

D2AUDIO® TXS25-4

Premium Digital Audio Solution for Bi-Amp TV's, Docking Stations, & Zone Amplifiers

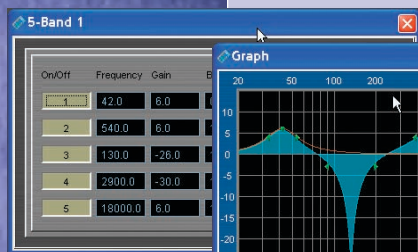
D2Audio's newest "stereo bi-amp & 2.1" reference design delivers incredible performance and sound quality

- Up to 25 watts per channel into 8Ω, 6Ω, or 4Ω
- <0.08% THD+N, 1kHz, 8Ω, 10W
- <0.5% THD+N, 20Hz-20kHz, 25W, (8Ω, 6Ω, or 4Ω)
- >100 dB SNR
- ± 0.5 dB Frequency Response, 20Hz to 20kHz, 8Ω
- Tiny package (3.375" x 4.2" x 1.464")
- Applications: Bi-Amp LCD, PDP and Projection Televisions, Bi-Amp Premium Digital Audio and Computer Docking Stations, 2.1 Wireless Media Systems, Dual Zone Amps for Distributed Audio, 3-Way Near-Field Powered Speakers, Bi-Amp Mini Hi-Fi Systems, 2.1 Powered Speakers Systems



The D2Audio Advantage enables you to differentiate your product

- Industry-leading sound quality
- Category-leading performance
- Reduced development cost, lower design risk, & quick time to market
- Optimize your system audio performance with our custom digital audio processing capabilities
- Dynamic thermal management enables low heat generation - no heat sink requirement
- Designed for compliance with UL and CSA for reduced risk in product certification
- Post-processed digital audio (I²S and S/PDIF) outputs enable line-level, headphone and subwoofer outputs



Let D2Audio help you optimize your end-product for the best possible sound quality

Up to 8 Bands of Parametric Equalization are at the designers fingertips which enable the use of lower-cost drivers and enclosures and yet still enable the system to deliver exceptional sound quality.

Highly flexible crossovers enable high-pass filtered 2 channel output, multiple digital audio outputs in addition to a PWM line-level output perfect for Subwoofer Line out applications

Advanced, fully-programmable active Crossover with Butterworth, Bessel, and Linkwitz-Riley, all with adjustable filter slopes.

Unparalleled audio processing power, flexibility and simplicity for customizing the amplifier and optimizing speaker performance:

- D2Audio Canvas™ system designer GUI alleviates designer from generating any DSP filter coefficients
- Input Channel Processing: Input Selection, 4x4 Matrix Mixer, Tone Control
- Output Channel Processing: Crossover, 8-Band Parametric EQ, Time Delay, Loudness Contour, Compression, Master Volume Control, 10 Independent Channel Volume Controls
- 2-wire serial control interface with simple API
- "Preset Save" capability via optional integrated EEPROM allows your optimized configuration to be the power-on default.

Integrated Voltage Generation Saves System Cost!

The TXS25-4 reference design not only generates all of the necessary low voltages (+1.8V, +3.3V, +5V) from the supplied high voltage rail, it also generates the negative high-voltage rail.

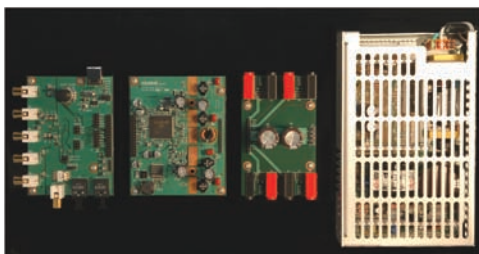
SoundSuite - Premium Audio Processing Features

Features included in the SoundSuite Phase I Firmware:

- D2Audio® Wide**Sound**™
- D2Audio® Deep**Bass**™
- D2Audio® Audio**Align**™
- D2Audio® Digital**EQ**™
- D2Audio® Mono2**Stereo**™



D2-PS-TXS25-4-100



Comprehensive evaluation platform enables quick design-in and customization

Master Volume, 8-Band Parametric EQ, Compression, 4x4 Matrix Mixing, Crossovers, Loudness Contour, 10 Channels of Independent Channel Attenuation are just some of the real-time, audio artifact-free control adjustments that are possible via D2Audio Canvas running on a Windows XP® PC. Out of the box, the TXS25-4 Evaluation Kit offers S/PDIF (IEC60958) via both Toslink and Coaxial Inputs, 4 Analog Inputs (via 4 Channel ADC), Line-Level PWM Filtered Subwoofer Channel Output (PWM #3), Toslink Output, +25V Universal Input SMPS and USB 1.1 Bi-Directional Control via the D2Audio Canvas GUI. Once you get everything just right, just save your custom sound (.CFG file) using the Reg Set GUI and you are ready to go!

Complete connections for easy design-in

Multiple I²S/Left-Justified and S/PDIF Digital Audio Inputs, Outputs, and 2-wire communication interface headers are already provided on the evaluation kit motherboard just waiting for you to take this module into your design. The main amplifier board is already cable connected to the the input/control daughter and output boards for quick system integration.

Differentiate your product with high quality digital audio power today

The market for consumer products has become extremely competitive and is rapidly moving to all-digital amplification. Traditional audio solutions of less than 10W peak power with high THD+N and low SNR bring little value to your product. What can you do to differentiate and bring more value to your product? With D2Audio's premium audio solutions, like the TXS25-4, you can upgrade to REAL audio power with audiophile performance!

RDP Package/ Eval Kit SKU	Audio Inputs	Audio Outputs	Audio Processing	Pb-Free/RoHS Compatible	Output Channels			
					Ch 1	Ch 2	Ch 3	Ch 4
D2-TXS0025R4-04061F	I ² S/LJ (2), S/PDIF, Analog (4)	I ² S/LJ (2), S/PDIF, Line Level PWM Output	Baseline	Yes	25W, 8Ω	25W, 8Ω	25W, 8Ω	25W, 8Ω
D2-TXS0025R4-04185F	I ² S/LJ (2), S/PDIF, Analog (4)	I ² S/LJ (2), S/PDIF, Line Level PWM Output	SoundSuite	Yes	25W, 8Ω	25W, 8Ω	25W, 8Ω	25W, 8Ω
D2-TXS002504-EVAL01	I ² S/LJ (2), S/PDIF, Analog (4)	I ² S/LJ (2), S/PDIF, Line Level PWM Output	Baseline	No	25W, 8Ω	25W, 8Ω	25W, 8Ω	25W, 8Ω

Performance

- Up to 25 Watts into 8Ω, 6Ω, or 4Ω
- >100 dB SNR
- <0.06% THD+N, 1kHz, 8Ω, 10W
- ±0.5 dB Frequency Response 20Hz to 20kHz (8Ω)
- 90% Efficient

Audio Processing (Baseline)

- Input Channel
 - Input Selector
 - 4x4 Matrix Mixer
 - Tone Control
- Output Channel Processing
 - Programmable Crossover
 - 8-Band Parametric EQ
 - Adjustable Time Delay
 - Master Volume Controls
 - Loudness Contour
 - Compression/Limiting
 - 10 Independent Channel Level Controls

Dimensions

- 3.375 x 4.2 x 1.464 in
- 85.73 x 106.68 x 37.18 mm

Standard Features

- Two I²S/Left-Justified Digital Audio Outputs (48kHz, 16-24 bit) enable connection to external DAC for Line-Level/Variable Level Analog Output, Headphone Analog Output, and/or Subwoofer Line/Variable Level Analog Output
- S/PDIF Transmitter enables digital audio record output capability (48kHz, 16-24 bit)
- Passive filter of 3rd Channel of PWM Output enables a line-level mono/subwoofer output
- Active Crossovers (Butterworth, Bessel, Linkwitz-Riley, Custom)
- I²S/Left-Justified Digital Audio Input (32-96kHz, 16-24 bit)
- Advanced Sample Rate Conversion (SRC) on both inputs (I²S/Left-Justified and S/PDIF)

Standard Features (Continued)

- D2Audio Canvas™ Graphical User Interface (GUI) for System Designers
- Standard 2-wire serial interface
- Simple software control API
- Integrated automatic short-circuit, short-to-ground, and over-current fault protection

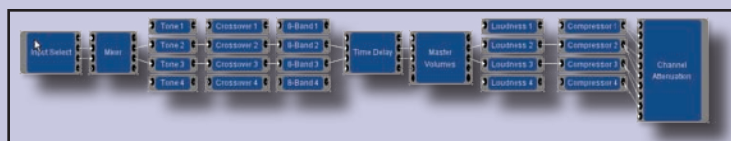
Optional Features Included in SoundSuite Firmware

- D2Audio® WideSound™
- D2Audio® DeepBass™
- D2Audio® AudioAlign™
- D2Audio® DigitalEQ™
- D2Audio® Mono2Stereo™

Weight (Amplifier Board Only)

- 3.0 oz.
- 85.05 grams

TXS25-4 baseline audio processing chain as shown in D2Audio Canvas GUI



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Example: Connecting to the TXS25-4 Evaluation Kit

