The STA326 comprises digital audio processing, digital amplifier control and DDX® power output stage to create a high-power single-chip DDX® solution for high-quality, high-efficiency, all digital amplification.

The STA326 power section consists of four independent half-bridges. These can be configured via digital control to operate in different modes. 2.1 channels can be provided by two half-bridges and a single full-bridge to give up to 2 x 40 W plus 1 x 80 W of power output. Two channels can be provided by two full-bridges to give up to 2 x 80 W of power. The IC can also be configured as a single parallel full-bridge capable of high-current operation and 1 x 160 W output.

Also provided in the STA326 is a full assortment of digital processing features. This includes up to four programmable 28-bit biquads (EQ) per channel and bass/treble tone control. Automodes enable a time-to-market advantage by substantially reducing the amount of software development needed for certain functions. This includes auto volume loudness, preset volume curves, preset EQ settings. New advanced AM radio-interference reduction modes.

The serial audio data input interface accepts all possible formats, including the popular I2S format.

Three channels of DDX® processing are provided. This high-quality conversion from PCM audio to patented DDX® 3-state PWM switching provides over 100 dB of SNR and dynamic range.

Figure 1. Block diagram

Figure 2. Channel signal flow diagram through the digital core