

# STAGEGRID 1000

## USER GUIDE



 dsp

  
WAVES SOUNDGRID

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## ABOUT

### STAGEGRID 1000

Thank you for choosing DSPRO SG1000 for your SoundGrid system.

The SG1000 was developed to meet the needs of mixing professionals offering a balance between size and functionality. In a cabinet with only one rack unit, it offers all the channels that the professional needs at hand, close to his mixing console, making it a great solution for both the F.O.H and the Monitor.

Sharing the same proven audio interfaces of the SG4000, this family is capable of serving the most varied and demanding live mixing applications.

Its main features are:

- 8 Microphone or line inputs
- 4 balanced analog outputs on XLR connectors
- 1 Input and 1 Output stereo AES / EBU
- Sampling Rates from 44.1kHz to 96kHz
- 2 Headphone outputs with volume control
- SoundGrid Ethernet connection

### SoundGrid

SoundGrid is a flexible and scalable network audio distribution infrastructure for studio, broadcast and live high fidelity solutions featuring uncompressed, multichannel, and low latency audio.

With several hardware options for IO and real-time audio processing, it can be configured in different ways to meet the most demanding specifications.

## System Requirements

- A STAGEGRID device
- A computer with at least one SoundGrid software installed (eMotion LV1, SoundGrid Studio or Multitrack). Please consult Waves website for currently supported OS versions.
- Ethernet Cable CAT6/7. Additional details on network infrastructure can be found on Waves website.
  - Cable webpage: [www.waves.com/support/ethernet-cables-for-soundgrid-systems](http://www.waves.com/support/ethernet-cables-for-soundgrid-systems)
  - Switches webpage: [www.waves.com/support/network-switches-for-soundgrid-systems](http://www.waves.com/support/network-switches-for-soundgrid-systems)

For your convenience, register your SoundGrid product at the Waves website and receive exclusive offers for SoundGrid system owners.

# HARDWARE

## Package contents

1. One STAGEGRID 1000
2. Quick Start Guide
3. One power cord



For future reference, take note of the serial number:

S/N: \_\_\_\_\_

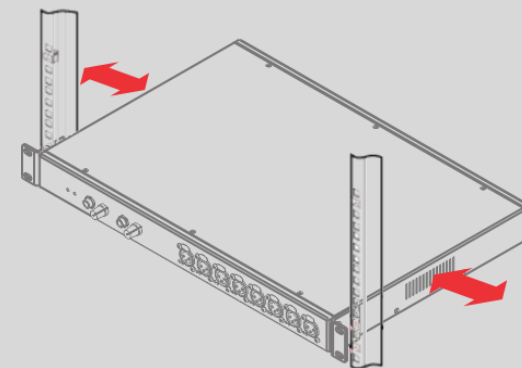
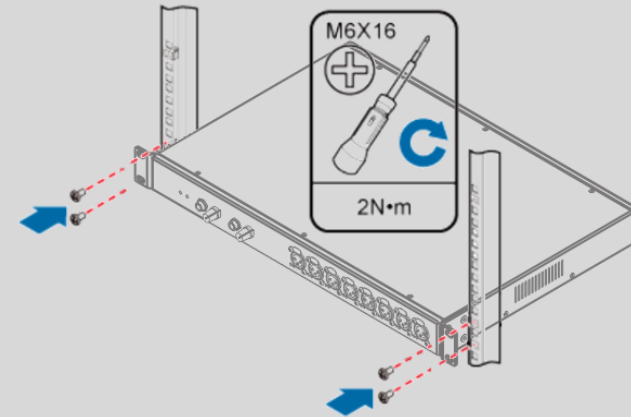
## Rack Installation

STAGEGRID 1000 is a standard 19" rack equipment with one RU in height.

Use all four screws to safely secure the device in its rack position.

Before powering up the equipment, power plugs must be inserted in socket outlets provided with protective earth contacts. The electrical supply at the socket outlets must provide appropriate earthing and over-current protection.

To ensure operation over the full rated temperature range, make sure cool air can flow freely on both sides of the unit.

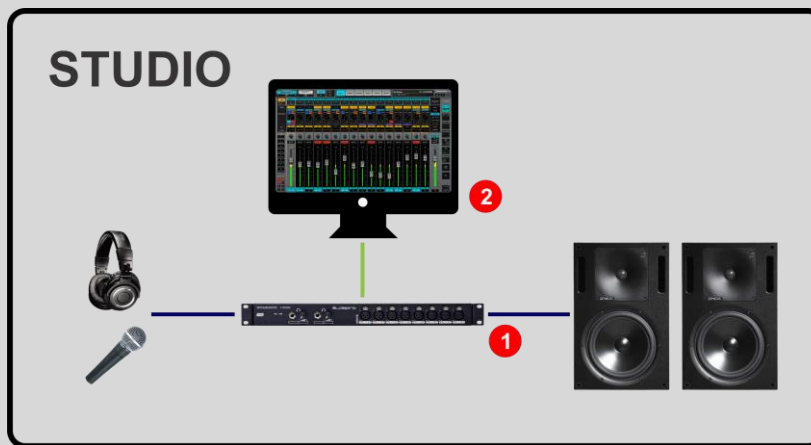


## Setups

### Studio

The basic application is the use of STAGEGRID as an audio interface for a native DAW.

Using SoundGrid driver, any applications will access all device channels as local ports and the control panel will allow you to set every channel parameters.



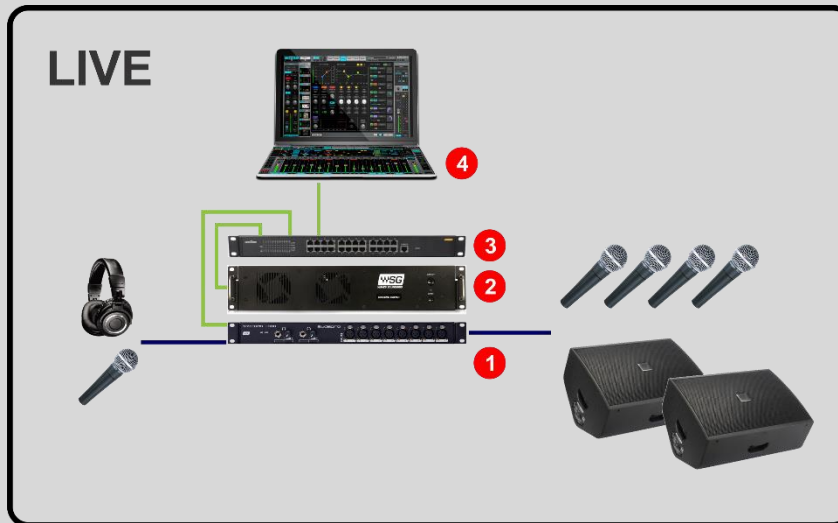
— Soundgrid  
— Analog

1. STAGEGRID 1000
2. Host

## Live

Adding a Waves Server, all real-time processing is offloaded from the host computer, allowing power demanding applications.

With eMotion LV1 on the Host computer, this setup is a complete mixing console totally controlled by software. It is a light, flexible and powerful mixing console with up to eight plugins per channel.



— Soundgrid  
— Analog

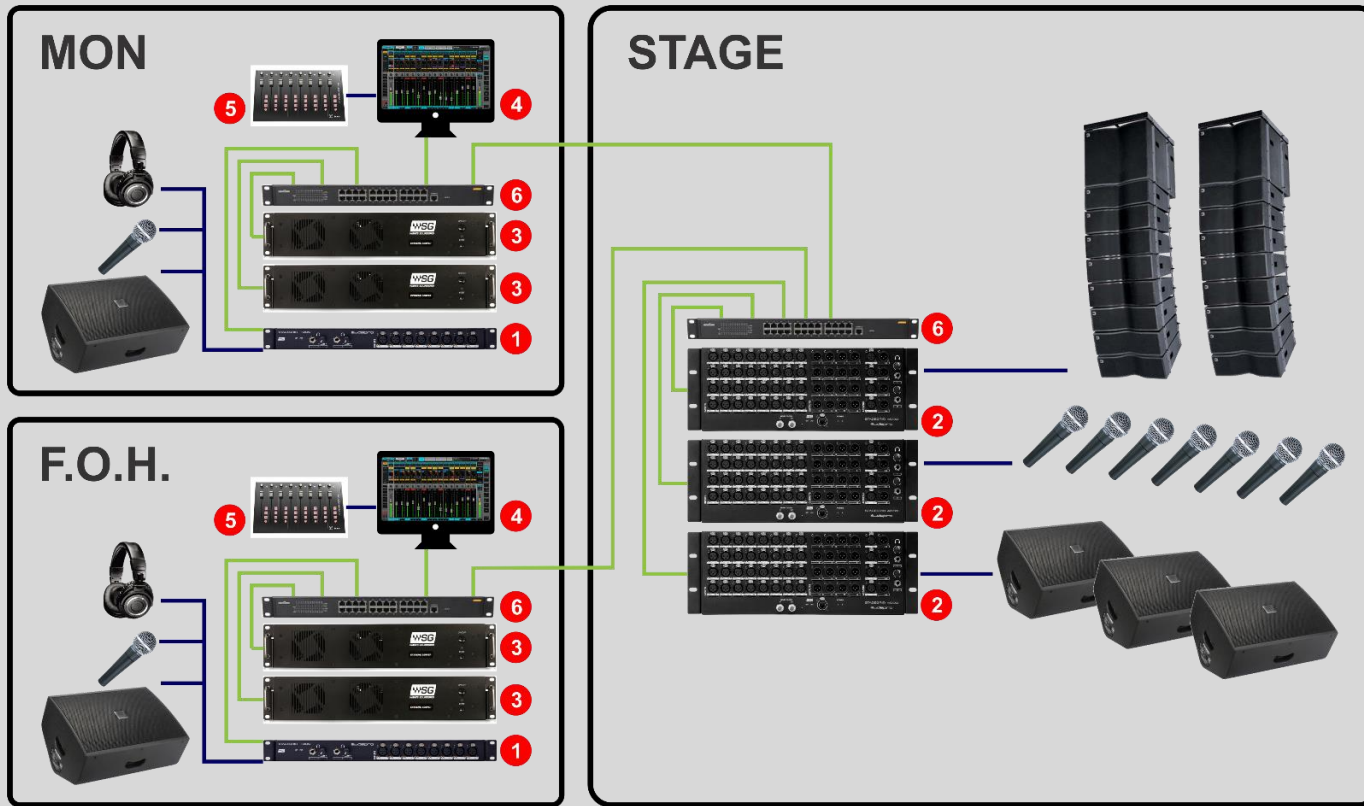
1. STAGEGRID 1000
2. Waves Server One
3. Network Switch
4. Host Laptop



## Large PA

In a large system, the high channels count needs on stage can be supplied with SG4000, while SG1000 would be used in both mixing sites, PA and Monitor, offering all channels operator may need near.

In this example, besides dividing the system between stage, house mix and monitor positions, two servers are used together for redundancy, significantly increasing fault tolerance.



— Soundgrid  
— Analog

1. STAGEGRID 1000 (2x)
2. STAGEGRID 4000 (3x)
3. Waves Extreme Server (4x)
4. Host and Recording (2x)
5. Control surface (2x)
6. Network Switch (3x)

## Front Panel



1. Eight XLR mic/line inputs
2. Two Headphone outputs
3. Status LEDs:
  - a. NET – SoundGrid network status
    - Blue: Synchronized with a SoundGrid Host application
    - Red: no SoundGrid sync
    - Yellow: Firmware update
    - White: Unit malfunction
    - Cycling colors: When “ID” is selected in the Soundgrid Host application
  - b. PWR – Power supply status
    - Green: Power OK
    - Red: Power fail

## Back Panel



1. Power ON/OFF switch
2. Power inlet
3. Four Line outputs
4. One input and one output stereo AES/EBU
5. Reset button
6. LINK LED – Ethernet status
  - Green: Link up
  - Blink: Link up and network activity
  - Off: Link down
7. SoundGrid Gigabit Ethernet port
8. Power LED – Power supply status
  - Green: Power OK
  - Red: Power fail

## SOFTWARE

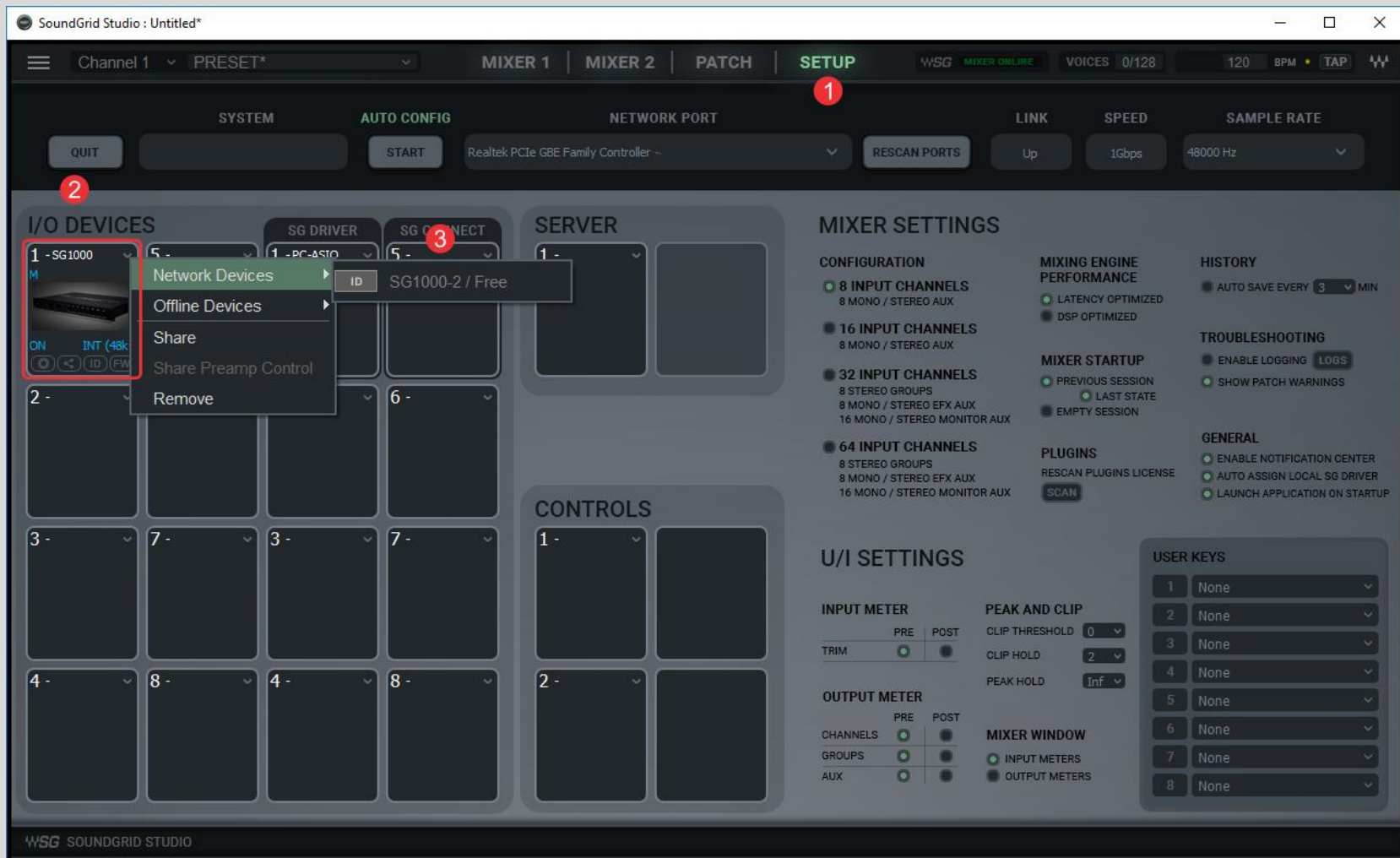
In order to use STAGEGRID 1000 it is necessary to install a Waves SoundGrid application and the device drivers.

The installation of these features is done through Waves Central, a platform for managing user resources and licenses to be installed on the computer. Waves Central can be found at:

[www.waves.com/downloads/central](http://www.waves.com/downloads/central).

Soundgrid Studio is a software where you can manage your network and control your Soundgrid devices.

## Setup Screen



1. Select SETUP tab
2. At I/O DEVICES add SoundGrid IO devices

3. Select Add Device-> Network Devices->SG1000 to allocate STAGEGRID 1000

After adding a STAGEGRID to system inventory, the following screen will be created:



1. Gear: To access device control panel
2. Share: To enable sharing IO device between more than one Host application.
3. ID: Physically identify the device by cycling NET LED colors
4. FW: To perform a device Firmware update (check “Firmware Update” for detailed procedure)  
Green: New firmware available  
Red: New mandatory firmware available  
Grey: Firmware up-to-date.

## Control Panel

Control panel has five tabs:

- About: Device description
- System: System details
- Clock: Clock setup
- Input: Input ports setup
- Output: Output ports setup

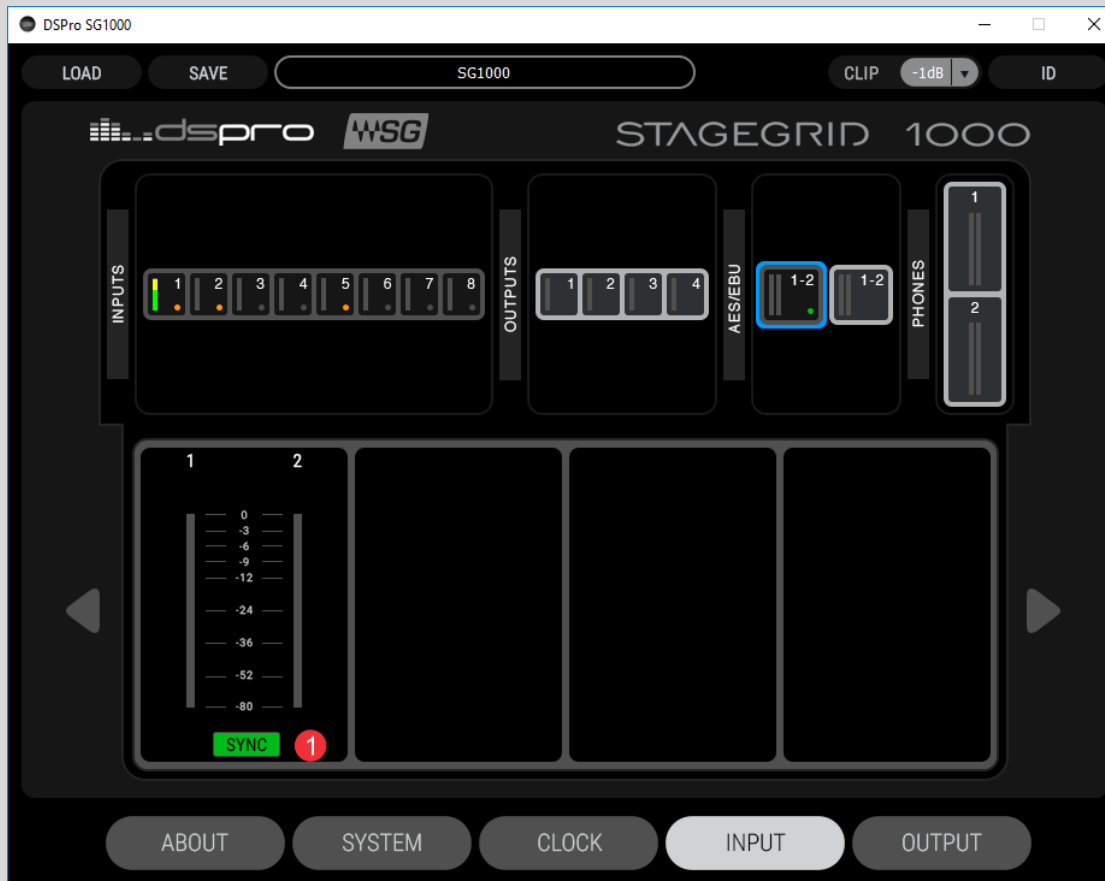


## Input tab



1. Selected channel group
2. Channel group navigation arrows
3. Detailed input level meter
4. Preamp gain control fader (-4 to 60dB)
5. Channel Phantom Power enabling button

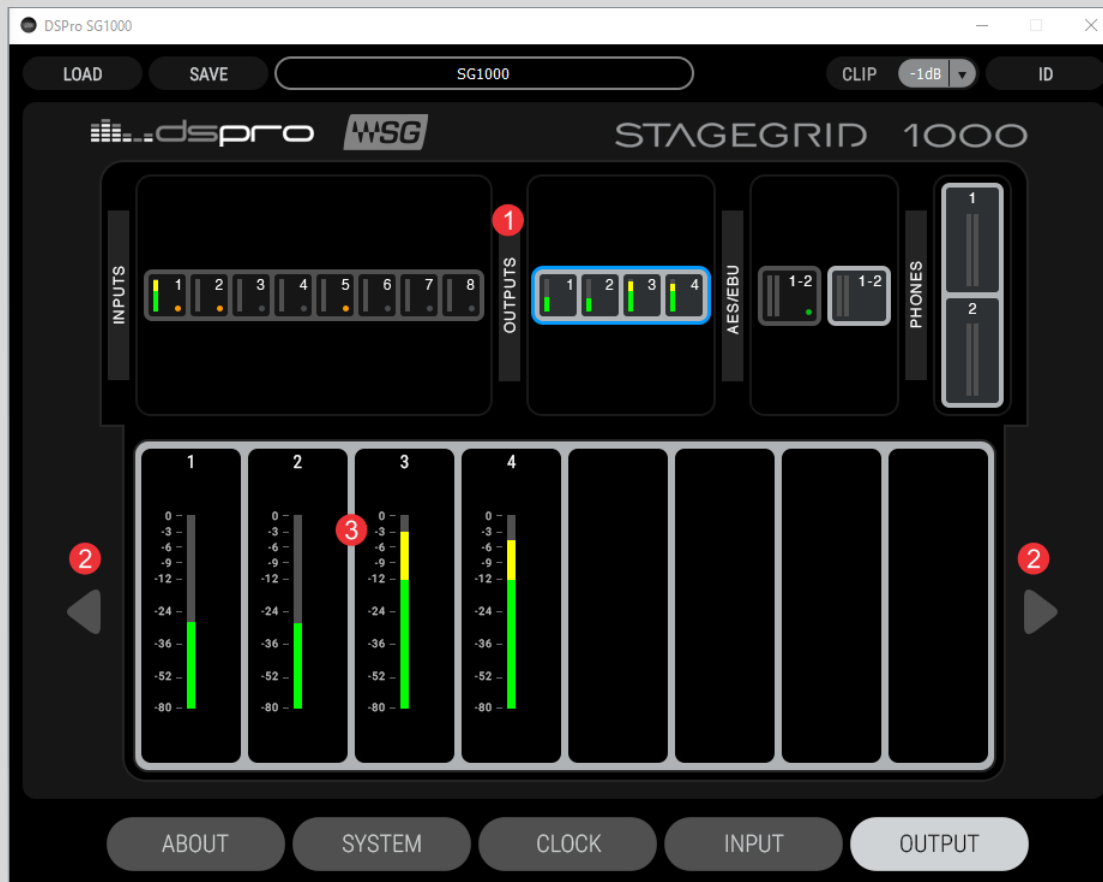
## AES Input tab



### 1. SYNC: AES/EBU operation status:

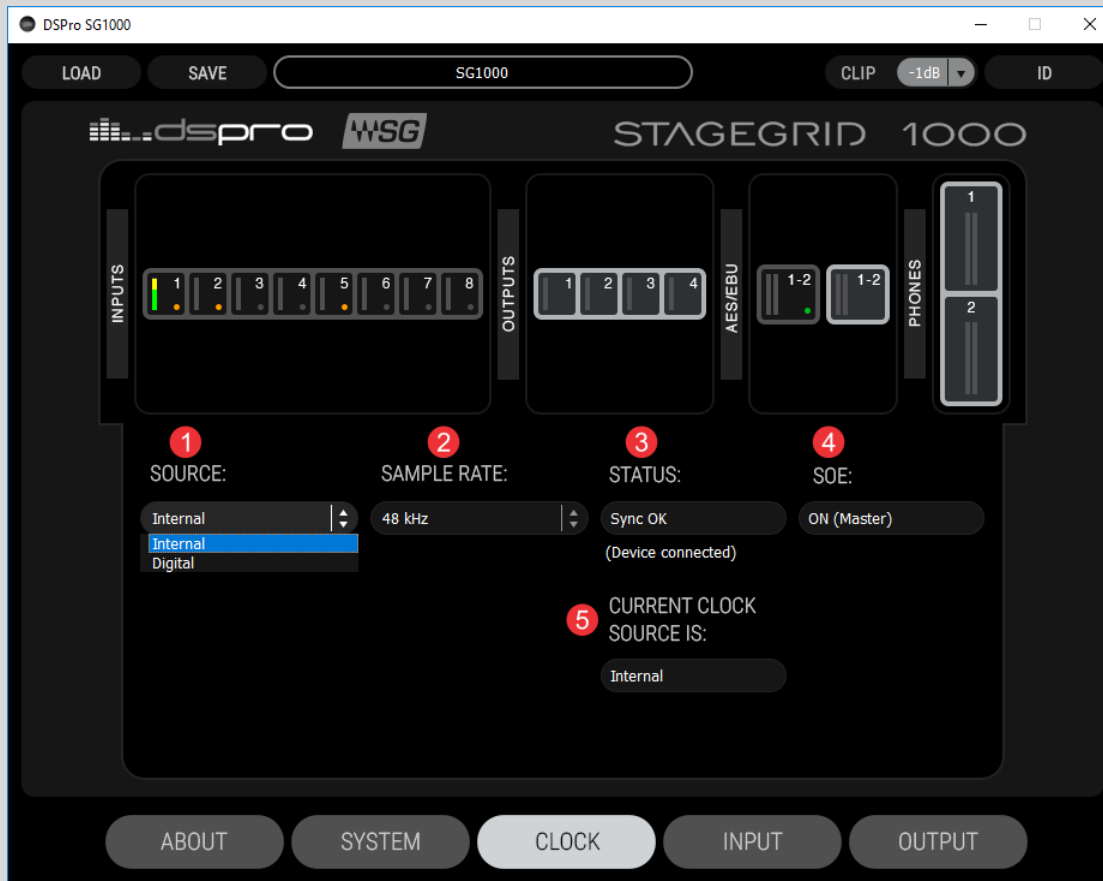
- Green: synchronized
- Orange: clock slip. Same sample rate but non-identical clock
- Red: different Sample Rate
- Grey: no signal

## Output Tab



1. Selected channel group
2. Channel group navigation arrows
3. Detailed output level meter

## CLOCK Tab



### 1. SOURCE: the device clock source.

When the device is the SOE Master, options are:

- Internal: clock is internally generated
- Digital: clock is synchronized to AES/EBU input 1.

When the device is SOE Slave, no option is available.

2. **SAMPLE RATE:** selects the Network Sample Rate between: 44.1 kHz, 48 kHz, 88.2 kHz and 96 kHz. Only available when device is SOE Master.
3. **STATUS:** current selected clock source synchronization status
4. **SOE:** indicates whether the device is Clock Master or Slave from the network (SOE).
5. **CURRENT CLOCK SOURCE:** Indicates the current clock source based on previous configurations and fallback mechanisms.

## Firmware Update

On the Inventory screen, the allocated devices with available updates will have the FW button with the following colors:

- GREEN: if it is an optional update
- RED: If the update is mandatory. It will not be possible to use the unit without performing the update
- GREY: current firmware is up-to-date

In the event of a failure in the upgrade process, or any other failure that prevents the device from being recognized by the Host application, the following recovery procedure may be performed:

1. Turn off the power
2. Press the reset button "R" (on the front panel of the device)
3. Turn on the device while keeping the reset button pressed
4. Release the button only after the device has started

This will boot the equipment into forced update mode, which can be verified by a yellow "NET" LED.

## SPECIFICATION

### Dimensions:

Height: 44mm (1RU)

Width: 430mm (for 19" rack)

Depth: 300mm (connectors excluded)

### Power supply:

Voltage: 110 to 240 Vac

Frequency: 50 / 60 Hz

Power: 25W

### Environmental specifications:

Operating Temperature: 0 to 40°C

Relative Humidity: up to 90% non-condensing

### Interfaces:

Analog Inputs: 8

Analog Outputs: 4

AES/EBU inputs: 1

AES/EBU Outputs: 1

Ethernet SoundGrid: 1

Headphones: 2

Analog Inputs:

Impedance: 2.86 kOhms

Gain range: -4 to 60 dB

Max Input Level: 28 dBu (-4 dB gain)

Dynamic range: 115 dB (-60 dBFS, 20 dB gain, 1 kHz, A-weighted)

THD: 0.002 % (-1 dBFS, 20 dB gain, 1 kHz, A-weighted)

Equivalent Input Noise: -128 dBu (60 dB gain, A-weighted, 150 Ohms)

Frequency response: +/- 0.1 dB (20 to 40 kHz at 96 kHz sampling rate)

Phase Shift: <math><10^\circ</math> at 20 kHz

Analog Outputs:

Output Impedance: 50 Ohms

Max Output Level (0dBFS): 24 dBu

Dynamic range: 115 dB (-60 dBFS, 1 kHz, A-weighted)

THD: 0.002 % (-1 dBFS, 20 dB gain, 1 kHz, A-weighted)

Frequency response: +/- 0.1 dB (20 to 40 kHz at 96 kHz)



Phase shift: <math><5^\circ</math> at 20 kHz

AES/EBU IN/OUT:

Standard: AES3 (2009)

Sample rates: 44.1, 48, 88.2 and 96 kHz

Impedance: 110 Ohms

Headphones:

Output Power: 150 mW per channel on 16 Ohms

Dynamic range: 100 dB

SoundGrid:

Interface: Gigabit Ethernet

Connector: Neutrik EtherCON