

## Direct Connectivity with Complete Single Chip Endpoint Solution

### Features

- Single 3.3V power supply
- Internal buck regulator for 1.2V core
- PCIe 2.0 Gen 1 compliant
- x1 PCIe Link, dual simplex, 2.5Gbps in each direction
- EEPROM interface for configuration
- Data read/write burst operation
- Global interrupt status register for up to eight UARTs
- Up to 25 Mbps serial data rate
- 16 multi-purpose inputs/outputs (MPIOs)
- 16-bit general purpose timer/counter
- Sleep mode with wake-up Indicator
- Expansion port interface on V354/V358 allows cascading up to 16 UART channels
- Up to eight independent UART channels controlled with:
  - 16550 compatible register Set
  - 256-byte TX & RX FIFOs
  - Programmable TX & RX Trigger Levels
  - TX/RX FIFO Level Counters
  - Fractional baud rate generator
  - Automatic RTS/CTS or DTR/DSR hardware flow control with programmable hysteresis
  - Automatic Xon/Xoff S/W flow control
  - RS-485 half duplex direction control output with programmable turn-around delay
  - Multi-drop with Auto Address Detection
  - Infrared data encoder/decoder
- Software compatible to XR17C15x, XR17D15x, XR17V25x PCI UARTs

The XR17V352<sup>1</sup> (V352), XR17V354<sup>1</sup> (V354) and XR17V358<sup>1</sup> (V358) are part of the single chip 2/4/8-channel PCI Express (PCIe) UART (Universal Asynchronous Receiver and Transmitter) product family. The PCIe UART Family is optimized for higher performance and lower power. All three PCIe UARTs serve as a single lane PCIe bridge to 2, 4 or 8 independent enhanced 16550 compatible UARTs and are compliant to PCIe 2.0 Gen 1 (2.5GT/s).

In addition to the UART channels, the PCIe UARTs have 16 multi-purpose I/Os (MPIOs), a 16-bit general purpose counter/timer and a global interrupt status register to optimize interrupt servicing.

Each UART has a multitude of enhanced features such as the 256-byte TX and RX FIFOs, programmable Fractional Baud Rate Generator, Automatic Hardware or Software Flow Control, Auto RS-485 Half-Duplex Direction Control, programmable TX and RX FIFO Trigger Levels, TX and RX FIFO Level Counters, infrared mode, and data rates up to 25Mbps. The V352 is available in a 113-pin fpBGA package (9 x 9 mm). The V354 and V358 are available in a 176-pin fpBGA package (13 x 13 mm) and are pin compatible to each other. The V354 and V358 can also be cascaded to have up to 16 UART channels using a single PCIe x1 lane.

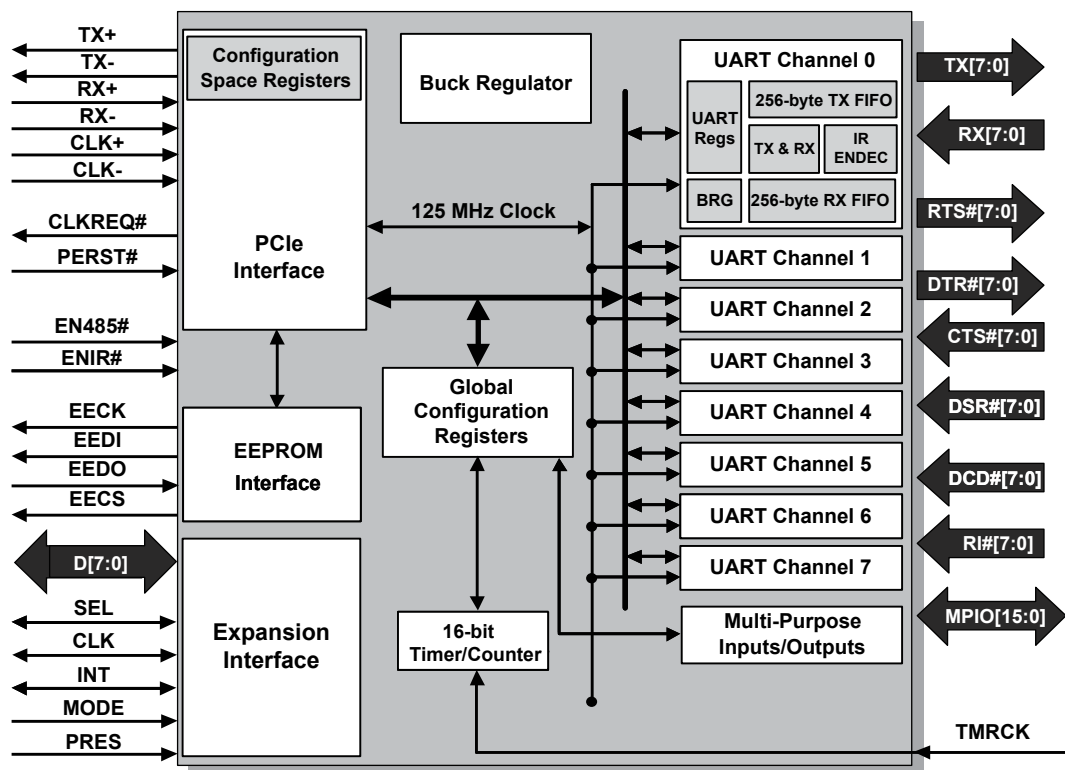
*Note:* Covered by U.S. Patents #5,649,122, #6,754,839, #6,865,626 and #6,947,999



# High Performance Dual/Quad/Octal PCI Express UARTs

# XR17V352/V354/V358

XR17V358 Block Diagram



## Applications

- Next generation Point-of-Sale Systems
- Remote Access Servers
- Storage Network Management
- Factory Automation and Process Control
- Multi-port RS-232/RS-422/RS-485 Cards

## Ordering Information

Part Number	Package Type	Operating Temperature Range
XR17V352B113-F	fpBGA-113	-40°C to 85°C
XR17V354B176-F	fpBGA-176	-40°C to 85°C
XR17V358B176-F	fpBGA-176	-40°C to 85°C

## Software

Software drivers are available for:

- Windows 2000/XP/Vista/7
- Windows CE
- Linux
- QNX

## Support

For UART technical support, please email Exar's UART Technical Support group at: [uarttechsupport@exar.com](mailto:uarttechsupport@exar.com)

