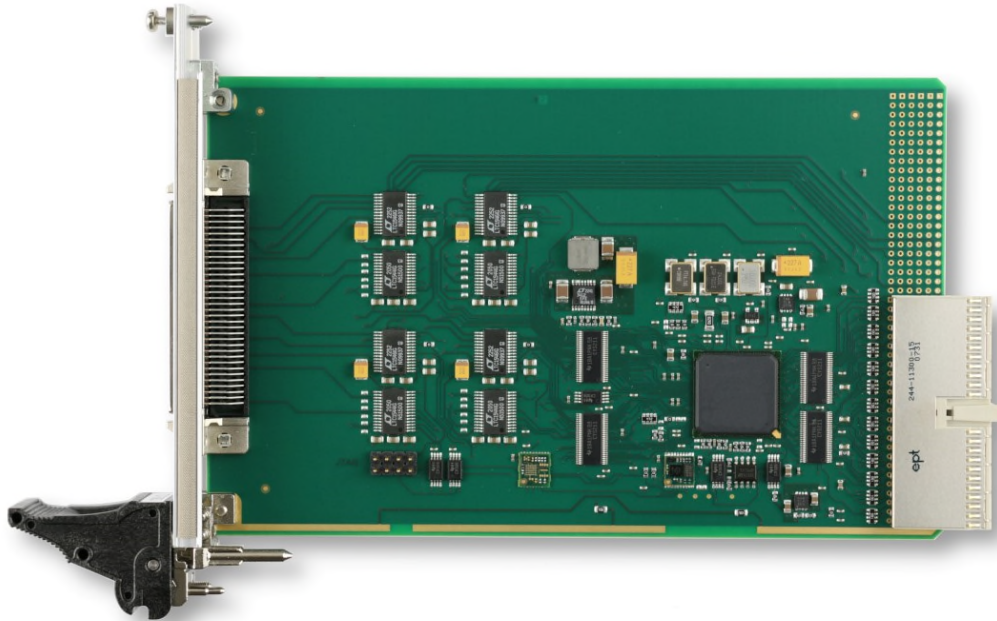


## TCP863 4 Channel High Speed Sync/Async Serial Interface



TCP863-10R

### Application Information

The TCP863 is a standard 3U 32 bit CompactPCI module with four high speed serial data communication channels.

The TCP863 is the successor of the discontinued TCP862, providing similar functionality and full connector and pin-out compatibility.

The TCP863-10R provides front panel I/O via HD68 SCSI-3 type connector and TCP863-20R additionally provides rear I/O via J2.

The serial communication controller is implemented in FPGA logic, along with the bus master capable PCI interface, guaranteeing long term availability and having the option to implement additional functions in the future.

Each channel provides dedicated receive and transmit FIFOs for high data throughput.

Data transfer on the PCI bus is handled via TCP863 initiated DMA cycles with minimum host/CPU intervention.

Several serial communication protocols are supported by each channel, such as asynchronous, isochronous, synchronous and HDLC mode.

A 14.7456 MHz oscillator provides standard asynchronous baud rates. An additional 24 MHz oscillator is provided for other baud rates. A 10 MHz oscillator is used for the synchronous baud rate of 10 Mbit/s.

Each channel also provides various interrupt sources, generated on INTA. The interrupt sources can be enabled or disabled individually.

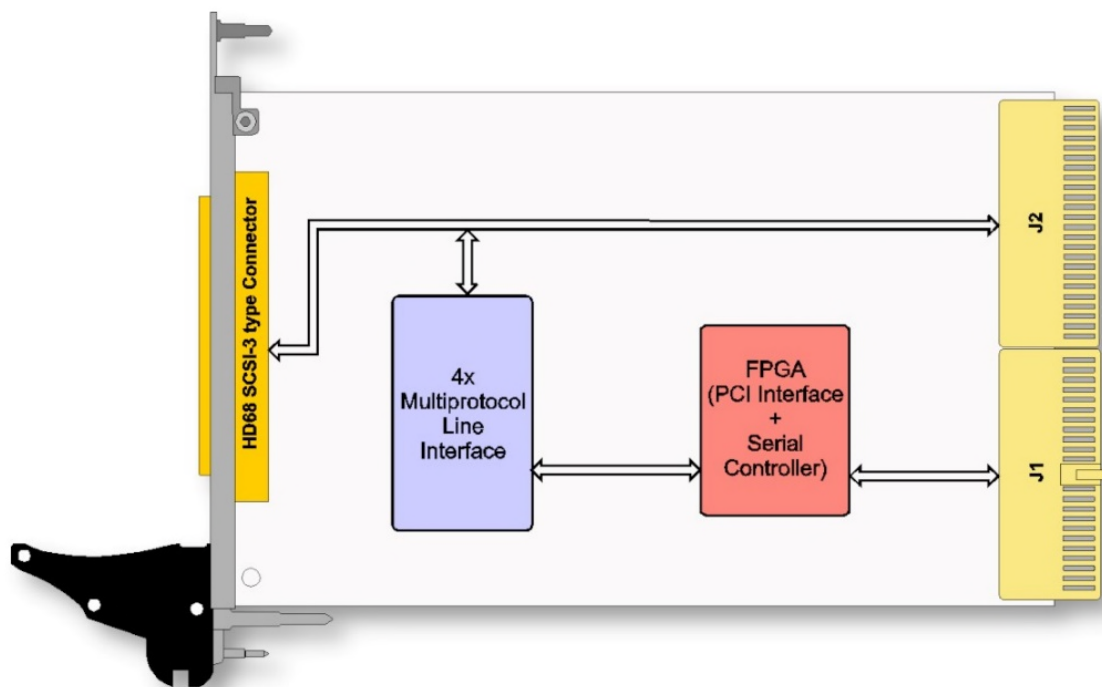
Multiprotocol transceivers are used for the line interface. The physical interface is selectable by software, individually for each channel as EIA-232, EIA-422, EIA-449, EIA-530, EIA-530A, V.35, V.36 or X.21.

The following signals are provided by the TCP863 for each channel at the front and rear-I/O connectors: Receive Data (RxD +/-), Transmit Data (TxD +/-), Receive Clock (RxC +/-), Transmit Clock (TxC +/-), Ready-To-Send (RTS +/-), Clear-To-Send (CTS +/-), Carrier-Detect (CD +/-) and GND. Additionally serial channel 3 provides Data-Set-Ready (DSR3 +/-) and Data-Terminal-Ready (DTR3 +/-) at the front I/O connector.

Driver support (TDRV009-SW-xx) for different operating systems is available.

### Technical Information

- Standard 3U 32 Bit CompactPCI module conforming to PICMG 2.0 R3.0
- PCI 2.1 compliant master/slave interface
- 3.3V and 5V PCI Signaling Voltage
- Board size: 160 mm x 100 mm
- Four high speed synchronous/asynchronous serial interfaces
- Support of RxD, TxD, RxC, TxC, RTS, CTS, CD and GND on HD68 front connector, parallel to rear connector J2 (TCP863-20R); DTR3 and DSR3 only at front I/O
- Physical interface (individually programmable per channel): EIA-232, EIA-422, EIA-449, EIA-530, EIA-530A, V.35, V.36 and X.21
- Maximum data rate: 10 Mbit/s (synchronous), 2 Mbit/s (asynchronous), internal or external provided clock
- EIA-232: up to 115.2 kbit/s
- Operating temperature range: -40°C to +85°C



Block Diagram

## The Embedded I/O Company

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### Order Information

#### RoHS Compliant

**TCP863-10R** 4 Ch. High Speed Sync/Async Serial Interface, HD68  
**TCP863-20R** 4 Ch. High Speed Sync/Async Serial Interface, HD68 and J2 I/O

For the availability of non-RoHS compliant (lead solder) products please contact TEWS.

#### Software

**TDRV009-SW-25** Integrity Software Support  
**TDRV009-SW-42** VxWorks Software Support (Legacy and VxBus-Enabled Software Support)  
**TDRV009-SW-65** Windows Software Support  
**TDRV009-SW-82** Linux Software Support  
**TDRV009-SW-95** QNX Software Support

For other operating systems please contact TEWS.

#### Related Products

**TA304** Cable Kit for modules with HD68 connector  
**TCP001-FP** 6U front panel extension for 3U cPCI boards