

A tool for creation of emulators of audio synthesizers. The base of the work is an imperative programming language Cynth that describes signals of the resulting sound. Cynth code is translated into C code for further linkage with a program that controls GUI and MIDI input controls and output monitoring and connection with a sound card. The intermediate step of translation into C allows taking advantage of the C compiler optimizations. The Cynth language is restricted in a way that eliminates any dynamic allocations at run-time while allowing complex compile-time programming and working with statically allocated data structures for expressive description of signals.