Communications

XR16L788

High-Performance 3.3V Octal UART

Features
• Simultaneous UART channels initialization
• Transmit and receive FIFO level counters
• Sleep-mode with wake-up indication
• Automatic Xon/Xoff software flow control
• Data rate up to 6.25 Mbps
• Infrared (IrDA 1.0) data encoder/decoder
• Programmable Tx and Rx FIFO trigger levels
• Automatic RTS/CTS or DTR/DSR flow control

Applications
• Network management
• Factory automation and process control
• Point-of-sale systems
• Ethernet network to serial ports
• Remote access servers

Exar's XR16L788 (formerly numbered XR16L758) is a highly integrated device designed for communications systems with high bandwidth requirements in remote access servers, hubs and routers, factory automation and process control, and Point-of-Sale (POS) systems. At 3.3V (5V+ tolerant), the device is first in a new generation of devices that leverages Exar's strong serial communications design expertise, and the strong market acceptance of this product series.

Joining a robust product portfolio, the XR16L788 has several innovative features including a global interrupt output pin with global interrupt source registers that provide complete status on all eight UART channels which speeds up interrupt parsing. The global interrupt source registers are designed to make the software device drivers more efficient thus reduce CPU's bandwidth requirement in multi-channel systems.

In addition, the device has individual UART channel control, soft-reset, simultaneous registers initialization, RTS/CTS or DTR/DSR hardware flow control with 16 selectable hysteresis, software (Xon/Xoff) flow control with detection indicators and RS-485 half-duplex direction control output with programmable turn-around delay. The turn-around delay of 0 to 15 bit-time is absolutely required for compensating signal propagation delay in long cabling networks. The 8-bit data bus facility supports Intel or Motorola based system designs. The device has 64-byte transmit and receive FIFOs (first-in, first-out) as well as FIFO level counters, programmable TX and RX FIFO trigger levels, serial data rate of up to 6.25 Mbps, and Infrared (IrDA 1.0) data encoder/decoder capabilities.