Manuals+ — User Manuals Simplified.

STORM AUDIO ISP MK2 Immersive Sound Preamp Processor User Guide

Contents

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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. The apparatus weight exceeds 13 kg, could drop and causes serious injuries. Move the apparatus with care.
14. Unplug this apparatus during lightning storms or when unused for long periods of time.

15. 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.

16. Do not open. No user serviceable parts inside. Refer servicing to qualified service personnel.

17. To completely disconnect this equipment from the AC mains, disconnect the power supply cord plug from the AC receptacle.

18. The mains plug of the power supply cord shall remain readily operable.

19. 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.

20. 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.

21. Do not expose batteries to excessive heat such as sunshine, fire or the like.

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 StormAudio products are covered by warranty drawn up by the official StormAudio 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. StormAudio 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 StormAudio 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

Audio Formats	up to 24ch (13.1.10), 192 kHz Dolby Atmos with Enabled Speakers, DTS:X Pro, IMAX Enhanced*, Auro3D All Legacy codecs StormXT SphereAudio for headphones
Audio Inputs	16ch (AES/EBU) optional 32ch (AoIP) optional 4x RCA analog (7.1 or 2.0) 1x XLR analog (stereo) 3x Coaxial (SPDIF) 3x Optical (Toslink)
Streaming	ROON Ready
Post-Processed Outputs	up to 32ch, 48 kHz
Audio outputs	16ch analog (XLR) default 24ch or 32ch analog (XLR) optional 32ch digital (AES/EBU or AoIP) optional 1x XLR Stereo (Downmix)
Bass Management	Multiple individual subwoofers Per channel crossover

Control

Control Modules	Crestron and Crestron Home Control4 RTI Savant ELAN
IR	Front panel sensor Rear panel I/O, jack 3.5mm
DC Trigger	x4, jack 3.5mm 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

Power Supply

Type	Universal
Range	100 to 240V

Weight and Dimensions
(net product)

			L x W x H (cm / inches) rack ears mounted	49,00 x 47,90 x 19,10 19.29 x 18.86 x 7.52
	Standard and Expert Up to 6 Bass Zones		Weight	13,10 KG	28.80 LBS
Multi-way speaker XO	Up to 4-Way speakers 6, 12, 18, 24, 36, 48 dB/ Octave, Linkwitz-Riley and Butterworth			
Equalization per Channel	up to 20 band PEQ REW plugin			
Calibration	Dirac Live with Bass Control module			

*via firmware upgrade in 2022

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	ARC related only

*via firmware upgrade end 2021

Options

UMIK-1 Microphone	USB microphone. Allows for Monitoring, Calibration and RTA function.
16 to 24ch XLR Output	Extra 8 channel XLR output module (24ch total)
24 to 32ch XLR Output	Extra 8 channel XLR output module (32ch total)
16 to 32ch XLR Output	Extra 16 channel XLR output module (32ch total)
32ch Digital AES Output	32 channel AES/EBU output module (4x RJ45)
32ch Digital AoIP Input/Output	32 channel AES67 I/O module (2x RJ45)
16ch Digital AES Input	16 channel AES/EBU input module (2x RJ45) DCI compatible

Our policy of continual product improvement means that StormAudio 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.
The ISP range shares the same backbone, but models differ by the options that are installed. This guide will describe a basic setup valid for any version of the Immersive Sound Processor.

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 Firmwares 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	
Rack Mount ears *	Power Cord
Quick Start Guide with Safety Instructions	

tools are required to mount/unmount the rack mount ears: Torx screwdriver (T20).

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/isp-owner-manual/

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

Only 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. Presets definition
8. Remote control

Explore the next pages of this Quick Guide to go through each steps of the configuration of your ISP.

PANELS OVERVIEW

1. Standby button
2. Exit button
3. Enter button
4. Edit button
5. Display
6. Volume/Mute knob
7. HDMI In & Out
8. AC Inlet
9. Ethernet port
10. USB ports
11. IR Input/Output
12. Trigger outputs
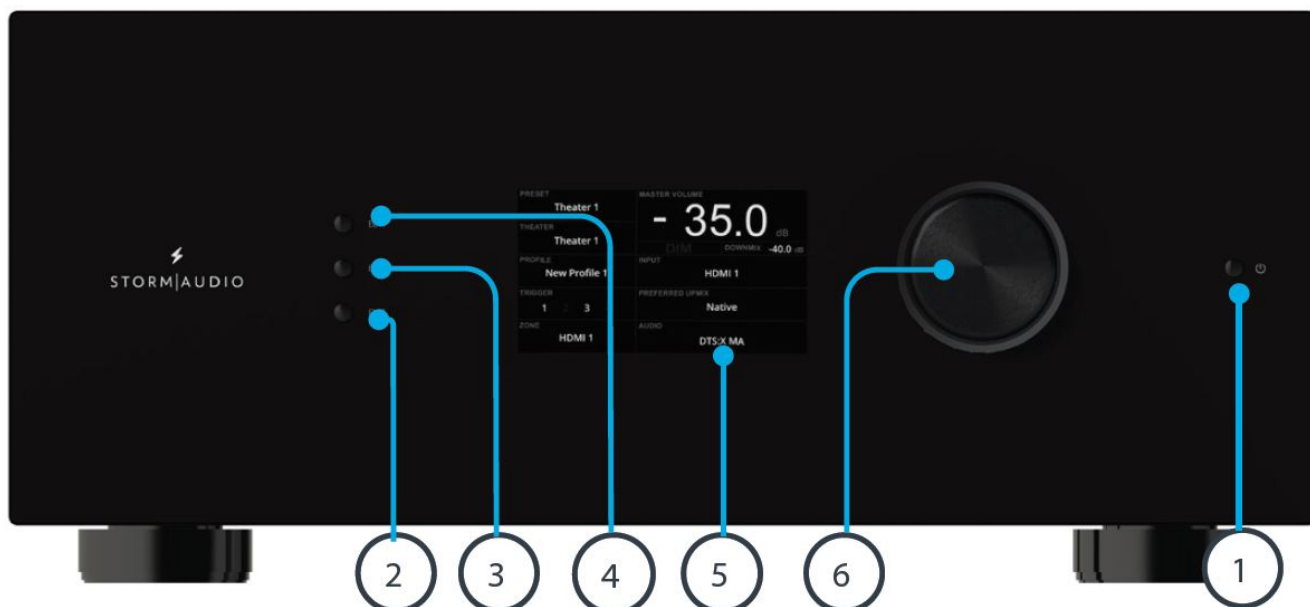
13. Digital Inputs, Optical and Coaxial

14. Unbalanced Analog Inputs

15. Balanced Analog Input

16. Downmixed Output

17. Channels 1 to 16 Balanced Outputs

18. Available slots for optional modules extending the I/O capabilities of the ISP MK2. Refer to Owner Manual for more details.
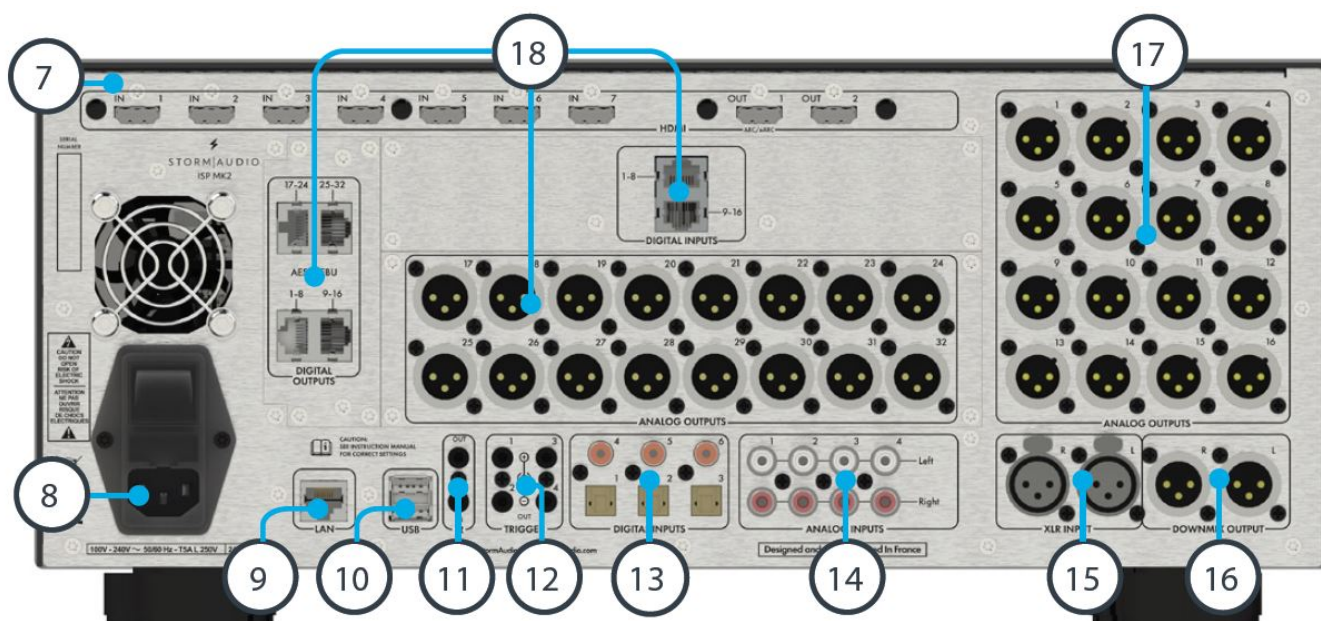

INPUTS AND OUTPUTS CONNECTION
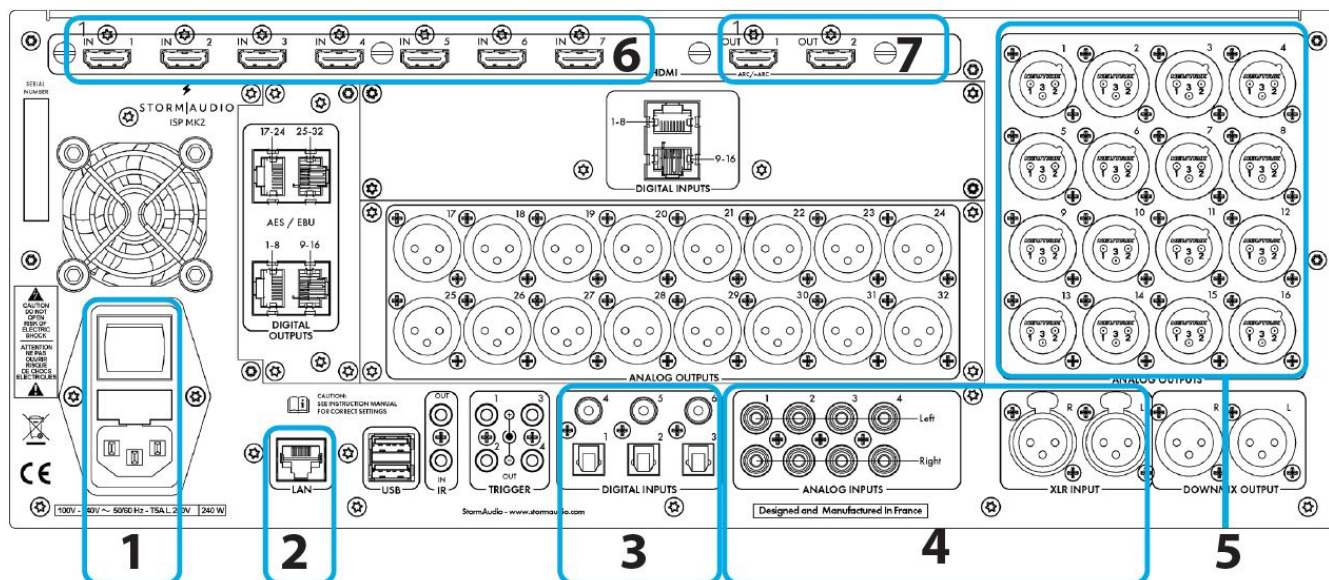
1. Connect your AC cable to a grounded outlet.
2. Connect your RJ45 LAN cable to your router.
3. Connect your digital sources either via the Toslink Optical or Coaxial interfaces.
4. Connect your analog stereo sources to the Unbalanced RCA inputs (for 7.1/5.1 Ch source, refer to Owner Manual) or Balanced XLR input.
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 speeds.
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.

WEB USER INTERFACE ACCESS

First time access
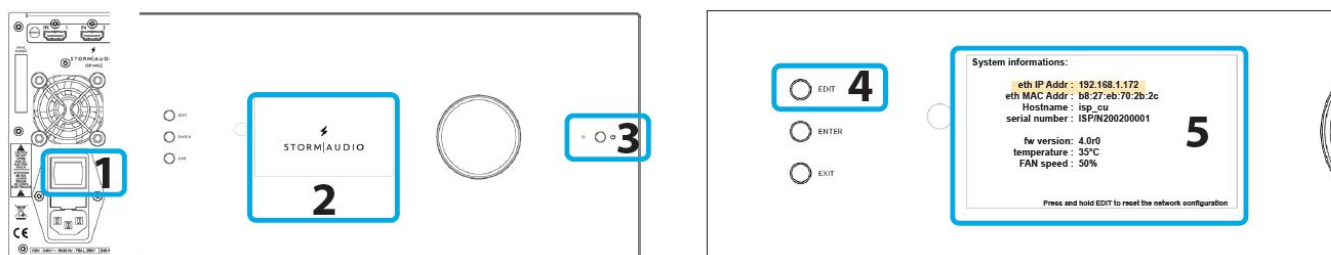
1. Turn the Main Switch to ON (I) in the back panel.
2. Display will show the logo StormAudio for few seconds and will enter Sleep Mode.
3. When in Sleep Mode, press the Power Button. Unit will start. Wait until the LED is stable green.
4. Press the EDIT button for 4s.
5. System informations will be shown, take note of the IP address of the unit. Note that your router must be in DHCP to allow the ISP to get an address allocated.
6. Open your Web Browser in your laptop and enter the IP address in the URL area.

The Home page will be shown, select Expert Setup. You will be prompted for password, use : installer.

Web User Interface description

Following Expert Setup selection and password validation, you will reach the first tab of the Web User Interface (WebUI) called System. On top of each page of the WebUI, there will be persistent access to:

1. Some key remote control commands of the unit, such as Source or Preset selection.
2. The Volume control and its related features, including MUTE and DIM (20dB decrease by default).
3. The configuration tabs with each dedicated to a specific part of the product configuration amongst them: System, Inputs, Speakers, Settings and Presets. It also provide Remote Control and Monitoring page access.

Select the «Inputs» tab to proceed with the Inputs Configuration.

INPUTS CONFIGURATION
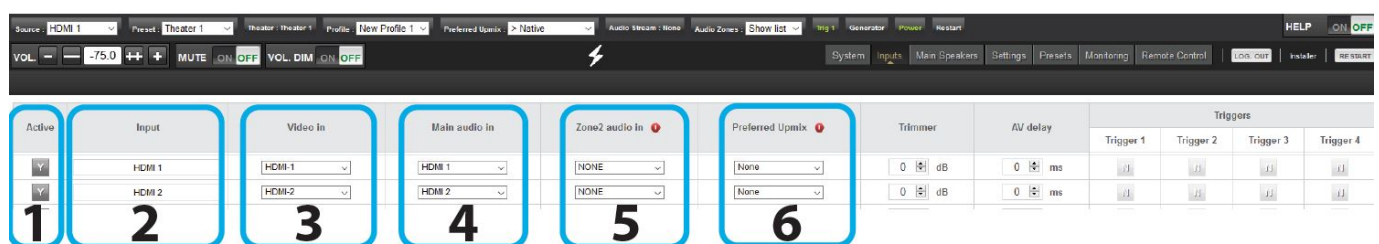
1. Unused inputs should be turned to N (No) to not appear in the Remote Control.
2. Default names are given to the inputs. You can use it unchanged or edit it to your preference.
3. Select which HDMI video input must be activated when the input is selected.
4. Select where the audio should come from for the defined input.
5. 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 Upmix mode when selecting the Input.

Note: check Owner Manual for the other settings.

THEATER DEFINITION (1/2)

In this part, we will cover the configuration of the speakers in the installation following Main Speakers tab selection. 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 treat the specific multi-ways speakers.

Also, we will consider multiple rows of surround speakers as well as multiple subwoofers.
For the case you need a different configuration, we invite you to refer to the Owner Manual providing access to all possible adjustments of the ISP.

Create your Theater

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. Select Edit Theater 1.
2. When edited, select the Delete button. This will remove definitely this Theater from the system.
3. You now can 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 Theaters and additional Audio Zones (2ch or mono). We will only cover Theaters configuration in this Guide. Please consult the Owner Manual for the other cases.
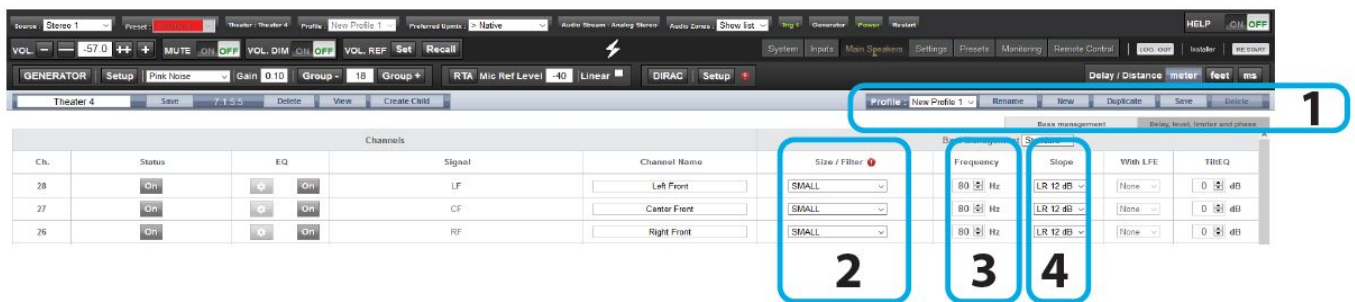
Configure your Theater
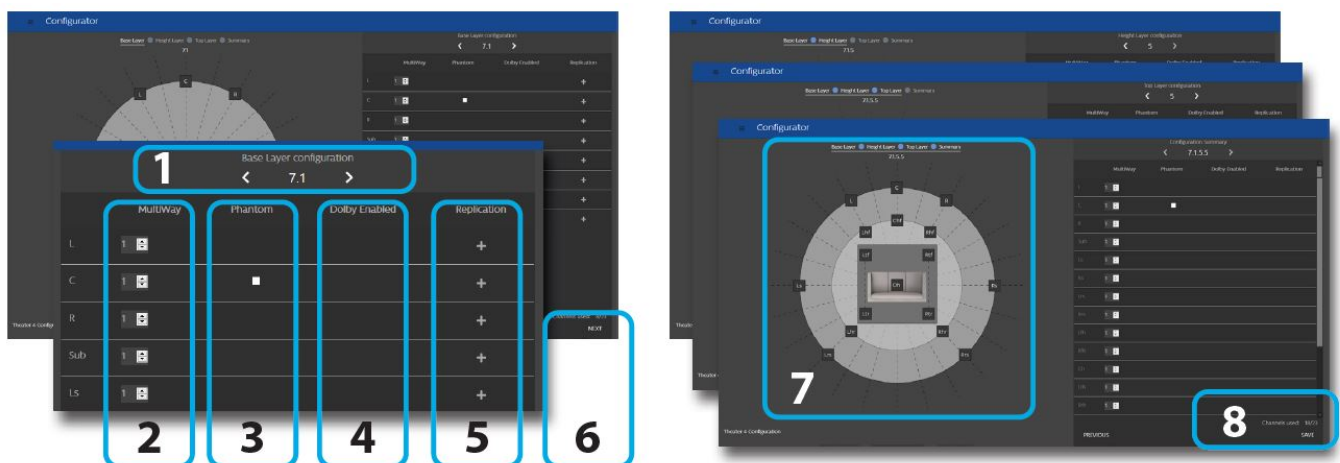
When in the Theater Configurator, you will be able to define each layer of the speaker installation: base, height

and top layers.

1. Choose using the left and right arrows which layout you expect for the 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 Enabled for the case up-firing speakers are used. In such case, select the base speaker location. Keep «None» for normal down-firing speakers.
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.
8. Save to exit and reach the Speakers edition page.
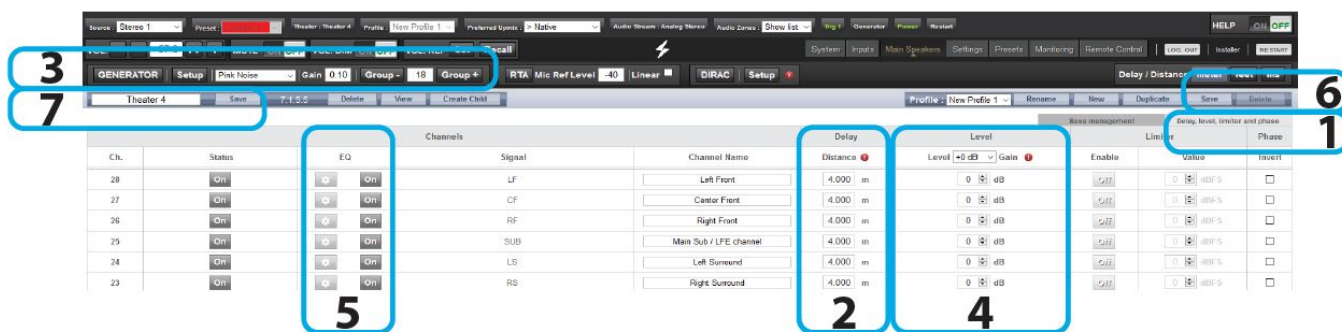
THEATER DEFINITION (2/2)

Adjust the Bass Management

Once configured, the Theater is presented in Edition 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.
4. When in Small, adjust the slope between 12dB, 24dB, 36dB and 48 dB/octave (Linkwitz-Riley and Butterworth types).

Adjust Levels and Delay

Ch.	Status	EQ		Signal	Channel Name	Delay Distance	Level Level +0 dB Gain		Enable	Value	Phase Invert
28	On	○	On	LF	Left Front	4.000 m	0	dB	Off	0 dBFS	☐
27	On	○	On	CF	Center Front	4.000 m	0	dB	Off	0 dBFS	☐
26	On	○	On	RF	Right Front	4.000 m	0	dB	Off	0 dBFS	☐
25	On	○	On	SUB	Main Sub / LFE channel	4.000 m	0	dB	Off	0 dBFS	☐
24	On	○	On	LS	Left Surround	4.000 m	0	dB	Off	0 dBFS	☐
23	On	○	On	RS	Right Surround	4.000 m	0	dB	Off	0 dBFS	☐

1. Select the Delay and Level tab.
2. Set the Distance/Delay of each of the installed speakers (meter is the default unit, you can select feet or ms above Save button, see highlight 6).
   Before proceeding to level adjustment, ensure the Output Mapping matches your connections (see section 6).
3. 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.
4. 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.
5. It is possible for each Speaker to adjust up to 20 Parametric EQs. Consult the Owner Manual for more details.
6. Once adjusted, you can Save your Audio Profile
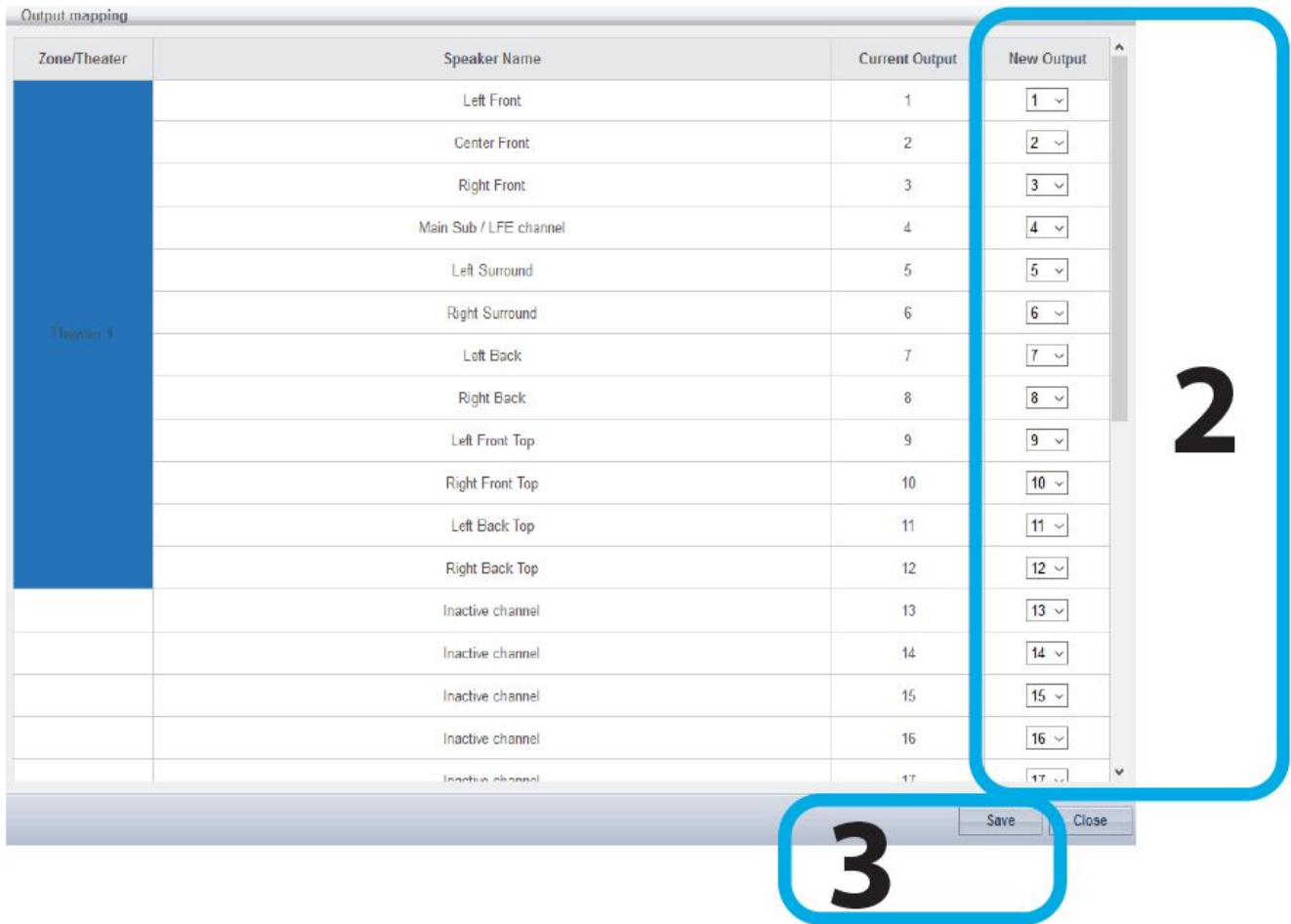7. Save the Theater to leave the Edit mode.

Dirac Live Calibration

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

OUTPUT MAPPING

Zone/Theater	Speaker Name	Current Output	New Output
Theater 1	Left Front	1	1
	Center Front	2	2
	Right Front	3	3
	Main Sub / LFE channel	4	4
	Left Surround	5	5
	Right Surround	6	6
	Left Back	7	7
	Right Back	8	8
	Left Front Top	9	9
	Right Front Top	10	10
	Left Back Top	11	11
	Right Back Top	12	12
	Inactive channel	13	13
	Inactive channel	14	14
	Inactive channel	15	15
	Inactive channel	16	16
	Inactive channel	17	17

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

PRESETS DEFINITION
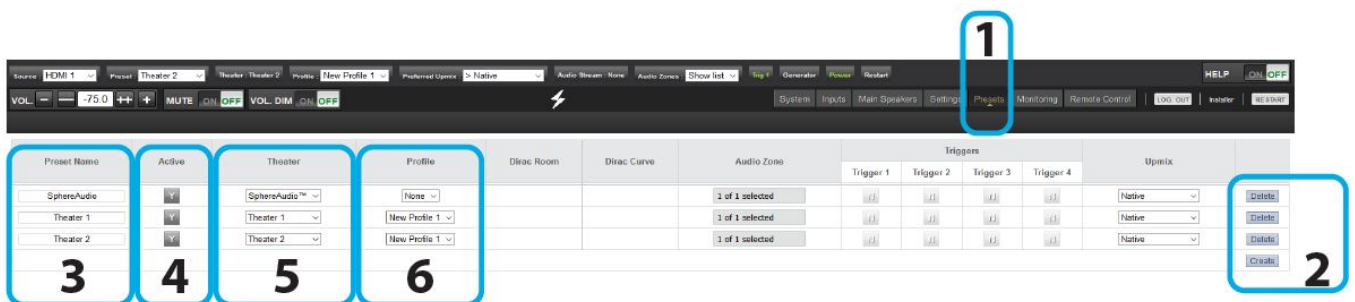
1. Definition of Presets is required for playback by linking a Theater and an Audio Profile and make it accessible in the Remote Controls. To do so, select the Presets tab.
2. Some Presets have been created by default while configuring your Theater. You can create more Presets using the Create button or delete some.
3. You can change the Preset Name.
4. A Preset is visible and accessible in the Remote Controls only if Active (Y) in the Presets 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.

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 StormRemote Control Application available on the app stores:

ACKNOWLEDGEMENTS

Documents / Resources

STORM AUDIO ISP MK2 Immersive Sound Preamp Processor [pdf] User Guide
ISP MK2, Immersive Sound Preamp Processor

References

- 🌐 **Patents - DTS**
- ⚡ **StormAudio - Immersive audio technologies to High End Home Theaters**
- ⚡ **Jira Service Management**
- ⚡ **Knowledge Center**
- ⚡ **Technical support - StormAudio**