# XR16M2750/2751/2752
# 1.62V to 3.6V High Performance DUARTs with 64-Byte FIFOs

## Ideal for High Speed Data Transmission

The XR16M2750/XR16M2751/XR16M2752[1] (XR16M275x) product family consists of three high performance Universal Asynchronous Receiver Transmitters (UART) with 64 byte transmit and receive FIFOs.

The XR16M275x series is pin-to-pin and software compatible with previous generations of Exar's dual channel UARTs.

Each UART supports Exar's enhanced features of programmable FIFO trigger level and FIFO level counters, automatic hardware and software flow control, automatic RS-485 half duplex direction control output and a complete modem interface. Onboard registers provide the user with operational status and data error flags.

The XR16M2751 has two additional features: Intel/Motorola bus select and PowerSave mode. The XR16M2751 can operate in either the Intel bus mode or the Motorola bus mode. When the XR16M2751 is in the sleep mode, the PowerSave mode can further reduce the power consumption by isolating the address, data and control lines from the CPU.

The fractional baud rate generator is a new feature that provides more flexibility on the selection of a clock or crystal frequency. Traditionally, the baud rate generator allowed divisors of 1 to $2^{16}$ in increments of 1. By being limited to whole numbers, there were only specific clock or crystal frequencies that could be used depending on what baud rate (or data rate) each channel is operating. With the new fractional baud rate generator, divisors can be from 1 to ($2^{16}$ - 0.0625) in increments of 0.0625 (or 1/16). The fractional divisor allows the use of non-standard clock frequency to be used to generate standard baud rates and the use of standard clock frequency to generate non-standard baud rates.

All devices operate from 1.62V to 3.6V. Each channel of the XR16M275x series is capable of data rates up to 8 Mbps at 3.3V with a 8X sampling clock. The XR16M275x provides a pin and software compatible upward migration path for the previous generation 2-channel UART families. The following packages are available: 44-Lead PLCC (XR16M2752), 48-Pin TQFP (XR16M2750 and XR16M2751) and 32-Pin QFN (XR16M2750 and XR16M2752).

[1]Covered by U.S. Patents #5,649,122 and #5,949,787


### Major Features

- **1.62V to 3.6V operation**
- **Pin and software compatible with previous generation 2-channel UART families**
- **Two independent UART channels**
- **PowerSave feature (M2751) reduces sleep current to 15 µA**
- **Device identification and revision**
- **Crystal oscillator (up to 24MHz) or external clock (up to 64MHz) input**
- **32-QFN, 44-PLCC and 48-TQFP packages**

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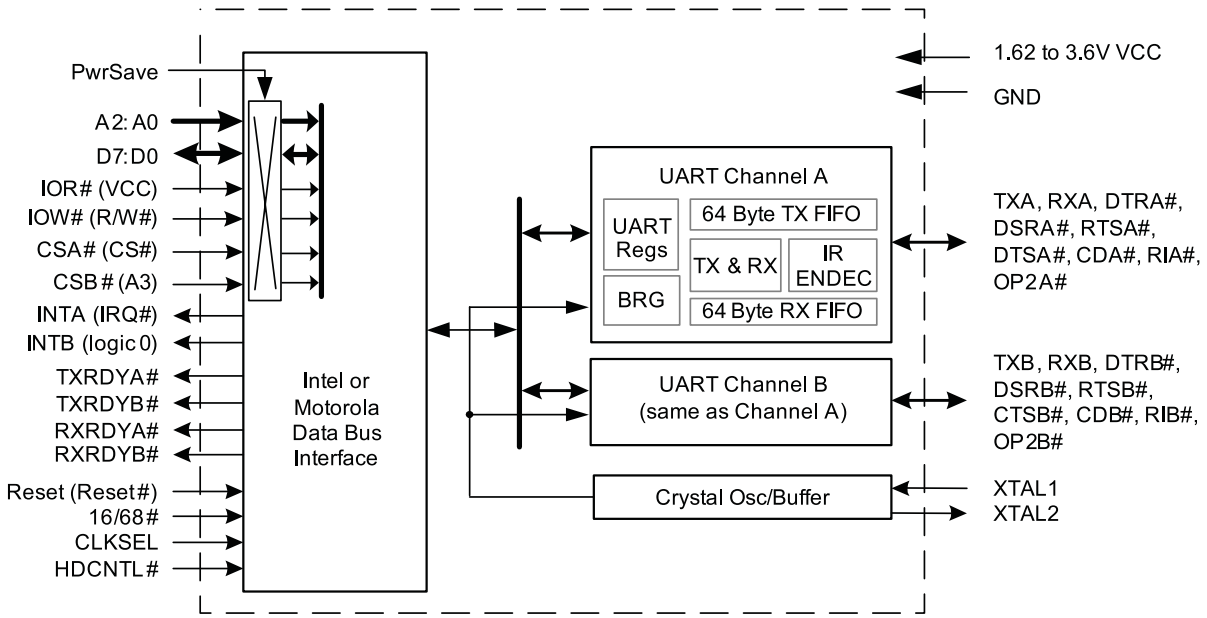
## XR16M2751 Block Diagram




## Features

- Pin-to-pin and register set compatible to XR16L2750/51/52 and XR16V2750/51/52
- Data rate of up to 8 Mbps at 3.3V, 6.25 Mbps at 2.5V and 4 Mbps at 1.8V with 8X sampling rate
- Fractional baud rate generator
- Transmit and receive FIFOs of 64 Bytes
- Selectable TX and RX FIFO trigger levels
- Automatic hardware (RTS/CTS) flow control
- Automatic software (Xon/Xoff) flow control
- Automatic RS-485 Half-duplex Direction Control Output via RTS#
- Wireless infrared (IrDA 1.0) encoder/decoder
- Automatic sleep mode
- Full modem interface
- Selectable Intel/Motorola Bus Interface (M2751)
- PowerSave Mode (M2751)

## Applications

- Portable Appliances
- Telecommunication Network Routers
- Ethernet Network Routers
- Cellular Data Devices
- Factory Automation and Process Controls

## Ordering Information

| *Product No.* | *Package* | *Operating Temp. Range* |
|---|---|---|
| *XR16M2750IL32* | *32-Pin QFN* | *-40°C to +85°C* |
| *XR16M2750IM48* | *48-Lead TQFP* | *-40°C to +85°C* |
| *XR16M2751IM48* | *48-Lead TQFP* | *-40°C to +85°C* |
| *XR16M2752IL32* | *32-Pin QFN* | *-40°C to +85°C* |
| *XR16M2752IJ44* | *44-Lead PLCC* | *-40°C to +85°C* |



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