STEINWAY
LYNGDORF

AES Integration manual

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AES EXPLAINED

The processors can be installed with modules enabling the following interfaces:

- AES3 inputs
- AES3 outputs (MP-60 only)
- AES67 in- and outputs (MP-60 only)
- AES67 input (P300 only)

The AES67 interface module can be combined with any of the AES3 modules, but you can only use one of the boards as input. So, you can have combine the AES3 input board with the AES67 module and only use the AES67 as output. Likewise, you can use the AES67 as input and the AES3 output board as output. Both the AES3 input module as well as the AES3 output module can be installed simultaneously.

The modules must be installed at the factory workshop.

AES3

This format (also known as AES/EBU) was developed by the Audio Engineering Society (AES) for professional installations to transmit a balanced digital stereo signal between products with cable lengths up to 1000 meters. The digital audio signal is basically the same as the unbalanced SP/DIF type used for shorter unbalanced connections of consumer products.

As this connection does not transmit encoded audio signals, using the AES3 digital input module requires a movie server, which can decode the format played and transmit each channel separately. These professional movie servers normally feature uncompressed audio in a higher quality than available from consumer products.

The AES3 digital output module can be used to connect the Lyngdorf MP-60 with active speakers or amplifiers featuring digital audio inputs, like the Lyngdorf SDA-2400.
When ordering the MP-60 with the AES3 Output module, you need to specify the sample-rate of the output signal. Default is 96 kHz, but the module can be set to 48 kHz.

AES67

This format is a technical standard developed by the Audio Engineering Society for Audio over Ethernet (AoE) allowing for communication of data as well as the audio signals between products. The products connect through Ethernet routers and switches and are configured with a computer running an AES67 interface program. The sample-rate of the audio is fixed at 48 kHz.

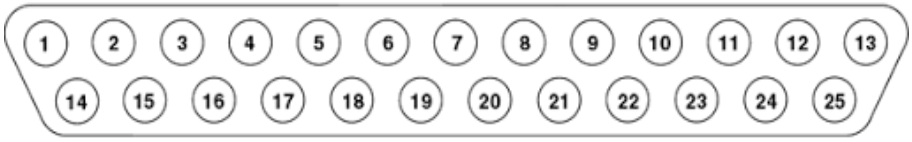
The Steinway & Sons, Model P300 can only be fitted with the AES3 and the AES67 ***input****, as for the output it is using the proprietary Steinway Link for communication and audio transmission to the Steinway & Sons amplifiers .*

How to connect with AES Sources

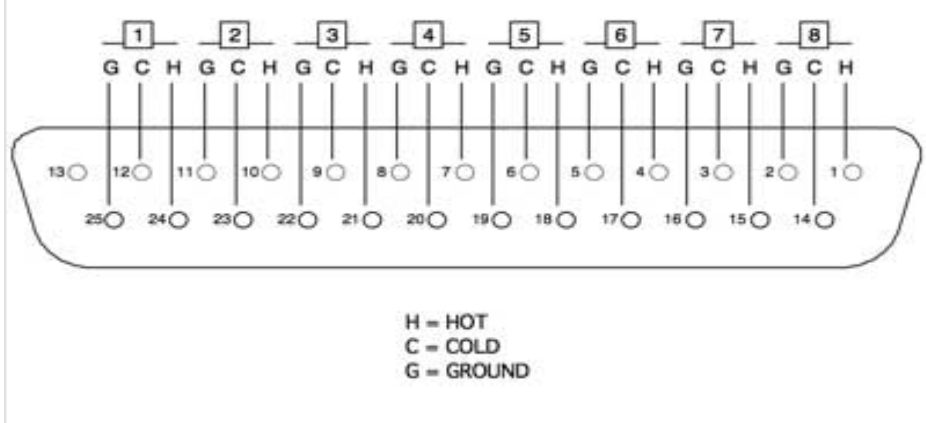
As an example the below photo shows AES modules installed in the rear panel of a Lyngdorf Audio MP-60.

AES3 Pin Configuration

All connections are galvanically separated from the internal processing, and below you will find the pin numbering of the SUB-D (DB25) female connector on the processor. Use the Verify Speaker feature of the processor to ensure that the connections on the output are correct.

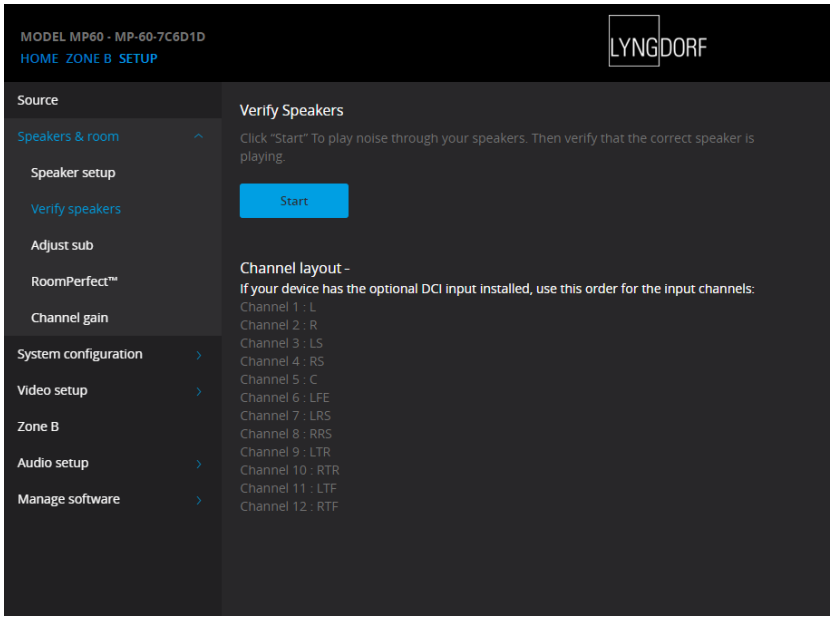


The 8 stereo pairs of digital audio (16 channels) signals are distributed as described in this drawing of a male connector. A break-out cable for stereo SP/DIF connections should have the Ground and Cold pins from the SUB-D connected to the shield of the RCA connector.



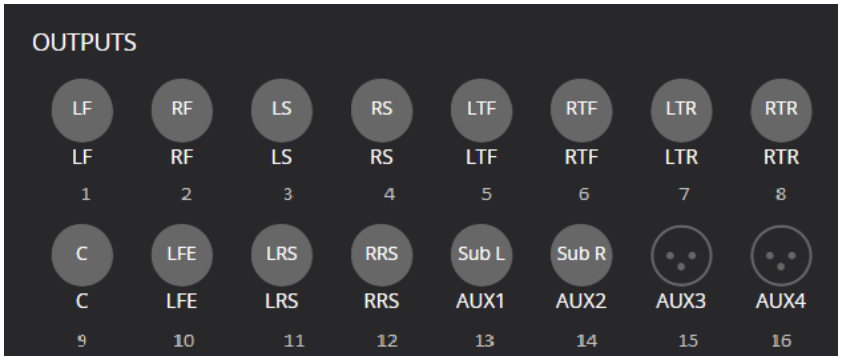
AES3 Input / Channel identification

In the processor you must have specified your speaker setup (see separate manual), why you under the menu, Verify Speakers, will find the information as to the numbering of each channel required for connecting to your speaker setup.



AES3 Output / Channel identification

The digital channels are identical to

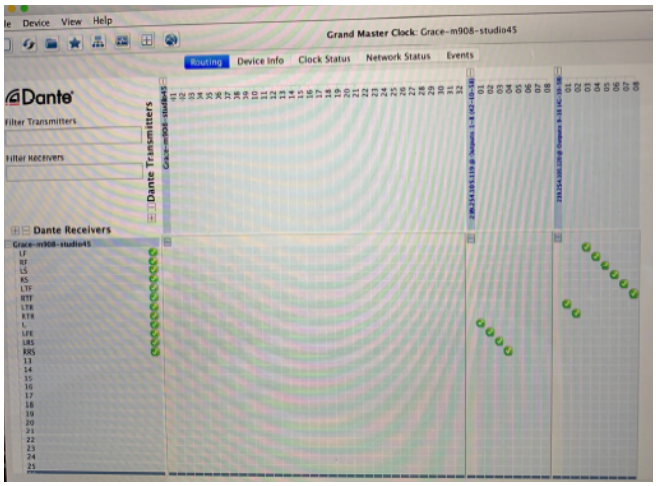


AES67 Configuration

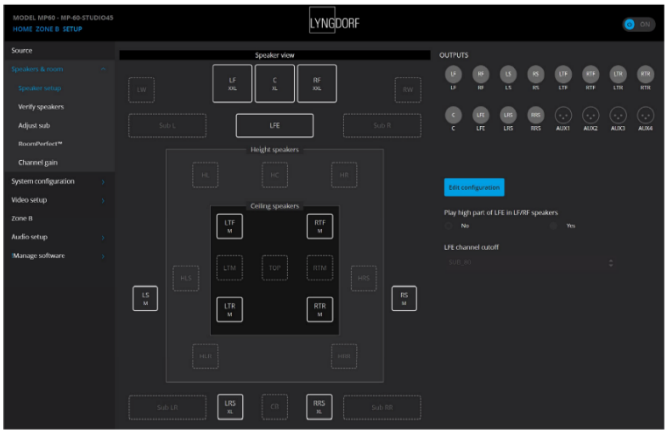
The connection of AES67 enabled products employ standard Ethernet cables and shielded CAT6 type is recommended. Input- and Output-channels are identified on a network connected device through AES67 control software.

SOFTWARE

In order to control AES67 operations, you need to use a control software like the Dante Controller, which is a free download available for MacOS and Windows (https://www.audinate.com/products/software)



Through this software you will be able to identify, name and direct audio streams from source to recipient.



In AES67 the channels are divided into 2 groups of 8 channels each. The channels are directly linked to the analog output setup.

A typical 7.1.4 setup could in the Dante controller be listed as:

Dante No.	Audio Stream	AES67 Channel	Outputs 1-8	Outputs 9-16
1	LF	11		3
2	RF	12		4
3	LS	13		5
4	RS	14		6
9	C	1	1	
10	LFE	2	2	
11	LRS	3	3	
12	RRS	4	4	
5	LTF	15		7
6	RTF	16		8
7	LTR	9		1
8	RTR	10		2

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