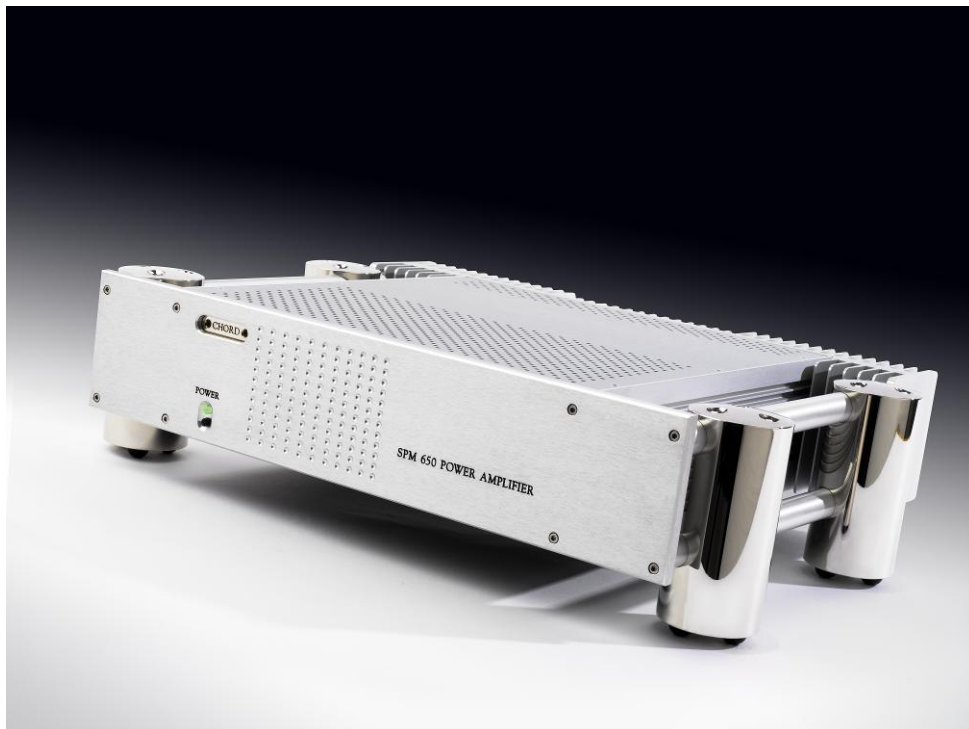




SPM 650 POWER AMPLIFIER MANUAL



OPERATING INSTRUCTIONS

INSTALLATION

Your amplifier should be positioned to ensure a free flow of air over the rear heat sink and through the upper and lower grilles. When driven continuously at well above average listening levels, the temperature on the heat sink may exceed 50°C. This is not a fault, but an indication of the need for adequate ventilation.

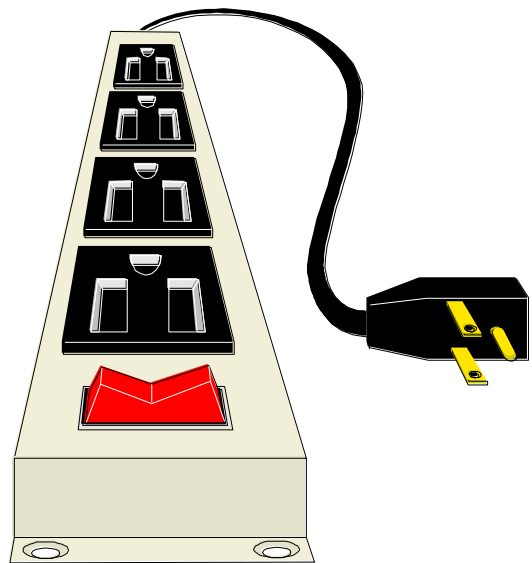
Please ensure that the IEC mains lead is correctly terminated.

UK/EUROPE	Brown =	LIVE	= Black	USA/CANADA
	Blue =	NEUTRAL	= White	
	Yellow/Green =	EARTH	= Green	

**THE SPM 650 MUST BE EARTHED AT ALL TIMES VIA ITS OWN MAINS LEAD.
FAILURE TO DO THIS MAY BE HAZARDOUS.**

⚡ This unit complies with EN 50081-1 & IEC 801/2

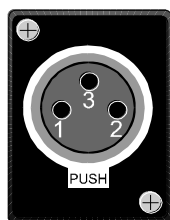
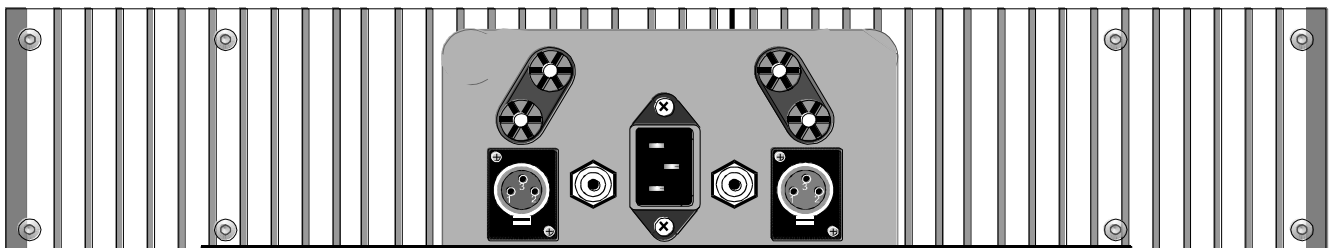
It has come to light that, in some European countries a hum may occur if Pre and Power Amplifiers are connected to mains wall sockets which do not have an earth. Please ensure that, if this is the case, the pre and power amps are connected via a multi-way mains block which contains an earth point at each socket outlet. This is to ensure that the chassis metalwork of each item is connected together and Chord Electronics Limited firmly recommend that an earthing method for the building is implemented.



REAR PANEL

The two gold-plated phono-style connectors and XLRs are pre-amplifier inputs. Please connect these last, with the amplifier switched off.

Right Left



Right
Balanced
Input
Pin 1 Earth
Pin 2 +ve
Pin 3 -ve

Right
Input
Phono
Socket

Mains
Input

Left
Input
Phono
Socket

Left
Balanced
Input
Pin 1 Earth
Pin 2 +ve
Pin 3 -ve

OPERATION

When the amplifier is connected to the mains the LED immediately above the power switch will indicate red (standby). When switched on, this LED will change to illuminate green (operational). There will be a delay of about 12 seconds before the output signal is fed to the loudspeakers, this is to allow the amplifier to stabilise.

In the event of a major overload or a short circuit across the output of any channel, the green "power on" LED will indicate trip by fading and immediately re-illuminating to red standby mode. The amplifier will shut down automatically and it should then be switched off. When the fault condition has been rectified, the amplifier can be switched on and will power up as normal. A minimum period of eight seconds must be allowed to elapse between switching off and switching on again. This is to allow the power supply protection circuitry to re-set itself.

There are no user serviceable parts in your SPM 650. It should only be serviced by Chord Electronics Limited or their expressly approved Service Agents.

CARE AND CLEANING

The SPM 650 requires no special care other than common-sense. Spray window cleaner (clear type) may be used (if first sprayed on to a soft cloth) to remove surface blemishes such as finger marks from the metal casing. Never spray directly on to the amplifier and never use abrasive cleaning materials, use only a lint free soft cloth as described.

SERVICE INFORMATION

WARNING - The power supply components within this amplifier are designed to be operated at lethal voltages and energy levels. Circuit designs that embody these components conform with applicable safety requirements. Precautions must be taken to prevent accidental contact with power-line potentials. Do not connect grounded test equipment.

NEW TECHNOLOGY

Much of what Chord has achieved is the result of using innovative, leading edge technology. For example, we believe that we are unique in using the technique of 'dynamic coupling' of the power supply rails. Whatever transient demand is presented to the amplifier stages, the positive and negative rails remain in perfect equilibrium, with each compensating for the demands made on the other. This means that power delivery is always balanced and free from ground loop modulation distortion.

This, combined with enormous reserves of instantly delivered, precisely controlled power is what makes the SPM 650 sound so effortless. The power supply rails operate well above that which most amplifiers can accommodate. This and other advanced techniques enables the ultra high frequency low ESR power supply to store a great deal more energy far more efficiently. Clipping is virtually impossible. Furthermore, compared to other amplifiers of a similar power rating the SPM 650 weighs in at a mere 9Kg. Another new technique is used to protect the amplifier against overload, internal and external short circuits. The output signal path is totally free of any fuses or sound-degrading resistive components often employed for overload sensing. The SPM 650 is designed to surpass the highest European safety and electromagnetic interference standards.

The amplifier sections are also highly sophisticated designs that make the most of the best high voltage, lateral structure MOSFETs available, 2 x 300 watt devices per channel. Combining the subtlety and musicality of a good valve design with the punch and accuracy of 'state of the art' solid state products. The result is a 'sliding bias' class A/B design with all drive circuitry operating in class A. At usual listening levels, most of the music will be reproduced in class A. Chord's no-compromise design philosophy means there is no better built amplifier. Individually hand-crafted, it is constructed to aerospace standards from the circuit boards up.



Chord Electronics Limited

SPECIFICATIONS	SPM 650 POWER AMPLIFIER
OUTPUT POWER	130W rms per channel @ 0.05% distortion into 8Ω, 170W rms per channel into 4Ω, 200W rms into 2Ω. Thermal limitation only, 1 channel driven.
DYNAMIC HEADROOM	200W rms per channel into 8Ω, 360W rms per channel into 4Ω. - 1 KHz, 10 cycles on, 90 cycles off.
FREQUENCY RESPONSE (8 OHMS)	-1dB, 0.2Hz to 46KHz -3dB, 0.1Hz to 77KHz
FREQUENCY RESPONSE (4 OHMS)	-1dB, 0.2Hz to 39KHz -3dB, 0.1Hz to 75KHz
SIGNAL TO NOISE RATIO	Better than -103dB, 'A' weighted two thirds power.
CHANNEL SEPARATION	Better than 95dB.
PRE-AMPLIFIER INPUT CONNECTION	2 x gold-plated fully-balanced XLR sockets. 2 x gold-plated custom phono sockets, unbalanced.
INPUT IMPEDANCE	100kΩ. Unbalanced/Balanced
INPUT CAPACITANCE	<30pf.
OUTPUT IMPEDANCE	0.02Ω
OUTPUT INDUCTANCE	2.6μH
OUTPUT CONNECTIONS	4 x 4mm rhodium binding posts (1 pair Black, 1 pair Red)
SLEW RATE	70V per μS, 1KHz 20V square wave
GAIN	30dB.
STABILITY	Unconditional
DIMENSIONS (Standard)	420mm (w) x 355mm (d) x 88mm (h)
WEIGHT	9Kg

Made in England by:

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