

P10 - PC-MIP Quad RS232 UART



- **Four asynchronous channels**
- **Full-duplex**
- **128 bytes FIFO per transmitter/receiver per channel**
- **Alternatively TTL-level at rear (SA adapters)**

The P10 is based on the PC-MIP ANSI mezzanine standard. It can be used as an I/O extension in any type of bus system, i.e. CPCI, PXI, VME or on any type of stand-alone SBC. Appropriate PC-MIP carrier cards in 3U, 6U and other formats are available from MEN or other manufacturers. Comparable with the larger foot print PMC mezzanine cards, PC-MIP boards also support PCI bus.

The P10 is a high-performance quadruple UART with RS232 interface. Each 16C950 UART channel has 128-deep transmit and receive FIFOs, with readable levels and user-defined thresholds. All UARTs are capable of delivering up to 15Mbps asynchronous data throughput

simultaneously, and are software-compatible with commonly used 16C450, 550, 650 and 750 UARTs. The UARTs support Big Endian byte-lane conversion, 5, 6, 7, 8 and 9 bit data framing and Infra-red (IrDA) receiver and transmitter as well as several other sophisticated functions for high-end serial communication requirements.

The P10 is supplied with RS232 line physics at the front and alternatively with TTL-level signals via the carrier board connector. This permits you to connect "SA adapters" with different line drivers (TTY, RS485 etc.) in a CPCI system via rear I/O.

Technical Data

UART

- 4 16C950 high-performance UARTs
- Full software compatibility with 16C550 UARTs
- Configured with I/O or memory base address
- 8 128-byte FIFOs
- Data rates
- UART controller supports up to 15Mbps
- Physical interface supports up to 120kbps

- Linux (on request)

PCI Characteristics

- 32-bit PCI, complying with PCI Local Bus Specification, Rev. 2.2
- Target

Peripheral Connections

- Via front panel on a shielded 26-pin half-pitch D-Sub receptacle connector (RS232 level)
- Via J3/carrier board (TTL level)

Electrical Specifications

- Supply voltages/power consumption:
 - +5V (4.85V..5.25V), 130mA
 - +3.3V (3.15V..3.6V), 40mA
- MTBF: 190,000h @ 50°C

Mechanical Specifications

- Dimensions: PC-MIP Type II conforming to PC-MIP specification
- Weight: 34g

Environmental Specifications

- Temperature range (operation):
 - 0..+60°C
 - Industrial temperature range on request
 - Airflow: min. 10m³/h
- Temperature range (storage): -40..+85°C
- Relative humidity (operation): max. 95% non-condensing
- Relative humidity (storage): max. 95% non-condensing
- Altitude: -300m to + 3,000m
- Shock: 15g/0.33ms, 6g/6ms
- Vibration: 1g/5..2,000Hz

Safety

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

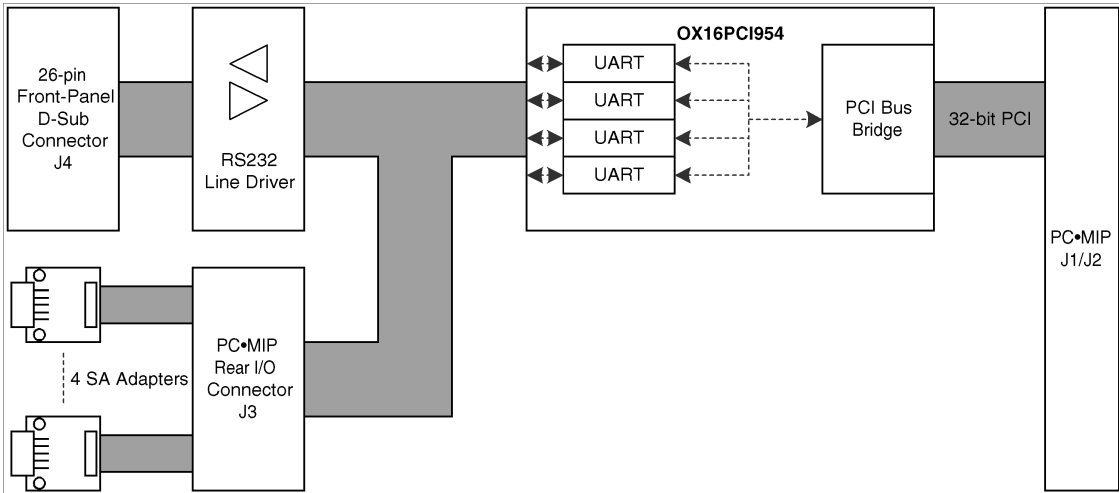
EMC

- Tested according to EN 55022 / 1999-05 (radio disturbance) and EN 55024 / 1999-05 (immunity) with regard to CE conformity

Software Support

- WindowsNT
- VxWorks
- OS-9

Diagram



Related Products

Standard Hardware

15P010-00	P10, PC-MIP Type II (front I/O), quad RS232 UART, 16450 compatible with 128-byte FIFO
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Please refer to our PC-MIP and PMC compare chart for a selection of mezzanine functions.

Accessories

05P002-00	PC-MIP cable, 2m, with 26-pin half-pitch 26-pin D-Sub plug/housing to pig tail
08SA01-00	Serial interface adapter, RS232, not optically isolated, 0..+60°C
08SA02-00	Serial interface adapter, RS422/485, half duplex, optically isolated, 0..+60°C
08SA02-01	Serial interface adapter, RS422/485, full duplex, optically isolated, 0..+60°C
08SA02-07	Serial interface adapter, RS422/485, full duplex, optically isolated, temperature range: -40..+85°C
08SA03-00	Serial interface adapter, RS232, optically isolated, 0..+60°C
08SA03-01	Serial interface adapter, RS232, optically isolated, -40..+85°C
08SA04-00	Serial interface adapter, TTY, optically isolated, 0..+60°C

Software

13P010-01	SCF driver for P10/P11 M-Module, OS-9(PPC), PowerPC object code
13P010-60	VxWorks® driver for P10/P11
13P010-70	Windows®NT: UART driver for P10/P11/AD45

Documentation

20P000-00	PC-MIP draft specification Rev. 0.92b
20P010-00	P10 user manual
21APPN008	Application Note: Using P10/P11/AD45 under Linux

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the P10 online data sheet under www.men.de. --> [Click here!](#)

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