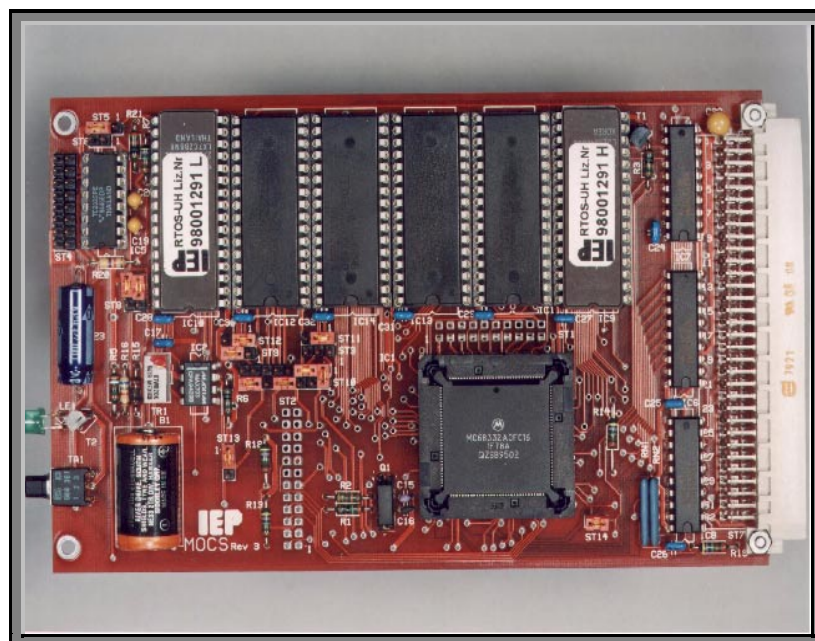# MOCS

*Mo*dular *C*ontroller *S*ystem
CPU board

Based on the Motorola MC68332 microcontroller, the **MOCS** is a single board computer for the deployment stand-alone or as processor board in PBus systems.

Already only the MC68332 controller has outstanding capabilities:

- CPU32 – up to 25 MHz with MC68020's performance

  The CPU32, based on a modified MC68020-core, was developed particularly for embedded control.

- Time Processor Unit TPU – an integrated micro-programmable unit controls 16 independent I/O lines and processes complex timing functions independently of the CPU. Code sequences for functions such as timer/counter, PWM generator, stepping motor drive (position, with automatic ramp), quadrature decoder etc. are contained on-chip.

MOCS

Capabilities

- serial – an asynchronous UART and a synchronous QSPI are on-chip
- SIM –*system integration module* –glue logic on chip
  - automatic generation of chip-selects for upto 11 peripherals
  - Watchdog
  - periodic timer, also usable as real-time clock
  - processor clock programmable by PLL
  - 24 ports – up to 24 discrete digital in- or outputs
 - low energy dissipation: max. 600 mW, 500 μW stand-by

Flexible for Extensions

For the flexible deployment as CPU-board on the PBus, addiional function blocks are provided on the board:

- 6 32-pin JEDEC sockets, two of each for EPROM, for RAM and either for RAM, EPROM or FLASH
- Real-time clock with battery back-up for RAM and RTC
- header connectors for TPU and port signals
- PBus interface for simple extension and functional expansion

Design

The **MOCS** is supplied as euroboard. The realtime operating system RTOS-UH is in the standard scope of supply. The PBus is connected by a 64-pin VG connectorborder DIN 41612 a+c.

Block diagram
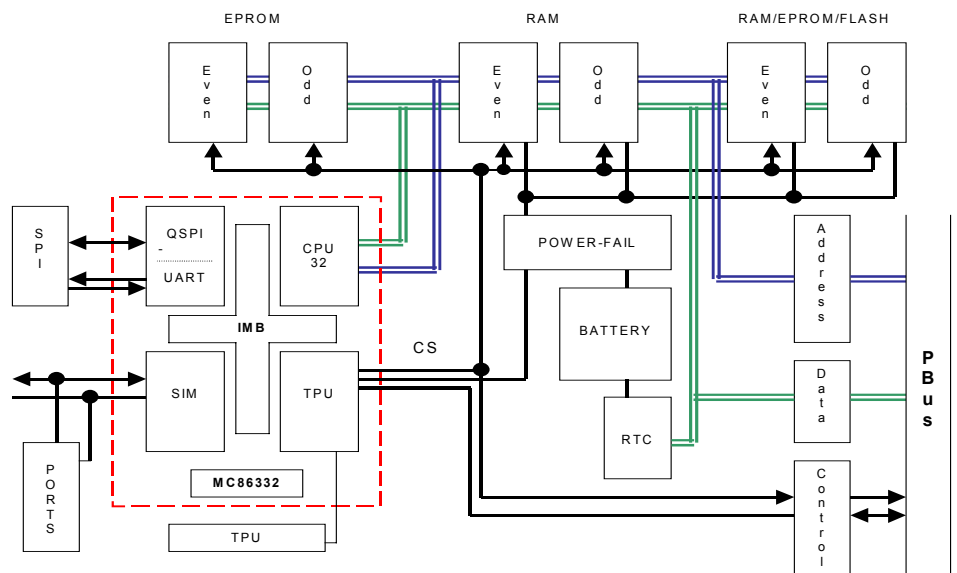
Order reference

Article number	Description
MOCS-PB	68332-SBC, 1x RS-232, 256kB SRAM, VG connector 64p