



## Power amplifiers

# welcome

Thank you for buying a Chord product.

Before you start to enjoy using your Chord amplifier, please take a couple of minutes to read how to connect your audio and visual equipment and speakers to your power amplifier and how to maximise your listening experience.

## user guide for power amplifiers

### stereo power amplifiers

SPM 600

SPM 1200C

SPM 1200E

SPM 4000

SPM 5000

SPM 12000

### mono power amplifiers

SPM 1400E

SPM 6000

### multi-channel power amplifiers

SPM 603

SPM 1203

SPM 1900

SPM 2000

SPM 3005

## stereo power amplifiers

SPM 600, SPM 1200C, SPM 1200E, SPM 4000, SPM 5000  
SPM 12000

The power amplifier is the heart of your system, and your Chord amplifier offers stunning results providing effortless power across the whole spectrum of music's tonal span.

## mono power amplifiers

SPM 1400E, SPM 6000

Using two mono amplifiers instead of one stereo amplifier has the advantage that each amplifier can be placed close to the loudspeaker it is driving which reduces signal losses that occur in long lengths of loudspeaker cable.

## multi-channel power amplifiers

SPM 603, SPM 1203, SPM 1900, SPM 2000, SPM 3005

Chord's multi-channel amplifiers offer the perfect solution for those seeking the ultimate audio/visual surround system. A perfect home theatre setup can be achieved by teaming up a Chord multi-channel amplifier with the Chord AV processor and loudspeaker package.

Whether it is 5 channels, 6 channels or adding 3 channels to your existing hi-fi, Chord makes the perfect solution for your demanding home theatre requirements.

# background

We want you to be confident using your new Chord amplifier.

You are probably an audiophile with extensive knowledge of audio equipment.

However, you may not be!

So in the following section we explain a few basics to help you get started, or get you back up to speed if you are a little rusty.

## connecting your equipment

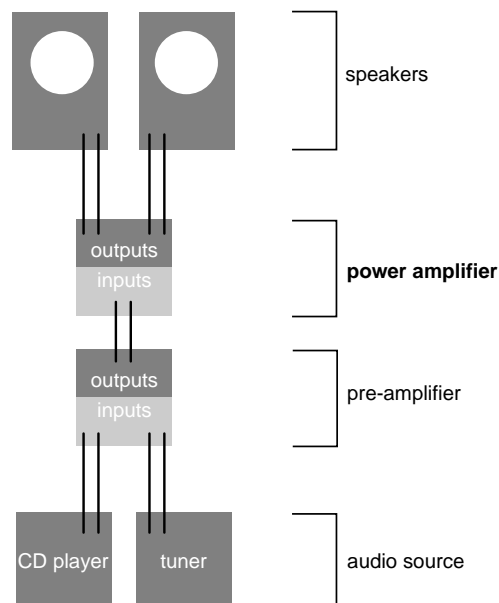
Chord amplifiers are supplied with and designed to be connected using balanced inputs. The interconnecting cables you use will depend on the available input and output sockets on your other equipment. We have installed unbalanced inputs on all Chord equipment, thus enabling you to mix Chord and other manufacturer's equipment.



Balanced inputs carry twice the strength of signal of unbalanced inputs and are able to be fed down long lengths of cable with less deterioration of signal. They are also less prone to interference than unbalanced inputs. Balanced inputs have three pins and use Neutric XLR style connectors. Pin 1 is earth, pin 2 is positive and pin 3 is negative.



Unbalanced inputs use RCA phono connectors which are gold plated with teflon high performance dielectric insulators for optimum performance.



# when setting up

To ensure that your Chord amplifier works efficiently and safely, please pay particular attention to the following issues.

## **ventilation**

Your Chord amplifier should have at least 5cm of clear space all around it to ensure a free flow of air at all times. When driven continuously at well above average levels, the temperature at the back of the unit may exceed 50°C. This is normal and no cause for concern, although it does highlight the need for adequate ventilation around the unit. We do not recommend that you place your amplifier directly on a carpet.

## **mains lead and plug**

All Chord equipment comes supplied with the correct mains lead and plug. This should be used at all times.

## **if you need to fit a plug for UK/Europe**

Connect the blue wire to the neutral terminal  
Connect the brown wire to the live terminal  
Connect the yellow/green wire to the earth terminal

## **if you need to fit a plug for US/Canada**

Connect the white wire to the neutral terminal  
Connect the black wire to the live terminal  
Connect the green to the earth terminal

## **earthing issues in Europe**

In some European countries a hum may occur if your amplifier is connected to mains sockets that do not have an earth. If this is the case please ensure that:

1. Your amplifier is 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.
2. We recommend that an earthing method for your building is implemented.
3. Use the connecting points on your Chord unit and connect to an available earth point.

## **safety warnings**

It is important that your amplifier is earthed at all times via its own mains lead. Failure to do this may be hazardous. The power supply components within the 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.

These units comply with EN 50081-1 and IEC 801/2

# connecting your SPM 600

You need to connect the outputs from your pre-amplifier to your power amplifier and then connect your power amplifier to your loudspeakers. There are two pairs of inputs. You can connect to either the XLR or RCA outputs, but not to both types at the same time. All connections should be made with the power turned off.

## connecting to your power amplifier using XLR style inputs:

Use XLR style connectors to connect:

- the Right output from your pre-amplifier to the Right balanced input
- the Left output from your pre-amplifier to the Left balanced input.

## connecting to your power amplifier using unbalanced RCA style inputs

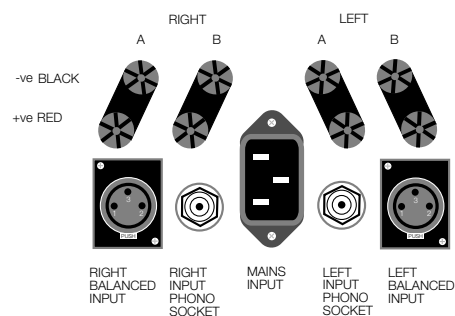
Use RCA style connectors to connect:

- the Right output of your pre-amplifier to the Right input phono socket
- the Left output of your pre-amplifier to the Left input phono socket.

## connecting your loudspeakers

1. Connect one set of loudspeakers to Right A and Left A, matching +ve to +ve and -ve to -ve on the amplifier and loudspeakers.
2. You can connect a second pair of loudspeakers to Right B and Left B. See Figure A on page x.
3. You can use both A and B to bi-wire your loudspeakers if they allow. See Figure B on page 21.

Note: The WBT rhodium plated 4mm speaker binding posts will accept 4mm banana plugs (WBT-0645 or WBT-0644) or 6mm spades (WBT-0680). Making connections using bare wire is not recommended.



# connecting your SPM 1200C SPM 1200E

You need to connect the outputs from your pre-amplifier to your power amplifier and then connect your power amplifier to your loudspeakers. There are two pairs of inputs. You can connect to either the XLR or RCA outputs, but not to both types at the same time. All connections should be made with the power turned off.

## connecting to your power amplifier using XLR style inputs

Use XLR style connectors to connect:

- the Right output from your pre-amplifier to the Right balanced input
- the Left output from your pre-amplifier to the Left balanced input.

## connecting to your power amplifier using unbalanced RCA style inputs

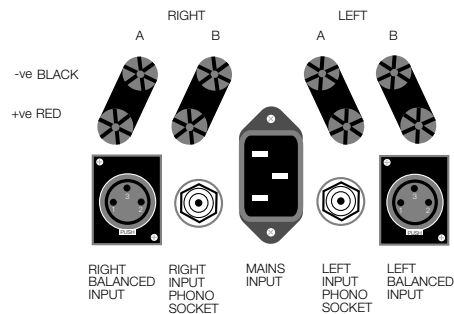
Use RCA style connectors to connect:

- the Right output from your pre-amplifier to the Right input phono socket
- the Left output from your pre-amplifier to the Left input phono socket.

## connecting your loudspeakers

1. Connect one set of loudspeakers to Right A and Left A, matching +ve to +ve and -ve to -ve on the amplifier and loudspeakers.
2. You can connect a second pair of loudspeakers to Right B and Left B. See Figure A on page x
3. You can use both A and B to bi-wire your loudspeakers if they allow. See Figure B on page 21.

Note: The WBT gold plated 4mm speaker binding posts will accept 4mm banana plugs (WBT-0645 or WBT-0644) or 6mm spades (WBT-0680). Making connections using bare wire is not recommended.



# connecting your SPM 4000 SPM 5000

You need to connect the outputs from your pre-amplifier to your power amplifier and then connect your power amplifier to your loudspeakers. There are two pairs of inputs. You can connect to either the XLR or RCA outputs, but not to both types at the same time. All connections should be made with the power turned off.

## connecting to your power amplifier using XLR style inputs

Use XLR style connectors to connect:

- the Right output of your pre-amplifier to the Right balanced input
- the Left output of your pre-amplifier to the Left balanced input.

## connecting to your power amplifier using unbalanced RCA style inputs

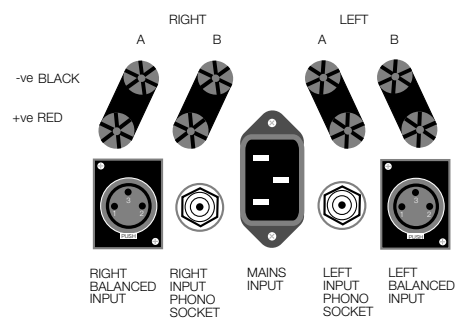
Use RCA style connectors to connect:

- the Right output of your pre-amplifier to the Right input phono socket
- the Left output of your pre-amplifier to the Left input phono socket.

## connecting your loudspeakers

Connect your loudspeakers to the right and left binding posts, matching +ve to +ve and -ve to -ve on amplifiers and loudspeakers.

Note: The WBT gold plated 4mm speaker binding posts will accept 4mm banana plugs (WBT-0645 or WBT-0644) or 6mm spades (WBT-0680). Making connections using bare wire is not recommended.





# connecting your SPM 12000

You need to connect the outputs from your pre-amplifier to your power amplifier and then connect your power amplifier to your loudspeakers. There are two pairs of inputs. You can connect to either the XLR or RCA outputs, but not to both types at the same time. All connections should be made with the power turned off.

The SPM 12000 is designed and must be used with both mains leads plugged into suitable sockets. Ensure that the phase is the same for both leads.

## connecting to your power amplifier using XLR style inputs

Use XLR style connectors to connect:

- the Right output of your pre-amplifier to the Right balanced input
- the Left output of your pre-amplifier to the Left balanced input.

## connecting to your power amplifier using unbalanced RCA style inputs

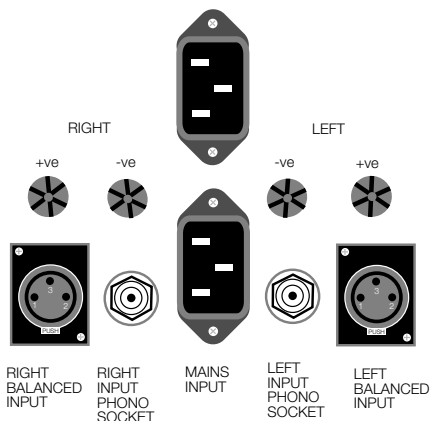
Use RCA style connectors to connect:

- the Right output of your pre-amplifier to the Right input phono socket
- connect the Left output of your pre-amplifier to the Left input phono socket.

## connecting your loudspeakers

Connect your loudspeakers to the right and left binding posts, matching +ve to +ve and -ve to -ve on amplifiers and loudspeakers.

Note: The WBT gold plated 4mm speaker binding posts will accept 4mm banana plugs (WBT-0645 or WBT-0644) or 6mm spades (WBT-0680). Making connections using bare wire is not recommended.



# connecting your SPM 1400E SPM 6000

You need to connect the outputs from your pre-amplifier to your power amplifiers and then connect your power amplifiers to your loudspeakers. There are two pairs of inputs. You can connect to either the XLR or RCA outputs, but not to both types at the same time. All connections should be made with the power turned off.

The inputs can be connected as either inverting or non-inverting modes. Connect the output from your Chord pre-amplifier to the right input to give an inverted output, as is normal with other Chord amplifiers.

Connect the output from your pre-amplifier to the left input to give a non-inverting output, when using other makes of amplifier.

As these amplifiers are of mono block construction you should only connect one input. When using a pair of units you need to ensure that all inputs used are non-inverting or both are inverting otherwise the loudspeakers will be out of phase.

## connecting to your power amplifier using XLR style inputs

Use XLR style connectors to connect the output of your pre-amplifier to the Right balanced inverting input.

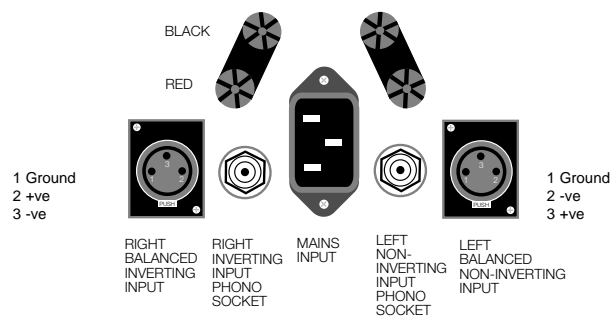
## connecting to your power amplifier using unbalanced RCA style inputs

Use RCA style connectors to connect the output of your pre-amplifier to the Right inverting input phono socket.

## connecting your loudspeakers

Connect your loudspeaker to the black and red binding posts.

To bi-wire using two mono power amplifiers see Figure D on page 22.



# connecting your SPM 603 SPM 1203

You need to connect the outputs from your AV processor to your power amplifier and then connect your power amplifier to your loudspeakers. There are three RCA inputs. All connections should be made with the power turned off.

## connecting to your power amp using unbalanced RCA style inputs

Use RCA style connectors to connect:

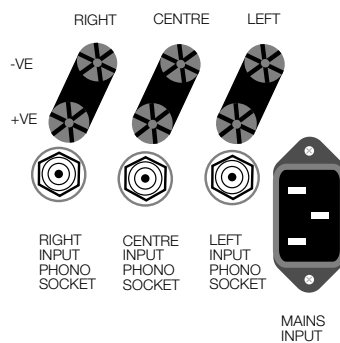
- the Right output of your AV processor to the Right input phono socket (green)
- connect the Centre output of your AV processor to the Centre input (red)
- connect the Left output of your AV processor to the Left input phono socket (blue).

## connecting your loudspeakers

Connect your loudspeakers to the following binding posts.

- right (green)
- centre (red)
- left (blue).

See Figure E on page 23.



# connecting your SPM 1900

You need to connect the outputs from your AV processor to your power amplifier and then connect your power amplifier to your loudspeakers. There are five inputs. All connections should be made with the power turned off.

## connecting to your power amplifier using unbalanced RCA style inputs

Use RCA style connectors to connect:

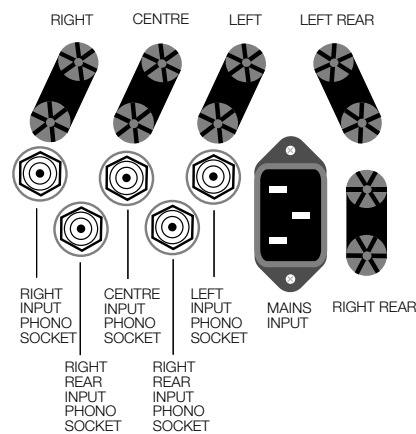
- the Right front output from your AV processor to the Right front input phono socket (green)
- the Centre output from your AV processor to the Centre input phono socket (red)
- the Left front output from your AV processor to the Left front input phono socket (blue)
- the Right rear output from your AV processor to the Right rear input phono socket (grey)
- the Left rear output from your AV processor to the Left rear input phono socket (yellow).

## connecting your loudspeakers

Connect your loudspeakers to the following binding posts:

- right front (green)
- centre (red)
- left front (blue)
- right rear (grey)
- left rear (yellow)

See Figure F on page 24.



# connecting your SPM 2000

You need to connect the outputs from your AV processor to your power amplifier and then connect your power amplifier to your loudspeakers. There are six inputs. All connections should be made with the power turned off.

## connecting to your power amplifier using unbalanced RCA style inputs

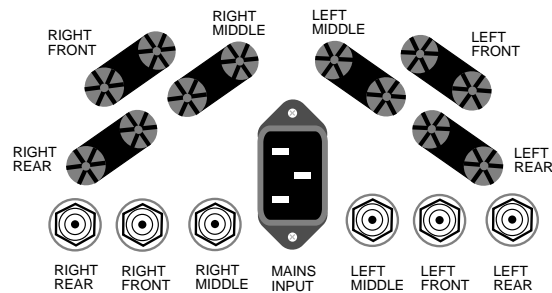
Use RCA style connectors to connect:

- the Right front output from your AV processor to the Right front input phono socket (red)
- the Right middle output from your AV processor to the Right middle input phono socket (silver)
- the Right rear output from your AV processor to the Right rear input phono socket (green)
- the Left front output from your AV processor to the Left front input phono socket (white)
- the Left middle output from your AV processor to the Left middle input phono socket (blue)
- the Left rear output from your AV processor to the Left rear input phono socket (yellow).

## connecting your loudspeakers

Connect your loudspeakers to the following binding posts:

- right front (red)
- right middle (silver)
- right rear (green)
- left front (white)
- left middle (blue)
- left rear (yellow).



# connecting your SPM 3005

You need to connect the outputs from your AV processor to your power amplifier and then connect your power amplifier to your loudspeakers. There are five pairs of inputs that are split into two sections, the top for the front three speakers and the bottom for the two rear speakers.

You can connect to either the XLR or RCA outputs, but not to both types at the same time. All connections should be made with the power turned off.

There are also two RS232 ports for connection to a Creston™ or similar audio visual remote control system. They are connected in parallel so that they can be used as inputs or outputs to link to another piece of equipment.

## **connecting to your power amplifier using XLR style inputs**

Use XLR style connectors to connect:

- the Right front output from your AV processor to the Right front balanced input
- the Centre output from your AV processor to the Centre balanced input
- the Left front output from your AV processor to the Left front balanced input
- the Right rear output from your AV processor to the Right rear balanced input
- the Left rear output from your AV processor to the Left rear balanced input.

## **connecting to your power amplifier using unbalanced RCA style inputs**

Use RCA style connectors to connect:

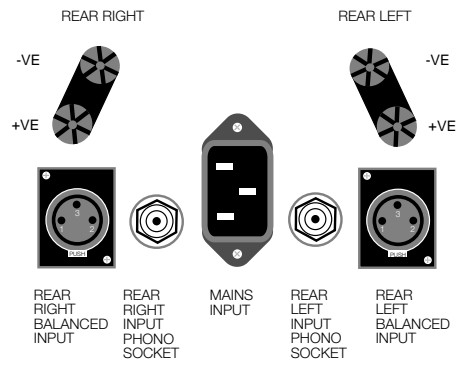
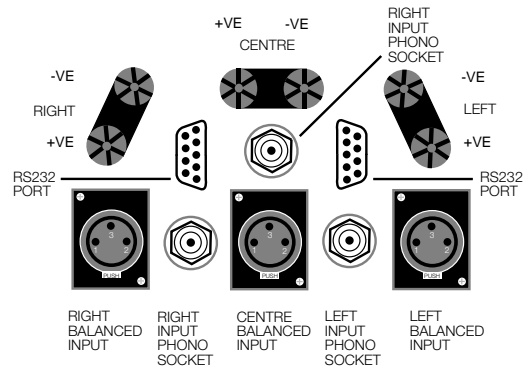
- the Right front output from your AV processor to the Right front phono socket
- the Centre output from your AV processor to the Centre phono socket
- the Left front output from your AV processor to the Left front phono socket
- the Right rear output from your AV processor to the Right rear phono socket
- the Left rear output from your AV processor to the Left rear phono socket

## **connecting your loudspeakers**

Connect your loudspeakers to the right front, centre, left front, rear right and rear left binding posts.

See Figure F on page 24.

multi-channel power amplifiers



# Crestron Remote Control System™ for the SPM 3005

## **setup**

You can use the Crestron system to remotely switch on your SP3005 from standby and back to standby again. To do this you need to enter the following codes (in capital letters) for the remote:

For amplifier 'On' use CA0

For amplifier 'Off' use CA1

The following communications modes must also be set:

Baud: 9600

Stop Bit: 1

No Parity

## **using the remote control function**

In order for the remote to turn your amplifier off and on from standby, the power button on the amplifier must be turned on. When you use the remote you will experience a delay of about 12 seconds, this is to allow the amplifier to stabilise.



# everyday use of the SPM 600 SPM 1200C SPM 1200E SPM 1400E SPM 6000

## **turning on your amplifier**

1. When you plug your amplifier into the mains the power indicator on the front panel will glow red which means that the amplifier is in standby mode.
2. Press the power button beneath the power indicator and it will then glow green indicating that the amplifier is ready for use.
3. If you then press speaker button A or B there will be a delay of about 12 seconds before you hear the signal. This is to allow the amplifier to stabilise. The loudspeaker indicators (A or B) on the front panel will then illuminate blue.

## **automatic shutdown**

1. If there is a major overload or short circuit the amplifier will shut down automatically and the power indicator will fade and switch to red. The amplifier should be immediately switched off at the mains.
2. When the fault has been rectified the amplifier can be switched on and will power up as usual. You should wait at least two minutes before turning the amplifier on again at the mains to allow the power supply protection circuitry to reset itself.

# everyday use of the SPM 4000 SPM 5000 SPM 12000

## **turning on your amplifier**

1. When you plug your amplifier into the mains the power indicator on the front panel will glow red which means that the amplifier is in standby mode.
2. Press the power button beneath the power indicator and it will then glow green indicating that the amplifier is ready for use.
3. There will be a delay of about 12 seconds before you hear the signal. This is to allow the amplifier to stabilise.
4. The left and right channel indicators light up to show clipping (distortion of the signal). When the first indicator lights up it means you are just below the onset of clipping. Full clip is shown by the red indicator lighting up. To prevent clipping reduce the level of the input source.

## **automatic shutdown**

1. If there is a major overload or short circuit the amplifier will shut down automatically and the power indicator will fade and switch to red. The amplifier should be immediately switched off at the mains.
2. When the fault has been rectified the amplifier can be switched on and will power up as usual. You should wait at least two minutes before turning the amplifier on again at the mains to allow the power supply protection circuitry to reset itself.

# everyday use of the SPM 603 SPM 1203

## **turning on your amplifier**

1. When you plug your amplifier into the mains the power indicator on the front panel will glow red which means that the amplifier is in standby mode.
2. Press the power button beneath the power indicator and it will then glow green indicating that the amplifier is ready for use.
3. Press the C (centre) button and the L/R (left/right) button for home cinema sound or turn off the centre speaker if you are listening to a stereo audio source such as a CD. There will be a delay of about 12 seconds before you hear the signal. This is to allow the amplifier to stabilise.

## **automatic shutdown**

1. If there is a major overload or short circuit the amplifier will shut down automatically and the power indicator will fade and switch to red. The amplifier should be immediately switched off at the mains.
2. When the fault has been rectified the amplifier can be switched on and will power up as usual. You should wait at least two minutes before turning the amplifier on again at the mains to allow the power supply protection circuitry to reset itself.

# everyday use of the SPM 1900 SPM 2000

## **turning on your amplifier**

1. When you plug your amplifier into the mains the power indicator on the front panel will glow red which means that the amplifier is in standby mode.
2. Press the power button beneath the power indicator and it will then glow green indicating that the amplifier is ready for use.
3. Press the Front button and the Amb (Ambient) button for home cinema sound or turn off the Ambient speakers if you are listening to a stereo audio source such as a CD. There will be a delay of about 12 seconds before you hear the signal. This is to allow the amplifier to stabilise.

## **automatic shutdown**

1. If there is a major overload or short circuit the amplifier will shut down automatically and the power indicator will fade and switch to red. The amplifier should be immediately switched off at the mains.
2. When the fault has been rectified the amplifier can be switched on and will power up as usual. You should wait at least two minutes before turning the amplifier on again at the mains to allow the power supply protection circuitry to reset itself.

# everyday use of the SPM 3005

## **turning on your amplifier**

1. When you plug your amplifier into the mains the power indicator on the front panel will glow red which means that the amplifier is in standby mode.
2. Press the power button beneath the power indicator and it will then glow green indicating that the amplifier is ready for use.
3. There will be a delay of about 12 seconds before you hear the signal. This is to allow the amplifier to stabilise. The red indicator will illuminate.
4. The five blue indicators light up to show if clipping (distortion of the signal) occurs on each of the five channels. To prevent clipping reduce the level of the input source.

## **automatic shutdown**

1. If there is a major overload or short circuit the amplifier will shut down automatically and the power indicator will fade and switch to red. The amplifier should be switched off immediately at the mains.
2. When the fault has been rectified the amplifier can be switched on and will power up as usual. You should wait at least two minutes before turning the amplifier on again at the mains to allow the power supply protection circuitry to reset itself.

# wiring diagrams

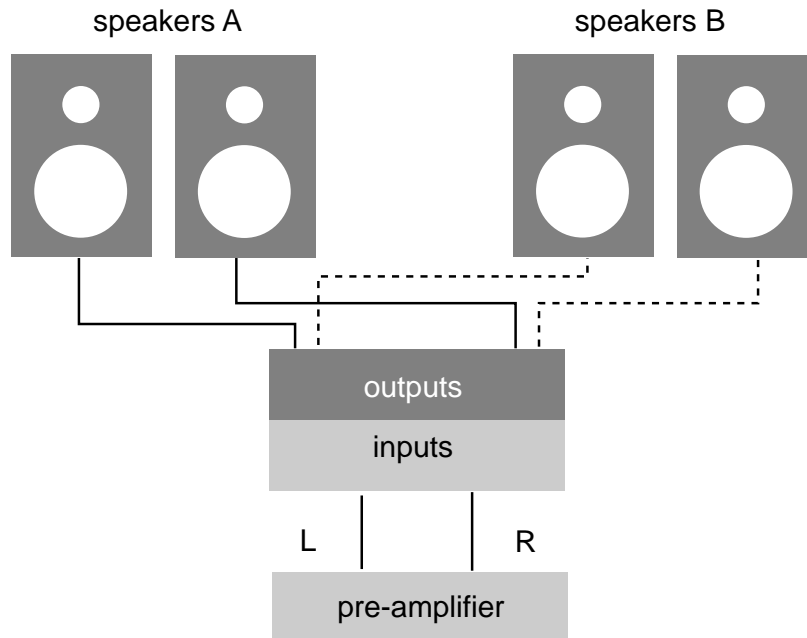


Figure A: Using your system to run two sets of loudspeakers in different rooms

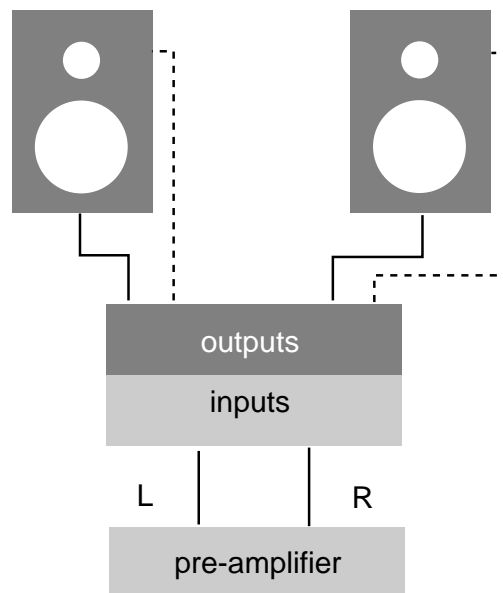


Figure B: Bi-wiring your main loudspeakers using one power amplifier

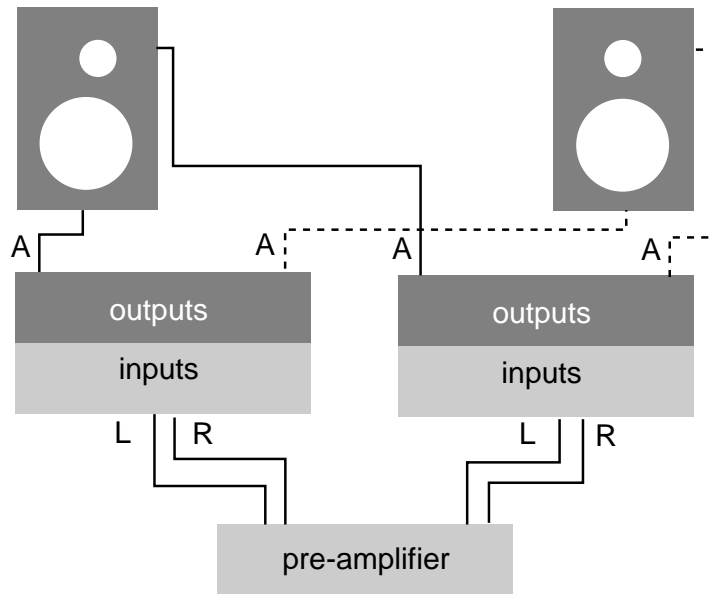


Figure C: Bi-amping using two identical power amplifiers

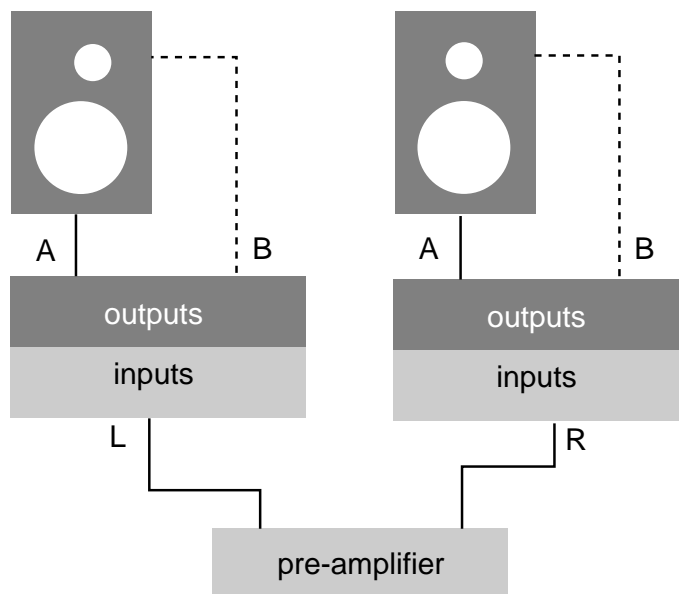
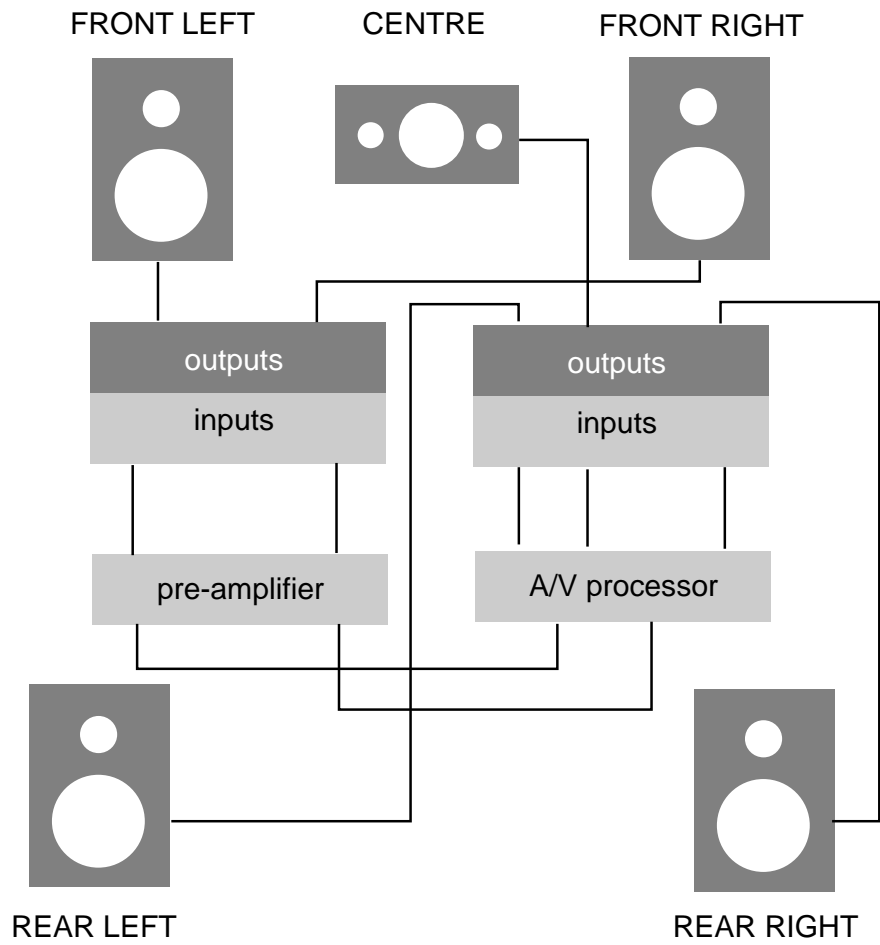
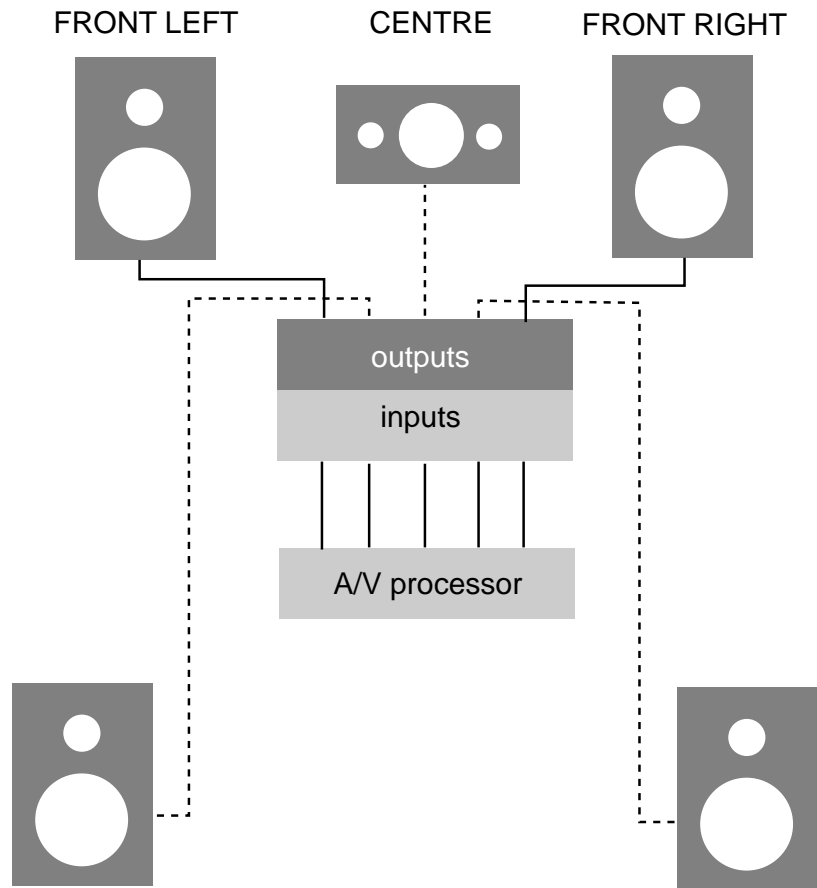


Figure D: Bi-wiring using mono amplifiers



**Figure E: Adding 3 channels to a stereo system**





**Figure F: Using a 5 channel amplifier**

# maintenance

## **cleaning**

To clean finger marks and other blemishes from your amplifier spray clear glass cleaner onto a soft lint free cloth and then use the cloth to gently clean your amplifier.

## **servicing**

There are no user serviceable parts in your Chord amplifier, and it should only be serviced by Chord Electronics Limited or their expressly approved Service Agents.

# frequently asked questions

**My amplifier is switched on but there is no sound**

Have you pressed the correct speaker switch?

**The amplifier is on and the switches are on but there is no sound coming out**

Have you pressed the correct output from your pre-amplifier.

**The sound is vague and ill defined**

Check that both loudspeakers are connected in phase (+ve to +ve and -ve to -ve) on both sides.

**There is a buzzing sound coming from the loudspeakers**

The system may not be properly earthed or the interconnect cables may be running near to mains cables.

**I have bi-amped my loudspeakers but my amplifiers keep shutting down as soon as I turn them on**

Have you removed the bi-wire links in the back of the loudspeakers?

**I have connected my 3 channel amplifier to my processor and the main left and right out of my AV processor in to my hi-fi, but there is very little sound coming out of the left and right speakers**

Have you set the volume on your stereo pre-amplifier to the correct gain to match the other channels in the system?

power amplifiers technical information		
	SPM 600	SPM 1200C
<b>output power</b>	130W rms per channel	315W rms per channel
	@0.05% into 8	@0.02% into 8
	170W rms per channel into 4	470W rms per channel into 4
	Thermal limitation only, 1 channel driven	Thermal limitation only, 1 channel driven
<b>dynamic headroom</b>	200W rms per channel into 8	440W rms per channel into 8
	360W rms per channel into 4	780W rms per channel into 4
<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 46kHz	-1dB, 0.2Hz to 41kHz
	-3dB, 0.1Hz to 77kHz	-3dB, 0.1Hz to 89kHz
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 39kHz	-1dB, 0.2Hz to 41kHz
	-3dB, 0.1Hz to 75kHz	-3dB, 0.1Hz to 79kHz
<b>signal to noise ratio</b>	better than -103dB, 'A' weighted two thirds power	better than -103dB, 'A' weighted two thirds power
<b>channel separation</b>	better than 95dB	better than 90dB
<b>pre-amplifier</b>	2 x gold-plated fully balanced	2 x gold-plated fully balanced
<b>input connections</b>	XLR sockets. 2 x gold-plated	XLR sockets. 2 x gold-plated
	RCA phono sockets, unbalanced	RCA phono sockets, unbalanced
<b>input impedance</b>	100k   . Unbalanced/Balanced	56k   . Unbalanced, 112   Balanced
<b>input capacitance</b>	<30pf	<30pf
<b>output impedance</b>	0.02	0.03
<b>output inductance</b>	2.6µH	2.6µH
<b>output connections</b>	8 x 4mm rhodium binding posts	8 x 4mm gold WBT binding posts
	(2 pairs A, 2 pairs B)	(2 pairs A, 2 pairs B)
<b>slew rate</b>	70V per µS, 1kHz	70V per µS, 1kHz
	20V square wave	20V square wave
<b>gain</b>	30dB	30dB
<b>stability</b>	unconditional	unconditional
<b>dimensions</b>	420mm (w) x 355mm (d) x 88mm (h)	480mm (w) x 355mm (d) x 165mm (h)
<b>dimensions (fitted with integra legs)</b>	480mm (w) x 355mm (d) x 150mm (h)	480mm (w) x 405mm (d) x 133mm (h)
<b>weight</b>	9kg	20kg
	(13kg with 4 leg integra)	(24kg with 4 leg integra)

**power amplifiers technical information**

	<b>SPM 1200E</b>	<b>SPM 1400E</b>
<b>output power</b>	350W rms per channel	480W rms per channel
	@ 0.02% into 8	@ 0.02% into 8
	620W rms per channel into 4	800W rms per channel into 4
	750W rms per channel into 2	1000W rms per channel into 2
	Thermal limitation only, 1 channel driven	Thermal limitation only, 1 channel driven
<b>dynamic headroom</b>	440W rms per channel into 8	550W rms per channel into 8
	780W rms per channel into 4	900W rms per channel into 4
<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 41kHz	as 1200E
	-3dB, 0.1Hz to 89kHz	
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 41kHz	as 1200E
	-3dB, 0.1Hz to 79kHz	
<b>signal to noise ratio</b>	better than -103dB, 'A' weighted two thirds power	as 1200E
<b>channel separation</b>	better than 90dB	as 1200E
<b>pre-amplifier input connections</b>	2 x gold-plated fully balanced XLR sockets. 2 x gold-plated RCA phono sockets, unbalanced	as 1200E
<b>input impedance</b>	56k   . Unbalanced, 112   Balanced	as 1200E
<b>input capacitance</b>	<30pf	as 1200E
<b>output impedance</b>	0.03	as 1200E
<b>output inductance</b>	2.6μH	as 1200E
<b>output connections</b>	8 x WBT binding posts (2 pairs A, 2 pairs B)	4 x WBT binding posts (2 pairs A, 2 pairs B)
<b>slew rate</b>	70V per μS, 1kHz 20V square wave	as 1200E
<b>gain</b>	30dB	as 1200E
<b>stability</b>	unconditional	as 1200E
<b>dimensions</b>	420mm (w) x 355mm (d) x 150mm (h)	as 1200E
<b>dimensions (fitted with integra)</b>	480mm (w) x 355mm (d) x 185mm (h)	as 1200E
<b>weight</b>	22kg	24kg
	(26kg with 4 leg integra)	(28kg with 4 leg integra)

**power amplifiers technical information**

	<b>SPM 4000</b>	<b>SPM 5000</b>
<b>output power</b>	2 x 490W rms per channel	2 x 580W rms per channel
	@ 0.05% distortion into 8	@ 0.05% distortion into 8
	2 x 810W rms per channel	2 x 900W rms per channel
	@ 0.05% distortion into 4	@ 0.05% distortion into 4
	Thermal limitation only, 1 channel driven	Thermal limitation only, 1 channel driven
<b>dynamic headroom</b>	625W rms per channel into 8	650W rms per channel into 8
	1250W rms per channel into 4	1300W rms per channel into 4
<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 41kHz	-1dB, 0.2Hz to 46KHz
	-3dB, 0.1Hz to 89kHz	-3dB, 0.1Hz to 77kHz
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 41kHz	-1dB, 0.2Hz to 39KHz
	-3dB, 0.1Hz to 79kHz	-3dB, 0.1Hz to 75kHz
<b>signal to noise ratio</b>	better than -103dB, 'A' weighted two thirds power	better than -103dB, 'A' weighted two thirds power
<b>channel separation</b>	better than 95dB	better than 95dB
<b>pre-amplifier input connections</b>	2 x gold-plated fully balanced XLR sockets. 2 x gold-plated RCA phono sockets, unbalanced	2 x gold-plated fully balanced XLR sockets. 2 x gold-plated RCA phono sockets, unbalanced
<b>input impedance</b>	100k   . Unbalanced or Balanced	100k   . Unbalance or Balanced
<b>input capacitance</b>	<30pf	<30pf
<b>output impedance</b>	0.01	0.01
<b>output inductance</b>	1.6μH	1.6μH
<b>output connections</b>	8 x gold-plated WBT binding posts	8 x gold-plated WBT binding posts
<b>slew rate</b>	70V per μS, 1kHz 20V square wave	70V per μS, 1kHz 20V square wave
<b>gain</b>	30dB	33dB
<b>stability</b>	unconditional	unconditional
<b>dimensions</b>	480mm (w) x 355mm (d) x 320mm (h)	480mm (w) x 355mm (d) x 320mm (h)
<b>weight</b>	40kg	55kg

<b>power amplifiers technical information</b>		
	<b>SPM 6000</b>	<b>SPM 12000</b>
<b>output power</b>	750W rms per channel	2 x 800W rms per channel
	@ 0.02% distortion into 8	@ 0.05% distortion into 8
	1500W rms per channel into 4	2 x 1600W rms per channel
	@ 0.05% distortion into 4	@ 0.05% distortion into 4
	3000W rms per channel into 2	2 x 3200W rms per channel
	@ 0.05% distortion into 2	@ 0.05% distortion into 2
	Thermal limitation only	Thermal limitation only, 1 channel driven
<b>dynamic headroom</b>	1000W rms per channel into 8	900W rms per channel into 8
	18000W rms per channel into 4	1800W rms per channel into 4
<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 41kHz	-1dB, 0.2Hz to 46KHz
	-3dB, 0.1Hz to 89kHz	-3dB, 0.1Hz to 77kHz
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 41kHz	-1dB, 0.2Hz to 39KHz
	-3dB, 0.1Hz to 79kHz	-3dB, 0.1Hz to 75kHz
<b>signal to noise ratio</b>	better than -103dB, 'A' weighted two thirds power	better than -103dB, 'A' weighted two thirds power
<b>channel separation</b>		better than 95dB
<b>pre-amplifier</b>	2 x gold-plated fully balanced	2 x gold-plated fully balanced
<b>input connections</b>	XLR sockets, 2 x gold-plated	XLR sockets, 2 x gold-plated
	RCA phono sockets, unbalanced	RCA phono sockets, unbalanced
<b>input impedance</b>	100k   . Unbalanced, 50k   Balanced	100k   . Unbalanced or Balanced
<b>input capacitance</b>	<30pf	<30pf
<b>output impedance</b>	0.03	0.01
<b>output inductance</b>	2.6µH	1.6µH
<b>output connections</b>	4 x gold-plated WBT binding posts	4 x gold-plated WBT heavy duty locking binding posts
<b>slew rate</b>	70V per µS, 1kHz	70V per µS, 1kHz
	20V square wave	20V square wave
<b>gain</b>	30dB	30dB
<b>stability</b>	unconditional	unconditional
<b>dimensions</b>	480mm (w) x 668mm (d) x 180mm (h)	480mm (w) x 668mm (d) x 440mm (h)
<b>weight</b>	48kg	90kg

power amplifiers technical information		
	SPM 603	SPM 1203
<b>output power</b>	1 x 200W rms per channel	1 x 330W rms per channel
	@ 0.03% distortion into 8	@ 0.03% distortion into 8
	2 x 130W rms per channel	2 x 250W rms per channel
	@ 0.03% distortion into 8	@ 0.03% distortion into 8
<hr/>		
<b>dynamic headroom</b>	1 x 270W rms into 8	1 x 440W rms into 8
	2 x 170W rms into 8	2 x 330W rms into 8
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<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 46KHz	-1dB, 0.2Hz to 46KHz
	-3dB, 0.1Hz to 77kHz	-3dB, 0.1Hz to 77kHz
<hr/>		
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 39KHz	-1dB, 0.2Hz to 39KHz
	-3dB, 0.1Hz to 75kHz	-3dB, 0.1Hz to 75kHz
<hr/>		
<b>signal to noise ratio</b>	better than -103dB,	better than -103dB,
	'A' weighted two thirds power	'A' weighted two thirds power
<hr/>		
<b>channel separation</b>	better than 95dB	better than 95dB
<hr/>		
<b>pre-amplifier input connections</b>	3 x gold-plated custom gold-plated	3 x gold-plated custom gold-plated
	RCA style phono sockets	RCA style phono sockets
<hr/>		
<b>input impedance</b>	100k   . Unbalanced or Balanced	100k   . Unbalanced or Balanced
<hr/>		
<b>input capacitance</b>	<30pf	<30pf
<hr/>		
<b>output impedance</b>	0.03	0.03
<hr/>		
<b>output inductance</b>	2.6μH	2.6μH
<hr/>		
<b>output connections</b>	6 x 4mm rhodium binding posts	6 x 4mm rhodium binding posts
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<b>slew rate</b>	70V per μS, 1kHz	70V per μS, 1kHz
	20V square wave	20V square wave
<hr/>		
<b>gain</b>	30dB	30dB
<hr/>		
<b>stability</b>	unconditional	unconditional
<hr/>		
<b>dimensions</b>	480mm (w) x 335mm (d) x 133mm (h)	480mm (w) x 335mm (d) x 133mm (h)
<hr/>		
<b>weight</b>	10kg	14kg



**power amplifiers technical information**

	<b>SPM 1900</b>	<b>SPM 2000</b>
<b>output power</b>	4 x 130W rms per channel + 1 x 160W rms per channel @ 0.05% distortion into 8   4 x 170W + 1 x 200W into 4   thermal limitation only, 1 channel driven	6 x 160W rms per channel @ 0.05% distortion into 8   2 x 200W rms per channel @ 0.05% distortion into 8   thermal limitation only, 1 channel driven
<b>dynamic headroom</b>	200W rms per channel into 8   360W rms per channel into 4	280W rms per channel into 8   360W rms per channel into 4
<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 46kHz -3dB, 0.1Hz to 77kHz	-1dB, 0.2Hz to 46kHz -3dB, 0.1Hz to 77kHz
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 39kHz -3dB, 0.1Hz to 75kHz	-1dB, 0.2Hz to 39kHz -3dB, 0.1Hz to 75kHz
<b>signal to noise ratio</b>	better than -98dB, 'A' weighted two thirds power	better than -103dB, 'A' weighted two thirds power
<b>channel separation</b>	better than 95dB	better than 90dB
<b>pre-amplifier input connections</b>	5 x gold-plated RCA style Phono sockets	6 x gold-plated RCA style Phono sockets
<b>input impedance</b>	100k	100k
<b>input capacitance</b>	<30pf	<30pf
<b>output impedance</b>	0.03	0.01
<b>output inductance</b>	2.6μH	2.6μH
<b>output connections</b>	10 x gold-plated binding posts	12 x gold-plated WBT binding posts
<b>slew rate</b>	70V per μS, 1kHz 20V square wave	70V per μS, 1kHz 20V square wave
<b>gain</b>	30dB	33dB
<b>stability</b>	unconditional	unconditional
<b>dimensions</b>	420mm (w) x 355mm (d) x 133mm (h)	480mm (w) x 335mm (d) x 133mm (h)
<b>weight</b>	18kg	18kg

**power amplifiers technical information****SPM 3005**

<b>output power</b>	4 x 300W rms per channel @ 0.05% distortion into 8   1 x 350W rms per channel @ 0.05% distortion into 8   thermal limitation only, 1 channel driven
<b>dynamic headroom</b>	1 x 440W rms into 8   4 x 390W
<b>frequency response (8 ohms)</b>	-1dB, 0.2Hz to 46KHz -3dB, 0.1Hz to 77kHz
<b>frequency response (4 ohms)</b>	-1dB, 0.2Hz to 39KHz -3dB, 0.1Hz to 75kHz
<b>signal to noise ratio</b>	better than -103dB, 'A' weighted two thirds power
<b>channel separation</b>	better than 95dB
<b>pre-amplifier input connections</b>	5 x fully balanced XLR sockets 5 x gold-plated RCA style Phono sockets
<b>input impedance</b>	100k   . Unbalanced or Balanced
<b>input capacitance</b>	<30pf
<b>output impedance</b>	0.01
<b>output inductance</b>	1.6μH
<b>output connections</b>	10 x gold-plated WBT binding posts
<b>slew rate</b>	70V per μS, 1kHz 20V square wave
<b>gain</b>	30dB
<b>stability</b>	unconditional
<b>dimensions</b>	420mm (w) x 335mm (d) x 320mm (h)
<b>weight</b>	40kg

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