# VIA Vinyl Envy24PT PCI Audio Controller

With the evolution of the Multimedia PC, audio has become one of the essential features of the personal computer. Whether gaming, playing movies, listening to MP3s, or talking to friends over the internet, audio interfaces provide the inputs and outputs for the complete media experience. The VIA Vinyl Envy24PT Audio Controller sets a new level for onboard audio solutions with support for 24-bit resolutions, and an expanded range of analog and digital connections.

| Key Features |
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| » 24-bit/192kHZ digital resolution support |
| » 20-bit/48kHZ analog resolution support |
| » 8 outputs, 4 inputs |
| » Designed for hi-end integrated audio |

## Benefits of VIA Vinyl Envy24PT

**High audio performance**
With up to 24 bit performance and 96kHz sampling rates, the VIA Envy24PT provides support for the latest audio content through its analog and digital interfaces.

**Wide range of connection options**
Up to 8 outbound streams and 4 simultaneous input streams allow for a wide range of connections that can fully support 5.1, 6.1, or even 7.1 channel surround sound audio. A direct access GPIO allows for easy use of expanded connection boards.

**Multiple applications**
Applications for the VIA Envy24PT include high fidelity audio on motherboard solutions, entry level soundcards, and even prosumer soundcard solutions.

**Easy to integrate**
Supporting I2S and AC-link inputs and outputs, the VIA Envy24PT can be easily combined with a wide range of codec or ADC/DAC solutions. The VIA EnvyPT also offers a full featured I2C interface, WDM drivers, and a software audio control center for easy manageability.

## Description

The VIA Envy24PT is a multi-channel audio controller that delivers the latest audio standards in a versatile integrated solution. Enabling 24-bit resolution and 96KHz sampling rates, the VIA Envy24PT enables the latest audio content with breathtaking clarity. The VIA Envy24PT also supports up to 8-channel outputs enabling support for the latest Dolby Digital EX and DTS ES DVD-Video soundtracks.

To connect with other devices, the VIA Envy24PT comes equipped with an integrated S/PDIF transmitter and IEC958 line driver that allows easy accurate transfer of PCM, DTS, and AC3 digital audio formats to items like stereos and portable audio devices. The Envy24PT also comes with a MIDI UART port, and a 16-bit GPIO port enabling a flexible approach to configuring audio interfaces.

Integrating 3 synchronous I2S/AC-link output and 2 synchronous I2S/AC-link input data stream pairs, the VIA Envy24PT makes possible a wide range of ADC/DAC connection options for a variety of applications. For the Pro-motherboard market the VIA Envy24PT in combination with an AC '97 codec like VIA's VT1616 realizes an excellent balance of analog and digital audio connections. For higher end applications the VIA Envy24PT can be paired with high-end ADCs and DACs through the I2S interface enabling a professional 2-channel 24/96 solution.

## Key Features

**Sound Quality**
» 24-bit resolution audio format support
» Bit accurate transfers
» Sampling rates up to 96 KHz

**Input/Output**
» 3 synchronous I²S / AC-link output data stream pairs
» 2 synchronous I²S / AC-link input data stream pairs
» Multi-channel AC-link supported alternatively
» Integrated S/PDIF transmitter with IEC958 line driver
» Digital loopback and stream routing mechanism
» Peak meters on all streams
» MPU-401 MIDI UART port
» ACPI and PCI PMI support

**Architecture**
» PCI 2.2 interface with bus mastering and burst modes

**Easy System Integration**
» I²C subset interface peripherals control
» 16-pin, direct access GPIO port
» 24.576 and 22.5792 MHz crystal operation
» Windows® WDM drivers

**Package**
» 128-Pin PQFP (14 x 20mm body)

**Power**
» 3.3V operating supply (5V tolerant I/O)

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*Block Diagram*

## VIA ENVY24PT Audio Controller Functional Block Diagram