Amphus VG-CD1400 and Amphus VG-CD1865 Serial Communication Controllers

PRODUCT LINE OVERVIEW

The Amphus Serial Controllers VG-CD1400 & VG-CD1865 are pin compatible and functional equivalent to the Intel's discontinued Serial Controllers - CD1400 and CD1865. They 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 Amphus Serial Controllers allow more efficient communications between terminals and central hubs, wide-area communications, management ports, and console ports.

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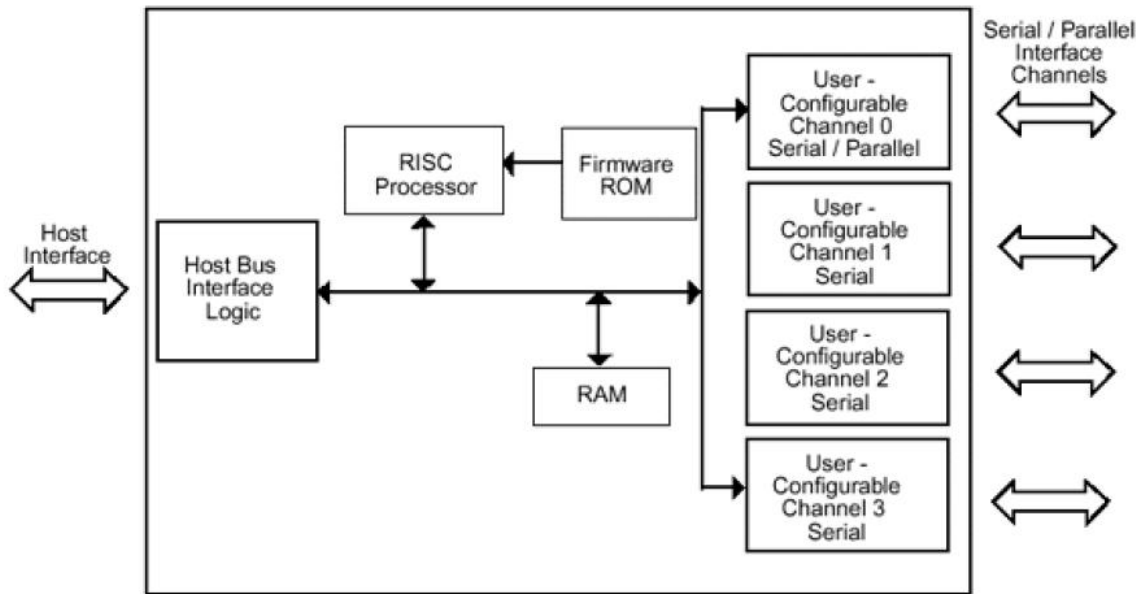
- Send special character, line break, and transmit delay supported

PRODUCT OVERVIEW

With an easy interface to general purpose microprocessors and high port density, the Amphus$^{®}$ VG-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 Amphus VG-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 Amphus VG-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 Amphus VG-CD1400 automatically supports special character processing for Unix-based line driver applications.

Amphus VG-CD1400 Internal Block Diagram

Amphus, Inc. – 97 East Brokaw Road, Suite 220, San Jose, CA. 95112
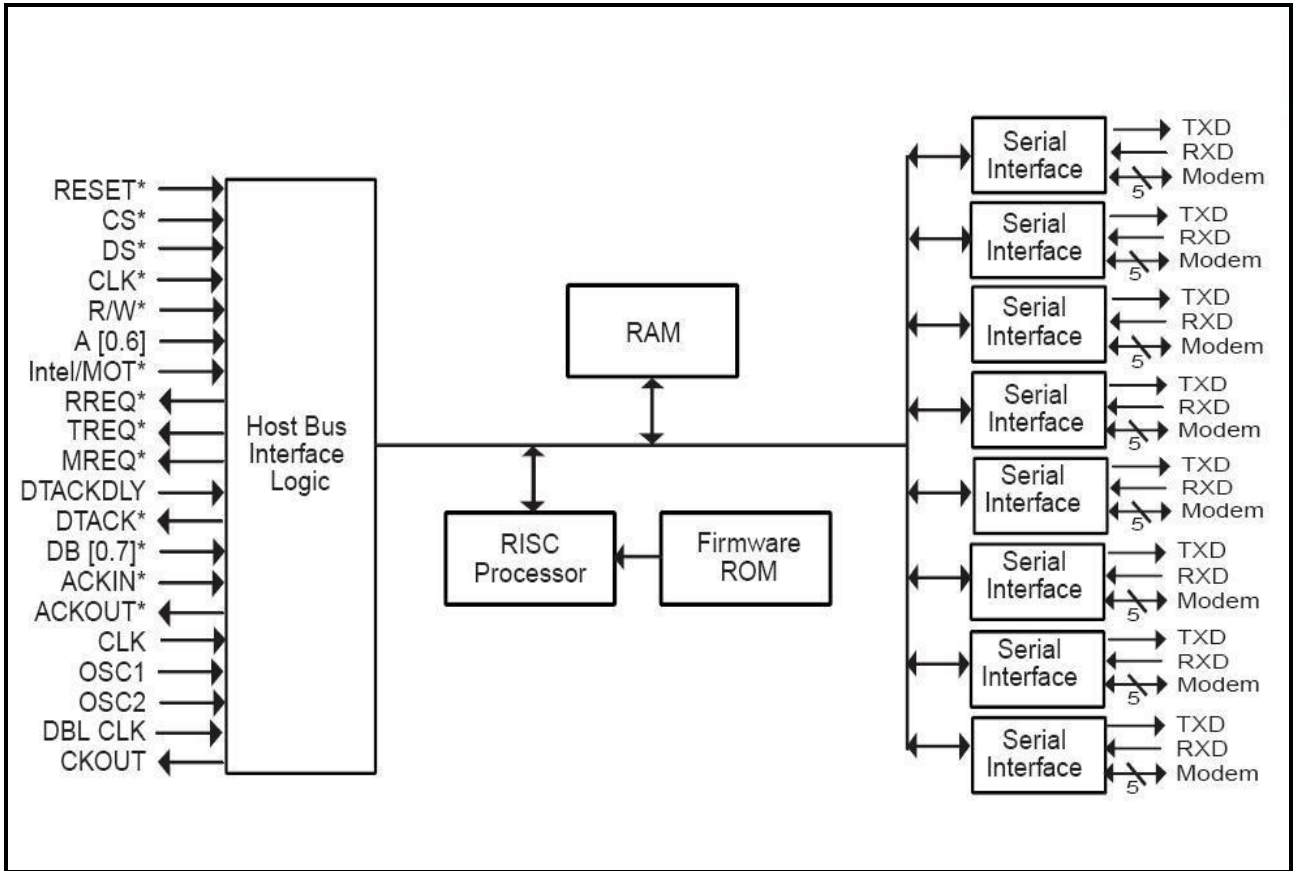www.amphus.com

Amphus VG-CD1865 Serial Controller

PRODUCT HIGHLIGHTS

- 8 full-duplex 230.4 Kbit/sec. serial 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 Amphus VG-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 Amphus VG-CD1865 reduces overhead and yields an eight-fold improvement in system throughput.

Amphus VG-CD1865 Internal Block Diagram

ORDERING INFORMATION:

Contact an authorized Amphus distributors or Amphus for complete ordering details.

PRODUCT ORDERING CODES:

Amphus VG-CD1400 Serial Communication Controller   VG-CD1400-QCJ

Amphus VG-CD1400 Serial Communication Controller   VG-CD1400-LF-QCJ
  — lead free version (RoHS complaint)
Amphus VG-CD1865 Serial Communication Controller   VG-CD1865-QCB

Amphus VG-CD1865 Serial Communication Controller   VG-CD1865-LF-QCB
  — lead free version (RoHS complaint)
Amphus VG-PD6722 ISA-to-PC Card Host Controller (MQFP)   VG-PD6722-QCCE

Amphus VG-PD6722-LF ISA-to-PC Card Host Controller (MQFP)   VG-PD6722-LF-QCCE
  — lead free version (RoHS complaint)
Amphus VG-PD6729 PCI-to-PC Card Host Controller (MQFP) E-stepping   VG-PD6729-QCE

Amphus VG-PD6729 PCI-to-PC Card Host Controller (LQFP) E-stepping   VG-PD6729-LF-QCE
  — lead free version (RoHS complaint)

LITERATURE INFORMATION:

Amphus Serial Communication Controllers Product Line
Amphus CD1400 Serial Communication Controllers Product Brief
Amphus CD1400 Serial Communication Controllers Product Data Sheet
Amphus CD1865 Serial Communication Controllers Product Brief
Amphus CD1865 Serial Communication Controllers Product Data Sheet
Amphus PC Card Host Controllers Product Line
Amphus PD6722 ISA-TO-PC Card Host Controllers Product Brief
Amphus PD6722 ISA-TO-PC Card Host Controllers Product Data Sheet
Amphus PD6729 PCI-TO-PC Card Host Controllers Product Brief
Amphus PD6729 PCI-TO-PC Card Host Controllers Product Data Sheet

PRODUCT CROSS REFERENCE TABLE:

Amphus	Intel
VG-CD1400-QCJ	CD1400-10QCJ
VG-CD1400-LF-QCJ (RoHS compliant)	NA
VG-CD1865-QCB	CD1865-10QCB
VG-CD1865-LF-QCB (RoHS compliant)	NA
VG-PD6722-QCCE	SPD6722-QCCE
VG-PD6722-LF-QCCE (RoHS compliant)	NA
VG-PD6729-QCE	SPD6729-QCE
VG-PD6729-LF-QCE (RoHS compliant)	NA