

An FPGA-based 16/24 channel serial card with front and rear I/O. The standard configuration consists of a PCI-core and sixteen (UART16) or twentyfour (UART24) 16C550-uart compatible cores.

The PMC451 has a software configurable physical interface. This card offers the user the possibility to create a combination of RS232 and RS422/RS485 on one card. For the UART16-configuration: For each RS232 interface the Rx, Tx, RTS and CTS signals are available and for each RS422/RS485 interface the Rx and Tx signals are available. For the UART24-configuration: Sixteen channels are fixed RS232 interfaces with Rx and Tx, the other eight channels are configurable as RS232 interface with Rx, Tx, RTS and CTS signals or as RS422/RS485 interface with Rx and Tx signals. This card has a FIFO of 512 Bytes available per Rx and Tx each. The PMC451 features a 68-pin high dense connector at the front for the connection of all the serial channels. A PIM (PMC I/O Interface) for rear I/O is optional. Because of the fully FPGA-based design, custom protocol interfaces for RS422, RS485 and RS232 are available on request. Examples of other custom specific protocol interfaces are e.g. digital I/O, Encoder Interfaces, Stepper Motor Controllers and more. Usage in ruggedised systems with conductive cooling is also possible.

#### Features:

- > Single PMC slot (IEEE 1386.1-2001) with front I/O and rear I/O
- > Optional PIM451 (VITA 36) for rear I/O connections
- > Xilinx FPGA softcore PCI interface
- > 16C550 compatible host interface
- > Software configurable line interface per channel
- > UART16-configuration: Rx, Tx, RTS and CTS for each RS232 interface and Rx and Tx for each RS422/RS485 interface
- > UART24-configuration: 16 channel Rx and Tx RS232 interface, and 8 channel Rx, Tx, RTS and CTS for each RS232 interface and Rx and Tx for each RS422/RS485 interface
- > FIFO depth 512 Bytes
- > Baudrate RS232 up to 250kbps, for RS422/RS485 higher
- > RS485/RS422 true fail-safe receivers
- > PCI interface: PCI 3.0 compliant, 33MHz, 32-bit interface, 3.3V signalling and 3.3V supply
- > Dipswitch selectable line termination
- > Available in operating temperature 0..60°C and -40..+85°C

**PCI Bus Compliance**

- \* PCI 3,0 compliant
- \* PMC: IEEE 1386.1-2001 compliant
- \* 33MHz, 32-bit interface
- \* 3.3V PCI signalling
- \* 3.3V supply voltage
- \* PIM: VITA 36 compliant

**Host Interface**

- \* Xilinx Spartan FPGA-based
- \* Softcore PCI/PMC-interface
- \* 16C550 compatible programming interface
- \* Custom host interfaces or line protocols available on request

**Line Interface**

- \* Software configurable per channel
- \* Rx, Tx, RTS and CTS for each RS232 interface and Rx and Tx for each RS422/RS485 interface
- \* FIFO of 512 bytes for each Rx
- \* FIFO of 512 bytes for each Tx
- \* Baudrate RS232 up to 250kbps, for RS422/RS485 higher
- \* RS485/RS422 true fail-safe receivers
- \* Dipswitch selectable line termination
- \* High dense 68-pin front connector
- \* PIM available for rear I/O
- \* ESD protected transceivers up to +/- 15kV

**Environmental**

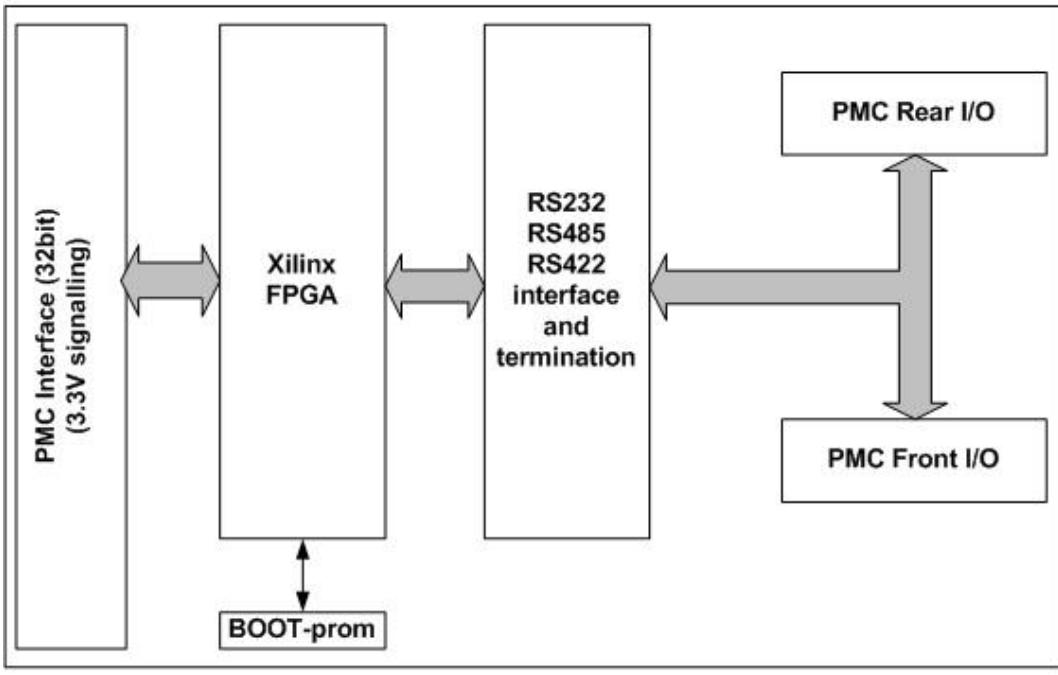
- \* Operating temperature 0-60° and -40°..+85°C
- \* Also usable in ruggedised systems with conductive cooling

**Ordering Information**

- \* **PMC451/T01** PMC FPGA-based 16 channel RS232/422/485 programmable serial interface, 0-60°
- \* **PMC451/T02** PMC FPGA-based 16 channel RS232/422/485 programmable serial interface, -40°..+85°, +/-15kV ESD protection
- \* **PMC451/T03** PMC FPGA-based 16 channel RS232 serial interface, 0-60°
- \* **PMC451/T04** PMC FPGA-based 16 channel RS232 serial interface, -40°..+85°, +/-15kV ESD protection
- \* **PMC451/T05** PMC FPGA-based 16 channel RS422 serial interface, 0-60°
- \* **PMC451/T06** PMC FPGA-based 16 channel RS422 serial interface, -40°..+85°, +/-15kV ESD protection

**Ordering Information**

- \* **PMC451/T07** PMC FPGA-based 24 channel (16xRS232, 8xRS232/422/485) programmable serial interface, 0-60°C
- \* **PMC451/T08** PMC FPGA-based 24 channel (16xRS232, 8xRS232/422/485) programmable serial interface, -45°..+85°C, +/-15kV ESD protection
- \* **PIMSCSI68/T01** Generic PIM which converts I/O signals to 68-pin SCSI



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