Abstract

The main objective to design this paper is to increase the importance of commercial applications, economic and Internet-based applications. The decimal adder provides useful statistics in the form of each adder's performance and scalability. There is a new interest in providing hardware support to handle decimal data. In this paper, a new architecture binary to BCD converter for multi-operand addition implements binary coded decimal (BCD) operands, which is the core of high-speed multi-operand adders. The proposed Simulation results show that the add-3 digit BCD adder achieves an improvement of 70% in delay and area and consumes very less power. The 2, 4, 8, 16-digit BCD look-ahead adder shown to achieve at least 90% faster than the accessible ripple carry one. The coding will be written in VHDL and verified in I-Sim. After the coding, the synthesis of the code was performed using Xilinx-ISE. Synthesis tool ISE 14.7.

References

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Rangisetti, Ashish Joshi, Tooraj Nikoubin, Member, IEEE Dept. of Electrical & Computer Engineering, Texas Tech University, Lubbock, TX, 79409.


**Index Terms**

Computer Science

Circuits and Systems

**Keywords**

BCD adder, add-3 algorithm, binary to BCD converter, decimal arithmetic.