The Module's Software I/O

- **IN_1** [LABEL: INIT_MODULE] [BYTE: CLK_TIK_NUMBER] **OUT_1**
- **IN_2** [CALL_ANOTHER_MODULE] **OUT_2**

**Interrupt Driven Periodic Calls**

The Module's Hardware I/O

- **HW_IN_1** EXT_CLK = RC0 (optional)

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**The Assembler-Code of this module was Automatically created (by ECCM) by decoding user-entry into cells of a Spread-Sheet of an Active-Form. That Active-Form guides and assists the user in the data-entry.**

**The features of the resulting-code:**

**Initializing the code of S5E**

1. When Module S5E is called (one Time only) at Input port IN_1, the module is permanently activated and it will issue periodic, interrupt-driven, subroutine calls at OUT_2.

**Creating the code of S5E**

Using the Code Generator (ECCM Modules) to Automatically create the code of Module S5E as follows:

- The user need to answer the following Yes/No questions (or Enter a Value) and then press the Code Generate Button...
  1. User selects (Yes/No) External (or) Internal Clock to feed Module S5E.
  2. User Select (Yes/No) Rising (or) Falling edge trigger for the External Clock.
  3. NA
  4. User answers (Yes/No) to suggested values of the Prescalar (of TIMER0).
  5. User Enter a Value (suggested by ECCM based on the user answers) that defines the period of the CLK_TICKs of this module.

**How Does Module S5E operate?**

1. After initialization of S5E, the Module will increment TIMER_0 until it reaches the value of 255 causing a TIMER_0 Overflow interrupt (TMRO_OVFL).
2. TMRO_OVFL interrupt will do each time the following:
   1. Reset TIMER_0 to an Initial Value and activate it.
   2. Issue a Subroutine Call via OUT_2.
   3. Increment an Internal 1 Byte Counter that is feeding port OUT_1.

**How to use S5E?.. Example...**

Connect a software wire from this timer module S5E (OUT_2) to the scheduler module S11A (IN_1). This will activate the scheduler.

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**INPUT-WAVE-FORM**

**User selected:**

1. Either an External Clock... to Hardware input HW_IN_1...
2. Or Internal Clock... from TIMER0 of the CPU chip...

**OUTPUT-WAVE-FORM**

Using the INPUT-WAVE-FORM, module S5E generates an OUTPUT-WAVE-FORM (named CLK_TICS) with a user-defined controllable PERIOD.

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**FIG 6: S5E_BLK_DIA**

The Software and Hardware Block-Diagram of Module S5E_TIMER0_CLOCK_MODULE

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http://www.embedded-controller-code-maker.com/
http://www.game-blocks-code.com/