MegaSig

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PM 6181 差分音频分析仪

产品规格书

PM 6181 Differential Audio Signal Analyzer

Product Specification

产品规格书-中文 1
Product introduction-EN 6

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产品简介



PM 6181 差分音频分析仪

PM 6181是一款专门针对声音与振动测试而设计的音频分析仪。

8 通道模拟信号输入，可选择启用或禁用 IEPE 恒流源激励器，用于调理麦克风，人工耳，加速度计等 IEPE 供电传感器。

2 通道模拟信号输出，可选择直接线路出或连接功放底板后输出，进而实现人工嘴驱动，喇叭等大功率负载驱动。

该产品具有通道资源丰富，指标优秀，能满足消费类电子行业、汽车行业、白色家电行业声学测试。

功能特点

- 8 通道线路输入，2 通道线路输出
- 差分信号
- 内置IEPE电源，2通道功放

规格参数

产品参数	
模拟采集通道数	8
模拟输出通道数	2
IEPE 通道	8路（内置在采集前端）
IEPE 电源	4mA
功放通道	2通道
功放功率	16W（每通道）
总线	USB
产品尺寸 L*W*H (mm)	240*270*76.5（不含BNC）
接口类型	BNC
耦合方式	AC/DC耦合
适用温度	-20℃ ~ 50℃

AI模拟采集通道特性参数

AI 通道参数	
ADC 精度	24 Bit
ADC 类型	Δ-Σ
采样率范围	1k-192k
FIFO 缓冲大小	1024
数据传输方式	DMA
输入电压范围	+/- 4.5Vrms
增益误差	+/- 0.03dB
输入阻抗	正输入端对地之间：100K ohm
平坦度	20Hz~20kHz，最大值0.03dB 5Hz~50kHz，最大值0.2dB

AI 空闲通道噪声 Idle noise (uVrms)		
采样率	fs=48kS/s	fs=96kS/s
最大值	13	15
注：[1]短路源阻抗小于 50Ω，工作温度 23±5℃		

AI 信噪比 SNR (dB)		
采样率	fs=48kS/s	fs=96kS/s
最小值	110	109
注：[1]差分输入，交流耦合，输入信号 1kHz 正弦波，0dBFS (4.5Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AI 动态范围 (dB)		
采样率	fs=48kS/s	fs=96kS/s
最小值	104	104
注：[1]差分输入，交流耦合，输入信号 1kHz 正弦波，-1dBFS (4.01Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权，DR测试法		

AI 总谐波失真加噪声 THD+N (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-98	-96
注：[1]差分输入，交流耦合，输入信号 1kHz 正弦波，-1dBFS (4.01Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AI 总谐波失真 THD (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-100	-99
注：[1]差分输入，交流耦合，输入信号 1kHz 正弦波，-1dBFS (4.01Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AI 串扰 Cross talk (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-100	-100
注：[1]差分输出，交流耦合，输入信号 1kHz 正弦波，-1dBFS (4.01Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AO模拟采集通道特性参数

AO 通道参数	
DAC 精度	24 Bit
采样率范围	1k - 192k
输出电压范围	+/- 3Vrms
增益误差	+/- 0.03dB
输出阻抗	正输入端对负输入端：1ohm
平坦度	20Hz~20kHz，最大值0.05dB 5Hz~50kHz，最大值0.6dB

AO 空闲通道噪声 Idle noise (uVrms)		
采样率	fs=48kS/s	fs=96kS/s
最大值	15	20
注：[1]采集设备阻抗大于1Mohm，工作温度为 23±5℃		

AO 信噪比 SNR (dB)		
采样率	fs=48kS/s	fs=96kS/s
最小值	105	95
注：[1]差分输出，交流耦合，输出信号 1kHz 正弦波，0dBFS (3Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AO 动态范围 (dB)		
采样率	fs=48kS/s	fs=96kS/s
最小值	102	102
注：[1]差分输出，交流耦合，输出信号 1kHz 正弦波，-1dBFS (2.67Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权，DR测试法		

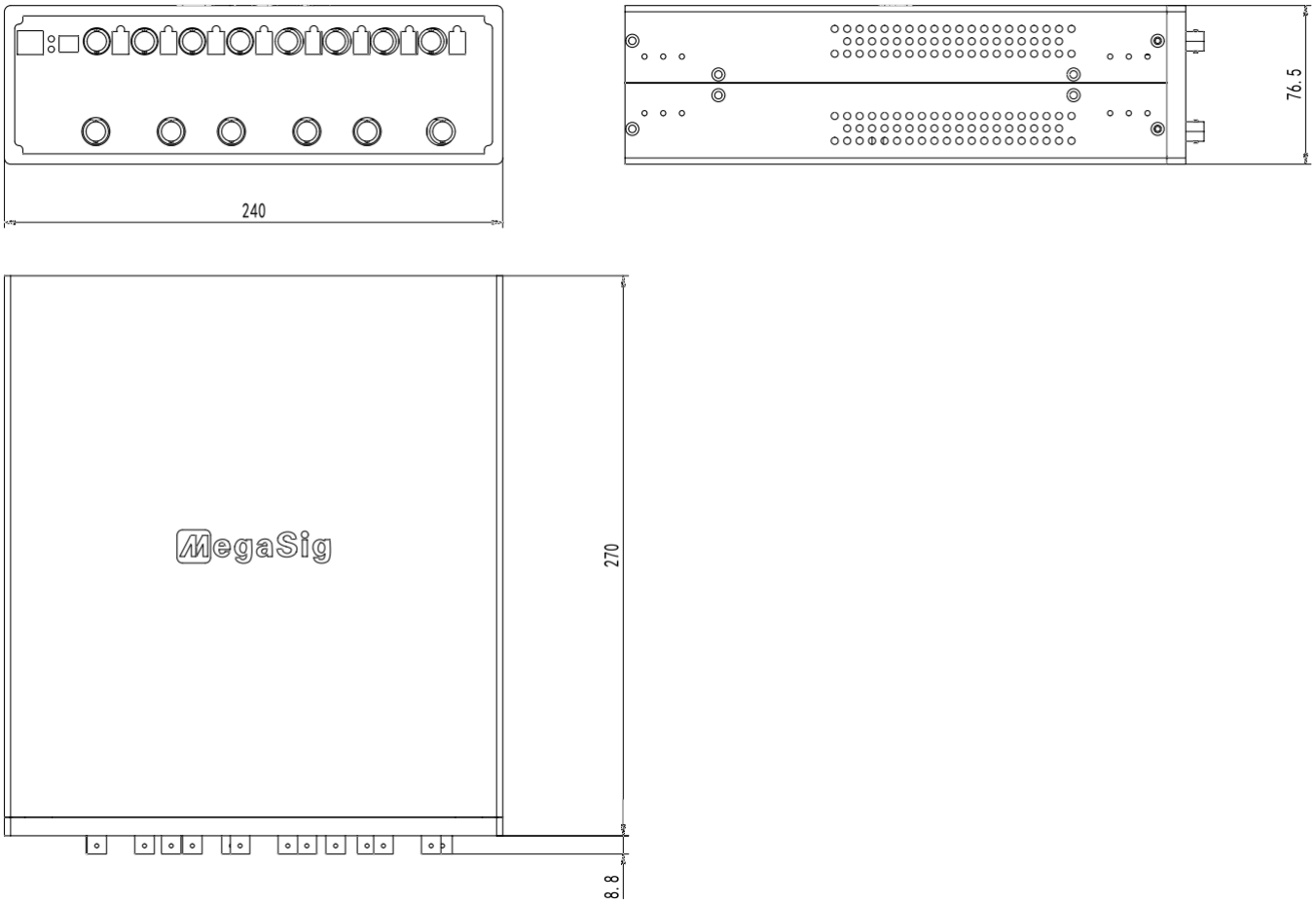
AO 总谐波失真加噪声 THD+N (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-95	-95
注：[1]差分输出，交流耦合，输出信号 1kHz 正弦波，-1dBFS (2.67Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AO 总谐波失真 THD (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-100	-100
注：[1]差分输出，交流耦合，输出信号 1kHz 正弦波，-1dBFS (2.67Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

AO 串扰 Cross talk (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-98	-93
注：[1]差分输出，交流耦合，输出信号 1kHz 正弦波，-1dBFS (2.67Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

尺寸与结构

单位: mm



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Product introduction



PM 6181 DifferentialAudio Analyzer

PM 6181 is an audio analyzer designed specifically for sound and vibration testing.

8-channel analog signal input with optional IEPE constant current source exciter enabled or disabled for conditioning IEPE-powered sensors such as microphones,accelerometers, etc.

2-channels of analog signal output, which can be directly routed out or connected to the amplifier base plate and output, and then realize the high-power load drive such asartificial mouth and speaker.

This product offers abundant channel resources and excellent performance, making it a cost-effective audio analyzer capable of meeting the demands of mass production acoustic testing for sensors.

Features

- 8-channel line input, 2-channel line output
- Differential signals
- Built-in IEPE power supply，2-channel power amplifier

Specification parameters

Specification	
Number of analog input channels	8
Number of analog output channels	2
IEPE channel	8-channel (built-in the collection front end)
IEPE power supply	4mA
Power amplifier channel	2-channel
Amplifier power	16W (per channel)
Bus line	USB
Product dimensions L*W*H (mm)	240*270*76.5（Excluding BNC）
Interface type	BNC
Coupled mode	AC/DC

Operating temperature	-20℃~50℃

Analog input channel characteristic parameters

AI Channel Parameters	
ADC accuracy	24 Bit
ADC type	Δ-Σ
Sampling rate range	1k-192k
FIFO buffer size	1024
Data transmission mode	DMA
Input voltage range	+/- 4.5Vrms
Gain error	+/- 0.03dB
Input impedance	Between positive input and ground：100K ohm
Flatness	20Hz~20kHz，Maximum:0.03dB 5Hz~50kHz，Minimum:0.2dB

AI Idle Channel Noise (uVrms)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	13	15
Note：[1] Short-circuit source impedance less than 50Ω，operating temperature 23±5℃		

AI Signal Noise Ratio (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Minimum	110	109
Note：[1] Differential input，AC coupling，input signal 1kHz sine wave，0dBFS (4.5Vrms) [2] Bandwidths are respectively:22.4k,45k,90k [3] Linear weighting		

AI Dynamic Range (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Minimum	104	104
Note：[1] Differential input，AC coupling，input signal 1kHz sine wave，-1dBFS (4.01Vrms) [2] Bandwidths are respectively:22.4k,45k,90k [3] Linear weighting，Dynamic Range test method		

AI THD+N (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-98	-96
Note：[1] Differential input，AC coupling，input signal 1kHz sine wave，-1dBFS (4.01Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

AI THD (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-100	-99
Note：[1] Differential input，AC coupling，input signal 1kHz sine wave，-1dBFS (4.01Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

AI Cross Talk (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-100	-100
Note：[1] Differential input，AC coupling，input signal 1kHz sine wave，-1dBFS (4.01Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

Analog output channel characteristic parameters

AO Channel Parameters	
DAC accuracy	24 Bit
Sampling rate range	1k ~ 192k
Output voltage range	+/- 3Vrms
Gain error	+/- 0.03dB
Output impedance	Between positive input and negative ground：1ohm
Flatness	20Hz~20kHz， Maximum:0.05dB 5Hz~50kHz， Maximum:0.6dB

AO Idle Channel Noise (uVrms)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	15	20
Note:[1] Collecting device impedance is more than 1Mohm，operating temperature 23±5℃		

AO Signal Noise Ratio (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Minimum	105	95
Note：[1] Differential output，AC coupling，output signal 1kHz sine wave，0dBFS (3Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

AO Dynamic Range (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Minimum	102	102
Note：[1] Differential output，AC coupling，output signal 1kHz sine wave，-1dBFS (2.67Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

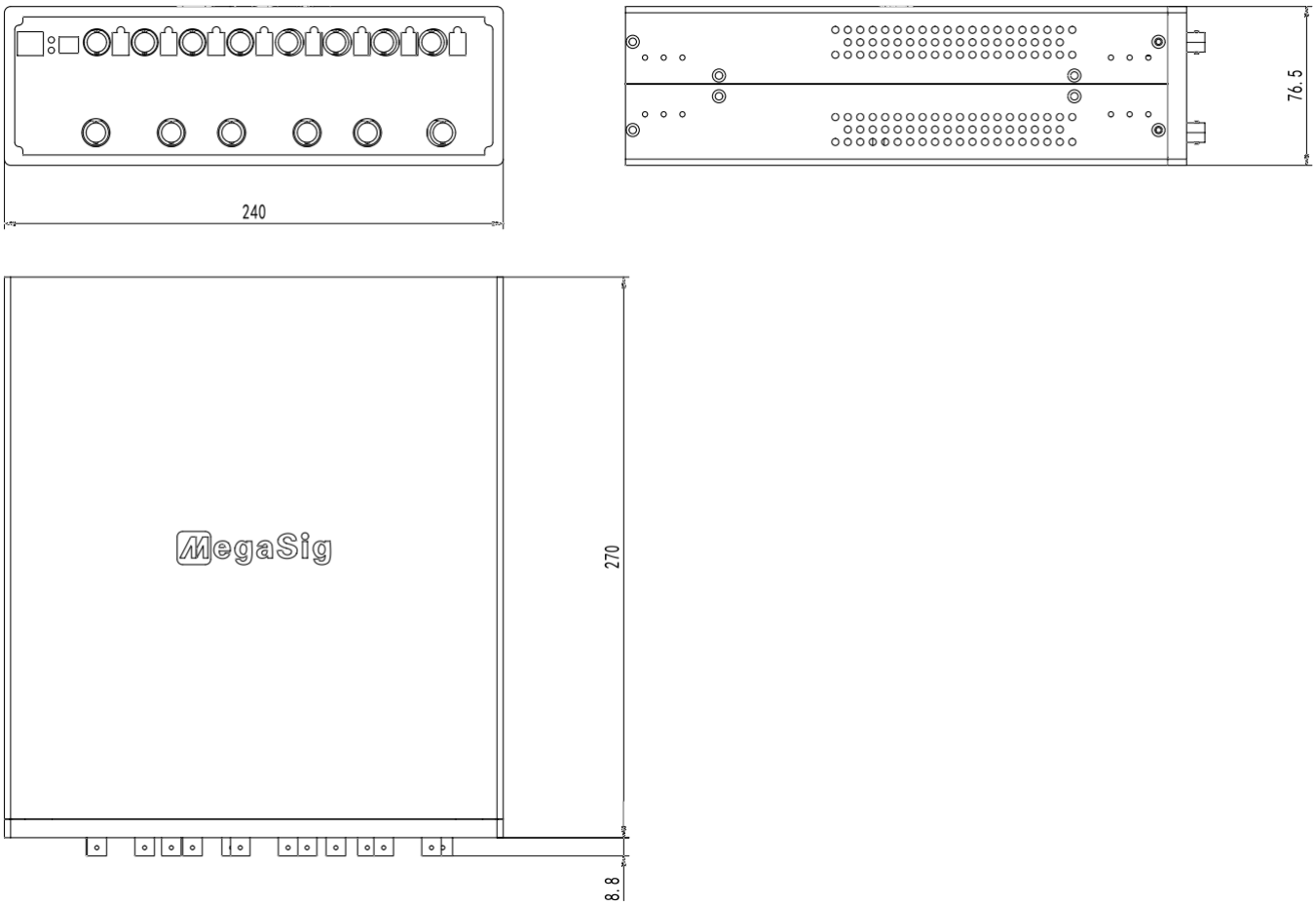
AO THD+N (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-95	-95
Note：[1] Differential output，AC coupling，output signal 1kHz sine wave，-1dBFS (2.67Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

AO THD (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-100	-100
Note：[1] Differential output，AC coupling，output signal 1kHz sine wave，-1dBFS (2.67Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

AO Cross Talk (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-98	-93
Note：[1] Differential output，AC coupling，output signal 1kHz sine wave，-1dBFS (2.67Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

Size and Structure

Unit: mm



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