DELAY FUNCTIONS

The information in this document is obtained from the following Microchip manuals:
- PIC18Fxx2 Datasheet
- PICmicro® 18C MCU Family Reference Manual
- MPLAB C18 C Compiler Libraries

Function Prototypes:
For a detailed description of these functions, please see:
Section 4.5 Delay Functions, in MPLAB C18 C Compiler Libraries manual.

#include <delays.h>

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void Delay1TCY ( void ); // Delay one instruction cycle.
void Delay10TCYx ( unsigned char unit ); // Delay in multiples of 10 instruction cycles.
void Delay100TCYx ( unsigned char unit ); // Delay in multiples of 100 instruction cycles.
void Delay1KTCYx ( unsigned char unit ); // Delay in multiples of 1,000 instruction cycles.
void Delay10KTCYx ( unsigned char unit ); // Delay in multiples of 10,000 instruction cycles.

Notes:

1. The letter 'x' in the function name above stands for 'times' or 'multiplication'. It is not to be replaced by a number as done in some other function names.

2. unit is an 8-bit value in the range [0,255]. unit = 0 is equivalent to unit = 256.

3. TCY stands for 'instruction cycle'. For 18F252/452 running at 20MHz oscillator frequency,

   \[ TCY = \frac{4}{20MHz} = 0.2\mu s \]

4. Some examples:

   Delay1TCY (); // gives a delay of 0.2\mu s (implemented as a single NOP instruction).
   Delay10TCYx (50); // gives a delay of 10\times0.2\mu s\times50 = 100\mu s
   Delay100TCYx (100); // gives a delay of 100\times0.2\mu s\times100 = 2ms
   Delay1KTCYx (250); // gives a delay of 1000\times0.2\mu s\times250 = 50ms
   Delay10KTCYx (0); // gives a delay of 10000\times0.2\mu s\times256 = 0.512s