



# STROM STUDIO ISP CORE 16 Immersive Sound Processor User Guide

[Home](#) » [STROM STUDIO](#) » STROM STUDIO ISP CORE 16 Immersive Sound Processor User Guide 

*STROM STUDIO ISP CORE 16 Immersive  
Sound Processor User Guide*

# QUICK START GUIDE



## ISP CORE 16 Immersive Sound Preamp/Processor

  
STORM|AUDIO

VERSION 1.0  
Last updated: September 2021

### IMPORTANT SAFETY INSTRUCTIONS



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage ” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.**



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.



12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used use caution when moving the cart/ apparatus combination to avoid injury from tip over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not open. No user serviceable parts inside. Refer servicing to qualified service personnel.
16. To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.
18. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
19. For safety and electrical shock reasons, it is recommended to use this device in a non-tropical environment with temperature not exceeding 45°C and altitude not exceeding 2000m.
20. Do not expose batteries to excessive heat such as sunshine, fire or the like.

## Contents

- 1 WARRANTY
  - 1.1 Liability
  - 1.2 Terms of warranty
- 2 TECHNICAL SUPPORT
  - 2.1 Check resources on our website
  - 2.2 Ask you reseller
  - 2.3 Open a ticket on our Help Desk
- 3 SPECIFICATIONS
  - 3.1 Audio
  - 3.2 HDMI
  - 3.3 Power Supply
  - 3.4 Control
  - 3.5 Options
  - 3.6 Weight and Dimensions
- 4 BEFORE STARTING
  - 4.1 Welcome
  - 4.2 What's in the box
  - 4.3 What you need
  - 4.4 Owner Manual access
  - 4.5 Installation Flow
- 5 1 – PANELS OVERVIEW
- 6 2 – INPUTS AND OUTPUTS CONNECTION
- 7 3 – WEB USER INTERFACE ACCESS
  - 7.1 First time access
  - 7.2 Web User Interface description
- 8 4 – INPUTS CONFIGURATION
- 9 5 – THEATER DEFINITION (1/2)
  - 9.1 Create your Theater
  - 9.2 Configure your Theater
  - 9.3 Adjust the Bass Management
  - 9.4 Adjust Levels and Delay
  - 9.5 Dirac Live Calibration
- 10 6 – OUTPUT MAPPING
- 11 7 – PRESETS DEFINITION
- 12 8 – REMOTE CONTROL
  - 12.1 Independent Remote Control
- 13 INSTRUCTIONS FOR DISPOSAL OF USED BATTERIES.
- 14 ACKNOWLEDGEMENTS
- 15 Documents / Resources
  - 15.1 References
- 16 Related Posts

## WARRANTY

### Liability

The legal guarantees of conformity under no circumstances cover any damage arising from accidents, misuse or an assembly error, negligence or considerable modification of the appearance or functioning of the product. Immersive Audio Technologies reserves its right to refuse any return for a damaged product on account of misuse.

### Terms of warranty

All Storm Audio products are covered by warranty drawn up by the official Storm Audio distributor in your country. Your distributor can provide all details concerning the conditions of warranty. Warranty cover extends at least to

that granted by the legal warranty in force in the country where the original purchase invoice was issued. Warranty is valid only in the country the product was originally sold. Storm Audio reserves the right to refuse the free application of the warranty if a copy of the invoice stating purchase date, model and serial number is not presented. To prevent any damage or loss/deletion of data stored on the device, you must have saved them prior to returning your device to the services responsible hereunder, using the Backup Configuration feature available in the System page.

Transport cost to mainland France or other official technical center is at the expense of the customer. The device is transported at the risk of the customer. We strongly recommend to store the original packaging for any transportation. In the event of any damage observed upon its return, all the reservations must be made by the recipient with the carriers.

## **TECHNICAL SUPPORT**

### **Check resources on our website**

In case you need support, please consult our website to check our Download, Tutorial and Webinar sections. You will find manuals, explanatory videos and more resources that could help you:

<https://www.stormaudio.com/technical-support> You can also check our interactive Knowledge Base Center:  
<https://www.stormaudio.com/knowledge-base>

### **Ask you reseller**

If you require technical support on your Storm Audio products, or if you have any product related questions, please first contact your reseller.

### **Open a ticket on our Help Desk**

If your reseller cannot solve your issue or if you don't find the info you need in our various support contents, please open a ticket on our Help desk: <https://www.stormaudio.com/help-desk>

Provide as much information as possible about your product, your setup, the devices used as well as steps to reproduce the problem. Ideally, if possible, download the Configuration and Logs files from the System page and add them to the ticket.

## **SPECIFICATIONS**

### **Audio**

<b>Audio Formats</b>	16ch (9.1.6/11.1.4), 192 kHz Dolby Atmos, DTS:X Pro, IMAX Enhanced, Auro-3D All Legacy codecs StormXT*
<b>Audio Inputs</b>	4x RCA analog (7.1 or 2.0) 3x Coaxial SPDIF 3x Optical Toslink
<b>Streaming</b>	ROON Ready
<b>Post-Processed Outputs</b>	16ch, 48 kHz
<b>Audio outputs</b>	16ch analog (XLR) 1x Optical Toslink for Zone2 (Downmix)
<b>Bass Management</b>	Multiple subwoofers Per channel crossover Standard and Expert*
<b>Multi-way speaker XO</b>	6, 12, 18, 24, 36, 48 dB/Oc- tave, Linkwitz-Riley and Butterworth
<b>Equalization per Channel</b>	up to 20 band PEQ REW plugin
<b>Calibration</b>	Dirac Live with Bass Control* module

\* optional features, consult your reseller

## HDMI

Inputs / Outputs	7 / 2, matrix*
Input Specs	7 ea. HDCP2.2 / HDMI2.0
Output Specs	2 ea. HDCP2.2 / HDMI2.0 ARC/eARC on HDMI Out1 On Screen Display
Max Resolution	UHD, 4K 60fps 4:4:4 8bpc 18 Gpbs all ports
HDR	HDR10, HLG & Dolby Vision
Deep Color Support	12bpc
CEC	Limited to ARC support

\* optional features, consult your reseller

#### Power Supply

Type	Universal
Range	100 to 240V

#### Control

Control Modules Available	Crestron & Crestron Home Control4 RTI Savant ELAN
IR	Front panel sensor Rear panel I/O, jack 3.5mm
DC Trigger	x4, jack 3.5mm, 12V DC Software assignable to inputs, presets, on/standby or manual operation
Applications	WebUI: Setup & remote control iOS App: remote control Android App : remote control
Network	100 Mbps Ethernet



Options

UMIK-1 Microphone	USB microphone. Allows for Monitoring, Calibration and RTA function.
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Weight and Dimensions

(net product)

(net product)

L x W x H (cm / inches)	42 x 47.90 x 15.50
with rack ears mounted	16.53 x 18.86 x 5.91
Weight	8.3 KG   17.6 LBS

Our policy of continual product improvement means that Storm Audio reserves the right to modify the technical specifications of its products without notice. Product may vary from images.

BEFORE STARTING

Welcome

Thank you for choosing a StormAudio Immersive Sound Preamp/Processor. This guide provides step-by-step instructions for quickly setting up your ISP to meet a basic Theater configuration. We continuously strive to improve our products. Some features might have thus been added or improved recently. Please check our website: <https://www.stormaudio.com> to get access to the latest firmware and documentation, and keep your ISP up to date by upgrading it to the latest available firmware package.

What's in the box

Immersive Sound Processor	
Quick Start Guide with the Safety Instructions	IR Remote Control handset and 2x AAA batteries
Rack Mount ears *	Power Cord

What you need

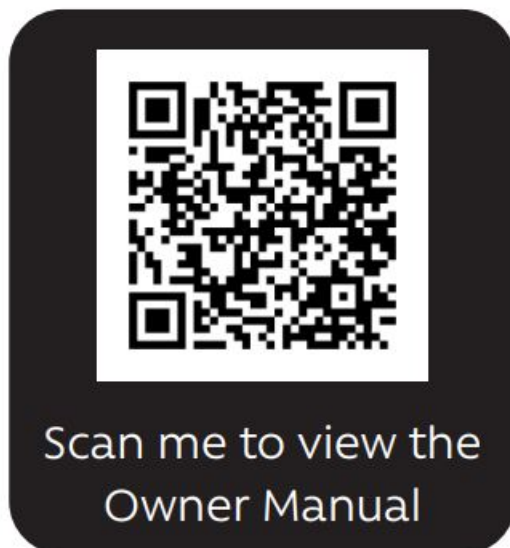


Display / Projector	XLR cables RCA cables Optical Toslink wire
HDMI Cables	Amplifier units
Speakers with cables	LAN router with Cat5/6 RJ45 cable *

\* the ISP needs a DHCP server to be part of the Network and get an IP address allocated. Make sure to check your Internet Provider Box or LAN/Switch box for router function.

#### Owner Manual access

This document covers a basic setup. For a complete and exhaustive configuration of your product, we recommend you to consult the full Owner Manual : <https://www.stormaudio.com/en/Core-owner-manual/>



<https://www.stormaudio.com/en/Core-owner-manual/>

#### Installation Flow

Prior to starting the configuration of your system, make sure to upgrade your ISP to the latest firmware version .

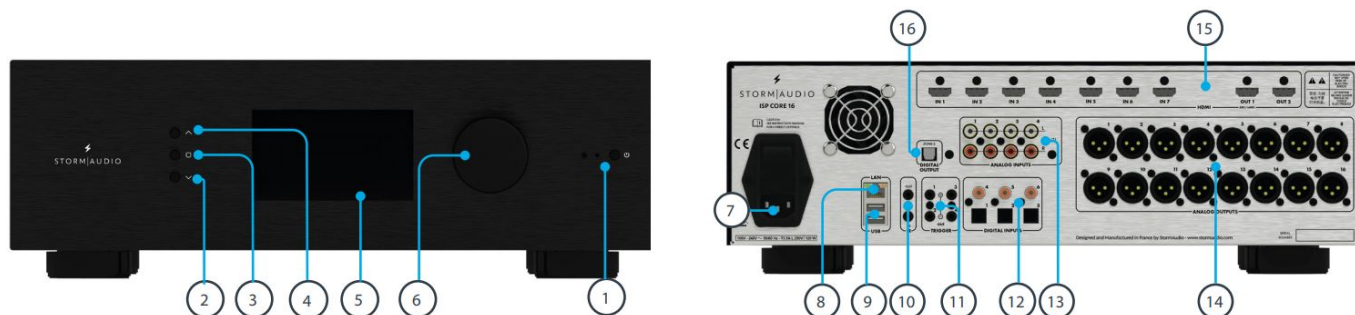
Only a few steps are required to configure your ISP for a basic setup, as summarized below:

1. Panels overview
2. Inputs and Outputs connection

3. Web User Interface access
4. Inputs definition
5. Theater definition
6. Output mapping
7. Presents definition
8. Remote control

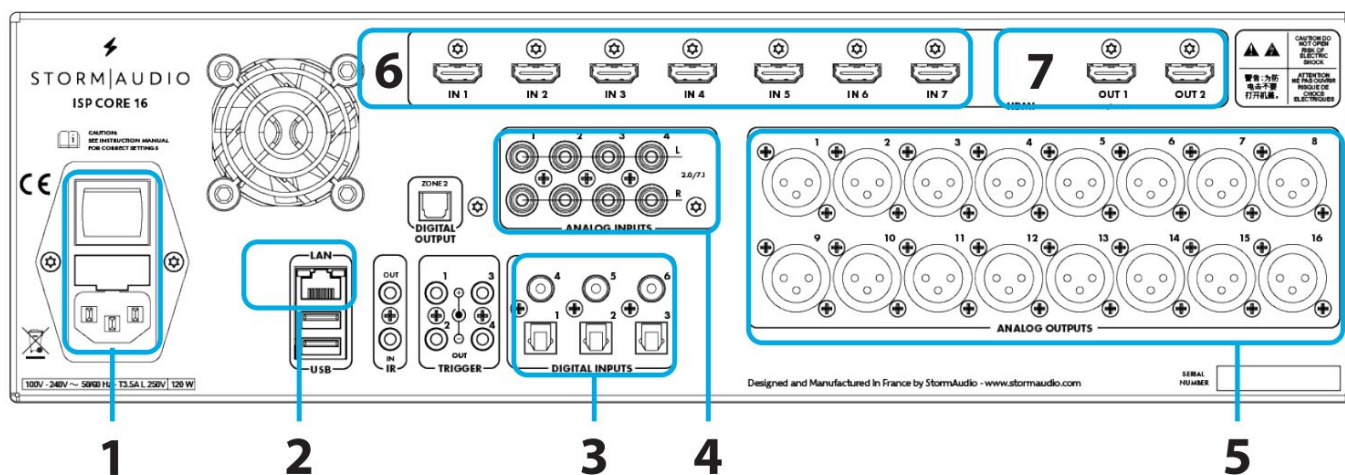
Explore the following pages of this Quick Guide to go through each step of the configuration of your ISP.

## 1 – PANELS OVERVIEW



1. Standby button
2. Down button
3. Home / Access button
4. Up button
5. Display
6. Volume / Left-Right Press: Mute / OK
7. AC Inlet
8. Ethernet port
9. USB ports
10. IR Input/Output
11. Trigger outputs
12. Digital Inputs, Optical and Coaxial
13. Unbalanced Analog Inputs
14. Balanced Analog Input
15. HDMI In & Out
16. Zone2 Digital Optical Output

## 2 – INPUTS AND OUTPUTS CONNECTION

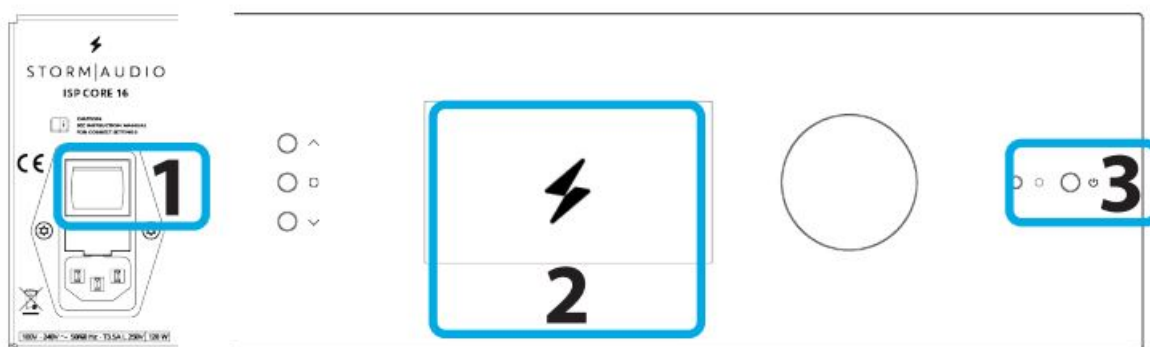


1. Connect your AC cable to a grounded outlet.
2. Connect your RJ45 LAN cable to your router.
3. Connect your digital sources either via the Toslink Optical or Coaxial interfaces.
4. Connect your analog stereo sources to the Unbalanced RCA inputs (for 7.1/5.1 Ch source, refer to Owner Manual)
5. Connect the Balanced Outputs 1 to 16 to your amplifiers.
6. Connect your HDMI sources on any input from 1 to 7, all supporting HDMI2.0/HDCP2.2, 18 Gbps.
7. Connect your screen or projector on Outputs 1 and 2, both supporting HDMI2.0/HDCP2.2. Note that ARC/eARC is only supported in Output 1.

Note: check Owner Manual for other connections.

### 3 – WEB USER INTERFACE ACCESS

#### First time access

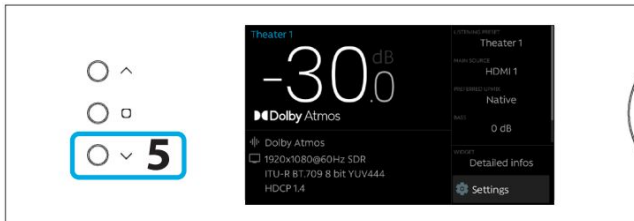


1. Turn the Main Switch to ON (I) in the back panel.
2. Display will show the StormAudio icon for few seconds and will enter Sleep Mode.
3. When in Sleep Mode, press the Power Button. Unit will start. Wait until the LED is stable green.

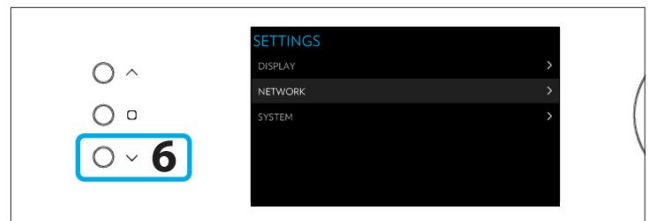
- When the Home display screen is shown, press the Select button (rounded square) to access the Adjustment Menu.



- Using the Arrow button, access the Settings and press the Volume knob to Validate.



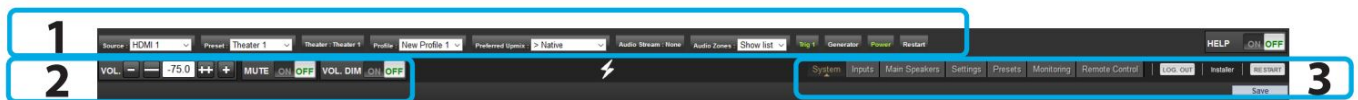
- Select the Network item and press the Volume knob to validate. This will give access to the Network info where you can take note of the IP address and also reset the network parameters. Select Back to exit.



- Open your Web Browser in a laptop and enter the IP address in the URL area. Then select Expert setup and use **installer** as password.



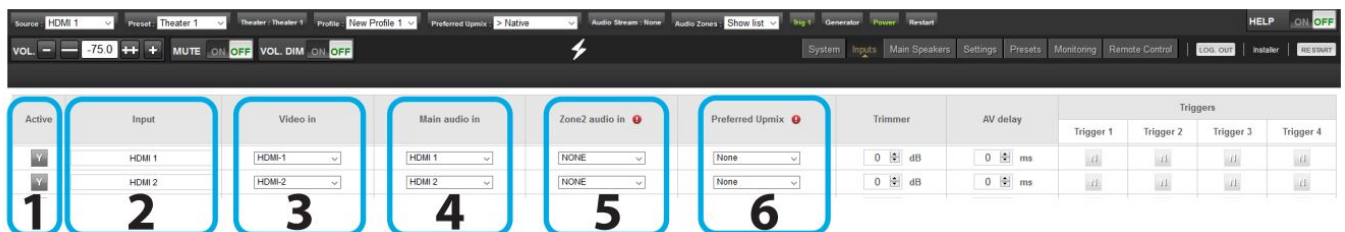
## Web User Interface description



Following Expert Setup selection and password validation, you will reach the first tab of the Web User Interface (Web UI) called System. On top of each page of the Web UI, there is a fixed bar for easy access to:

- Key remote control commands of the unit, such as Source or Preset selection.
- Volume control and its related features, including MUTE and DIM (20dB decrease by default).
- The configuration tabs for specific part of the product configuration: System, Inputs, Speakers, Settings and Presents. It also provides Remote Control and Monitoring page access. Select the «Inputs» tab to proceed with the Inputs Configuration.

## 4 – INPUTS CONFIGURATION



- Unused inputs should be turned to N (No) to not appear in the Remote Control.
- Default names are given to the inputs. You can use it unchanged or edit it to your preference.
- Select which HDMI video input must be activated when the input is selected.
- Select where the audio should come from for the defined input.
- Select where the audio should come from for the defined input when selected as Zone2 input in the Remote

Control.

6. Choose to force a Preferred Up mix mode when selecting the Input.

Note: check Owner Manual for more information about the other settings.

## 5 – THEATER DEFINITION (1/2)

In this part, we will cover the configuration of the speakers in the installation. As systems might easily get complicated, the Quick Guide will only focus on a basic use case where full bandwidth passive speakers are used. We will not cover specific multiway speakers here.

Also, we will consider multiple rows of surround speakers as well as multiple subwoofers.

If you need a different configuration to the one explained here, we invite you to refer to the Owner Manual providing details on all possible adjustments of the ISP.

### Create your Theater

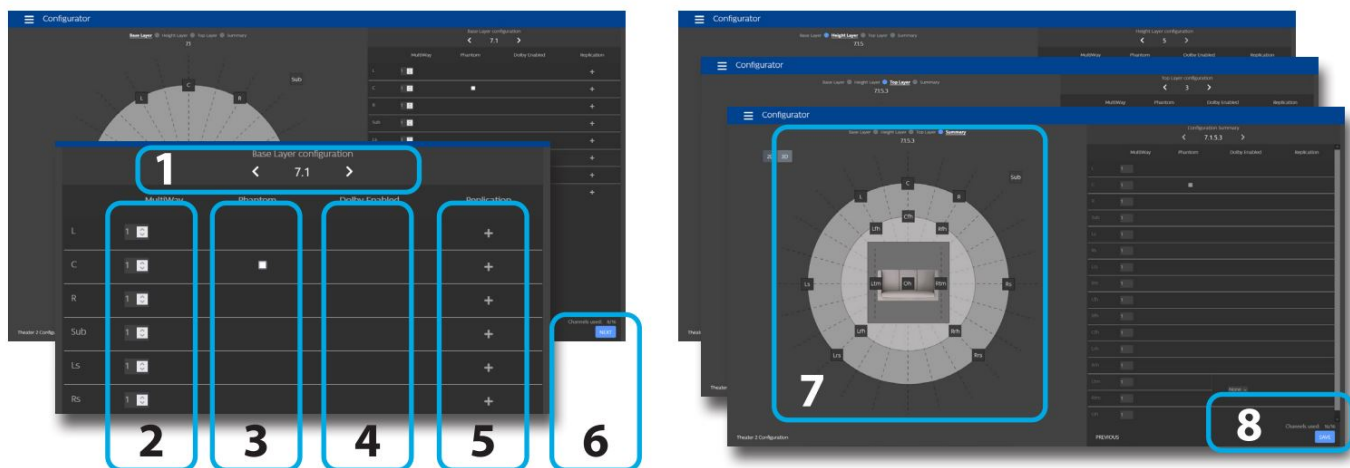


Firstly, select the Main Speakers tab. By default a 2 channels theater is defined. If it doesn't meet your need, delete it and create a new theater following below steps:

1. Click on the Edit button next to Theater 1.
2. Once selected, click on the Delete button. This will make sure this Theater is definitely removed from the system.
3. You can now create a new Theater corresponding to your room and speakers setup by selecting Theater in the drop-down list and then Create.
4. Once created, you need to Configure it.

Note: you can define Theatres and additional Audio Zones (2ch or mono). We will only cover Theatres configuration in this Guide. Please consult the Owner Manual for the other cases.

### Configure your Theater

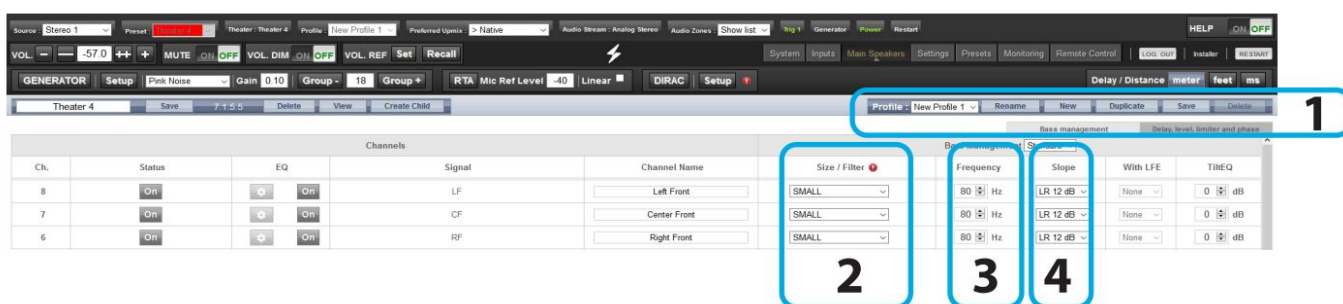


When in the Theater Configurator, you will be able to define each layer of the speaker installation: base, height and top layers.

Enabled if up-firing speakers are used. In such case, select the base speaker location. Keep «None» for normal down-firing speakers.

1. Use the left and right arrows to choose your desired layout for the current layer.
2. For each speaker, you can define whether full bandwidth or multiway, with up to 4 ways definable.
3. The Center channel can be turned to Phantom mode, the signal being played in Left and Right channels.
4. Top speakers can be defined as Dolby Atmos 8. Click Save to exit and to go to Speakers editing page.
5. For each speaker, you can define whether replication is required. It is often used for multiple subwoofers use or multiple rows of surround speakers.
6. Press Next to reach the next layer and follow again steps 1 to 6 until all three layers are defined.
7. At the end, a summary of the Speakers Configuration is shown.

## Adjust the Bass Management



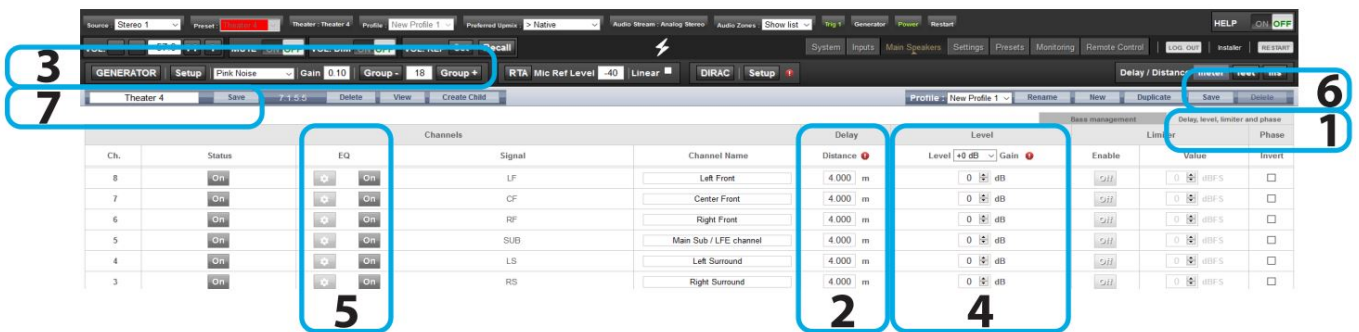
Once configured, the Theater is presented in Edit mode. In this Quick Guide we will only consider the Standard Bass Management setup:

1. For each Theater, it is possible to define multiple audio profiles (all Theater settings). By default, a «New Profile 1» is created.
2. Define the Size of each of your Speaker between Small, Large and «Large and Sub». Small will filter the low frequencies and direct them to the Subwoofer. Large will maintain full bandwidth, while «Large and Sub» will also direct the Bass to the subwoofer channel.
3. When in Small, adjust the filter crossover frequency between speaker and subwoofer.



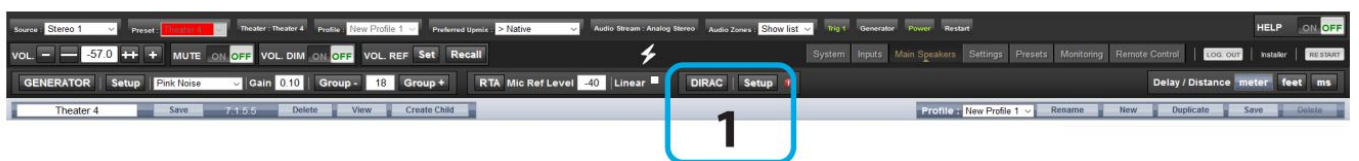
- When in Small, adjust the slope between 12dB, 24dB, 36dB and 48 dB/octave (Linkwitz-Riley and Butterworth types).

## Adjust Levels and Delay



- Select the Delay and Level tab.
- Set the Distance/Delay of each of the installed speakers (meter is the default unit, you can select feet or ms). Before proceeding to level adjustment, ensure the Output Mapping matches your connections (see section 6).
- Select the Narrow Band pink noise signal and activate the Noise Generator, having first made sure the Master Volume is not at a too high level, such as < -30dB. Using the Group +/- button, navigate through each Speaker. Use the normal pink noise for the subwoofer adjustment.
- Adjust the Level for each Speaker using a SPL Meter. We recommend to adjust the Levels with 75 to 85dB(C) average sound pressure as reference.
- There are up to 20 Parametric EQs available for each Speaker. Consult the Owner Manual for more details.
- Once adjusted, you can Save your Audio Profile
- Save the Theater to leave the Edit mode.

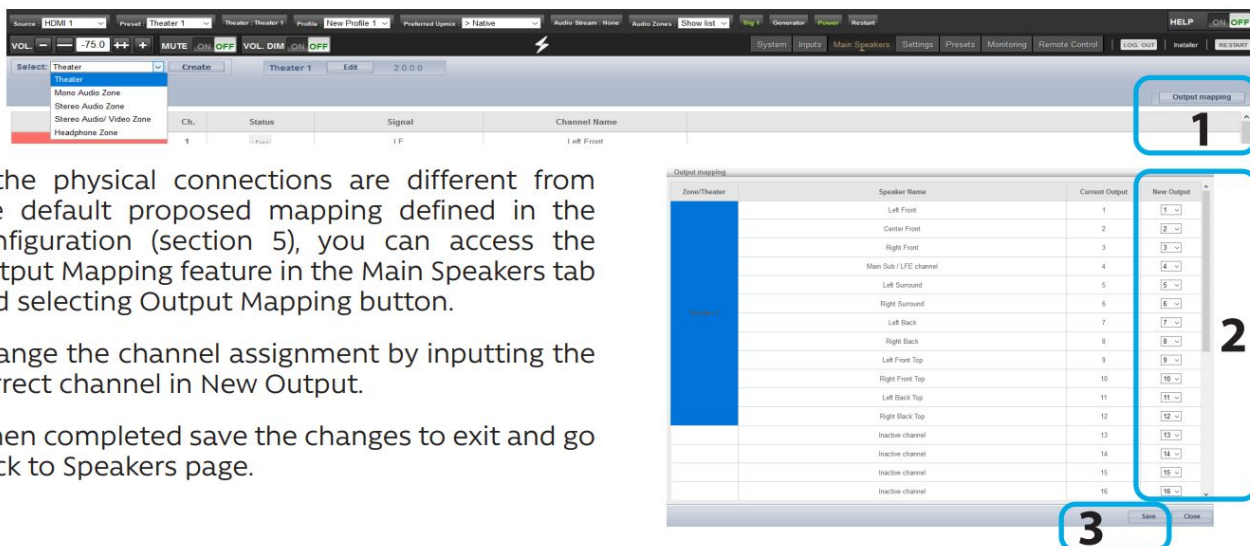
## Dirac Live Calibration



- Although an important feature of the ISP, we will not cover the Dirac Live Calibration process in this Quick Guide as it is not required to get a basic setup working. Please refer to the Owner Manual, should you need to run through the Automated Calibration process of your ISP using Dirac Live.

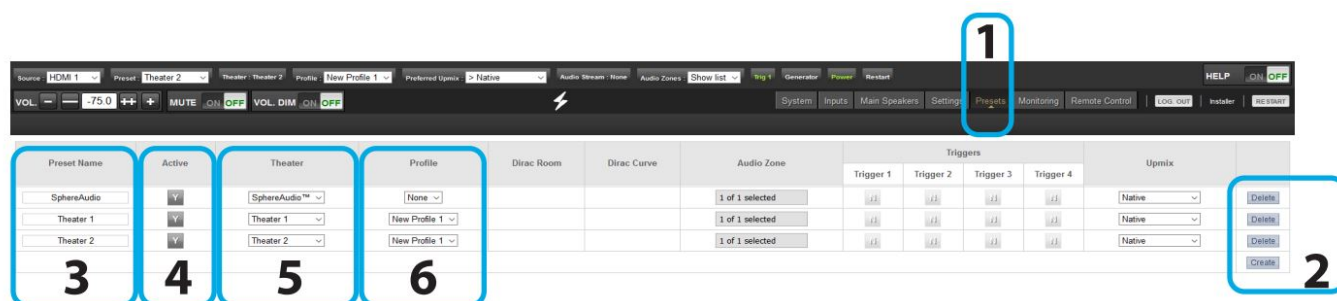
## 6 – OUTPUT MAPPING





1. If the physical connections are different from the default proposed mapping defined in the configuration (section 5), you can access the Output Mapping feature in the Main Speakers tab and selecting Output Mapping button.
2. Change the channel assignment by inputting the correct channel in New Output.
3. When completed save the changes to exit and go back to Speakers page.

## 7 – PRESETS DEFINITION



1. Definition of Presents is required for playback by linking a Theater and an Audio Profile and make it accessible in the Remote Controls. To do so, select the Presents tab.
2. Some Presents have been created by default while configuring your Theater. You can create more Presents using the Create button or delete some.
3. Change the Preset Name here.
4. A Preset is visible and accessible in the Remote Controls only if Active (Y) in the Presents page.
5. Select which Theater should be activated when the Preset is selected.
6. Choose which Audio Profile for the selected Theater needs to be playing. This will call up all the related audio adjustments.

## 8 – REMOTE CONTROL

Access the Web User Interface Remote Control (check section 3, Home Page and select Remote Control) to control the ISP from your Web Browser.



Use the Storm Remote Control Application available on the app stores:

Tablet



[https://itunes.apple.com/us/app/stormremote/id1216593433?  
mt=8](https://itunes.apple.com/us/app/stormremote/id1216593433?mt=8)



[https://apps.apple.com/app/id1560615197/?  
platform=iphone](https://apps.apple.com/app/id1560615197/?platform=iphone)

Phones



<https://play.google.com/store/apps/details?id=com.stormaudio.StormRemote&hl=fr&gl=US>



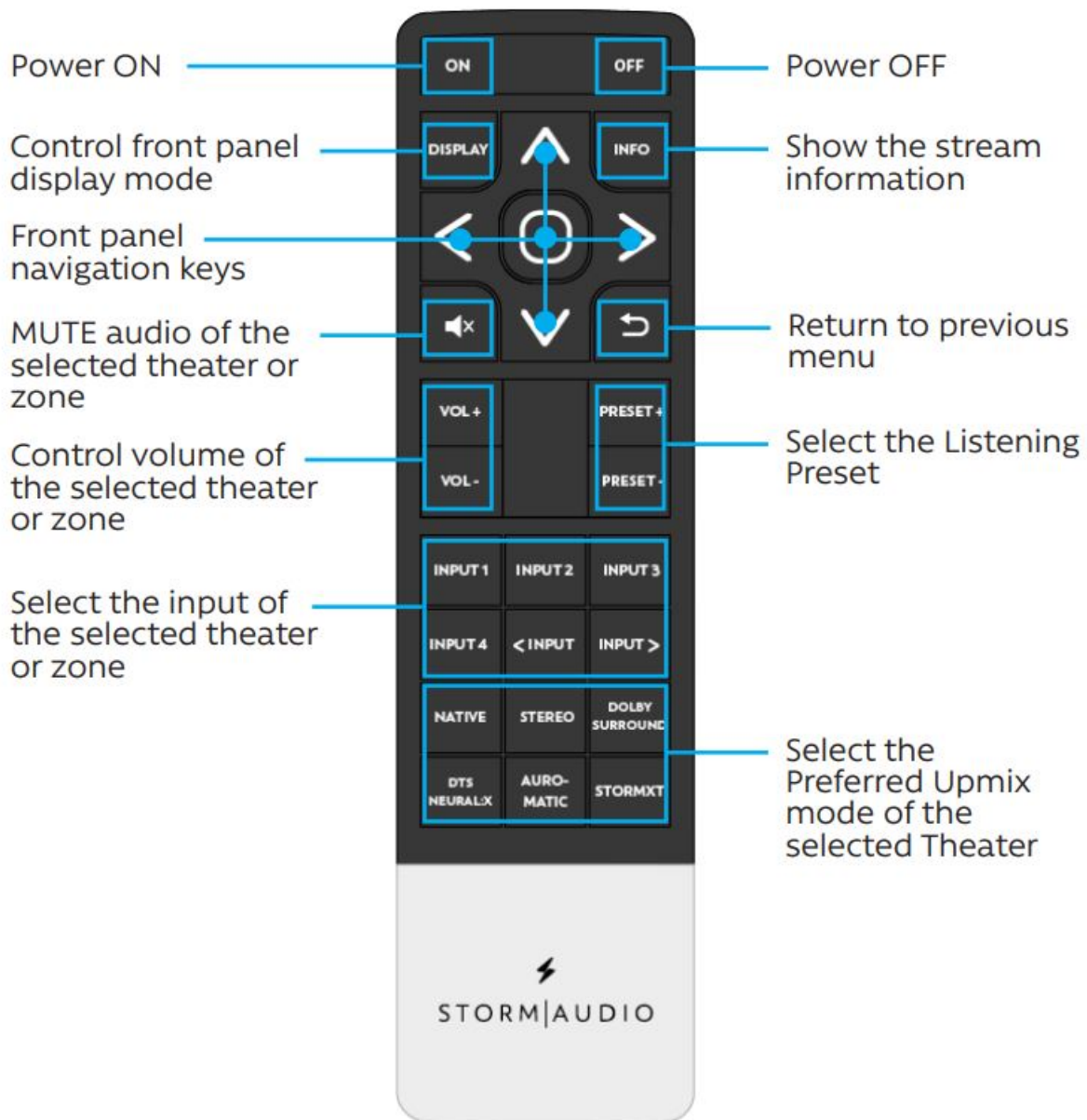
<https://play.google.com/store/apps/details?id=com.stormaudio.StormRemote2021>

### Independent Remote Control

The IR control unit operates effectively within a distance of 23 feet (7 meters) and an angle of 30° from the processor. Using the control near fluorescent lights may shorten this range, as will any dust or dirt that accumulates on the front of the remote control or the remote-sensor area of the processor. Also, avoid blocking the line of sight between processor and remote.

Install the two supplied AAA batteries in the remote as shown. Be certain to follow the (+) and (-) polarity indicators that are on the top of the battery compartment.





## INSTRUCTIONS FOR DISPOSAL OF USED BATTERIES.



These symbols shown on the product, the packaging or in the manual or separate information sheet mean that the product itself, as well as the batteries included or built into the product, should never be thrown away with general household waste. Take them to applicable collection points, where proper treatment, recycling and recovery takes place, in accordance with national or local legislation, or European Directives

2002/96/EC and 2006/66/EC.

Correct handling of the product and batteries to be disposed helps save resources and prevents possible negative effects on the environment or human health.

The batteries included with your equipment may be alkaline or carbon zinc/manganese. All types should be disposed of according to the above instructions.

To remove the batteries from your remote control, reverse the procedure described above for inserting batteries.

## ACKNOWLEDGEMENTS

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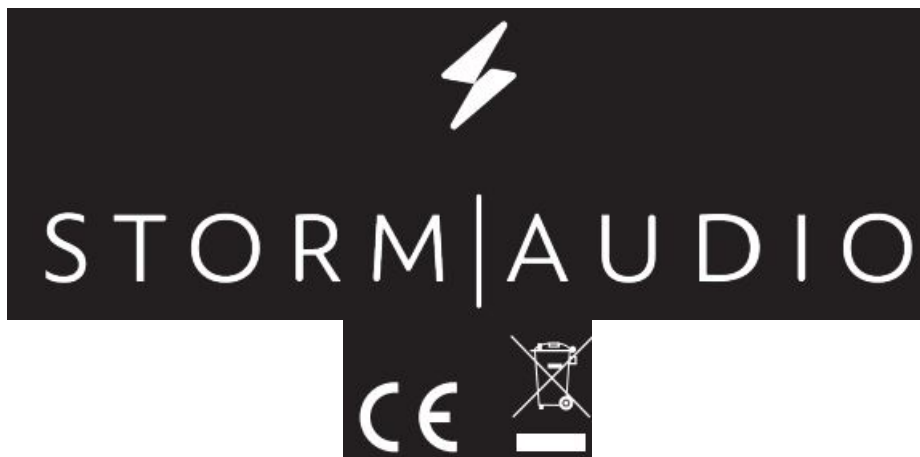
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## Documents / Resources

	<p><a href="#">STORM STUDIO ISP CORE 16 Immersive Sound Processor</a> [pdf] User Guide ISP CORE 16 Immersive Sound Processor, ISP CORE 16, Immersive Sound Processor</p>
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## References

- [⚡ StormAudio - Immersive audio technologies to High End Home Theaters](#)
- [⚡ Jira Service Management](#)
- [⚡ Knowledge Center](#)
- [⚡ Technical support - StormAudio](#)

