BAE and Mini-BAE Compared

Summary of Technical Differences

Overview

Similarities – Both the Beatnik Audio Engine (BAE) and the Mini-BAE are high-performance, full-featured music and sound systems implemented in highly transportable C code. They both use the same music synthesizer core and audio mixer paradigm. Both play the same music and sound file types, including WAVE files, Standard MIDI Files including General MIDI instruments, and Beatnik's secure RMF format.

Differences – In general, Mini-BAE's feature set is more focused than BAE's. Because Mini-BAE was designed after BAE, several sections of the API design were also 'cleaned up'. As a result, Mini-BAE is both smaller than BAE – making Mini-BAE uniquely well-suited for use in embedded systems – and easier for application programmers to work with. Mini-BAE lacks reverb, callbacks, and MOD file playback, and is usually compiled for fewer voices of polyphony, and fewer simultaneous media files.

Details

Feature	BAE	Mini-BAE
Source Programming Language	C with C++ wrapper	C
Synth Voices (set by a #define)	typically 64	typically 8
Mixer DSP Effects	Reverb and Chorus	None
Callback Support	Yes	No
Sound Bank Support	Wide range of quality/size versions	Very small bank available
Music and Sound File Formats	Same as Mini-BAE, plus MOD	RMF, MIDI, WAV, AIFF, AU
Digital Audio Streaming	Supported	No
Stereo	Optional	No
Classes	Sound, SoundStream, MOD, MidiDirect, MidiFile, RmfFile	Sound, Song, Mixer
Instrument Bank Search Path feature	No	Yes
Engine Memory Usage (typical min. at idle time,)	150k bytes	20k - 150k bytes, depending on #define settings
Pitch Interpolation options	Linear only	Drop sample, Linear, 2-point (with 1 megasample size limit)
Maximum Simultaneous Media Objects	only limited by memory	typically 2 (a #define)