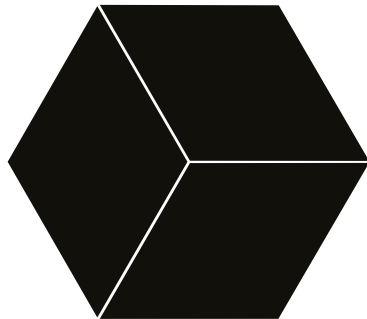# BeoSound Shape

Amplifier and Empty Tile
Type 6307

Speaker Tile
Type 6308

Acoustic Damper Tile
Type 2997

Fabric Cover
Type 6072

Installation Guide
English - version 0.5

Preliminary ver. 0.5

BANG & OLUFSEN

Introduction

BeoSound Shape is a unique scalable wireless speaker system that can be customdesigned and turn high-quality music into an interior art form. It is designed as a modular combination of hexagonal shapes that are combined in a wall decoration, which can be placed on the wall in the size and pattern you prefer. It consists of a combination of Speakers, Amplifiers, Empty and Damper Tiles that you can combine in different patterns, fabrics and colours. The amplifier tile contains the electronics and eight amplifiers. This tile can drive up to 4 speaker tiles. Each speaker tile includes two driver units; one ¾-inch tweeter and a 5 1/4-inch bass/midrange unit.

The speaker system is mend to be set up together with a BeoSound Core, but the amplifier tile together with some speaker tiles can also be connected to other audio sources via Power Link or Optical In.
Embedding BeoSound Core you are able to wirelessly stream high quality music from your mobile device via the latest streaming technologies such as AirPlay, Google Cast or Bluetooth. You also have the BeoLink Multiroom functionality making BeoSound Shape part of the family of products that can play different music in different rooms or let one tune flow throughout your home.

A special cable solution means that although it is an active speaker design with one amplifier per driver, you only need one cable per speaker tile, and you can combine several amplifier and speaker tiles in one coherent system and thereby increase the sound performance. You simply daisy chain from one amplifier tile to the next. You will have tiles that have no speakers or electronics inside but which binds the design into a coherent look and may be hiding BeoSound Core, dampening materials, the cabling or the mains outlet.

There are practically no limitations as to the number of tiles you can have in a design, but we have tested a setup with 44 tiles. Each amplifier tile includes eight amplifiers of each 80 watts so the performance of the system depends on the number of amplifier and speaker tiles you have. Each amplifier tile can drive up to four speaker tiles.

A star rail, which has to hold the design, is easily clicked together with connector rails to create the pattern you want on the plain and vertical wall. This means you can create the placement of the tile s e.g. on the floor before you mount the system on the wall. The Star Rail is screwed into the wall and then you start mounting the tiles with the electronics, the drivers and the cabling. The cabinet holds the cabling in place so the installation looks neat. The Bang & Olufsen Logo badge is created as an attachment in aluminium, which you can easily click on in one of the connectors if you want to on any side of the tiles and on any time, you want to.

The speaker system is designed by the costumer in the Configuration Tool on www.bang-olufsen.com. The design is stored on a BeoCloud account and a PDF with details is created. When the BeoSound Shape is mounted on the costumers wall, the Bang & Olufsen app is used to setup the system with the configuration specialised for exactly this design.

How to use this installation guide

Use this installation guide together with the installation video on
www.bang-olufsen.com/bsshapeuserguide.

This installation guide and the video gives introduction to the product and step by step instructions on how to:

- Mount the BeoSound Shape on the wall.
  For correct placement on the wall see Placement Tool on BeoWise
- First time setup and additional setup of speakers, services and settings.
- Troubleshooting
- Other 'nice to know' subjects are dealt with. Also the connector specifications are shown.

Navigation in this guide

When the guide is opened, it automatically opens in Full Screen Mode (can be left as desired - see below). This is primarily done to optimise the usability of screen reading. There are several ways to navigate when using the guide, see the survey of keys, shortcuts and hot keys below:

↓ / →   (arrow keys on the keyboard) navigates to the next page

↑ / ←   (arrow keys on the keyboard) navigates to the previous page

Esc   (**Esc** button) exits Full Screen Mode (press **Ctrl** + **L** to return to
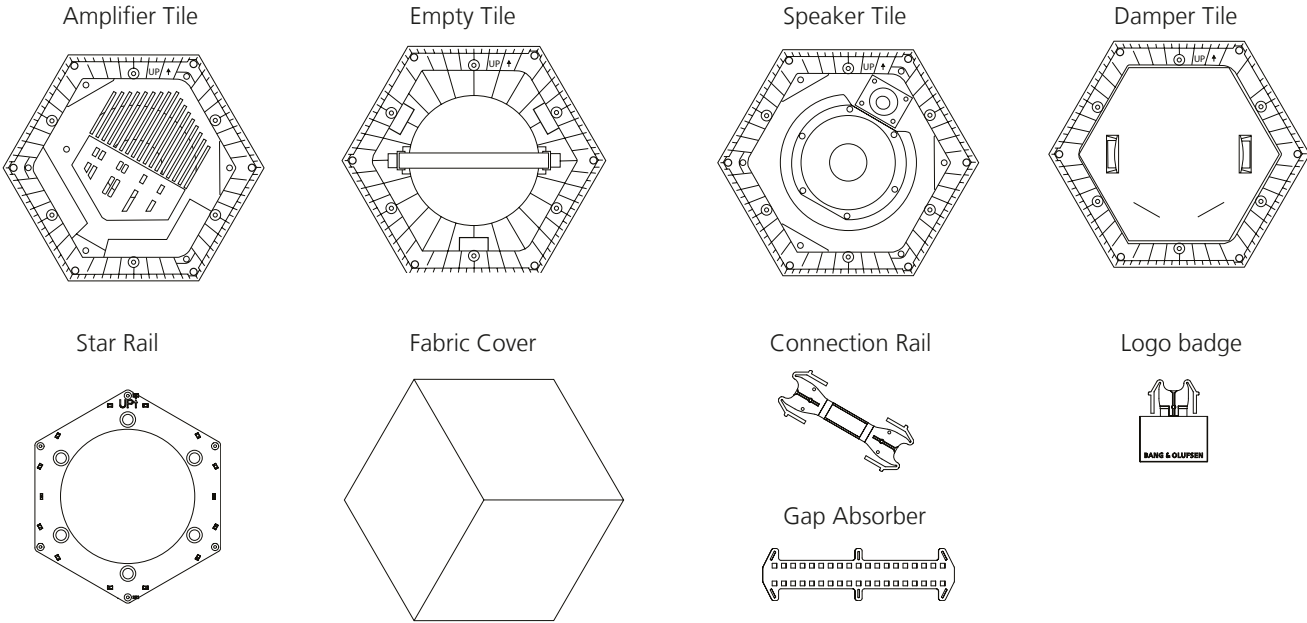   Full Screen Mode).

Another feature to optimise the navigation is the navigation icons at the bottom of the screen (see below for explanation).

←   Navigates you to the previous view

           Navigates you directly to the start page

           Navigates directly to the table of contents (these are active links
           - click the link to be directed directly to the associated section)

           Prints the document - the print dialogue box opens
           (**Ctrl** + **P** also brings up this feature)

Navigation TIP

The right side of this page and the Table of Contents, page 24, acts as an active table of contents. Simply click the subject you want and you are transferred to the section in question.

BeoSound Shape

Amplifier Tile   Empty Tile   Speaker Tile   Damper Tile

Star Rail   Fabric Cover   Connection Rail   Logo badge

Gap Absorber

What is in the package?

Name	Type	Contents
Amplifier*	6307	1 Amplifier tile 1 Empty tile 1 Logo badge
Speaker*	6308	2 Speakers
Damper*	2997	2 Dampers
Fabric Cover	6072	2 fabric Covers

* Also includes: 2 star rails, 4 connection rails, 4 gap absorbers, 5 felt stickers, 2 straps for wires, 12 PT3x18 torx 10 zink screws, 12 washers

Connection panel

Amplifier Tile:

OPTICAL-IN

Digital audio input

USB

USB for control and SW update

COMM IN

Amplifier input (sound & control input), for daisy chaining of amplifiers

COMM OUT

Amplifier output (sound & control output), for daisy chaining of amplifiers
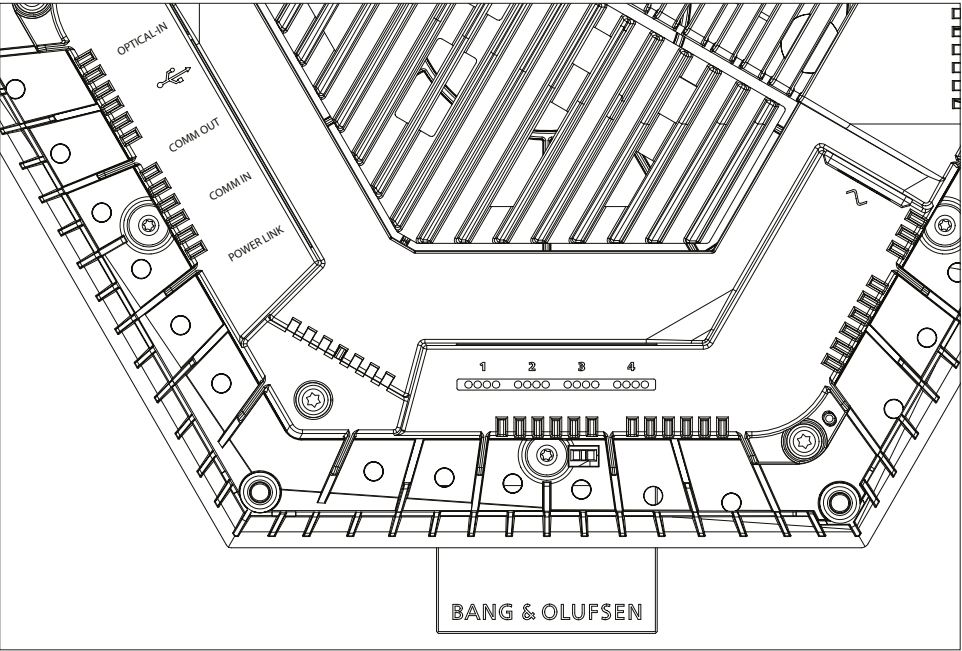
POWER LINK

Power Link input

1-4

4 x speaker 4-wire output

AC power (note if multiple amplifier, each requires its own AC power connection)

Speaker Tile:

1 x speaker 4-wire input

Mounting

Before mounting the BeoSound Shape please se the installations video on www.bang-olufsen.com/bsshapeuserguide and see Placement Tool on BeoWise

Placement conditions

The product is intended for indoor use in dry domestic environments only. Placed on a plane vertical wall. Use within a temperature range of 10-40°C (50-105°F).

Mounting Star Rails

Be aware that the pattern of the final setup is not the same as the pattern only with Star Rails mounted on the wall. This is due to the different shape of the Star Rails and the tiles with front covers (Amplifier, Speaker, Damper and Empty Tiles)
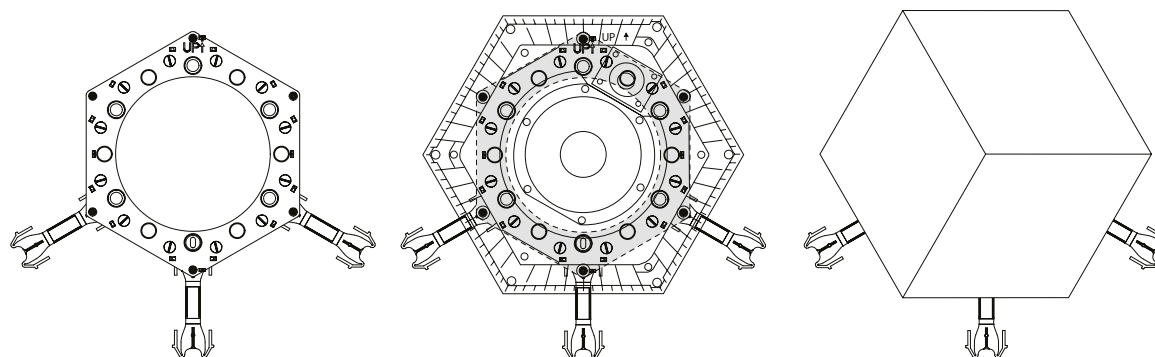
Lay all the Star Rails down on the floor in the chosen pattern according to the PDF document presented in the Configuration tool. Connect all the Star Rails with the Connection Rails.
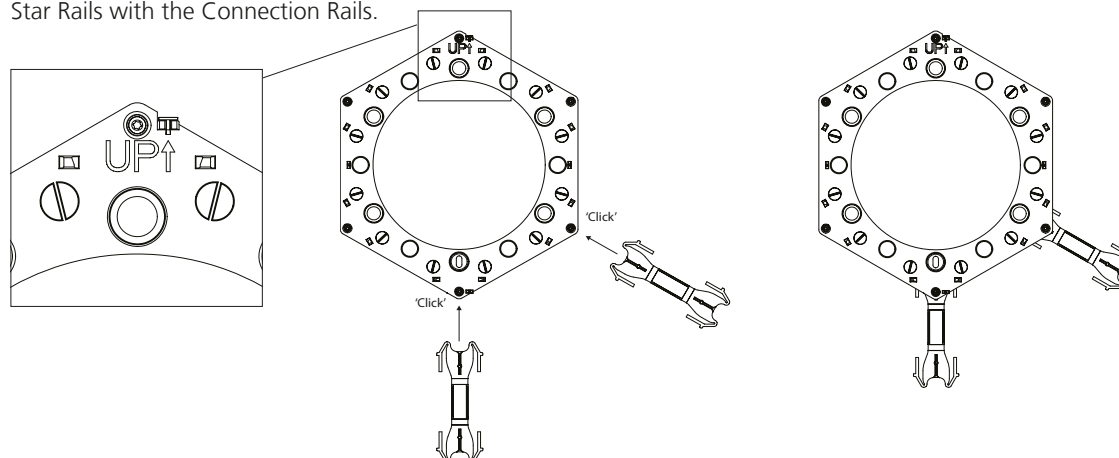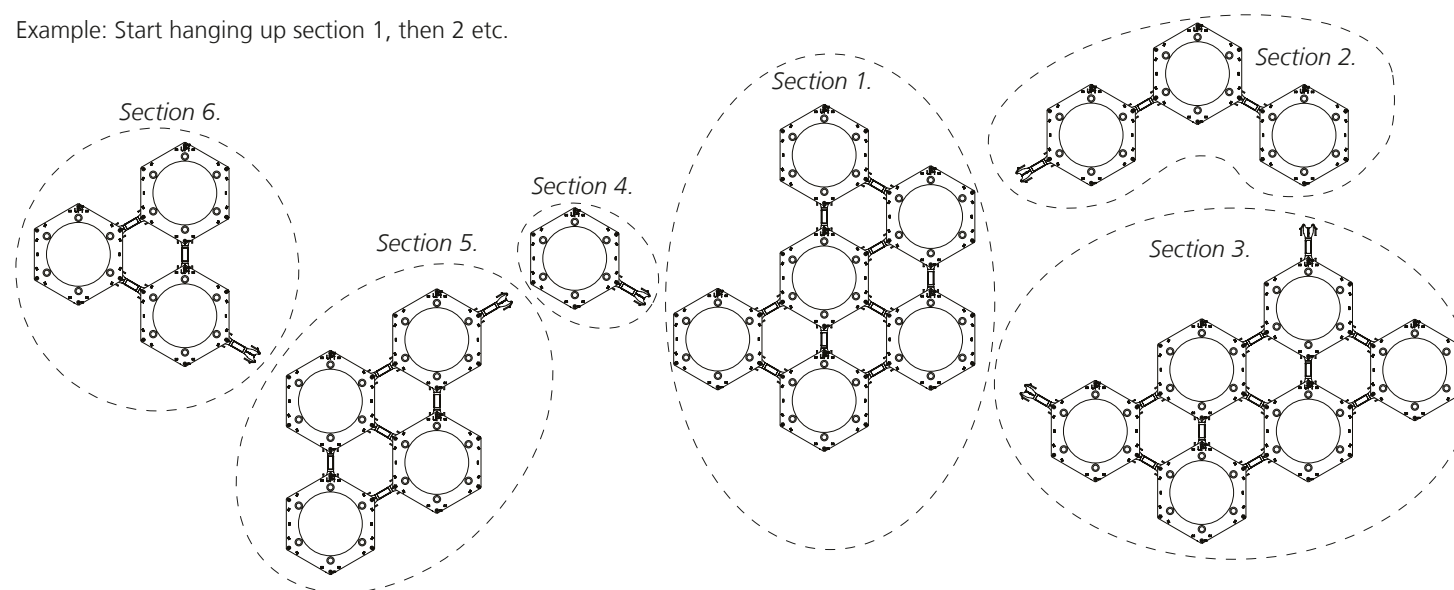
Example of Star Rail setup
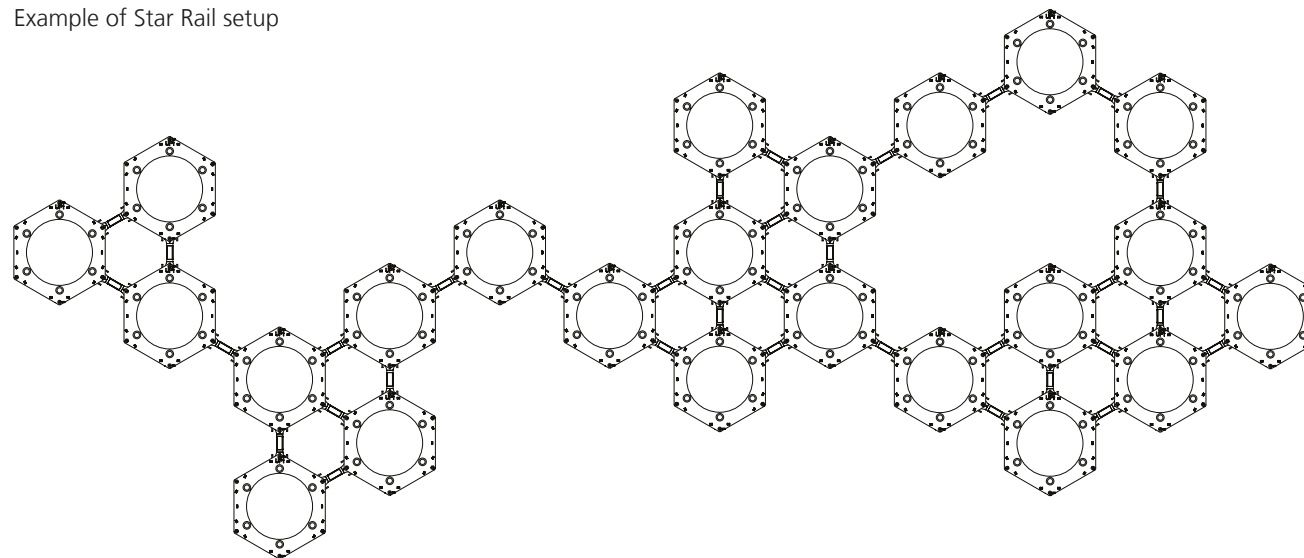
Disconnect the setup into smaller sections, e.g. 3-5 tiles depending on the setup. Start hanging up the most compact part of the setup.

Example: Start hanging up section 1, then 2 etc.

Section 6.

Section 5.

Section 4.

Section 1.

Section 2.

Section 3.

Before mounting the Star Rails, note the placement of the wall socket. Be sure to place the Star Rail for the Empty Tile over the wall socket. An extension cord with extra sockets can be hidden in the Empty Tile.
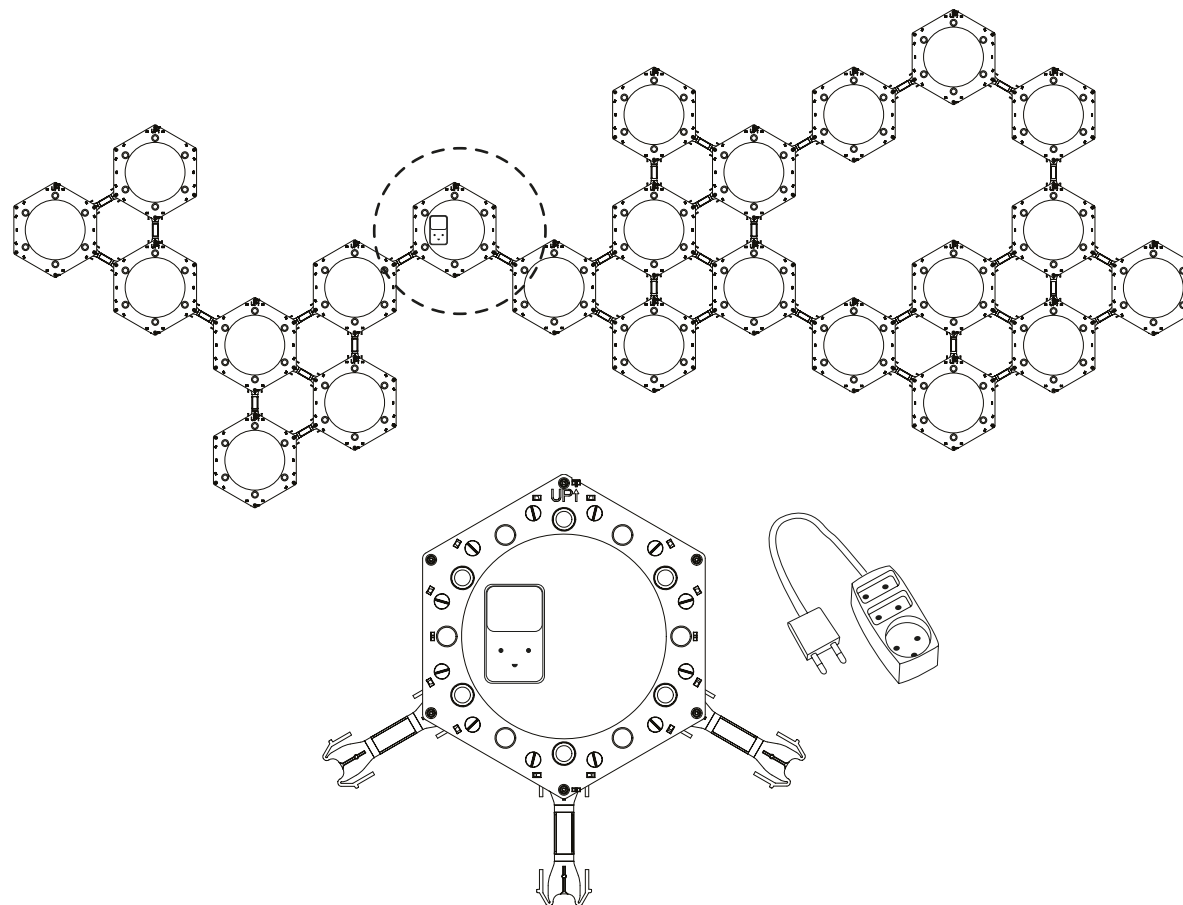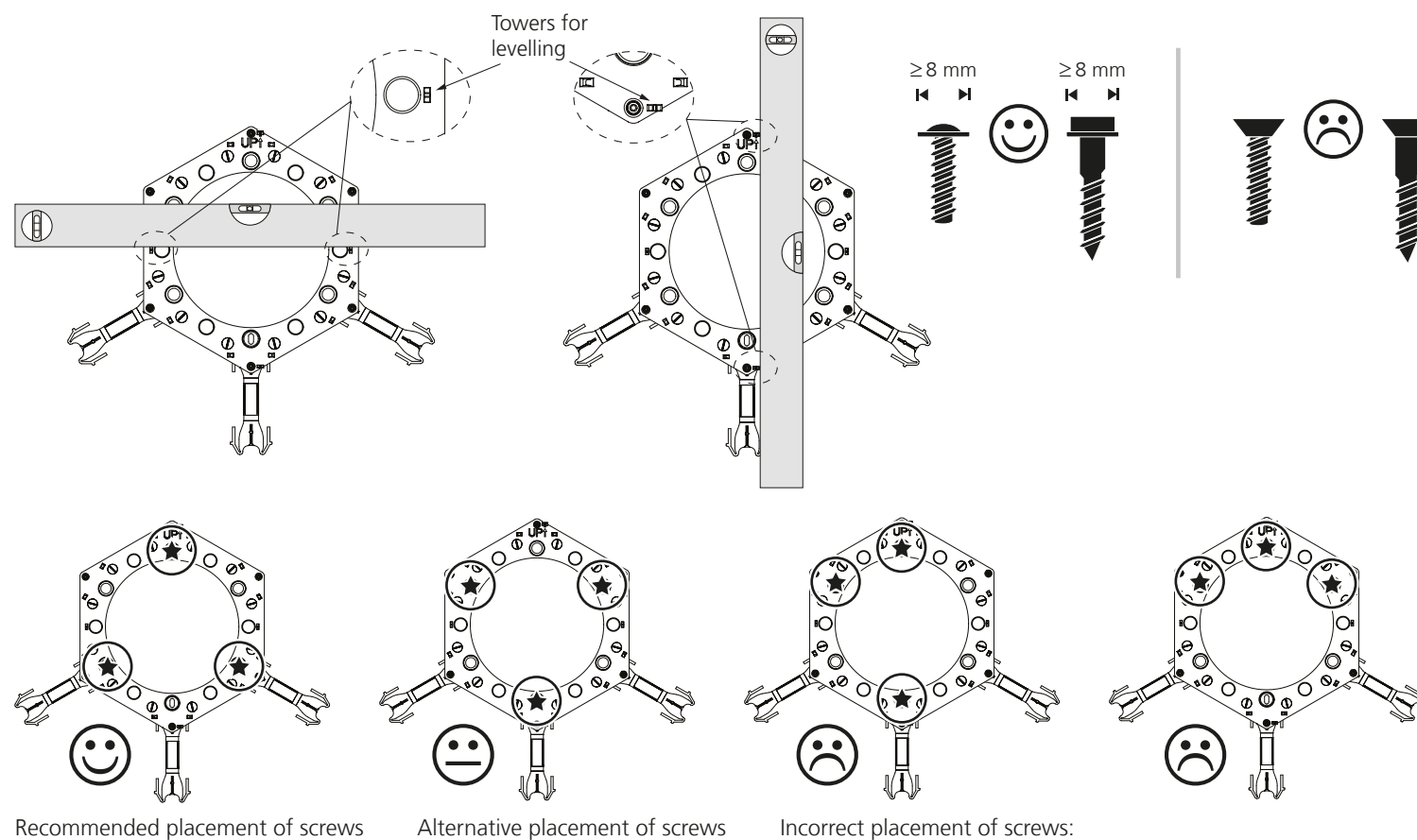

Important

If more than one wall socket is used for the setup, it is important to switch on the socket connected to the Master Amplifier before switching on the ones connected to Slave Amplifiers.

When mounting section 1. Mount one screw and a washer in the top of one of the Star Rails. Use a spirit level to level out the Star Rails, use the towers for levelling. Mount one Screw and washer in the top of each Star Rail. Mount section 2, 3, 4 etc. Mounting one screw in the top of each Star Rail. Use a spirit level before mounting the screws. When all Star Rails are mounted with one screw. Mount at least two more screws and washers in the Star Rail.

Mount at least three screws at each Star Rail in the setup. Use the spirit level at every Star Rail before mounting the screws.

Note, screws for mounting on the wall is not included.

Towers for levelling

≥ 8 mm   ≥ 8 mm

Recommended placement of screws   Alternative placement of screws   Incorrect placement of screws:

Extra supporting Star Rail

If the construction is unstable due to only one Connection Rail between two Star Rails, consider to mount some extra Star Rails and Connection Rails during the mounting.

Important

Mark the extra supporting Star Rail e.g. with tape over the mounting holes. Remember not to mount any screws in the extra supporting Star Rails and remember to remove the supporting Star Rails and the extra Connection Rails before mounting the tiles.

Mounting Bang & Olufsen Logo badge

'Click'   'Click'
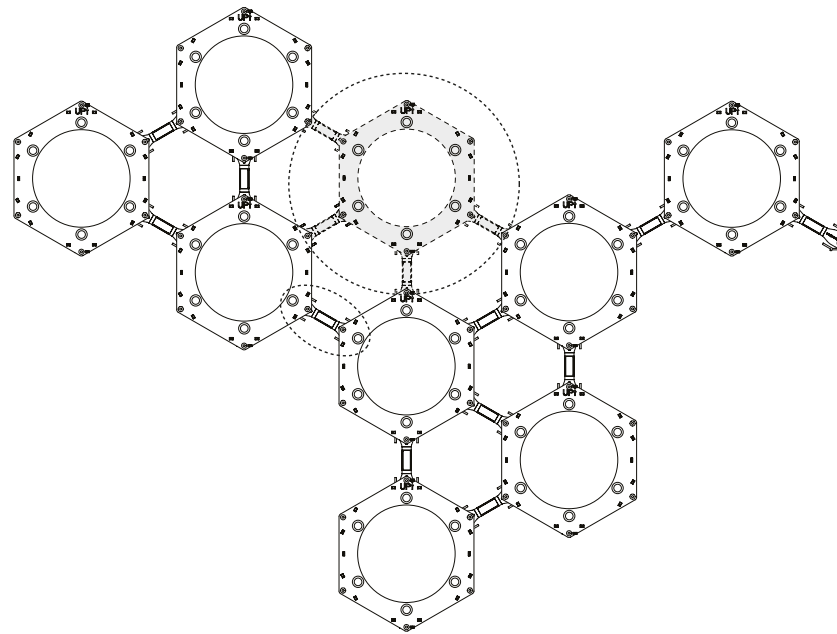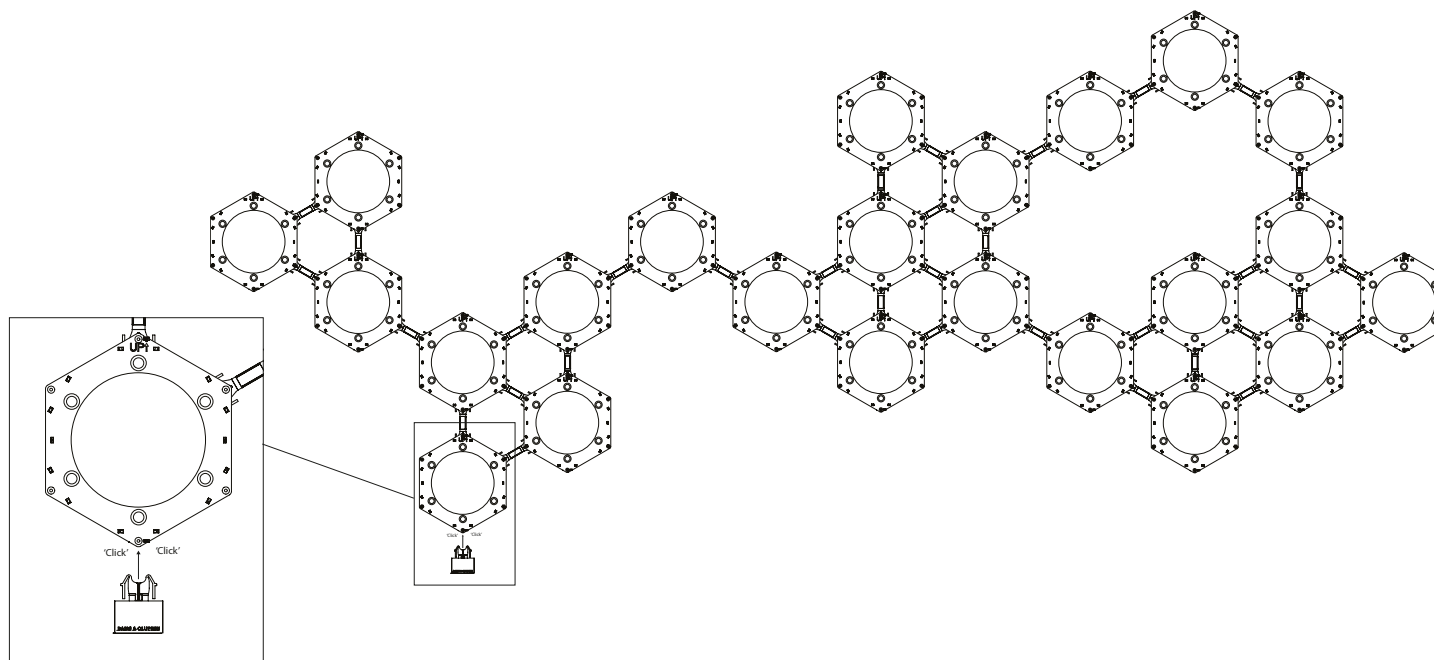
BANG & OLUFSEN

Mounting the tiles

Refer to the Installation Video on www.bang-olufsen.com/bsshapeuserguide.

This page will be updated

Connecting cables

Refer to the Installation Video on www.bang-olufsen.com/bsshapeuserguide.

Attention! Do not bend the Optical cable

Maximum length of Ethernet cable:
Between each Amplifiers, maximum 15 meter.
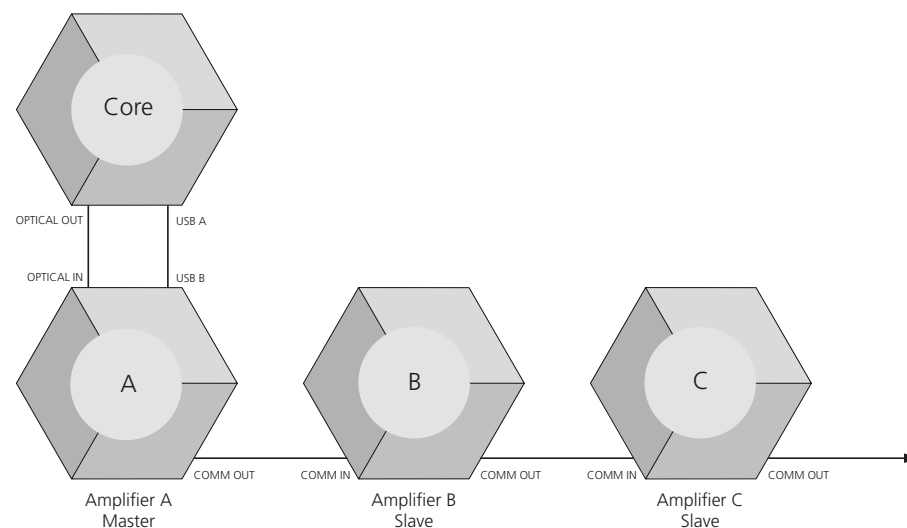Totally length, maximum 40 meter.

How to shorten the signal cables for the speakers

This section will be updated in future release

Multiple amplifier setup

For setups with more than one amplifier, the amplifiers must be bridged together with a RJ45 cable.
E.g.: Amplifier A Comm out has to be connected to Amplifier B Comm in. Amplifier B Comm out has to be connected to Amplifer C Comm in etc.

Core

OPTICAL OUT   USB A

OPTICAL IN   USB B

A   B   C

COMM OUT   COMM IN   COMM OUT   COMM IN   COMM OUT

Amplifier A   Amplifier B   Amplifier C
Master   Slave   Slave

Mount fabric cover

Place the fabric covers on the cabinet and press gently to attach the fabric covers.

Note the fabric pattern, must be identical on all tiles. It is recommended to place front covers with Kvadrat fabric with the texture as shown on the drawing below.
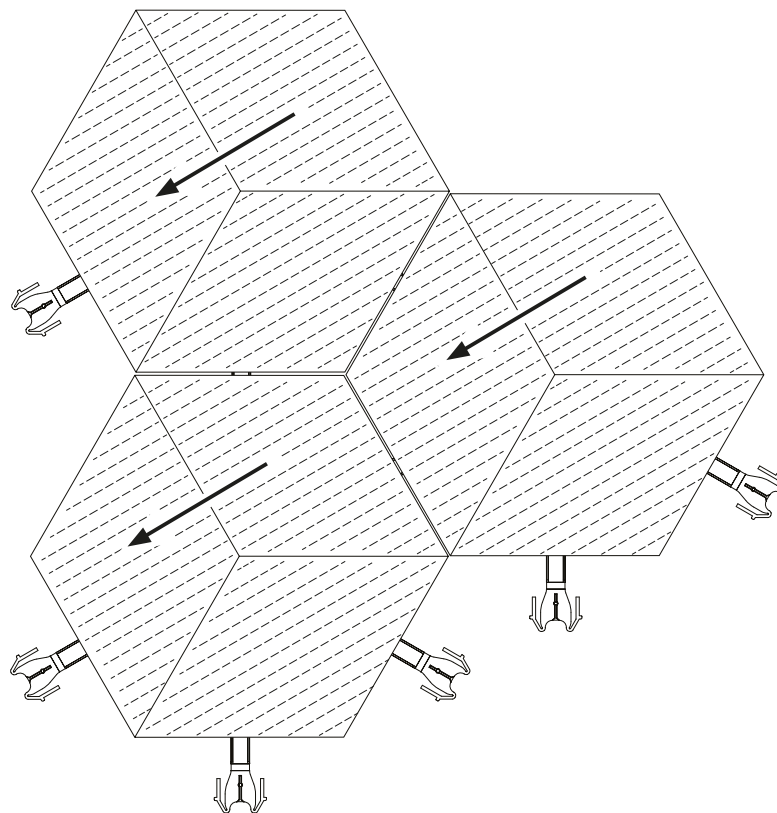
First time setup

For First time setup, refer to the Installation Video on www.bang-olufsen.com/bsshapeuserguide.

Alternative Setup

This page will be updated in future release

Software update

Software can be checked and updated via the Bang & Olufsen app.

Automatic software update

Is per default (factory reset) set to On and can be set to Off (not recommendable).

A check for new updates are made every night (local time) somewhere between T00:00 and T06:00 and takes only place if automatic update is set to On, and if BeoSound Shape is in Standby mode.

In the following setups, it may be relevant to set automatic update to Off: - Hotels; - Retailers; - Home Automation setup; and - test environments, as if an update takes place either in BeoSound Shape or in another network link product all other network link products will then ask if they should also be updated. This may be unlikely in certain situations. If automatic SW update is set to Off, then check for updates regularly, when ready to take updates.

## Web interface access to the BeoSound Shape

You can get access to the Web interface via the Bang & Olufsen app or by using a computer.

Using a computer the BeoSound Shape must be connected by a LAN cable to the home router/AP and the computer must likewise be connected to the home router/AP either by a LAN cable or wirelessly. Hand held devices with a web browser may also be used and connected to the home router/AP.

The hand held device/computer gets access to the Web server using a web-browser (Google Chrome or Safari) and in the address field enter: http://< BeoSound Shape IP address>, where

-    <BeoSound Shape IP address> = the address assigned by the home router.

The <BeoSound Shape IP address> can be found using a freeware program, either "Discover digital networks" or "Fing".
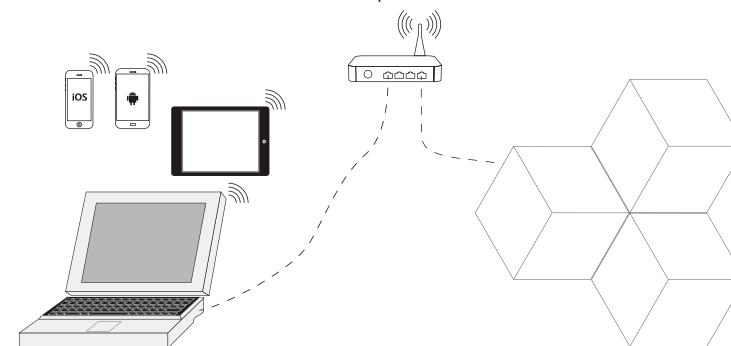
Troubleshooting

This page will be updated in future release

LED indications

Description	LED Indicator on the Amplifier	
	Master	Slave
Starting up	Pulsing white	Pulsing magenta
Product On	Solid white for 3 seconds then off	Solid magenta for 3 seconds then off
Product warning 1	Pulsing yellow	Pulsing yellow
Product warning 2	Flashing yellow	Flashing yellow
Product error	Flashing red	Flashing red
Product entering standby	Pulsing red for 3 seconds then off	Pulsing red for 3 seconds then off
Product in standby	Off	Off
During software update	Pulsing red	Pulsing red

Technical specifications

Designer:

Øivind Alexander Slaatto

Maximum number of Amplifier Tiles: 11
Maximum number of Speaker Tiles: 44
Maximum number of Acoustic Damper Tiles: unlimited

Materials:

Lightweight composite casing and fabric covers.

Dimensions:

Tile with fabric and star rail system: 36.4 x 32.0 x 11.1 cm
The star rail system makes a 0.6 cm air gap between cabinet and wall.
The size of the gap between the fabric covers depends of the type of the fabric.

0.6 + 11.1

36.4   64.7

32.0   48.0
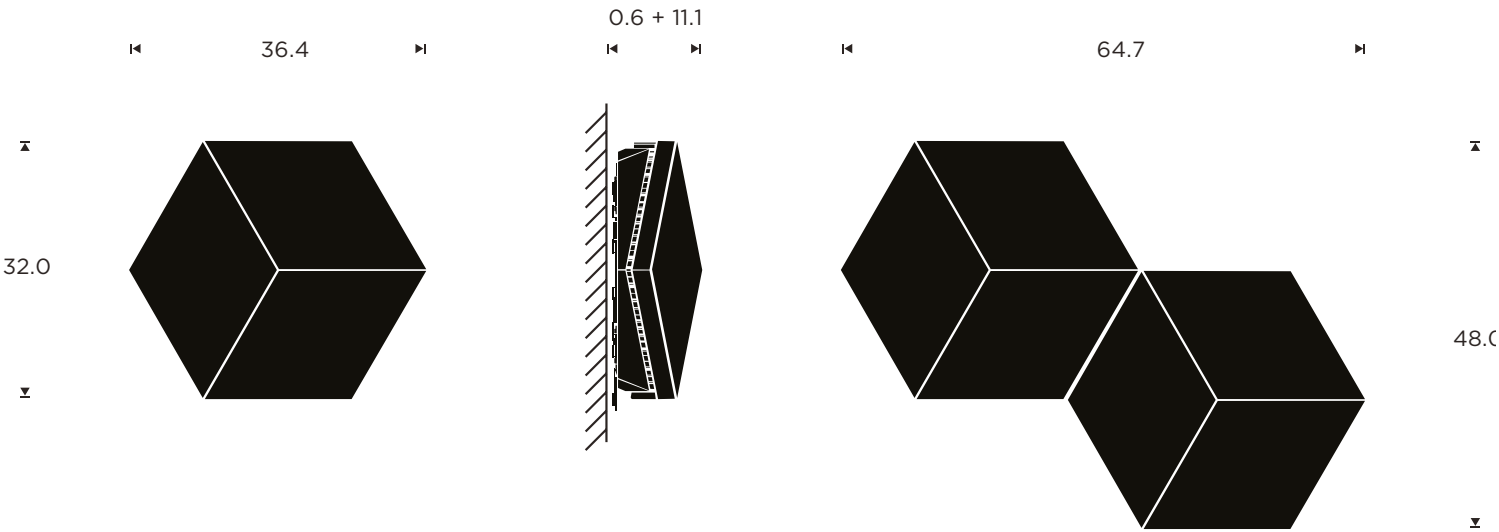
Amplifier Tile

Weight: 2.0 kg + 0.4 kg (fabric cover)
Power amplifiers: 8 x 80 Watt (Class D)
Maximum speakers per amplifier: 4
Cabinet colour: Black
Connections:
- AC power (note if multiple amplifier, each requires its own AC power connection)
- Optical In - Digital audio input
- USB (for control and SW update)
- Power Link input
- COMM IN - Amplifier input (sound & control input), for daisy chaining of amplifiers
- COMM OUT - Amplifier output (sound & control output), for daisy chaining of amplifiers
- 4 x speaker 4-wire output

Speaker Tile

Weight: 1.9 kg + 0.4 kg (fabric cover)
Cabinet principle: Closed box
Cabinet colour: Black
Speaker drivers:
- Woofer 5¼"
- Tweeter ¾"
Connections:
- 1 x speaker 4-wire input

Damper Tile

Weight: 0.51 kg + 0.4 kg (fabric cover)
Cabinet colour: Black
Damper Tiles can be used also as Empty Tiles to hide, for example, cables, power strips, or power adapters. You just need to remove the sound absorbing material.

Fabric covers

Each tile requires a fabric cover.
Available colours: Black, Brazilian Clay, Infantry green, Parisian Night blue, Purple Heart, Wild Dove grey
Kvadrat fabric: Brown moss green, pink, dark blue

Connectivity (provided by BeoSound Core)

The BeoSound Core (which connects to the optical-in and the USB of the BeoSound Shape) provides the wireless streaming connectivity to the BeoSound Shape. BeoSound Core fits into an empty tile and is thus invisible.

Dimensions and weight: '

Base diameter 151.20 mm Height 43.5 mm – 290 grams
USB-C power supply weight: 150 grams

Wireless networks:

- Wi-Fi/WLAN 802.11 a/b/g/n/ac (2.4 GHz & 5 GHz)
- Bluetooth 4.1

Streaming technologies:

- Chromecast built-in
- Apple AirPlay
- Bluetooth Audio Streaming
- DLNA – DMR
- Spotify Connect
- QPlay 2.0 (China specific)

Supported Audio Formats:

MP3, WMA, AAC, ALAC, FLAC, WAV, AIFF
Standard sample rates up to 192 kHz, stereo and up to 24 bit
Note: WMA lossless is not supported

Connectors:

- 1 x USB-C (for power via external power supply)
- 1 x Power Link socket (RJ45) with two channels
- 1 x Line-in (analogue & digital combo) with sensing
- 1 x Ethernet
- 1 x Optical out - digital sound out (for connection to the BeoSound Shape)
- 1 x USB (for connection to the BeoSound Shape)
- 1 x Digital Power Link (for future use)

Remote Control options:

- Bang & Olufsen App
- BeoSound Essence Remote. BeoSound Core can be paired wirelessly (Bluetooth Low Energy) with the BeoSound Essence Remote. You can have up to five BeoSound Essence Remotes connected to one system.
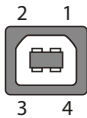
Connection specifications

OPTICAL	**Optical socket - for Audio input** S/P-DIF	

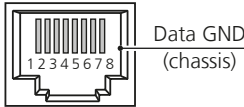|		
⇕ USB	**USB B Audio 2.0 for Audio input and ServiceTool** Pin 1 +5VDC Pin 2 Data – Pin 3 Data + Pin 4 GND	

COMM IN

RJ45 - used for Amplifier input
Pin 1   A2B_AP
Pin 2   A2B_AN
Pin 3   Signal GND
Pin 4   Signal GND
Pin 5   Signal GND
Pin 6   Signal GND
Pin 7   Data RX
Pin 8   Data TX

Data GND (chassis)

COMM OUT

RJ45 - used for Amplifier output
Pin 1   A2B_BP
Pin 2   A2B_BN
Pin 3   Signal GND
Pin 4   Signal GND
Pin 5   Signal GND
Pin 6   Signal GND
Pin 7   Data TX
Pin 8   Data RX

Data GND (chassis)
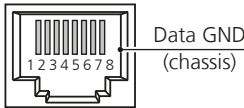
POWER LINK

RJ45 - used for Power Link 1 and 2
Pin 1   Not used
Pin 2   Not used
Pin 3   Signal GND
Pin 4   Speaker On/Off   On => 2.5V, Off =< 0.5V
Pin 5   Not used
Pin 6   Audio R out   0V – 6.5V RMS
Pin 7   Signal GND
Pin 8   Audio L out   0V – 6.5V RMS

Data GND (chassis)
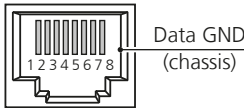
~ 100 - 240 V, 50/60Hz

C8 socket - Mains inlet - To see the different types of mains leads, see exploded view in the Retail Ordering System

Live
Neutral

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