO NOT ATTEMPT TO USE THE POWER SUPPLY IF IT IS SET TO A DIFFERENT AC MAINS INPUT VOLTAGE TO THE LOCAL AC MAINS SUPPLY IN YOUR AREA**



**DO NOT USE DC MAINS INPUT VOLTAGES**

The power supply is provided with an IEC type mains connector and a moulded mains plug. Check that this is suitable for connection to the wall socket outlet.

# Replacing Mains Fuse

The AC mains fuse is located on the rear of the RPS11 unit next to the AC mains connector. In the event of a mains surge or under-rated fuse value, the mains input fuse will rupture. Switch off the power supply and remove the mains lead plug from the “AC MAINS IN” socket on the rear of the unit.

Check the fuse and replace if necessary. Check also the AC mains input voltage setting is correct for the mains supply in your area before switching the unit on again.



**TO AVOID THE RISK OF FIRE REPLACE FUSE WITH THE CORRECT TYPE ONLY, AS INDICATED ON THE UNIT**

In the event of repeated failure of the mains fuse, consult the local dealer from where the unit was purchased.

AC MAINS VOLTAGE SETTING	FUSE RATING
220/230 VAC	T 3.15AL 250V 20mm
100/120 VAC	T 5.0AL 250V 20mm

## Technical Specification

### Mains Input Voltage Settings

230/220/120/100 VAC @ 47-63 Hz

### Power consumption (max.)

300W

### Mains Fuse Rating

100-120 V~      Use T 5.0AL 250V 20mm  
220-240 V~      Use T 3.15AL 250V 20mm

### DC Fuse Rating

V+, V-      Use T 10AL 250V 20mm  
+48V      Use T 2.5AL 250V 20mm

### Outputs

DC Voltage Rail	Output Current
+16 VOLTS	5A Max.
-16 VOLTS	5A Max.
+48 VOLTS	200mA Max.

### DC Output Socket Pin Connections

Pin 1 = +16 Volts  
Pin 3 = -16 Volts  
Pin 4 = CHASSIS 0V  
Pin 5 = AUDIO 0V  
Pin 10 = +48 Volts

Pins 2, 6, 7, 8, 9, = not connected

### Overall Dimensions

**Front Panel**  
19 inch 3U (482mm x 133mm)

Weight : 9.5Kg (21 pounds)

**Chassis (Maximum External)**  
Height: 135mm including feet (5.31 inches)  
Width: 419mm (16.50 inches)  
Depth: 235mm (9.25 inches)

# Servicing



**THIS UNIT CONTAINS NO USER SERVICEABLE PARTS. REFER ALL SERVICING TO A QUALIFIED SERVICE ENGINEER, THROUGH THE APPROPRIATE ALLEN & HEATH DEALER**

Initial operational tests on the power supply can be carried out by switching the unit ON and checking the front panel neon indicator is illuminated. If the neon indicator is not illuminated, check the fuses are intact in the mains plug (where fitted) and the unit fuseholder on the rear panel.



**THIS OPERATION SHOULD ONLY BE CARRIED OUT BY TECHNICALLY COMPETENT PERSONNEL**

If the front panel neon indicator is illuminated but the console appears not to have any power then it may be necessary to check the voltages present on the output connector. Refer to the Technical Specification section in this manual for the DC output voltage levels. If the +16V and -16V DC supplies are not present, check the DC fuses on the front of the power supply. If the +48V DC supply is not present, check the internal DC fuse located on the power supply circuit board.

## Servicing Components



**ALL SERVICE AND REPAIR WORK MUST ONLY BE CARRIED BY TECHNICALLY COMPETENT PERSONNEL**



**REPLACEMENT OF ANY COMPONENTS SHOULD BE UNDERTAKEN ONLY AFTER DISCONNECTING THE MAINS SUPPLY LEAD FROM THE POWER SUPPLY UNIT**

The RPS11 power supply unit requires no internal maintenance or regular servicing. If the RPS11 requires servicing or repair then refer to the service manual for the power supply or contact your Allen & Heath dealer.