



## FEATURES

- Low-Noise, Low-Offset, Dual Channel Amplifier
- DC-Coupling
- 2 Ohm load operation
- Signal indication

## BENEFITS

- Simplified All-In-One Measurement Setup
- dB-Lab integrated health monitoring
- SW-controlled DC-output
- Short-circuit proof

## DESCRIPTION

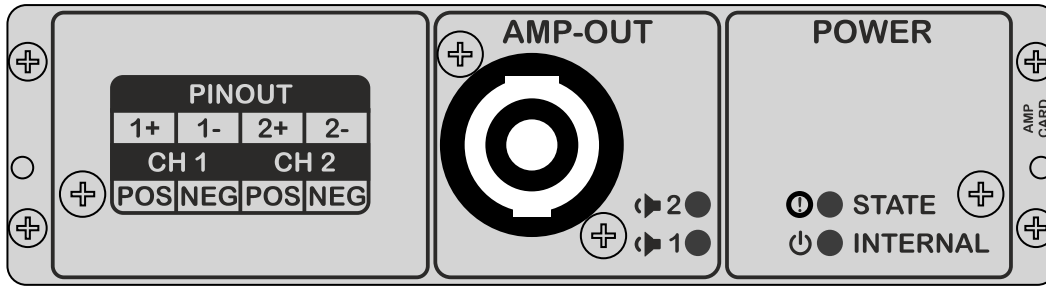
The Amplifier-Card extends the Klippel Analyzer 3 with a stereo, medium power amplifier forming a compact measurement system. It provides low impedance, high current outputs to drive low-impedance drivers. Being fully DC-coupled allows it to apply DC levels in addition to a stimulus, thus forming a powerful source for cone vibration evaluation and controlled-sound applications.

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## 1 Introduction



Amplifier-Card

Element	Comment
<b>AMP-OUT</b>	Dual channel amplifier output with signal indicators for channel 1 and 2
<b>POWER</b>	The "State" LED indicates errors. The "Internal" LED indicates the power status.

## 2 Specification

### 2.1 Maximum/Minimum Ratings

One channel driven unless otherwise stated

Parameter	Conditions	Min	Max	Unit
P <sub>Out</sub> <sup>1</sup>	4 Ω load		45	W
	2 Ω load		45	
V <sub>Out</sub> <sup>2</sup>	-40 dB (1 %) THD at 1 kHz sinusoid, fs = 48 kHz	4 Ω load	20	V <sub>peak</sub>
		2 Ω load	18	
Load Impedance		2		Ω
Short Circuit Duration			infinite	s

### 2.2 Electrical Specification

One channel driven unless otherwise stated

Parameter	Conditions	Min	Typ	Max	Unit
Frequency Range <sup>3</sup>		0		20k	Hz
THD <sup>3</sup>	15 W, 4 Ω load, 1 kHz sinusoid, fs = 48 kHz		-75		dB
IMD	SMPTE, 4 Ω load, Ch. 1 total output power = 15 W		-39		dB
Offset Voltage (absolute)	at 0 digital input signal		50		μV
Output Noise	BW = 20 kHz		70		μV <sub>rms</sub>
Power Stage Switching Frequency			384		kHz

<sup>1</sup>See section Limitations for derating and details

<sup>2</sup>This is specified at the Amplifier-Card output. Therefore, the voltage at the load may be lower for the given distortion depending on the connection between the Amplifier-Card output and the load.

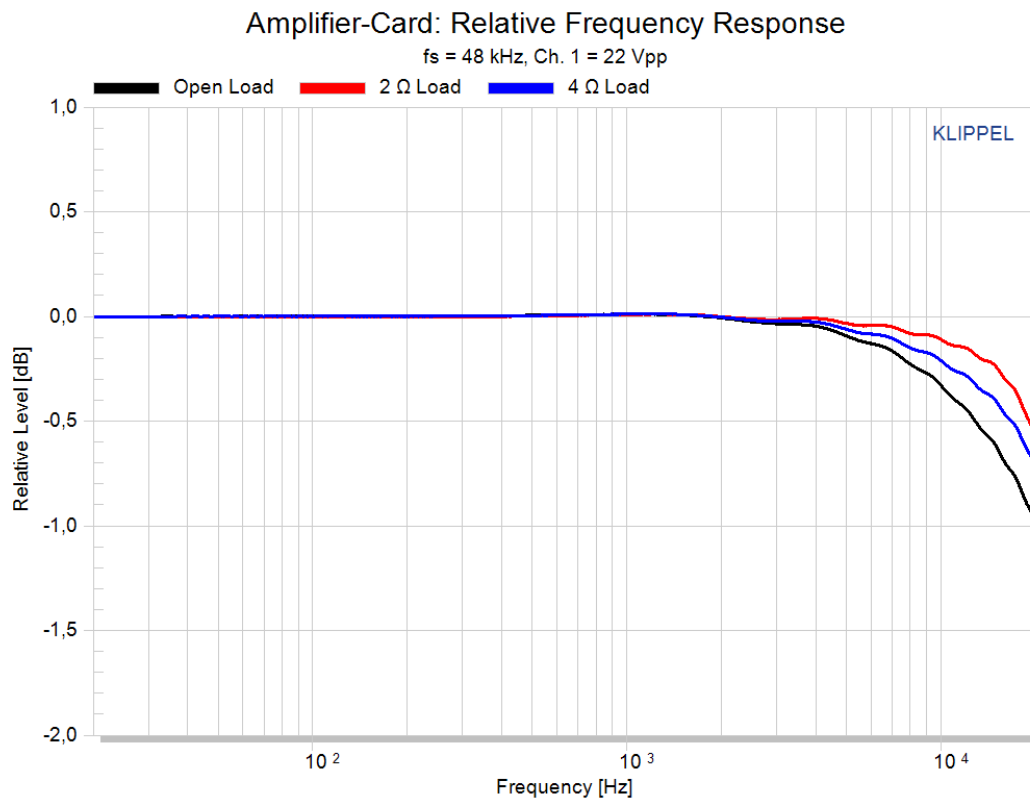
<sup>3</sup>See Appendix for details

### 3 Limitations

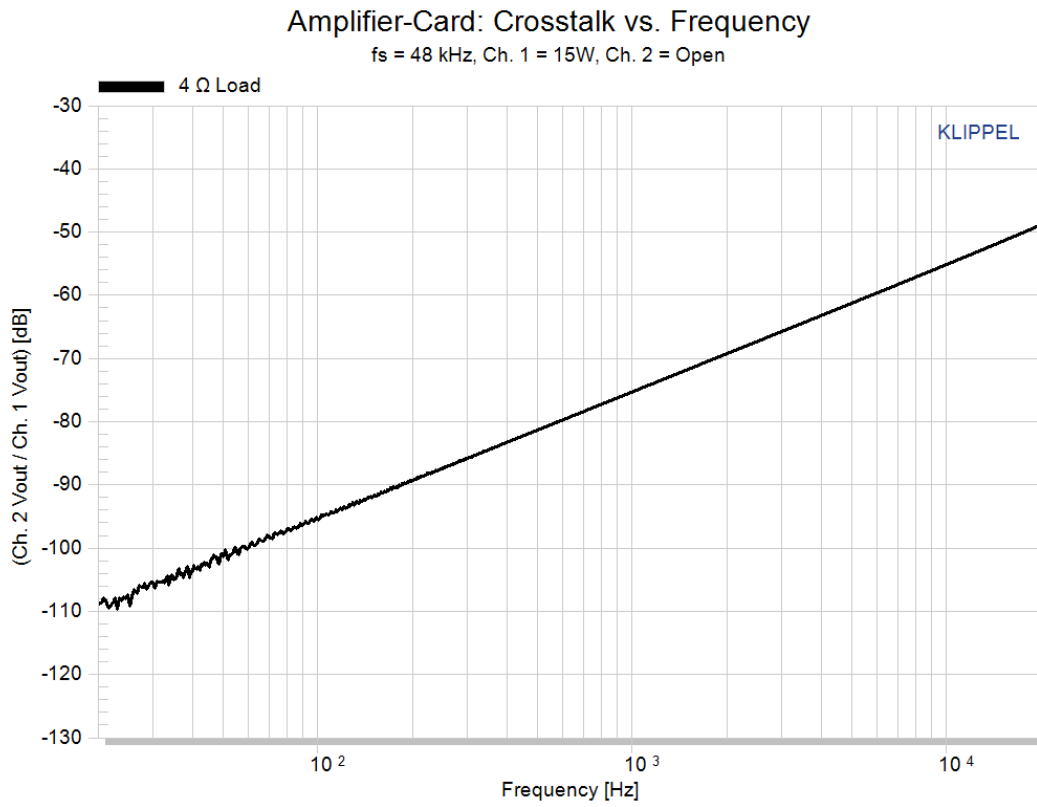
Amplifier output power is thermally limited, hence influenced by ambient temperature and KA3 configuration. Stated values are only valid for a KA3 equipped with Amplifier-, Laser-, Speaker- and XLR-Card operated at room temperature.

## 4 Appendix

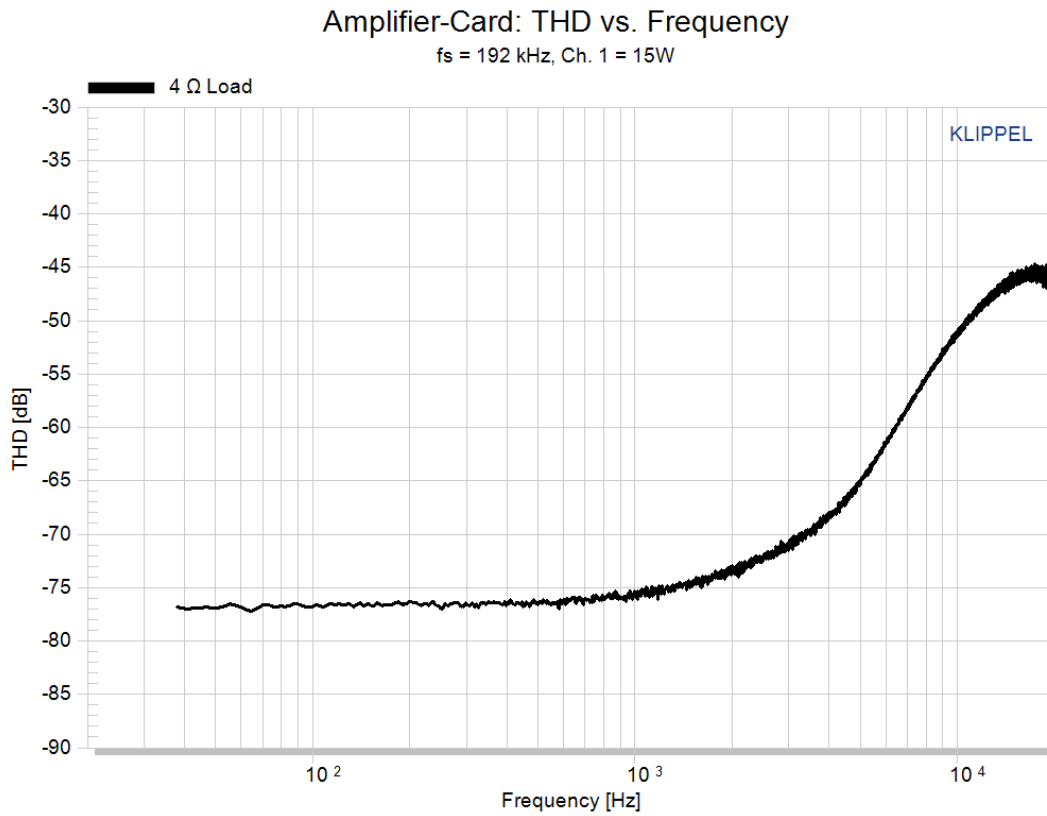
### 4.1 Frequency Response



### 4.2 Interchannel Crosstalk



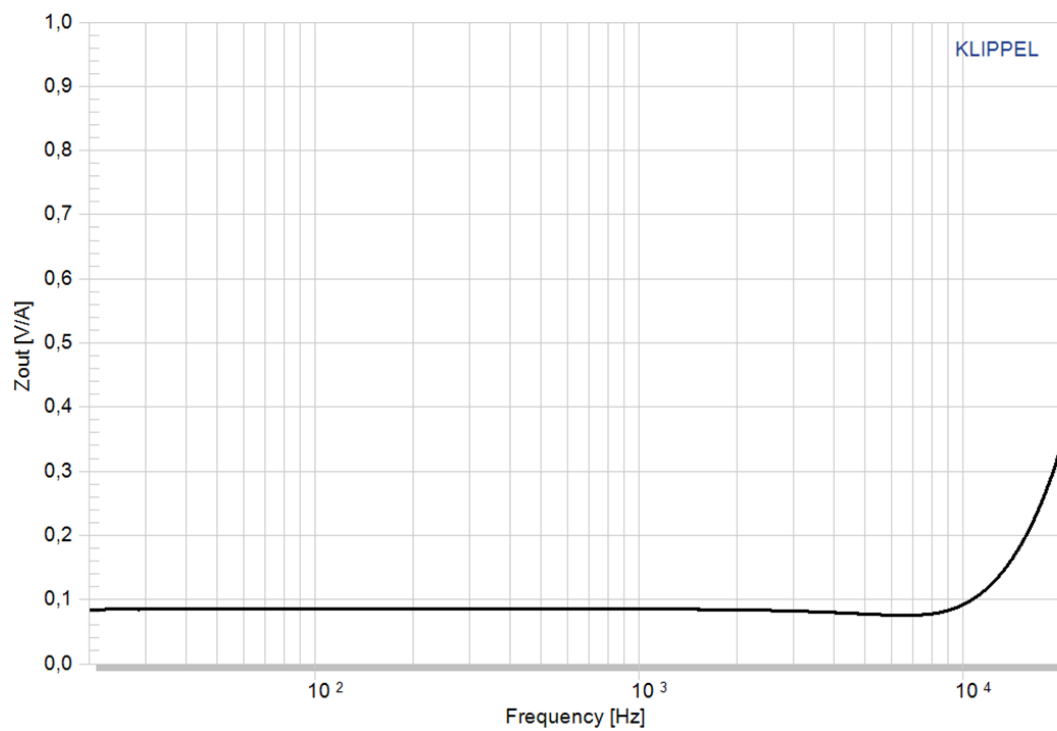
### 4.3 THD vs. Frequency



#### 4.4 Output Impedance

##### Amplifier-Card: Output Impedance vs. Frequency

$f_s = 48 \text{ kHz}$



Find explanations for symbols at:

<http://www.klippel.de/know-how/literature.html>

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