

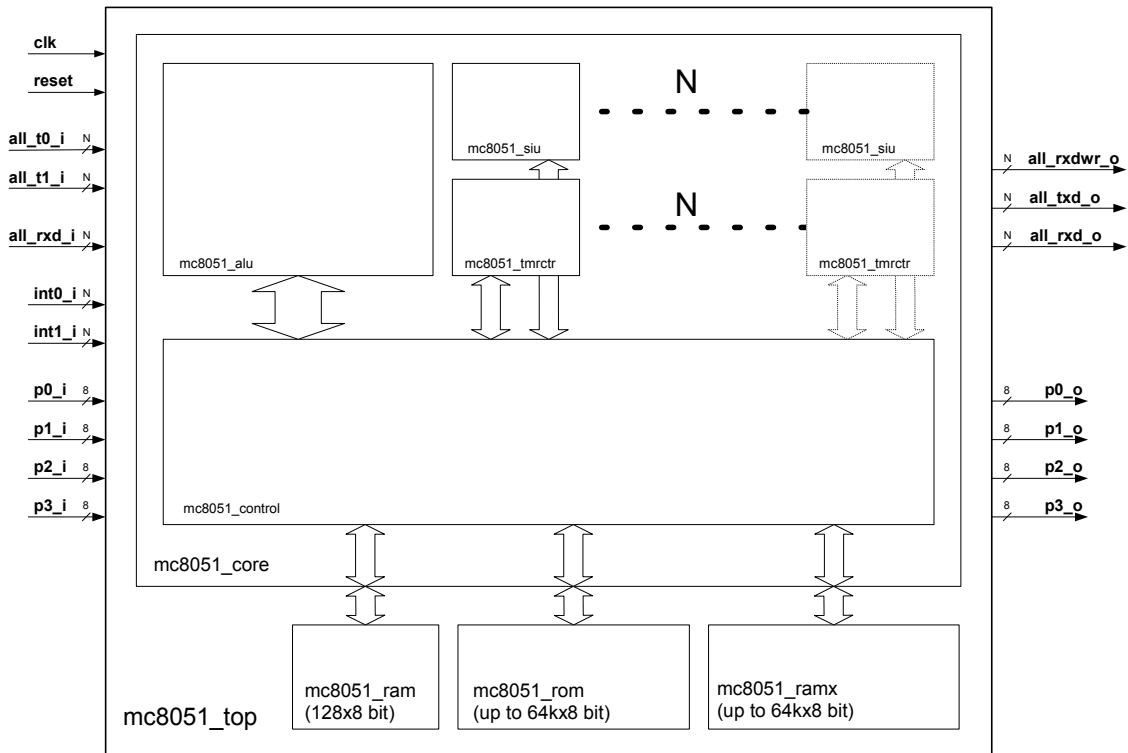
# MC8051 IP Core

## Oregano Systems 8-bit Microcontroller IP-Core

### Key Features

- Fully synchronous design
- Technology independent, clear structured, well commented VHDL source code
- Easily expandable by adapting/changing VHDL source code
- Parametrizeable design by simply changing VHDL constants
- User selectable number (N) of timers/counters and serial interface units
- Active timer/counter and serial interface units selected by additional special function register
- Instruction set compatible to the industry standard 8051 microcontroller
- Up to 10 times faster due to completely new architecture
- Optional implementation of the multiply command (MUL) using a parallel multiplier
- Optional implementation of the divide command (DIV) using a parallel divider
- Optional implementation of the decimal adjustment command (DA)
- No multiplexed I/O ports
- 256 bytes internal RAM
- Up to 64 kbyte ROM, up to 64 kbyte RAM
- Source code available free of charge under the GNU LGPL license

## Block Diagram



**Fig 1. Block diagram: 8051 microcontroller IP core**

## Document Revisions

- Version 1.0, December 2001: Initial document describing the main properties of the mc8051 core.
- Version 1.1, January 2002: Added the block diagram.
- Version 1.2, June 2002: Corrected names of ports in the block diagram to correspond to the VHDL source code.