

14.1: Introduction

There are a variety of effects the character of which can only be described as “special”. All manner of waveform processing and mangling come under this banner. Such processing is often used to create entirely new sounds, although it may be used to alter existing sounds in an extreme manner. In part one of this exercise, the effects of rectification, amplitude and frequency modulation, and arbitrary amplitude transfer function generation are investigated. These techniques have been used to create music synthesizers and to alter existing sounds in novel ways. Part two examines the processes of noise reduction, convolution, and spectral warping (shifting). Noise reduction has obvious uses in the field of archival audio, and also in telecommunications. Convolution is general technique used to impart various characteristics to a sound via an impulse response. Applications include equalization, device emulation, and reverb. Spectral warping is a unique effect. The idea is to move existing frequency content to new places in the spectrum. The results of spectral warping or shifting can range from subtle to bizarre.

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