Intel® CD1400 and Intel® CD1865 Serial Controllers

Product Line Overview

The Intel® Serial Controllers offer innovative serial I/O data communications solutions for network applications. These devices provide high-throughput general-purpose multi-channel serial communications solutions for a wide range of applications, including remote access servers, terminal servers, and POS terminals. The flexibility and speed of the Intel Serial Controllers allow more efficient communications between terminals and central hubs, wide-area communications, management ports, and console ports.
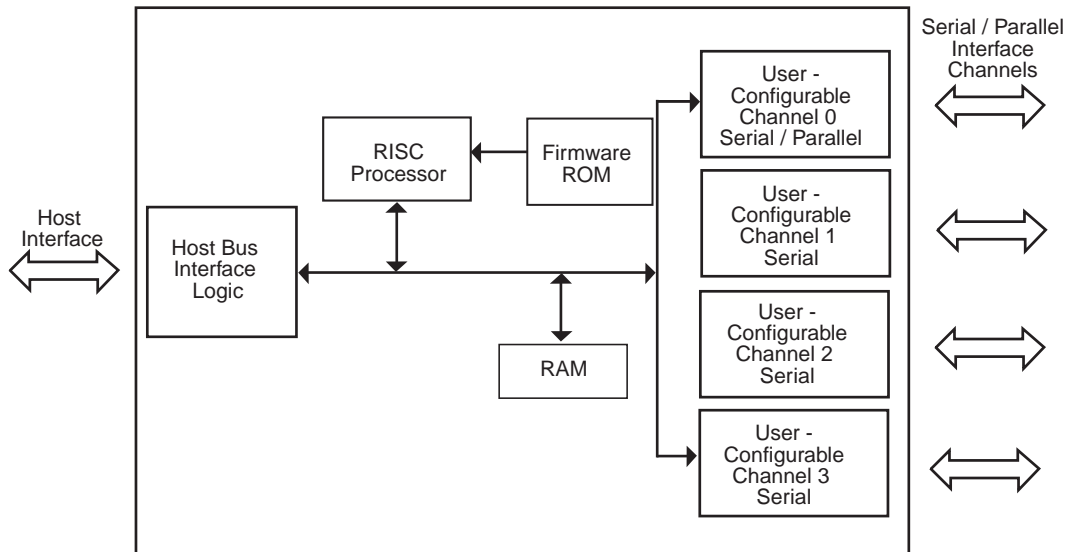
Intel® CD1400 Serial Controller

Product Highlights

- 4 full-duplex 230.4 Kbit/sec. serial channels

- Optional parallel channel configuration with Centronics* compatibility

- Automatic Unix* character processing

- 6 modem control signals (plus TxD and RxD) per channel

- Up to 60 MHz system clock

- 100-pin MQFP package

- Serial channel data rate: 230.4 Kbit/sec

- Parallel channel data rate: 32 Kbytes/sec. On transmit; 105 Kbytes/sec. on receive

- Parallel channel FIFO: 30 bytes

- Serial channel FIFOS (per channel): 12 bytes for transmit and receive

- User programmable and automatic flow control modes

- Automatic special character processing for Unix line driver applications, including expansion of NL to CR-NL, support for LNEXT and ISTRIP, and five Unix parity-handling options

- 6 modem control signals (plus TxD and RxD) per channel

- Good Data* interrupts simplify software and reduce interrupt service routine processing time

- Send special character, line break, and transmit delay supported

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With an easy interface to general purpose microprocessors and high port density, the Intel® CD1400 serial controller provides a high-throughput multi-channel serial communications solution for remote access servers, POS terminals, and terminal servers. Applications include data communications between terminals and central hubs, wide-area communications, management ports, and console ports. By moving data efficiently from serial channels to the host system, the Intel CD1400 helps minimize system overhead, while supporting optimum levels of data throughput. Each serial channel supports a data rate of 230.4

Kbits/sec. Vectored interrupts improve efficiency by eliminating the requirement for status checks and enabling a direct jump into service routines. The Intel CD1400 provides a flexible choice of either user-programmable or automatic flow control modes and supports "send special character", line break, and transmit delay. In addition, the Intel CD1400 automatically supports special character processing for Unix-based line driver applications.
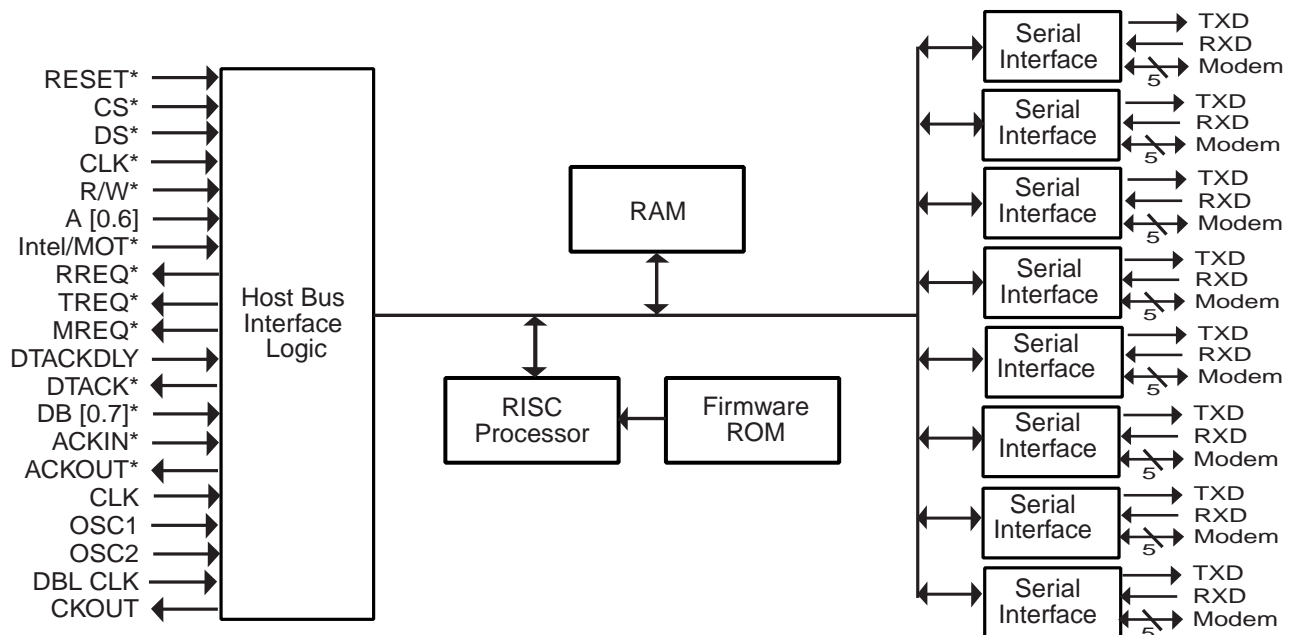

Graphic of Intel® CD1400

Intel® CD1865 Serial Controller

Product Highlights

- 8 full-duplex asynchronous channels

- Independent baud-rate generators for each transmitter and receiver to support data rates up to 115.2 Kbps

- Generation and detection of special characters

- 5 modem/general-purpose I/O signals per channel

- Up to 60 MHz system clock

- 100-pin MQFP package

- Simultaneous interrupt requests for three classes of interrupts: Rx, Tx, and modem state changes

- Sophisticated interrupt schemes, including:

  - Vectored interrupts

  - Fair Share interrupts

  - Good Data* interrupts for improved throughput

  - Simultaneous interrupt requests for three classes of interrupts: Rx, Tx, and modem state changes

- On-chip FIFO - 8 bytes each for Rx, Tx, and status FIFOs

- On-chip flow control

  - In-band (Xon, Xoff generation and detection)

  - Out-of-band (DTR/DSR or RTS/CTS)

Product Overview

The Intel® CD1865 is a universal asynchronous receiver/transmitter with eight full-duplex serial channels, each has separate 8 byte transmit and receive FIFOs. By moving data efficiently from the serial channels to the host system, the Intel CD1865 reduces overhead and yields an eight-fold improvement in system throughput.

Graphic of Intel® CD1865

Ordering Information

Contact an authorized Intel distributor for complete ordering details.

Product	Order Code
Intel® CD1400 Serial Controller	SCD140010QCJ
Intel® CD1865 Serial Controller	SCD186510QCB
Intel® CDK1400 Evaluation Kit	CDK1400JAT01A
Intel® CDK1865 Evaluation Kit	CDK1865BAT01A

Literature Information

Intel® PC Card (PCMCIA) Controllers Product Brief	279023-002
Intel® CD1400 and Intel® CD1865 Serial Controllers Product Brief	279022-002
Intel® CD1283 and Intel® CD1284 Parallel Controllers Product Brief	279034-002
Intel® WAN Controllers Product Brief	273527-001
Interconnect Devices Product Selection and Application Guide	279037-002
Interconnect Devices Basis to Intel Conversion Chart	279036-002
Intel® Interconnect Devices Family Brochure	273544-001

Intel Access

Developer's Site	developer.intel.com
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General Information Hotline	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST developer.intel.com/design/network

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