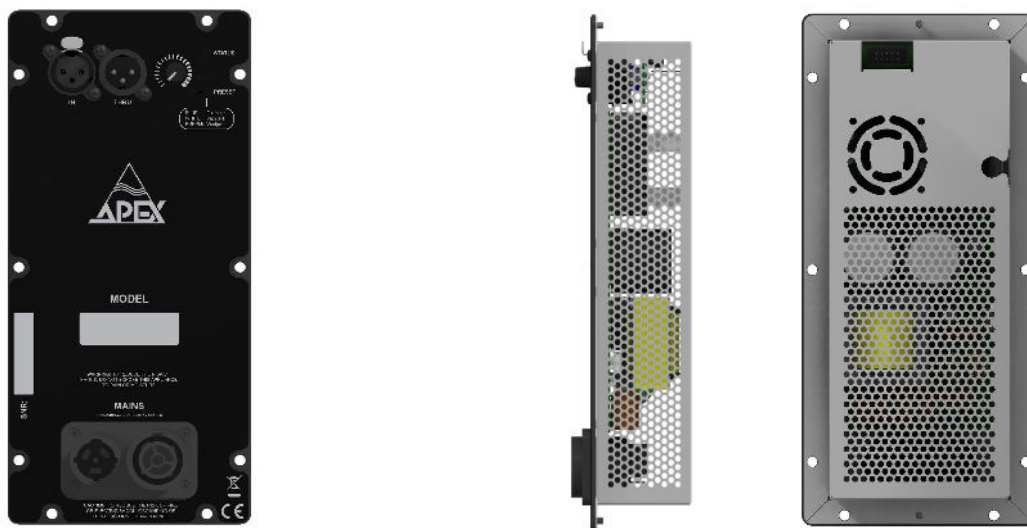


SMA-1

1000W-4ohm / 750W-8ohm
+ 300W-4ohm / 200W-8ohm
Amplifier with DSP

DATASHEET



SMA-1 is a self-powered Class-D amplifier module, designed to offer an easily customizable, turnkey OEM solution for active 2-way PA speakers. The heart of this solution is a purpose-designed amplifier module with a comprehensive set of bells and whistles on board, allowing it to be easily adapted to meet your brand's requirements without the need for a long, expensive custom development trajectory.

SMA-1 combines a switch mode power supply, two Class-D power amplifiers, a powerful Analog Devices ADAU1462 DSP supported by high-performance AKM Analog to Digital (AK5552VN) and Digital to Analog (AK4452VN) conversion stages and all the necessary analog circuitry, optimized for sonic performance on a single compact PCBA.

Customization is achieved by means of a small input connector PCB, allowing you to determine connector and control layouts and providing the potential to add further input sources, such as mic inputs, Bluetooth or network audio. You can also choose the user interface, from simple LED indicators to a full graphic display, in line with your budget, application and brand identity.

SMA-1's high-performance integrated DSP enables the user to easily implement custom filter algorithms and create their sound signature without having to worry about the hardware or any interconnections.

The SMA-1 module features APEX's GlidePath direct drive technology. GlidePath is a proprietary Class-D technology where the DSP is an integral part of the amplifier system. Other than one capacitor at the audio input side to protect amplifying DC voltages, the audio signal path traveling through the ADCDSP-DAC-AMPLIFIER is completely DC coupled.

GlidePath direct drive technology delivers major advantages over regular Class-D amplifiers, including significant improvements in cone excursion and transient response. A module equipped with GlidePath will clip later as the peak levels on both sides of the sinus are close to equal. In addition, GlidePath has more output at the initial impulse (+10%) and the cones swing less after the signal stops even at 200Hz (-10% excursion). All these improvements are very clearly audible and result in a cleaner, more powerful low end experience compared to traditional Class-D designs.

FEATURES

- Turnkey active speaker solution with integrated DSP
- Two Channels; 1 x 750W/8ohm & 1 x 300W/4ohm
- Super compact design
- Build-it active PFC
- Versatile input configuration



SPECIFICATIONS

Specification	Value
OUTPUT POWER	
LF	1000w @ 4ohm / 750w @ 8ohm
HF	300w @ 4ohm / 200W@ 8ohm
INPUTS	
Analog	Neutrik XLR input
LINK OUTPUTS	
Analog	Neutrik XLR output feedthrough
SPEAKER OUTPUTS	
Connector type	JST VH series 4pin
AUDIO SPECIFICATIONS	
Power stage	class D, DirectDrive
Frequency response	20 Hz - 20 kHz, ± 0.3 dB, load independant
Phase response	± 10 deg 20hz - 20kHz
THD+N	0,05% @ P/2, 20Hz- 20 kHz, 22 kHz BW
Dynamic range	110 dB, 20 Hz to 20kHz
Crosstalk	>70 dB
AUDIO MONITORING AND PROTECTION	
Protection	Look ahead Peak, RMS, Overcurrent limiter
Indicator	Multicolor LED indicating limiter activity
POWER SUPPLY	
Voltage	Universal switch mode power supply's with active PFC 100-240VAC \pm -10% 50-60Hz
SPEAKER PROCESSING FUNCTIONS	
Signal chain	Processing path configurable for Xover /PEQ / FIR / Dynamic EQ
Delay	0 to 400ms
PEQ	Configurable up to 200
FIR filters	Up to 4096 taps per channel @ 48K
Limiter	Dual-stage, RMS + look ahead Peak limiter
DIMENSIONS	
Mounting plate:	W 110mm x H 240mm
Cutout size:	W 85mm x H 215mm
Depth	D 52 mm
Operating conditions	0° to 50° C, 10 to 60 %, non-condensing
Storage conditions	-20° to 70° C
WEIGHT	
Unit (nett)	900 g

