

D2AUDIO MediaPC Solutions DATA SHEET

CONSUMER

PRELIMINARY

Intelligent digital amplifier reference designs for manufacturers of next generation Media Center PCs

Complete Intelligent Digital Amplifier™ Solution

- A complete integrated HD Audio (Azalia) interface solution for the Media PC
- D2Audio's Intelligent Digital Amplifier™ interfaces directly to HD Audio Bus on motherboard
- Audio amplifier output stages implemented on plug-in cards
- Includes D2Audio's DAE-3 ICs - The world's first "pure digital" Class-D amplifier controller to be used in a THX Ultra2® performance-level Media PC amplifier design
- Audio processing includes up to 12 independent digital audio channels for complete multi-channel plus legacy audio support capability
- Enables system integrators and OEMs to deliver AVR Class Performance within Media PC
- Designed for compliance with RoHS
- Designed for low EMI signature

Interchangeable Internal Amplifier Cards

- MOSFET output stages, output filters, & integrated DC-DC converter all in a single compact package
- Power Amplifier Add-In Card provides digital amplification of 5 audio channels for direct speaker connection.
- Pre-amp add-in card provides 7 channels of quality line level to optional companion Home Theater equipment.
- Enables manufacturers to choose output options at final system assembly
- Card identification and optional integrated firmware resides on add-in cards. Allows interchangeability without any software or other impact.

True Convergence

- Fits totally within low-profile (85mm) Media PC enclosure
- One Box only - no other system components needed
- Brings Full Convergence to the Home Theater solutions

Essential D2Audio Technologies

- Works with standard ATX PC Power Supply - no cost impact
- Small Form Factor - fits PCIe low-profile slot
- Enables ultra low-profile Media Center PC design
- High 93% Thermal Efficiency (No Noisy Fans)
- Real-Time Power Management
- Integrated D2Audio DSP and SRC IP

AVR Class Performance

- 20Hz-20kHz, +/-0.5dB frequency response
- Pre-Amp Line Out Performances
- SNR > 110dB & THD+N <0.01% (Line Level Outputs)
- 100W Peak (Power Outputs)

Pure Digital Path

- Direct Pure-Digital Connection to HD Audio Bus enables highest sonic quality possible from digital media
- All processing and amplification in digital domain. Final analog conversion at outputs.


Protection and Recovery

- Complete short-circuit and thermal fault protection
- Graceful protection and handling of complex and lower impedance loudspeaker loads
- Graceful short-circuit, thermal and over-current fault protection
- Real-time power management to protect against ATX power supply overcurrent, preventing PC shutdown

Flexible Configurations

- Platform supplements existing PC audio architecture, and maintains all legacy motherboard-based audio I/O in addition to direct speaker outputs on the add-in card.
- Full HDA Digital Audio Support (32-192 kHz, 8-24-bit)
- Scalable output power per channel

The D2Audio® MEDIA PC Solution brings AVR Class performance into a fully-converged single box solution. Using D2Audio's DAE-3® single-chip audio processing engine integrated on the PC motherboard, all HD Audio signals within the PC are processed and routed to a PCIe slot on the motherboard. A selection of Add-In cards plug into that slot, where the final amplifier stages for pre-amp, power amp, or combinations thereof implement the complete audio processing.

Implementation	
<ul style="list-style-type: none">• Integrates D2Audio's DAE-3 Digital Audio Engine directly on PC motherboard• D2Audio's DAE-3 Functions as Second Audio Codec - does not displace legacy implementations• Connects Directly to HD Audio Bus on Motherboard• Provides Digital Audio PWM Channel Data to Amplifier Cards• Implementation Integrates with UAA Software Driver Architecture; No Special Software Needed• Legacy Audio Functions Still Remain on Motherboard• Cards Fit Into Standard PCIe Card Slot• PCI Express Low Profile Form Factor: Maximum Height of 68.90 mm (2.731 inches)	 <p data-bbox="792 1848 1258 1900">AAIC100x5 Amplifier Add-In Card on D2Audio DAE-3 Enabled Media PC Motherboard</p>

¹ FTC Testing Method (footnote from Page 1)

This product is capable of meeting the FTC, end-product power rating method according to the FEDERAL TRADE COMMISSION 16 CFR Part 432 document which covers TRADE REGULATION RULE RELATING TO POWER OUTPUT CLAIMS FOR AMPLIFIERS UTILIZED IN HOME ENTERTAINMENT PRODUCTS, provided that adequate thermal management and an appropriate power supply has been designed into the end-system. This product is designed to support 1/8 continuous output power on all channels inside an enclosed PC case-environment without the need for additional heat sinking other than what is currently designed into the MEDIA PC Solution amplifier as shown on the front cover. However, if the system integrator/OEM chooses to incorporate the MEDIA PC Solution into a design rated according to the FTC testing method, at a power rating that exceeds 50W/channel (2 channels driven) of continuous output power for 5 minutes (with a 1/8th power pre-soak on all channels for one hour previous to beginning this test), then this product must be provided with some method of thermal management (for example, additional heat sinking and/or fan-cooling).

For additional information about the FEDERAL TRADE COMMISSION 16 CFR Part 432 document, please go to the following link: <http://www.ftc.gov/os/2000/12/amplifierrulnotice.pdf>

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Nuclear and Medical Applications

D2Audio products are not authorized for use as critical components in life support systems, equipment used in hazardous environments or nuclear control systems without the express written consent of D2Audio Corporation.

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