

Simple Digital Reverberators using Microchip dsPICDEM 1.1

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Abstract

Reverberation is defined as a delay in which the regenerations of sound are randomly dispersed. In order to get the best performance the sound is recorded “dry” and then effects are added by using IIR and FIR filter implementation. Even though the phenomenon of reverberation has been widely implemented and there are professional DSP’s that perform this function, this paper shows that, with basic knowledge of the essential reverberation algorithms, C, assembly languages anyone can easily implement their own reverberators at home using models of inverse comb filter, all-pass and absorbent all-pass filters. What is needed is a DSP and codec implementation provided by the Microchip dsPICDEM 1.1 development board with reduced memory size and MPLAB IDE C30 software.