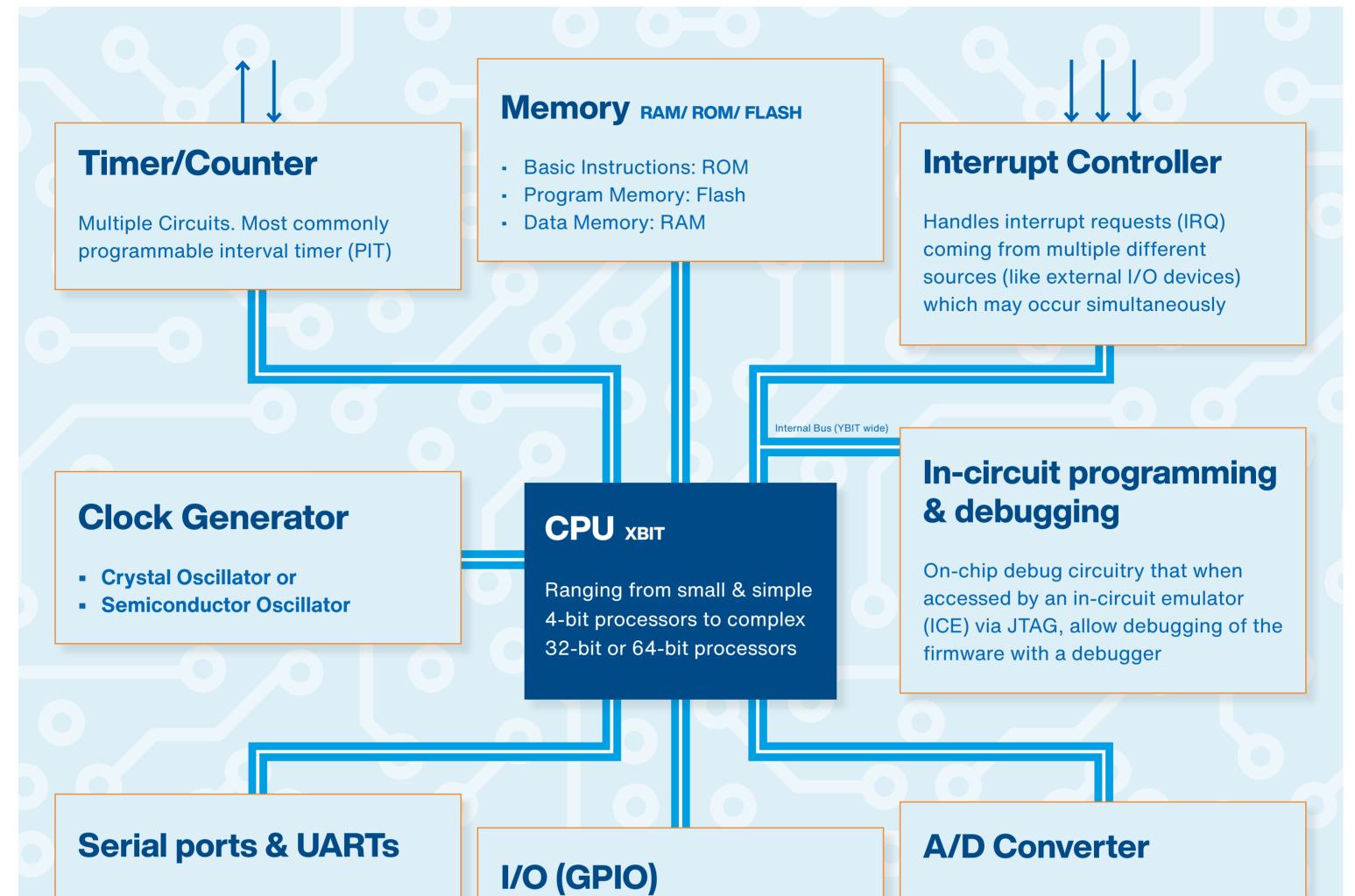
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Microcontroller reference guide



Universal asynchronous receiver/

transmitter (UART) block makes it possible to receive and transmit data over a serial line with very little load on the CPU

General purpose input/output pins are software configurable to either an input or an output state. When GPIO pins are configured to an **input state**, they are often used to read sensors or external signals. Configured to the **output state**, GPIO pins can drive external devices such as LEDs or- motors, often indirectly, through external power electronics

form that the processor can recognize

Convert incoming sensor data into a

Examples: Y = 4, 8, 16, 32 Bit (Bus width)

X	Example CPU Core
4 Bit	Samsung SAM47
8 Bit	Microchip Atmel AVR
16 Bit	TI MSP430
32 Bit	Infineon TriCore
ARM Cortex	M4
8 Bit 16 Bit 32 Bit	Microchip Atmel AVR TI MSP430 Infineon TriCore

Example MCU Samsung S3C7(KS57) Microchip AVR DB TI MSP430 Infineon Aurix STM32WLE5/E4xx



CPU resources in tight timer loop

Pulse-width modulation (PWM) block makes it

possible for the CPU to control power converters,

resistive loads, motors, etc., without using many

PWMs

Microcontroller