

*6Ch, 24bit, 192kHz Digital Audio Processor  
for Full Digital Amplifier*

**Introduction**

The PS9702 is a highly integrated system-on-chip solution for multi-channel AV systems. The PS9702 utilizes a similar architecture to that of PS9602, but is optimized for multi-channel audio applications. It features six 24-bit audio digital-to-digital converters and oversampling digital filters, a sample-rate-converter, an audio DSP which functions as an on-chip pre-amplifier. The PS9702 accepts industry-standard audio data formats with 16- to 24-bit audio data. Sampling rates of up to 192 kHz are supported.

**Features**

**General**

- 1 serial input port for 6Ch and 3 serial input ports for 2Ch (or 2 serial input ports for 6Ch)
- Supports 16/18/20/24 bit Input
- Supports 32kHz~192kHz Input Sample Rate
- I<sup>2</sup>C or SPI control bus
- 100 pin QFP Package
- 3.3V Single Power Supply

**Digital Filter and Sample-rate-converter Section**

- On chip Sample rate converter
- On chip Digital De-emphasis filter for CD input signal

**Preamplifier Section**

- Input mixing function
- Microphone mixing function (with automatic presence detecting function)
- Stereo REC output
- Parametric EQ (4 band, 1dB/step) per channel
- Tone control ( $\pm 15$ dB, 1dB/step) per channel
- Bass management function
- Volume control (176 step, 0.5dB/step) per channel
- Dynamic range compression function
- Soft and Hard Mute Functions

**PCM-to-PWM modulator section**

- 6 channel PWM Amplification output
- 120 dB Dynamic Range (typical)

**Application**

- Integrated A/V Receiver
- DVD Receiver (DVD player with built-in 5.1ch Receiver)
- HDTV sets
- Car A/V Systems
- DVD Add-On Cards for High-End PCs
- Digital Audio Workstations
- Other Multi-Channel Digital Audio Systems

**Functional Block Diagram**

