

# The implementation of "walking one" algorithm at SIEMENS 1200

Adrian Jałoszewski

## 1 Introduction

### 1.1 Uses of the algorithm

The "walking one" algorithm is one of the most well known algorithms used mostly for testing read/write memories. It is used for checking whether there is coupling between independent bits (for example – turning the sixth bit has effect on the fifth one).

### 1.2 Algorithm description

It is implemented using a bitfield consisting of zeros and a single one as the algorithms output. Every step of the algorithm is basically a cyclic bitshift by one bit in a given direction. The shift direction should be specified during the design phase and be constant throughout the algorithms runtime.

## 2 Implementation