Demo Set-up

The SW MC56F4000_FreeMASTER demonstrates FreeMASTER features by controlling the addition behavior between two variables. FreeMASTER communicates with a PC Computer with OSBDM via SCI1. It is targeted at MC56F84789 and its derivatives.

H/W Setup

The h/w consists of:

1. MAPS-MC56F84000 populated with MC56F84789 device
2. USB cable connected to MAPS OSBDM connector
3. 5V Power supply

Before the demo starts, the HW with OSBDM link needs to be set-up.

Application SW

The demo s/w is located in a folder MC56F84000_PWM_FreeMASTER.The s/w was designed using CodeWarrior CW10.x

Development Tools

In order to compile run, load and flash the demo the following s/w is necessary to:

1. Install CodeWarrior_CW_MCU_v10.x and Run the CodeWarrior
2. Drag and drop < MC56F84000_ FreeMASTER\ .project into the opened CodeWarrior CW10.x
3. Clean(if the project is the first time run in your workspace) and Build the application code target MC56F84789_Internal_PFlash_SDM
4. Connect a USB cable between the PC host and the mbed USB port (CN7 on the MAPS-56F84000 board).
5. Running/debugging loading the code:
    a. Run -> Debug Configuration
    b. Set the configuration for debug as download
6. Click Debug
7. Start

Running the demo

Demo is to be controlled using a FreeMASTER communication tool.

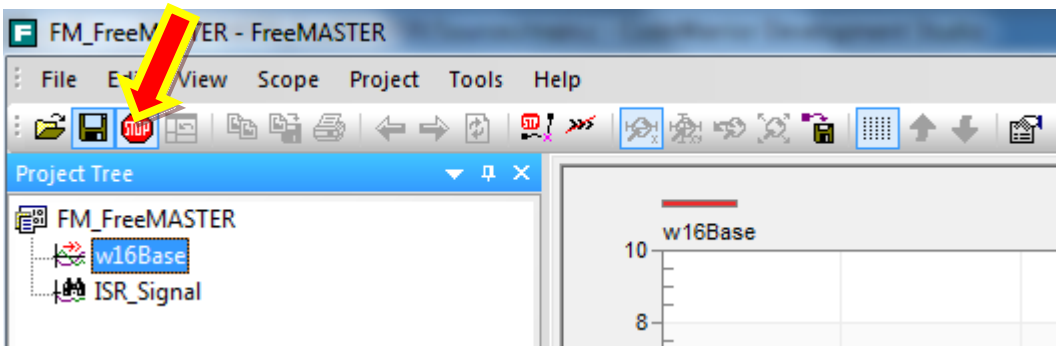
In order to control the application the following sw is necessary:

1. FreeMASTER Application Installation (application was tested using fmaster13-11.exe) see: http://www.freescale.com/webapp/sps/site/prod_summary.jsp?code=FREEMASTER&parentCode=null

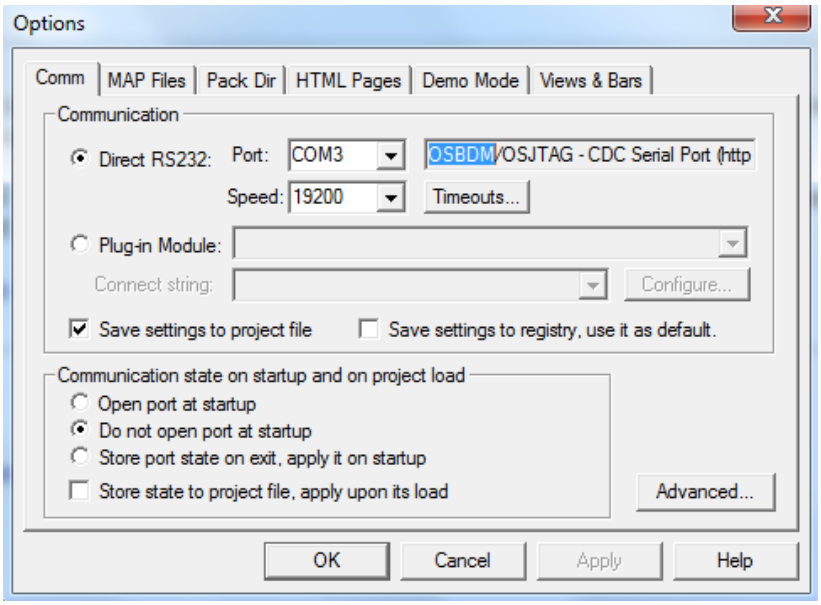
2. CodeWarrior Connection Server
   this is a part of Freescale CodeWarrior installation, located usually at C:\Freescale\CW MCU v10.6\MCU\ccs\bin
   but the ccs_bld000_win.zip can also be obtained without the CodeWarrior installation

The following steps are necessary (if continuing from debug mode, goto step 4 and when freemaster is in run state, terminate the code from CodeWarrior using terminate button):

1. Connect Power Supply
2. Connect OSBDM for FreeMASTER control
3. If the application s/w is not programmed into the MAPS_84000 board, go to section Application SW
4. Install FreeMASTER Application
5. Start FM_FreeMASTER .pmp (FreeMASTER Application must be installed before)
6. If the FreeMASTER is not connected (variables values are: ?), check:
   a. Click at the STOP switch



   b. If en error message is generate after STOP switch click, go to Project/Options Com slider and set the Direct RS232 Port and Speed

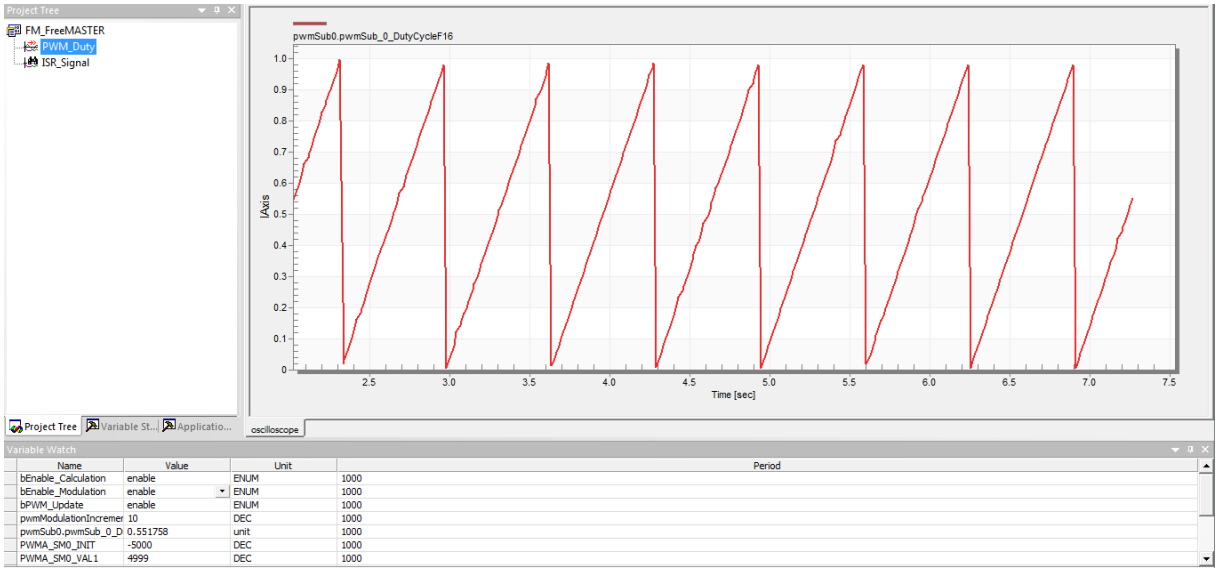


7. Application is running with FreeMASTER.

FreeMASTER Control

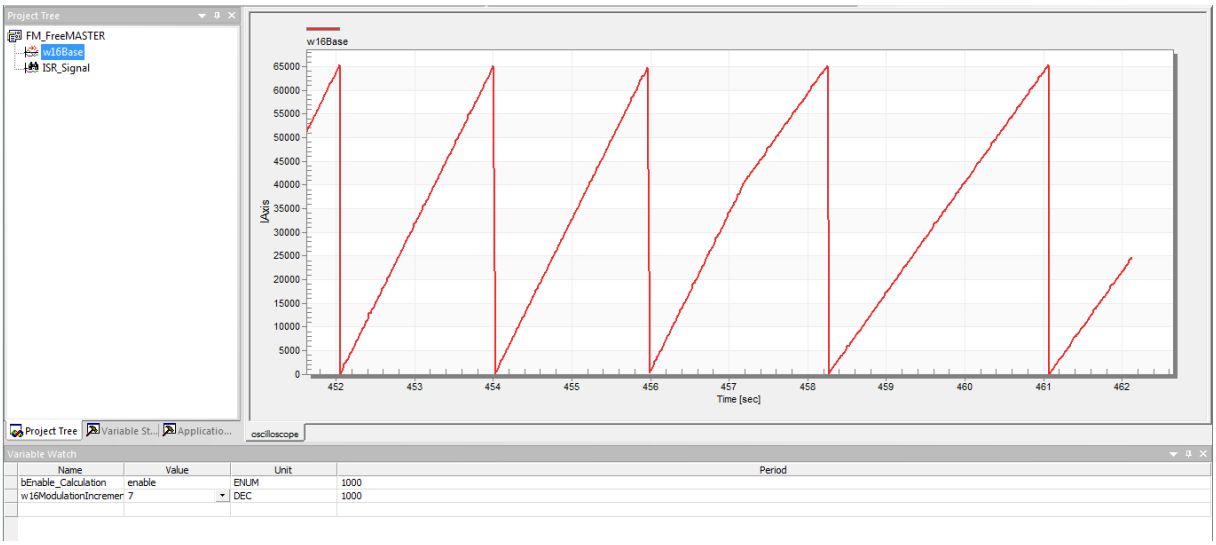
Modulated variable

You can see and check the variable which is modulated with linear modulation in the FreeMASTER scope :



Manual Value Update

You can change the ModulationIncrement value manually in progress and it will represent in the FreeMASTER scope:



Other possibility is disable the modulation by setting bEnable_Calculation – disable and then the variable will be constant.

ISR signals

For the quickly changed variable, you can see and check it in the FreeMASTER recorder, such as the ISR signals represent as GPIOB_DR_D8: