Amplifier-Card H6

Hardware Extension for the Klippel Measurement System (Revision 1.1)

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

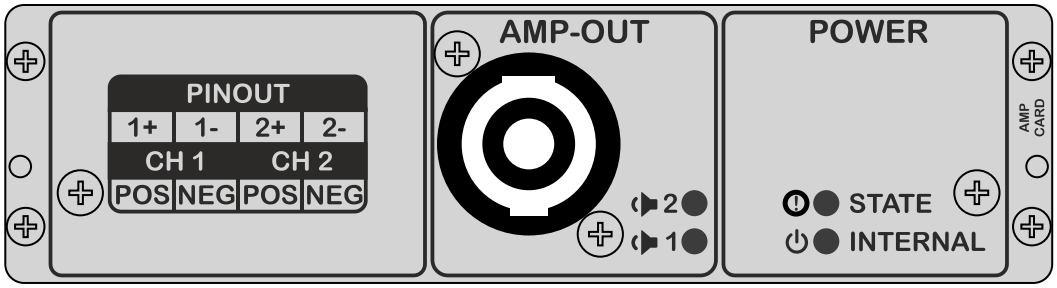
DESCRIPTION

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.

Article number	2416

CONTENT

1 Introduction



Amplifier-Card

Element	Comment
AMP-OUT	Dual channel amplifier output with signal indicators for channel 1 and 2
POWER	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_{Out} [1]	4 Ω load			45	W
	2 Ω load			45	
V_{Out} [2]	-40 dB (1 %) THD at 1 kHz sinusoid, fs = 48 kHz	4 Ω load		20	V_{peak}
		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 [3]		0		20k	Hz
THD [3]	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		-62		dB
Offset Voltage (absolute)	at 0 digital input signal		50		µV
Output Noise	BW = 20 kHz		70		μV_{rms}
Power Stage Switching Frequency			384		kHz

[1] See section Limitations for derating and details

[2] 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.

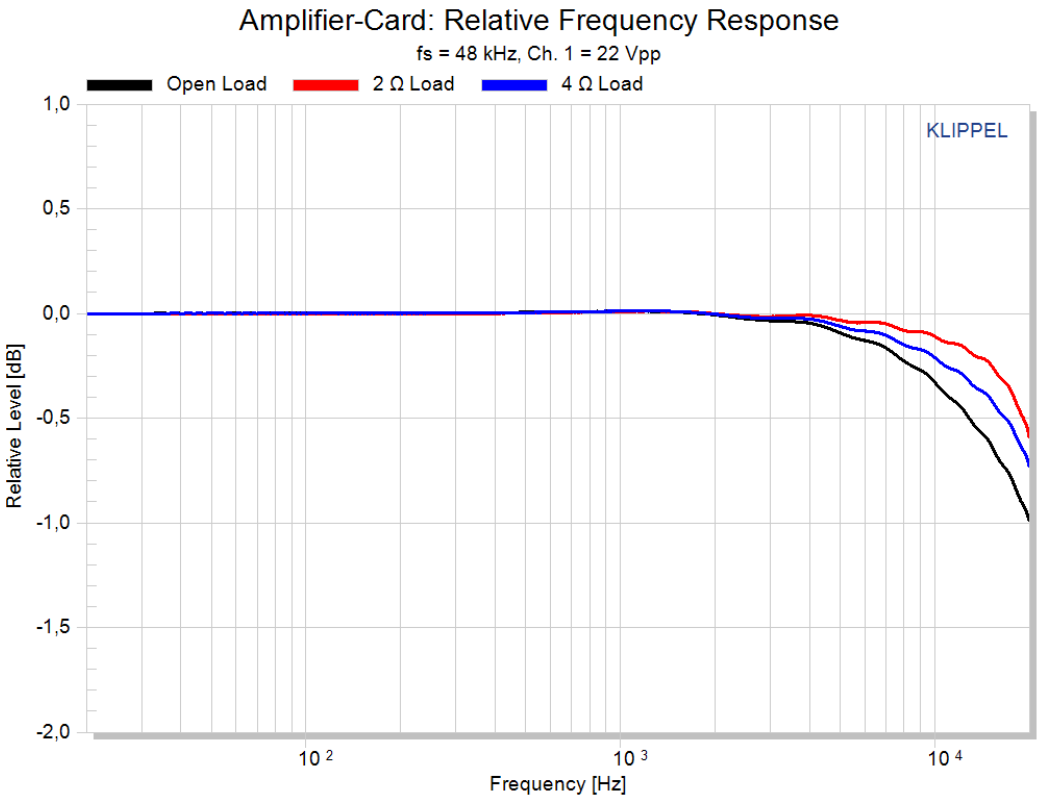
[3] See Appendix for details

3 Limitations

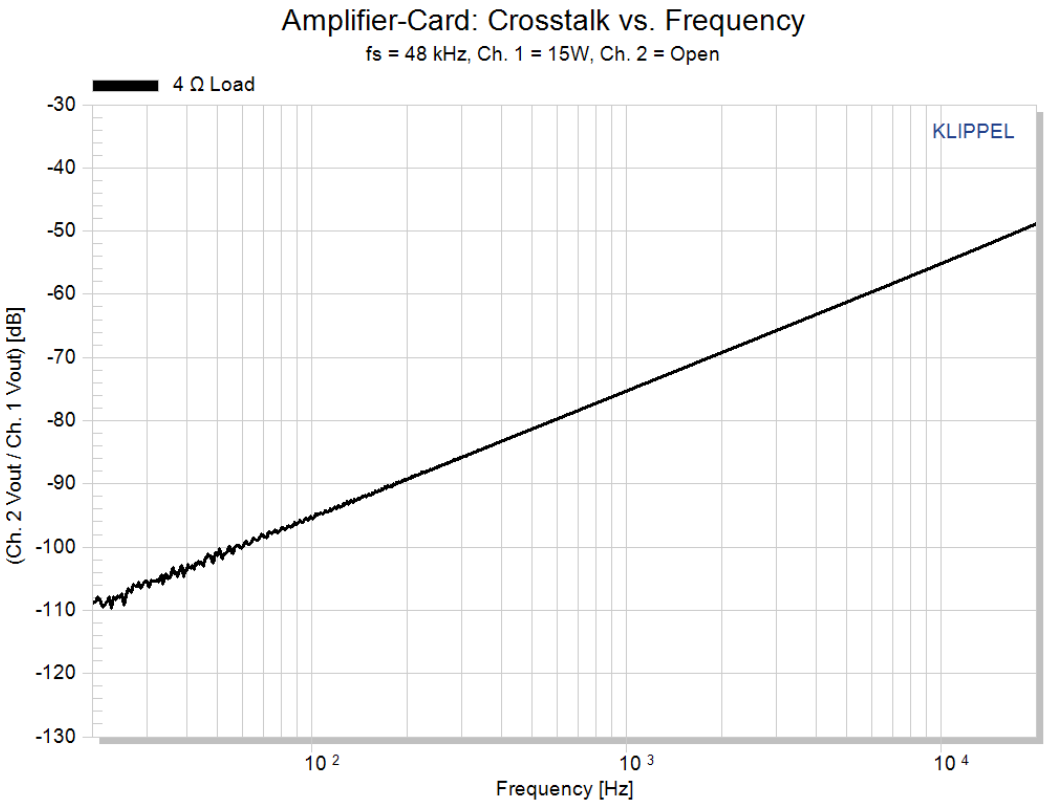
Amplifier output power is thermally limited, hence influenced by ambient temperature and KA3 configuration. Stated values are only valid for a KA3 equipped with Amplifier-, Laser-, Speaker- and XLR-Card operated at room temperature.

4 Appendix

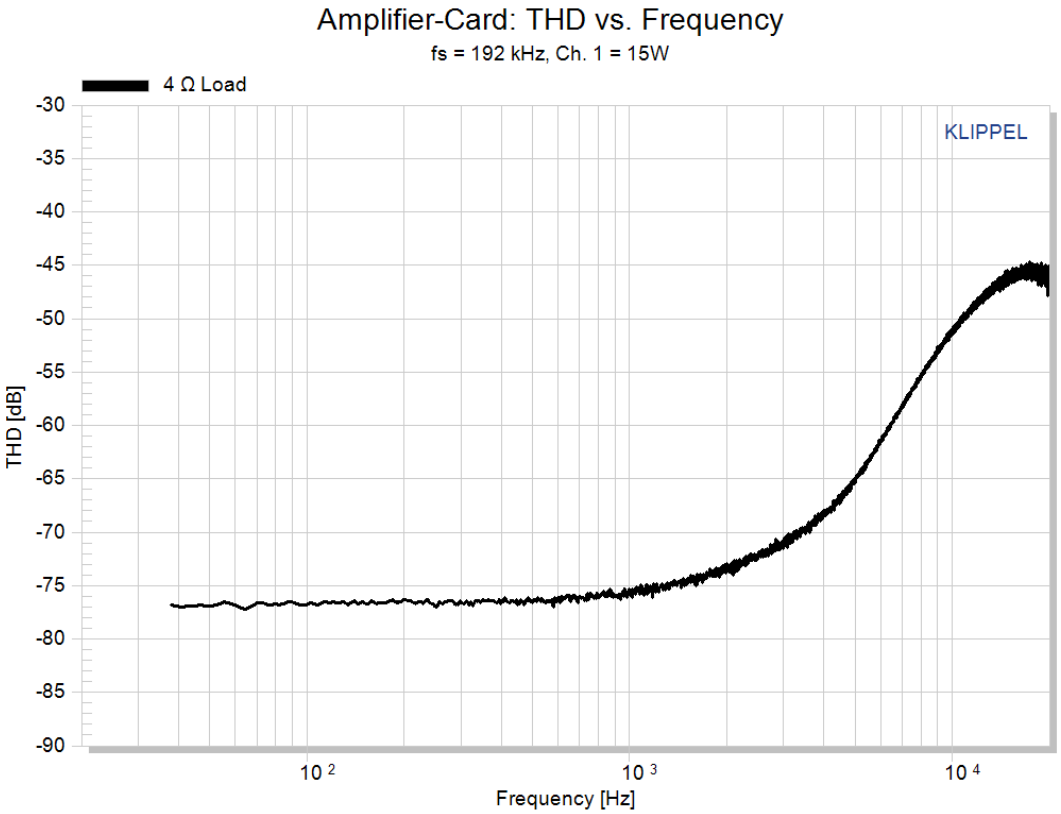
4.1 Frequency Response



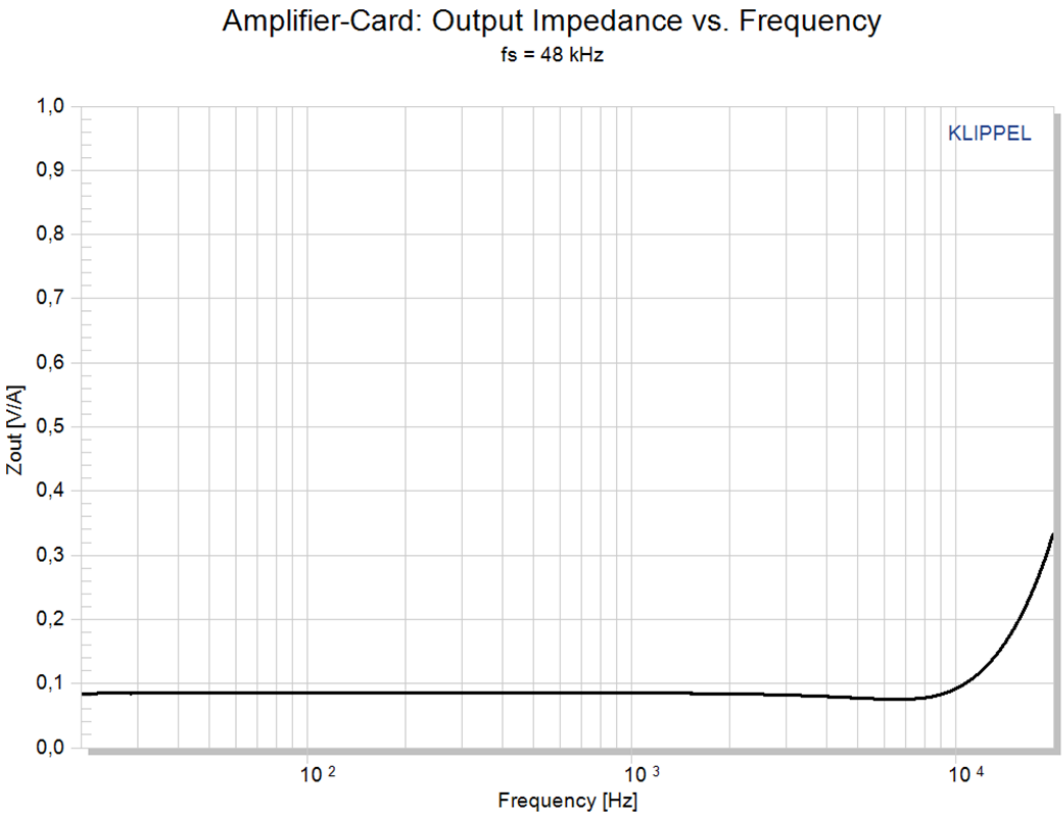
4.2 Interchannel Crosstalk



4.3 THD vs. Frequency



4.4 Output Impedance



Find explanations for symbols at:
http://www.klippel.de/know-how/literature.html
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