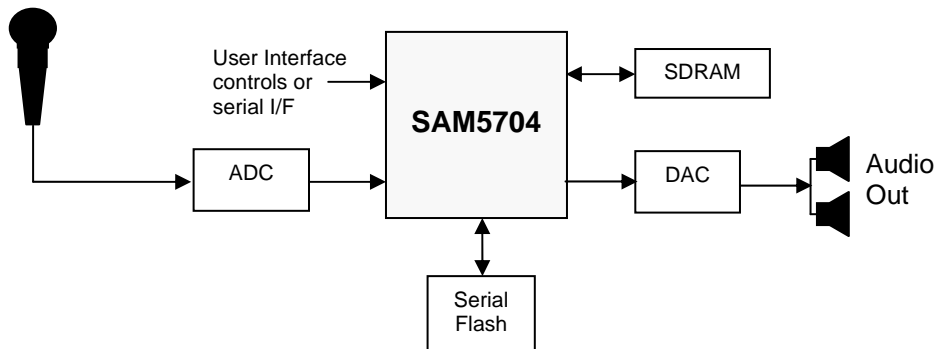
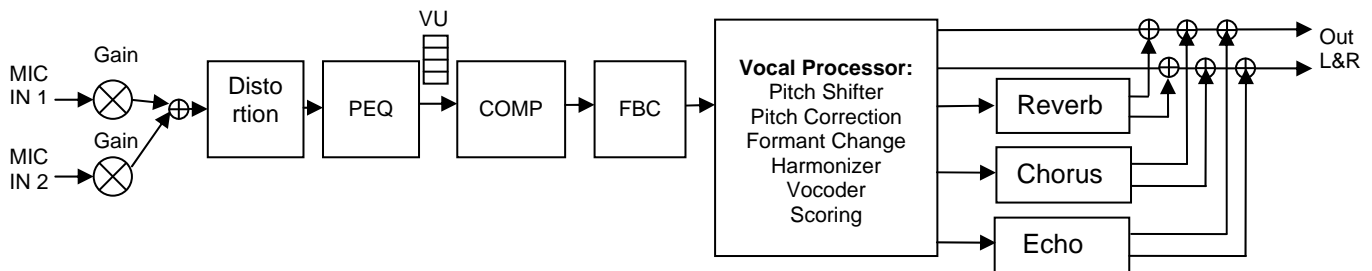


The SAM5704, driven by the firmware 5704MICFX is a low cost, high quality Multi-Effect Device especially made for Vocal FX applications, like Microphone Amplifiers and Karaoke Products. The SAM5704 includes a Microcontroller and four 24-bit DSP engines with embedded RAM and in-built eFuses for code protection.

The low cost hardware consists of SAM5704 + SDRAM + ADC/DAC:



### Signal Processing



### Features

- Microphone Effect Processing:
  - Microphone inputs with individual Gain control, Low-Cut Filter, Noise Gate
  - **New:** Distortion, for effects like Overdrive, Megaphone etc.
  - Tone control: 5 bands Parametric Equalizer (+/- 15dB at ~0.25dB steps)
  - Compressor / Compander / Limiter
  - **New:** high quality Vocal-Pitch-Shifter: +/-1 octave, Pitch-Correction (“Auto-Tune”), Harmonizing (Backing Vocals), Formant change (e.g. Male->Female), Funny Effects (Robot-Voice, Mike-Mouse)
  - Microphone Scoring (pitch and level detection and output e.g. to serial I/F)
  - **New:** high quality Stereo Vocal-Reverb
  - Stereo Echo
- FBC: Feedback cancelling with Frequency Shifter
- 48 KHz sampling rate (12.288 MHz quartz), 24 bit quality

Reference Design 5704FX-EK and 5704MICFX\_Control.exe software for Effect customization available.