

## FEATURES

- AMBA® APB Compatible
- 16 bit counter/timer
- 10 bit selectable pre-scale
- Periodic and free running event timer modes
- Useful for software or RTOS time base

## LICENSED IP PACKAGE INCLUDES

- Verilog Source
- Complete Test Environment
- AHB Bus Functional Model
- C-Sample Code

## DESCRIPTION

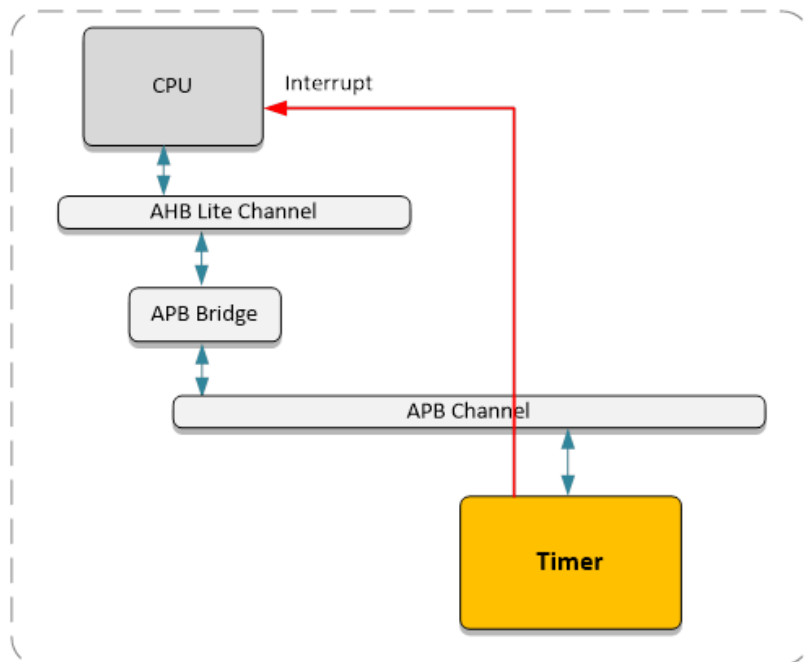
The APB Timer module is a sixteen-bit down counter with a selectable prescaler. Prescale values of 1, 16 and 256 can be selected. The prescaler extends the timer's range at the expense of precision.

The Timer provides two modes of operation that provide a free running value and also periodic interrupts.

The Timer contains several configuration registers that can be written and read by the processor. Two 4-bit prescalers precede a 32-bit counter. The counter can be clocked at either the input clock rate, or a choice of 7 prescaled rates. The counter can be loaded with a value from a preload register. The counter can optionally generate an interrupt.

The Timer module is a standard APB Slave peripheral; the Timer registers are accessed through this interface.

## GENERAL USE



You may also be interested in:

## AMBA® Subsystems

- Low Power Subsystem (simple AHB system)
- Low Power / Performance Subsystem (includes AHB Multi-matrix Fabric)
- Custom Performance Subsystem (includes AXI Multi-layer Fabric)

## IP Cores

### Infrastructure Cores

AHB Multi-Matrix Fabric  
AHB/AHBLite Channel  
AHB Arbiter  
AXI Multi-Layer Fabric  
AXI to AHBLite Bridge  
AXI to APB Bridge  
AHB to ABP Bridge  
APB Channel

### AXI Cores

AXI Multi-Layer Fabric  
AXI to AHBLite Bridge  
AXI to APB Bridge  
AXI External Bus Interface  
(Memory/Flash Controller)  
AXI Internal Memory Controller  
AXI QSPI with Execute in Place (XIP)

### AHB Cores

AHB Channel  
AHB Multi-Matrix Fabric  
AHB to ABP Bridge  
AHB Arbiter  
AHB QSPI with Execute in Place (XIP)  
AHB External Bus Interface  
AHB Internal SRAM Controller  
AHB Interrupt Controller  
AHB DMA Controller  
AHB DMA 4 Channel Controller  
AHB TFT LCD Controller  
AHB DES/TDES Encryption/Decryption

**AHB Serial Flash Controller**  
**Octal, Quad, Dual and Single Modes**

**Serial to AHB Bridge**  
**SPI slave to AHB Master**  
**Monitor/Control**

### APB Cores

APB Channel  
APB Quad SPI Controller  
APB General Purpose IO  
APB Timer  
APB UART  
APB I2C (Master and Slave)  
APB SPI  
APB Watchdog Timer  
APB Pulse Width Modulator  
APB Real Time Clock

### General

DES – Digital Encryption Standard  
Triple DES (Low Gates)  
Triple DES (pipelined)  
ADC Interface (semi-custom)  
Mixed-Signal Interfaces (semi-custom)  
Power Management Unit (semi-custom)

**AES Encryption Core**

For more information contact



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