APOGEE TECHNOLOGY, INC.

DDX-4100

Digital Audio Processor With Multi-Channel DDX

FEATURES

- END TO END DIGITAL AUDIO INTEGRATED SOLUTION
- DSP Functions:
  - Digital Volume Control
  - Soft Mute
  - Bass and Treble
  - Parametric EQ per Channel
  - Bass Management for Subwoofer
  - Auto Mute on Zero Input Detection
- 4 CHANNELs PROGRAMMABLE SERIAL INPUT INTERFACE (by default I2S)
- STEREO S/PDIF INPUT INTERFACE
- Intel AC'97 LINK (rev.2.1) INPUT INTERFACE
- 4+1 DDX OUTPUT CHANNELS
- 6 CHANNELs PROGRAMMABLE SERIAL OUTPUT INTERFACE (by default I2S)
- ON CHIP AUTOMATIC INPUT SAMPLING FREQUENCY DETECTION
- 100 db SNR SAMPLE RATE CONVERTER
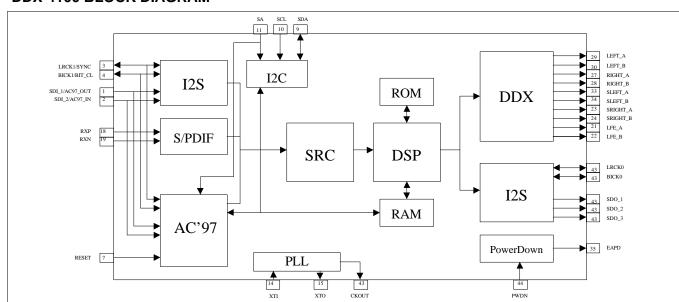- I2C CONTROL BUS

PRODUCT PREVIEW

The DDX-4100 Digital Audio Processor is a single chip device that implements Apogee's Direct Digital Amplification. The design interfaces directly with digital audio sources and completely eliminates the need for digital to analog conversion.

The device supports AC'97 input mode or IIS/SPDIF input mode. The AC'97 link can be configured in either a 'Full Compliance' (with rev 2.1 of AC'97 specification) or 'Proprietary' mode, which will enable additional features. In the IIS/SPDIF mode, a stereo S/PDIF and a 4 channel programmable serial interface is available.

The DSP is a 20x20 bit core audio processor performing several user controlled parametric algorithms, such as static Equalization, Bass, Treble, and Volume control.

The device has 5 channels of DDX output, providing PWM output signals used to drive an external, high efficiency DDX-2060 power bridge. An IIC interface allows full programmability of internal algorithms and control registers via an external controller.

DDX-4100 BLOCK DIAGRAM