

# XR20M1172

## Dual Channel I<sup>2</sup>C/SPI UART with 64-Byte FIFO

### Ideal for Low Power, Embedded Applications

The XR20M1172<sup>1</sup> (M1172) is a high performance two channel universal asynchronous receiver and transmitter (UART) with 64 byte TX and RX FIFOs and a selectable I<sup>2</sup>C/SPI slave interface. The M1172 operates from 1.62V to 3.63V. Features include a programmable fractional baud rate generator, and 8X and 4X sampling rate that allows for a maximum baud rate of 16 Mbps at 3.3V. The standard features include 16 selectable TX and RX FIFO trigger levels, automatic hardware (RTS/CTS) and software (Xon/Xoff) flow control, and a complete modem interface. Onboard registers provide the user with operational status and data error flags. An internal loopback capability allows system diagnostics. The M1172 is available in both 32-pin QFN and 28-pin TSSOP packages. The 32-pin QFN package has the EN485# and ENIR# pins to allow the UART to power-up in the Auto RS-485 mode or the Infrared mode.

The XR20M1172 includes features that simplify the hardware and software designs for half-duplex RS-485 and infrared applications. These features can be enabled in the 28-pin TSSOP package by software. The 32-pin QFN offers flexibility to enable these modes in both software and hardware. Enabling the Auto RS-485 or IR mode in the hardware allows the 32-pin QFN device to power up in a state which completely eliminates unwanted noise on the RS-485 network or remote IR transceiver.



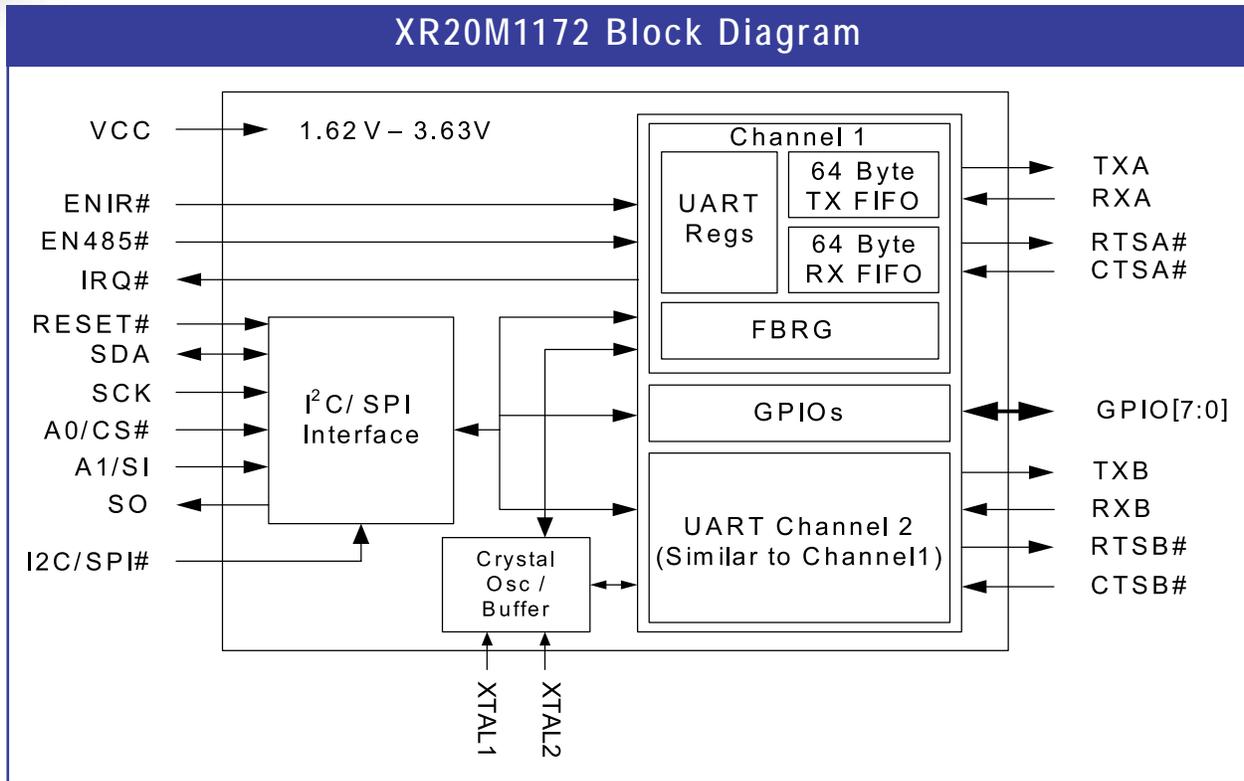
### Major Features

- 1.62V to 3.63V Operation
- Selectable I<sup>2</sup>C/SPI Interface
- Crystal oscillator (up to 24MHz) or external clock (up to 64MHz) input
- Full-featured UART
- 32-QFN and 28-TSSOP packages
- Pb-Free, RoHS Compliant Versions Offered

<sup>1</sup>Covered by U.S. Patent #5,649,122

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### Features

- Maximum data rate of 16 Mbps at 3.3V
- Maximum data rate of 12.5 Mbps at 2.5V
- Maximum data rate of 8 Mbps at 1.8V
- Fractional Baud Rate Generator
- Transmit and Receive FIFOs of 64 bytes
- 16 Selectable TX and RX FIFO Trigger Levels
- Automatic Hardware (RTS/CTS) Flow Control
- Automatic Software (Xon/Xoff) Flow Control
- Halt and Resume Transmission Control
- Automatic RS-485 Half-duplex Direction Control Output via RTS#
- Wireless Infrared (IrDA 1.0 and 1.1) Encoder/Decoder
- Automatic sleep mode (< 15 uA at 3.3V)
- General Purpose I/Os
- Full modem interface

### Applications

- Portable Appliances
- Battery-Operated Devices
- Cellular Data Devices
- Factory Automation and Process Controls

### Ordering Information

Product No.	Package	Operating Temp. Range
XR20M1172IL32	32-pin QFN	-40°C to +85°C
XR20M1172IG28	28-Lead TSSOP	-40°C to +85°C