Features
- Powerful headphone amplifier
- Floating point SHARC DSP
- USB/Bluetooth/SPDIF/Optical in
- FIR & IIR filter banks
- Dirac Live 3.x option

Hardware
- ADI ADSP21489 @400MHz
- Multicore XMOS USB audio
- LDAC/aptX Bluetooth streaming
- Audiophile ADC+DAC with low noise floor and THD+N
- OLED front panel with IR control

Software Control
- Real time live control
- Win & Mac compatible
- 4 preset memory

Applications
- Studio/Desktop headphone amplifier
- Room Correction
- System equalization
- Subwoofer integration

The **miniDSP Flex HPA** joins our successful Flex series with a powerful headphone amplifier with world-class audio specifications.

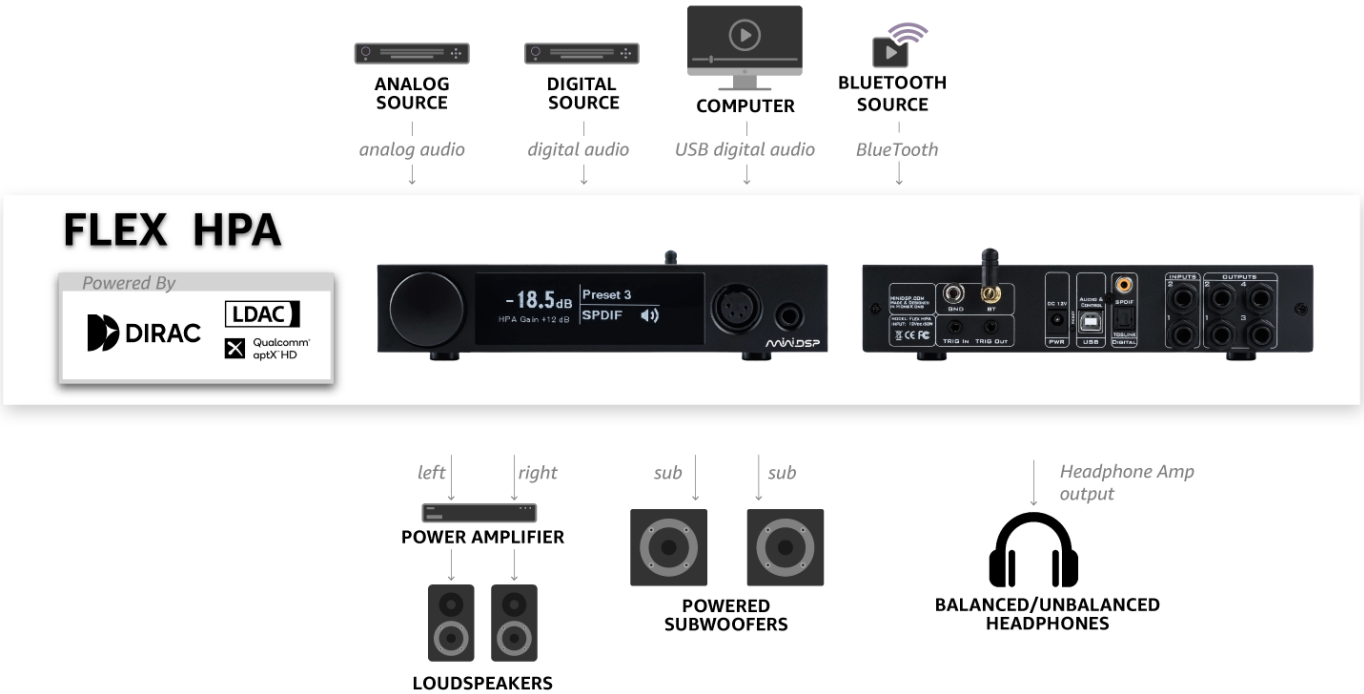
As an all-in-one unit, the Flex HPA offers incredible flexibility. It has the same digital inputs as our standard Flex models: USB audio, RCA and optical S/PDIF and LDAC/aptX Bluetooth. A pair of balanced analog inputs on TRS connectors round out the input side. The powerful headphone outputs are accessed by balanced (4-pin XLR) and single-ended (6.35mm TRS) jacks on the front panel, while TRS jacks on the rear panel provide four channels of balanced output (outputs 3 and 4 share the headphone signal).

The Flex HPA is jam-packed with miniDSP's tried and proven audio processing functionality: flexible parametric EQ, IIR & FIR filters, crossovers, advanced biquad programming and delay on each output channel. It is easily software-upgradable with Dirac Live®, the world's premiere room correction system for full range (20~20kHz). An OLED front panel display and volume control/encoder knob provides easy control.

The **miniDSP Flex HPA** is the perfect single-box desktop companion, and will also find many uses in recording studios and home audio systems. You just need to let your creativity do the rest!



TYPICAL APPLICATION



TECHNICAL SPECIFICATIONS

	Description	
Digital Signal Processor Engine	Analog Devices Floating point DSP SHARC ADSP21489 @ 400MHZ	
Processing resolution / Sample rate	32 bit/96 kHz (32bit/48 kHz with Dirac Live® license)	
USB Audio support	UAC2 Bidirectional Audio - ASIO driver support (Windows) - Plug&Play (Mac/Linux)	
Input/Output Configuration	2 channels in / 4 channels out	
Digital Stereo Audio Input Connectivity	1 x SPDIF on RCA connector 1 x OPTICAL on Toslink connector 1 x USB audio (stereo) 1 x Bluetooth with support for: LDAC™/aptX™ HD/aptX™/AAC/SBC Supported Sample Rate: 20 ~ 216 kHz	
Digital Audio Output Connectivity	4 x Output channels (Post DSP) on USB Audio	
Analog Audio Input Connectivity	2 x balanced 6.35 mm TRS jack (as XLR)	
Analog Audio Output Connectivity	4 x balanced 6.35 mm TRS jack (as XLR)	
Analog Audio Input Impedance	200 kΩ	
Analog Audio Output Impedance	200 Ω	
Analog Audio Input / Output Max Levels	4 V RMS / 4 V RMS	
Frequency Response	20 Hz – 20 kHz ± 0.1 dB	
SNR (Digital to Analog)	126 dB(A)	
THD+N (Digital to Analog)	-120 dB (0.0001 %)	
Crosstalk (Digital to Analog)	-128 dB	
SNR (Analog to Analog)	117 dB(A)	
THD+N (Analog to Analog)	-108 dB (0.0004 %) ± 3 dB	
Headphone amplifier	**Balanced 4 pin XLR jack**	**Unbalanced 6.35mm TRS jack**
Headphone amplifier output gain	-3/0/+6/+9/+12dB - Routed from DSP output channel 3&4	
Frequency response	20 Hz – 20 kHz ± 0.1 dB	
Output impedance	<0.4 Ω	<0.2 Ω
SNR (Digital to Analog)	124 dB(A) @+12 dB gain 122 dB(A) @+6 dB gain 118 dB(A) @0 dB gain	123 dB(A) @+12 dB gain 121 dB(A) @+6 dB gain 117 dB(A) @0 dB gain
THD+N (Digital to Analog)	-117 dB (0.00014 %) @300 Ω, +12 dB gain -113 dB (0.00022 %) @50 Ω, +6 dB gain -109 dB (0.00035 %) @32 Ω, +0 dB gain	-117 dB (0.00014 %) @300 Ω, +12 dB gain -116 dB (0.00016 %) @50 Ω, +6 dB gain -113 dB (0.00022 %) @32 Ω, +0 dB gain
Max output power @THD+N <1%	1.4 W x2 @12 Ω 2.0 W x2 @16 Ω 4.4 W x2 @32 Ω 5.2 W x2 @50 Ω 0.87 W x2 @300 Ω 0.44 W x2 @600 Ω	5.2 W x2 @12 Ω 4.0 W x2 @16 Ω 2.0 W x2 @32 Ω 1.3 W x2 @50 Ω 0.22 W x2 @300 Ω 0.11 W x2 @600 Ω
Headphone amplifier protection	DC detection circuitry and temperature monitoring	
Filtering Technology	FIR + IIR / Upgradable to Dirac Live® 3.x Full Range correction (20~20kHz)	
DSP Presets	Up to 4 presets	
Dimensions	214.5 x 205 x 41.5 mm	
Accessories	IR Remote	
Power Supply	Included external switching PSU 12V/4.88A (US/UK/EU/AU/CN plugs)	
Power Consumption	17 W (Amplifier enabled) / 8.6W (Amplifier disabled) 0.4 W (standby)	