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

从此文件发布日期起，在此发表的是当前或者拟定的信息。由于我们会不断对产品进行改进和增加特征此出版物中的信息如有变动恕不另行通知。

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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
- 具备TEDS功能

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°C ~ 50°C

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		

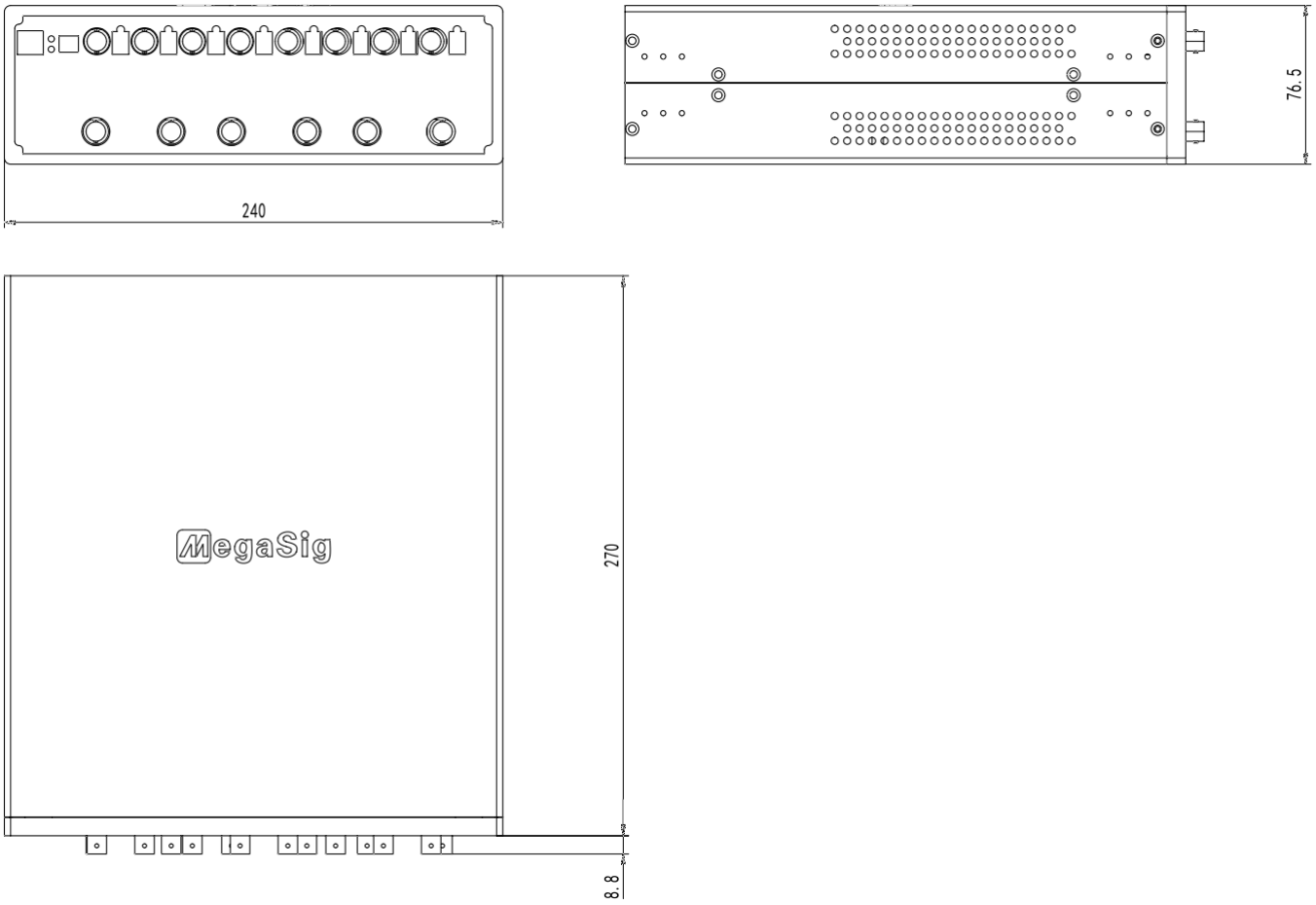
AO 总谐波失真加噪声 THD+N (dB)		
采样率	fs=48kS/s	fs=96kS/s
最大值	-95	-95
注：[1]差分输出，交流耦合，输出信号 1kHz 正弦波，-1dBFS (2.67Vrms) [2]带宽分别为 22.4k、45k、90k [3]线性计权		

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
- Provides the TEDS function

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		

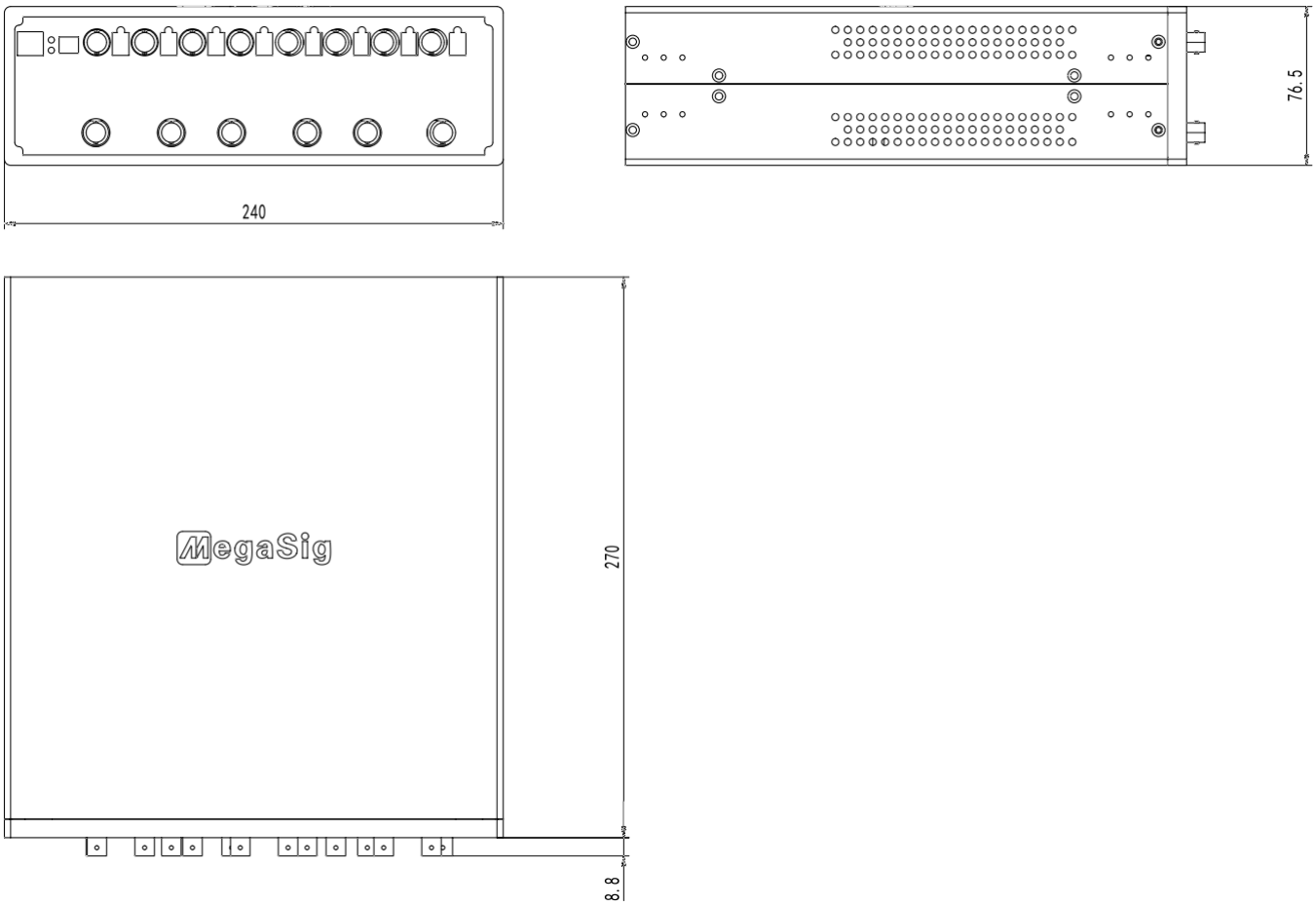
AO THD+N (dB)		
Sampling rate	fs=48kS/s	fs=96kS/s
Maximum	-95	-95
Note：[1] Differential output，AC coupling，output signal 1kHz sine wave，-1dBFS (2.67Vrms) [2] Bandwidths are respectively:22.4k, 45k, 90k [3] Linear weighting		

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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