

ABSTRACT

The innovation of digital signal processing, specially in the field of audio processing is more fast. Audio Level Meter is one of digital signal processing application that show an level of audio volume. There are two type of level meter, VU (Volume Unit) and PPM (Peak Programme Meters). This Final Project implement VU.

Field Programmable Gate Array (FPGA) is an apparatus that having ability for audio signal processing and simple designing of an audio level meter that we want.

In this Final Project, designing of an audio of level meter use envelope follower system algorithm to determine audio volume level. The algorithm would be implemented at FPGA Xilinx XC4010XL PC84-03, while peripheral assist used in scheme is Aldec Active HDL 3.5 and Xilinx Foundation Series 2.1i for software implementation.

Result of implementation at Xilinx 4010XL working at frequency 7,010 MHZ, maximum net delay is 14,503 ns, 31 out of 65 IOB (47%) and required 321 out of 400 (80%) CLB's that is available at Xilinx 4010XL.