QuickStart

Check HardWare and SoftWare are Working



Never stop thinking

Exercise Quick Start

Objective:

- Checking the starterkit / Triboard is working
- Checking the DAvE, Tasking SW installation are correct.
- Checking the system is working



Exercise QuickStart
- DAvE Configurations

Start DAvE for TC1797.



Create a new project:

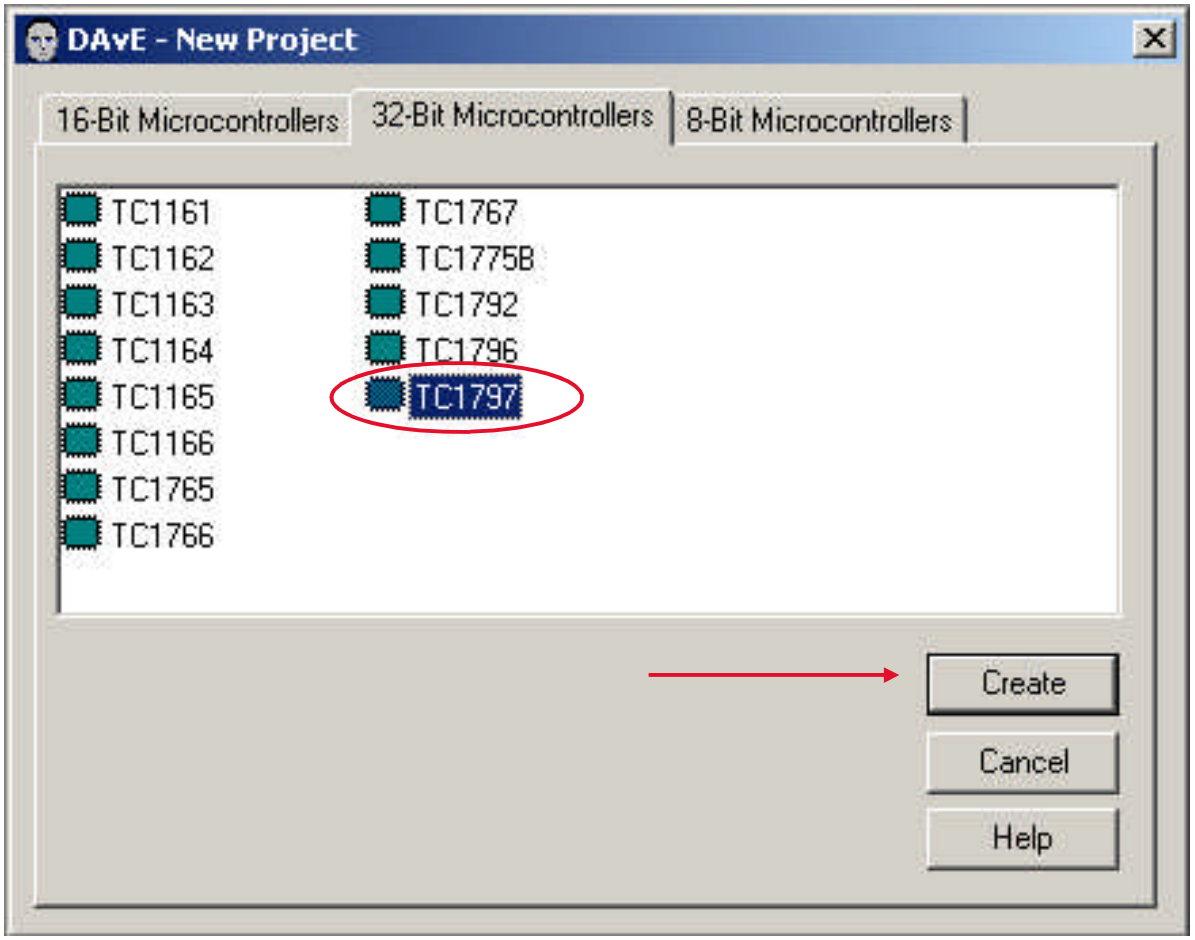
- From DAvE menu bar, Select **File → New**
- Or click 'Create a new project'



Exercise QuickStart
- DAvE Configurations

Create a new project:

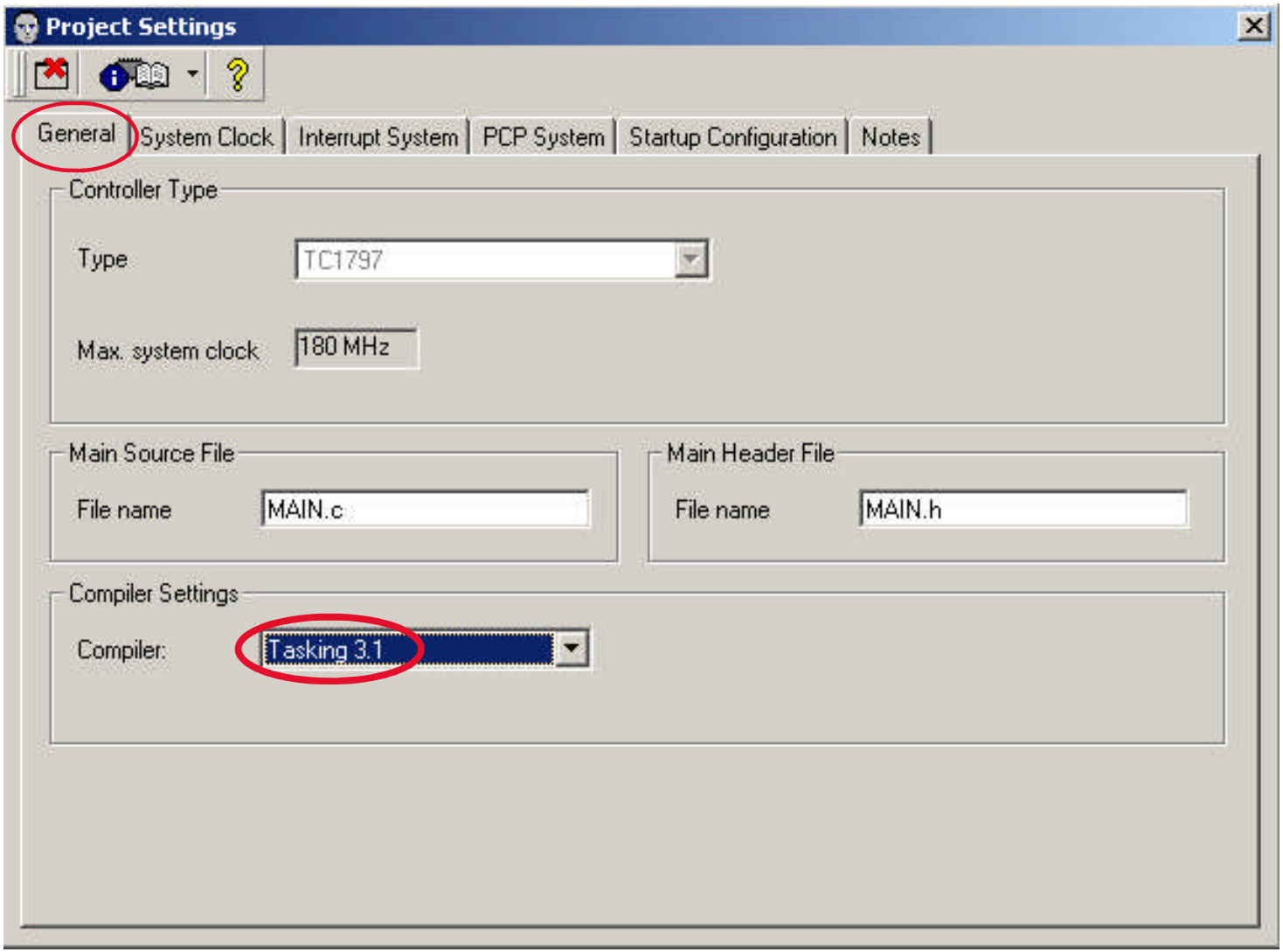
- Select 32-Bit microcontroller: ‘TC1797’.



Exercise QuickStart
- DAvE Configurations

Project Settings - opens automatically

- **General**:
  - Compiler Settings: Tasking 3.1

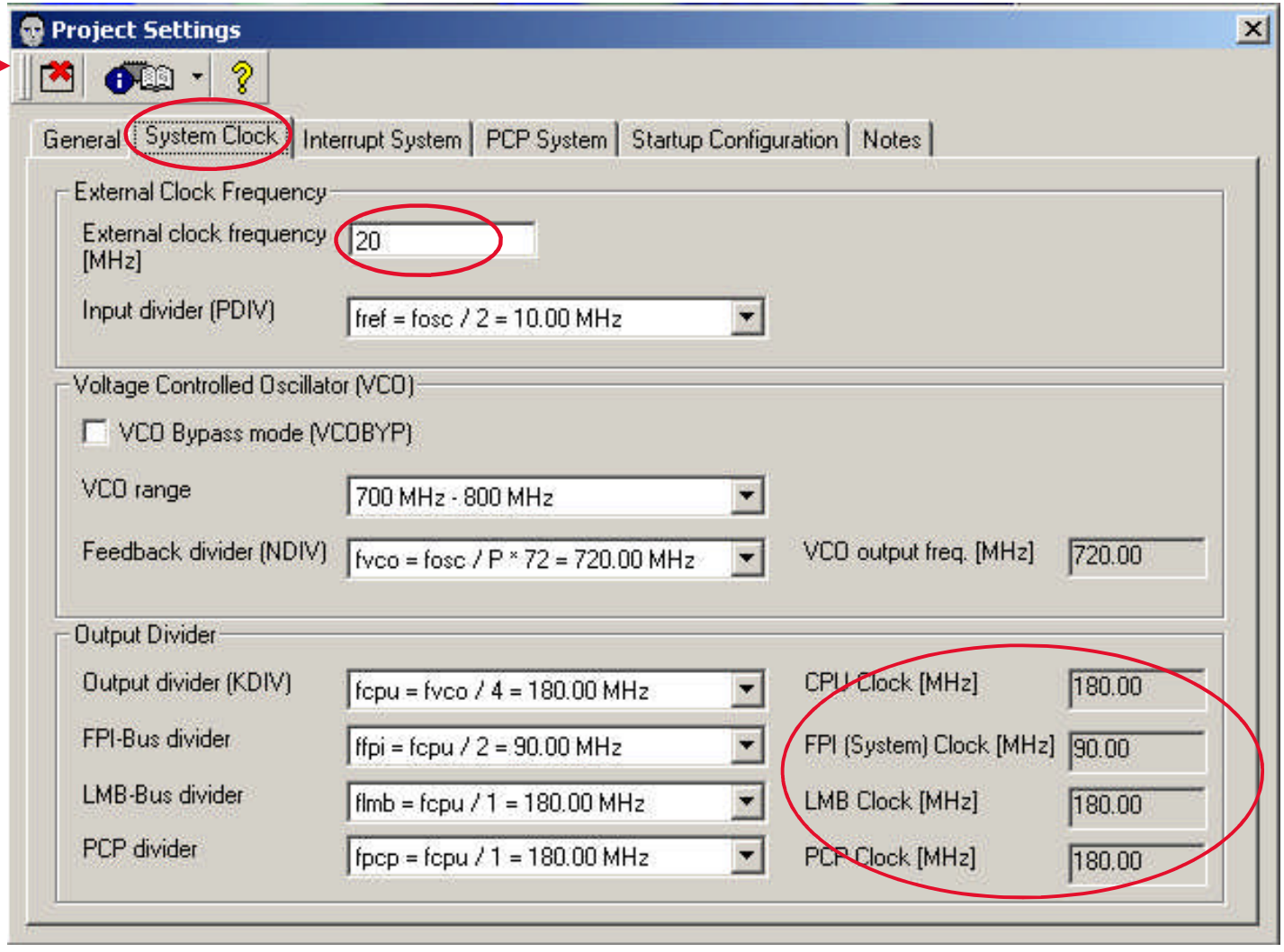


Exercise QuickStart
- DAvE Configurations

Project Settings - opens automatically

- **General**:
  - System Clock

Click to close



Exercise QuickStart
- DAvE Configurations (cont.)

Save (**File → Save)** this DAvE file in :
c:\hot\tc1797\QuickStart\QuickStart.dav

Let DAvE now generate the code for you

- Go to **File → Generate Code** or click:



- DAvE opens a new window with the Project Documentation file. On the left hand side a browser window shows the generated files. You can take a look at the generated code or just find out in which file DAvE put the included functions.

- In general:
  - if the included function is a macro it is included in the '.h' file
  - if the included function is a function it is included in the '.c' file

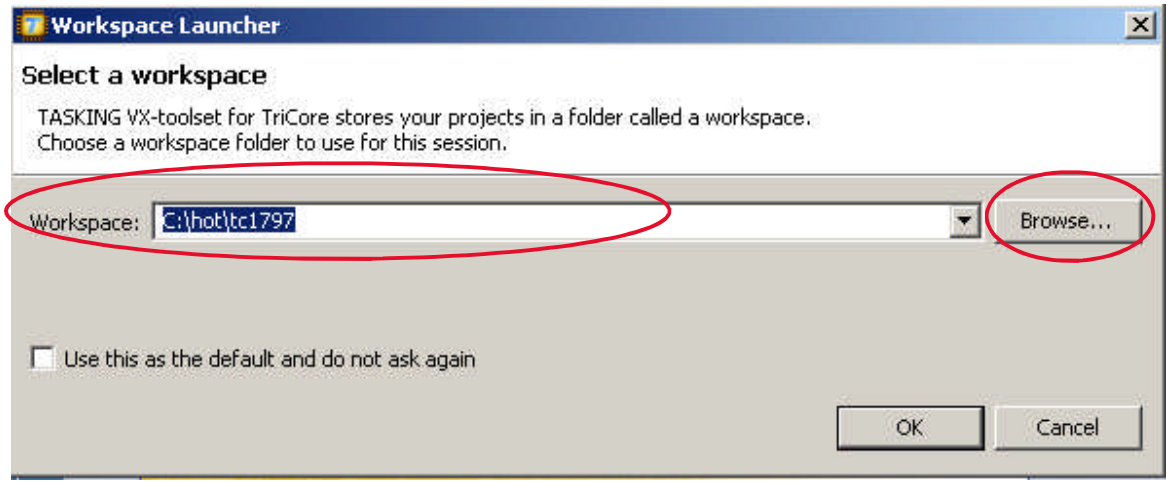
In this example: The only productive job which DAvE will do is the setting of the PLL with the default values as defined in the System Clock dialog.

Exercise QuickStart-
Start Tasking and Create New Work Space

Start Tasking EDE for TriCore :

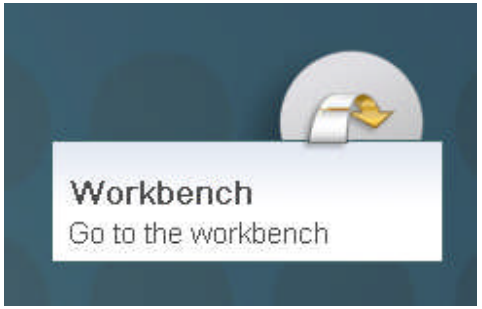


- Browse to the directory where the DAvE generated files are saved.



Exercise QuickStart
- Create New Work Space

- *Click 'workbench'*

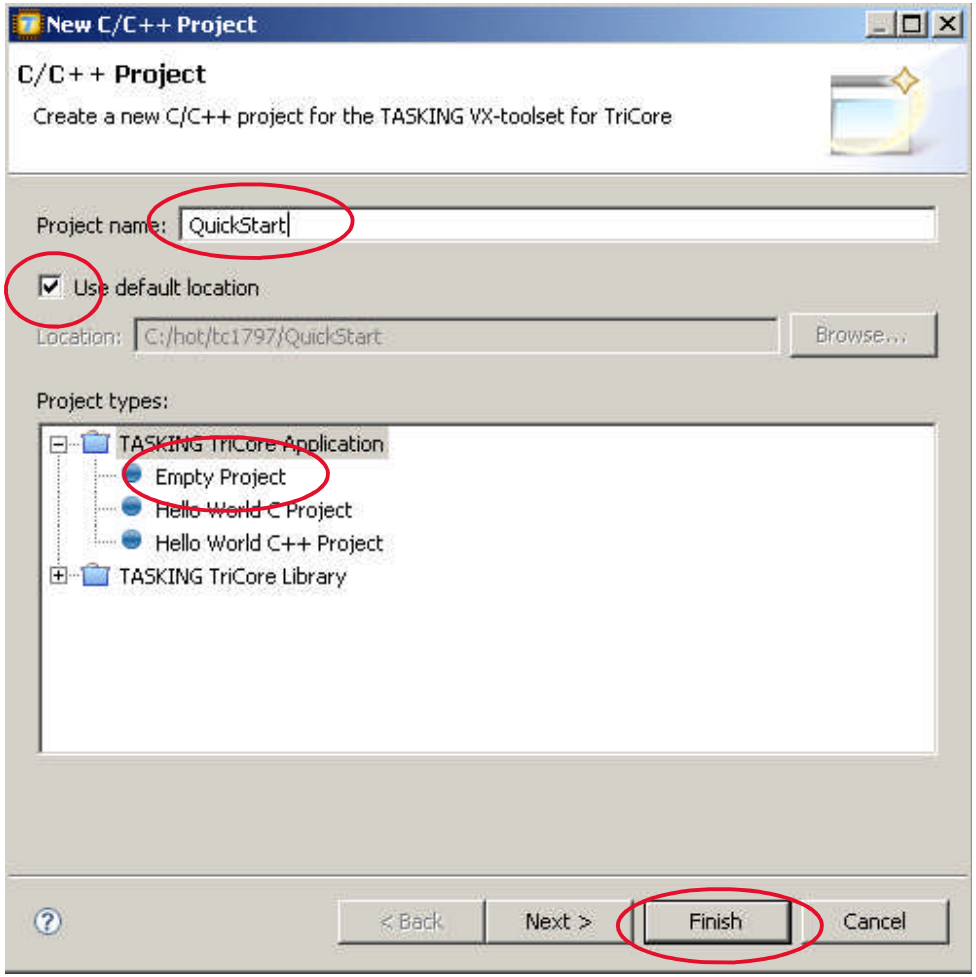


- From the **File** menu select **New** –> **TASKING VX-toolset for TriCore C/C++ Project**.

- *The New C/C++ Project wizard appears.*

Exercise QuickStart- Create New Project

- In the **Project name** field, type **QuickStart** as the name of your new project.
- Select **Empty Project**. This creates a project without a C source file containing the function main() .
- Leave the **Use default location** checked to use the default location for your new project.
- Click **Finish** to finish the wizard and to create the project.
- Selecting **Finish** instead of **Next**, leaving the additional settings as defined by the defaults.



Exercise QuickStart - Set Project Options

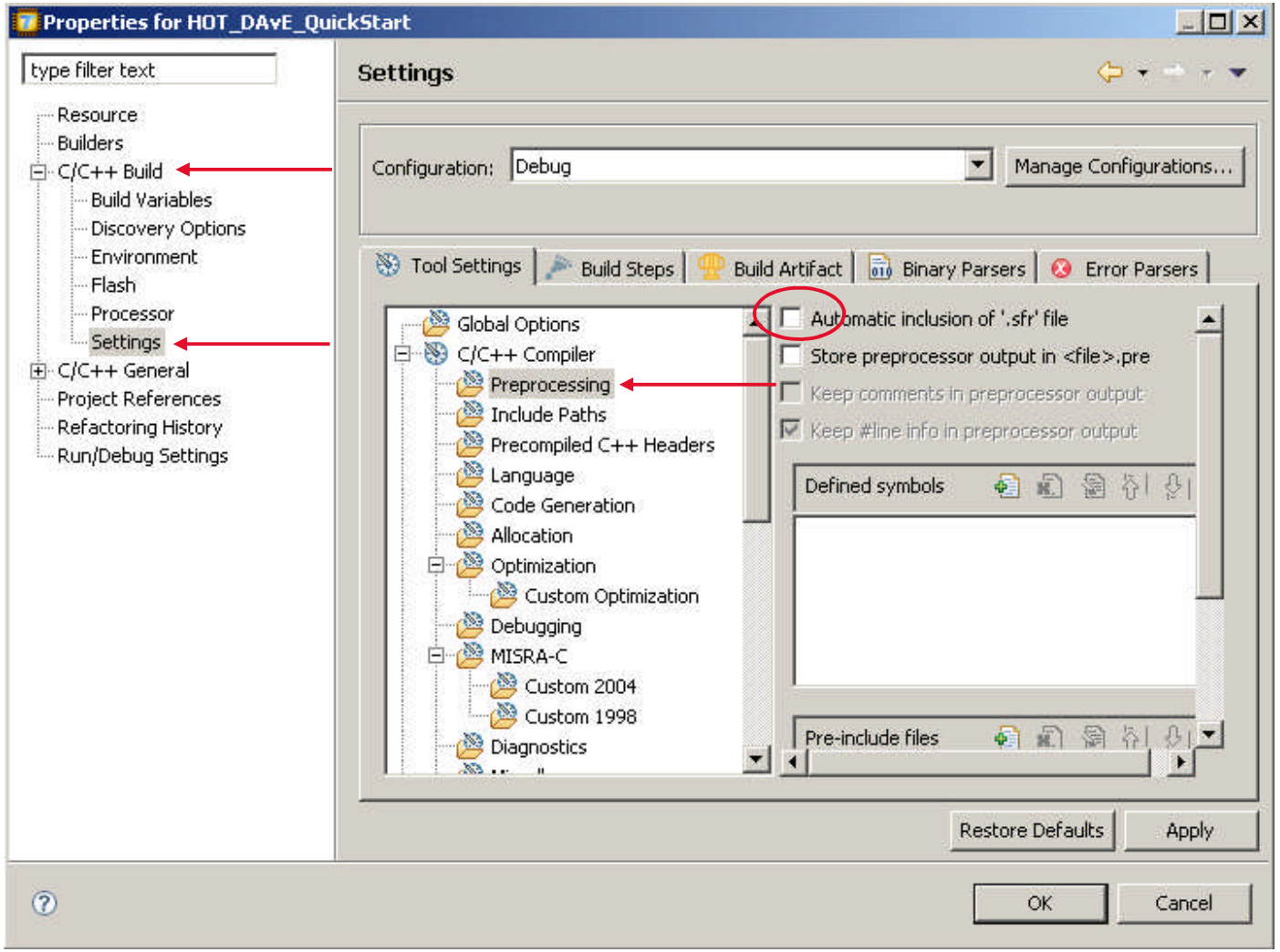
- From the **Project** menu, select **Properties**. Alternatively, you can click the button. 

- ***Properties for hello_dave*** *dialog box appears*

Exercise QuickStart - Set Project Options

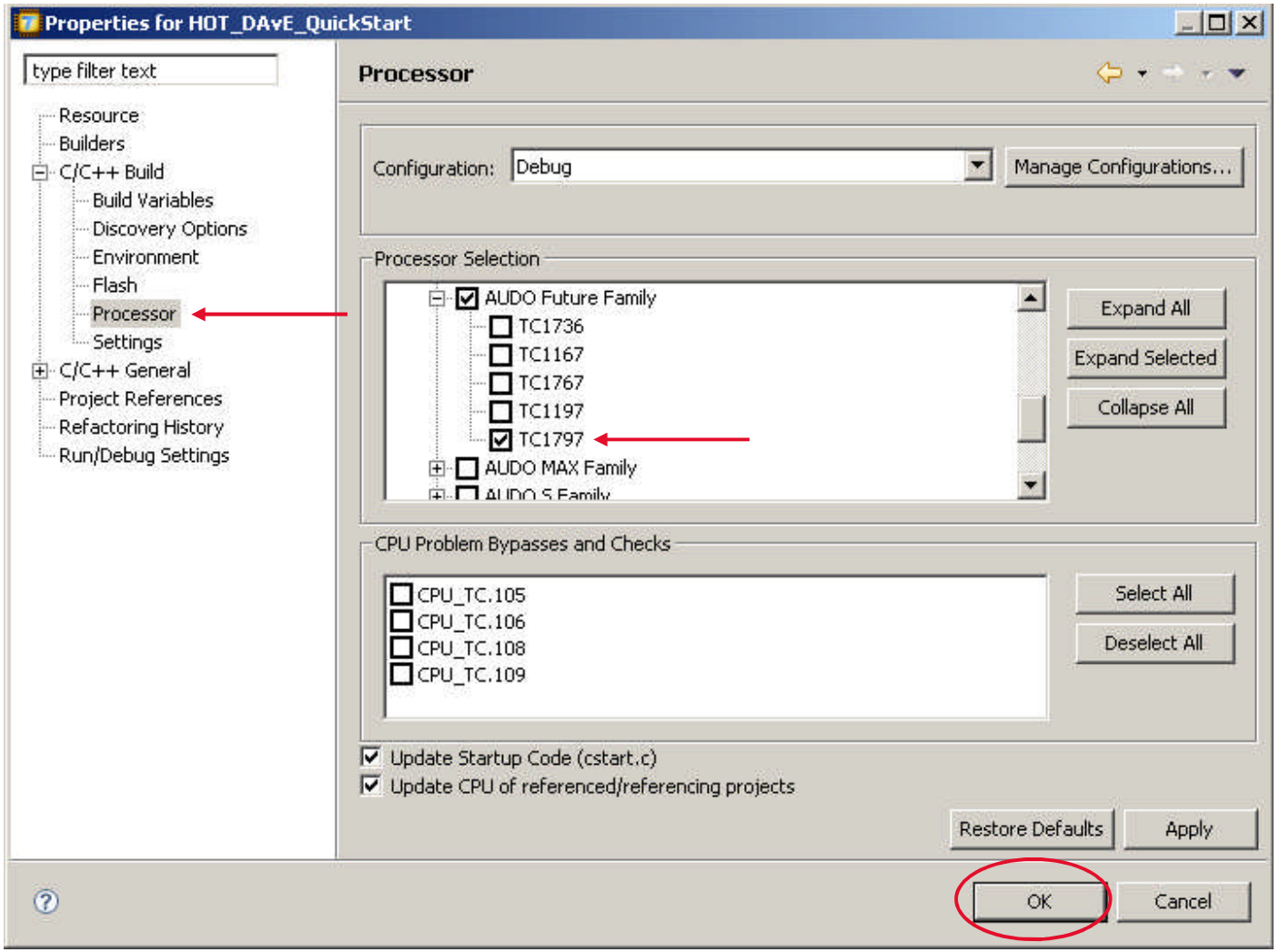
- In the left pane, if not selected expand **C/C++ Build**, select **Settings**
- In the **C/C++ Compiler -> Preprocessing** disable **Automatic inclusion of '.sfr file**.

(This is necessary when the project uses DAvE generated code.)



Exercise QuickStart - Set Project Options

- In the left pane select **Processor** to access the TriCore **Processor Selection**
- In **Processor Selection**, if not selected, expand **AUDO Future Family**, enable **TC1797** checkbox.
- Click **OK**

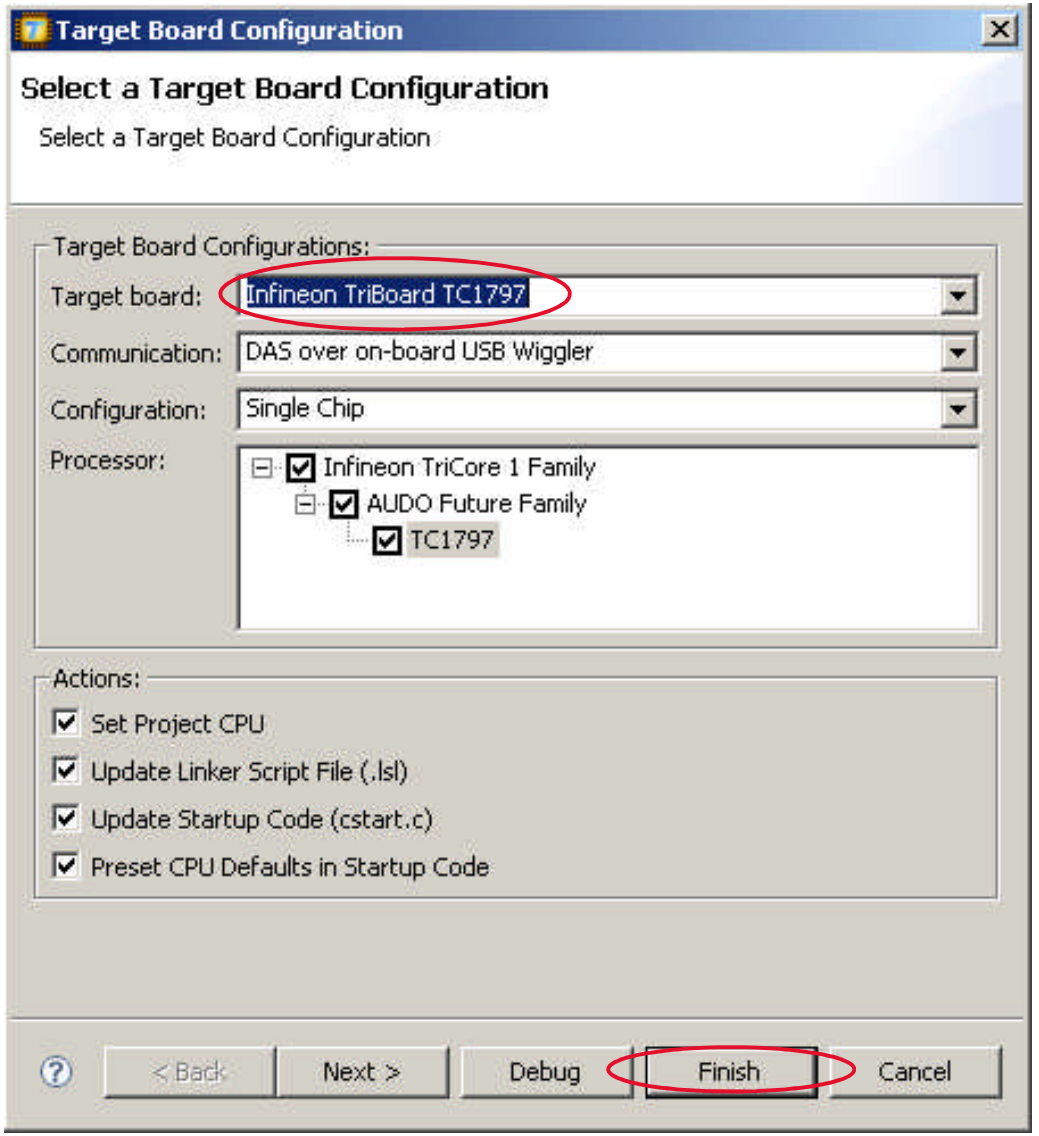


Exercise QuickStart
- Configure the Target

- From the **Project** menu select **Target Board Configuration** or click button. 
- ***Target Board Configuration*** *dialog box appears*

Exercise QuickStart - Configure the Target

- In the **Target board** field, select TC1797
- Leave all other default settings as is.
- Click the **Finish** button to create the new board configuration **QuickStart.board.launch**.



Exercise QuickStart
- Complete generated code

On the following slides please find the code you have to add to the generated code. For reasons of orientation you will always find a few lines of already existing code as well. The code you really have to add looks like this:

```
while(1);
```

Note:

DAvE doesn't change code that is inserted in the 'USER CODE' sections if you let DAvE regenerate code. Therefore, whenever adding code to the generated code, write it into a 'USER CODE' section. If you want to change DAvE generated code or add code outside these 'USER CODE' sections you have to modify your changes after each time you let DAvE regenerate code!

Exercise QuickStart - Add the user code Files 'main.c'

- Open the MAIN.c file in Tasking Editor
- Add the following code to MAIN.c (almost at the end)

```
// USER CODE BEGIN (Main,7)
      void delay(void);
      // Define Port 3 Pin0 as general IO
      P3_IOCR0      =  0x00000080;
       // endless loop
      while(1)
        {
        // set led off
      P3_OUT = 0x00000001;
      // wait
        delay();
        // set led on
        P3_OUT = 0x00000000;
        // wait
        delay();
        }

// USER CODE END
```

Exercise QuickStart - Add the user code Files 'main.c'

- Add also the following code to MAIN.c (almost at the end)

```
// USER CODE BEGIN (Main_General,10)

 void delay (void)
{
volatile int i,j,k;
for (i=0;i<5000;i++)
  for (j=0;j<200;j++)
    k = i+j;
}

// USER CODE END
```

Exercise Quick Start
Build the application

Build the project

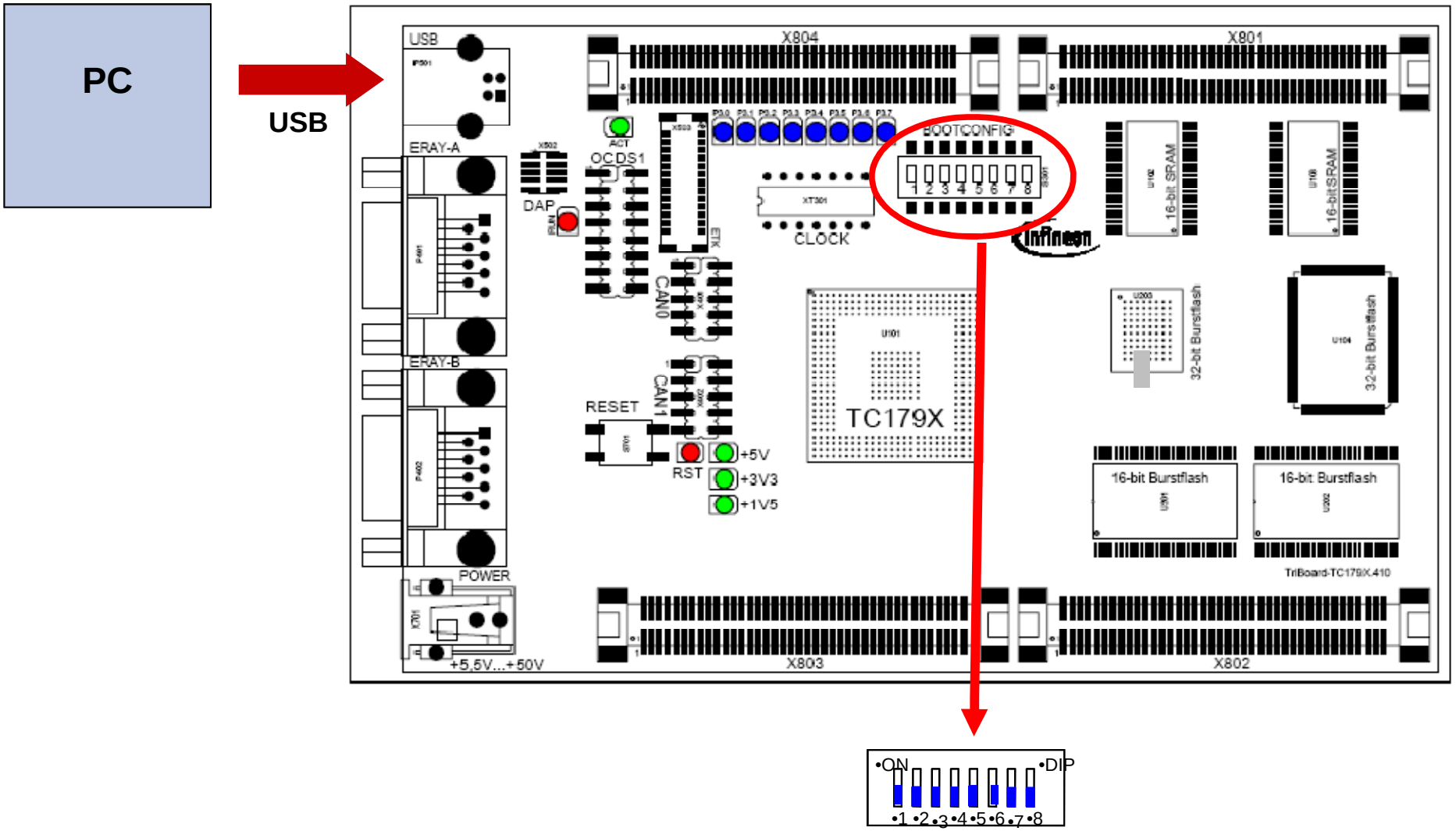
- In the C/C++ Projects view, right-click on the project QuickStart and select **Build Project**. Alternatively, you can click the button.



- The Build process finishes successful.

Exercise Quick Start
Connect TriBoard

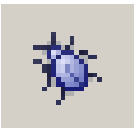
Connect TriBoard to PC:



[Configuration for [Internal Start from Flash] Boot mode]

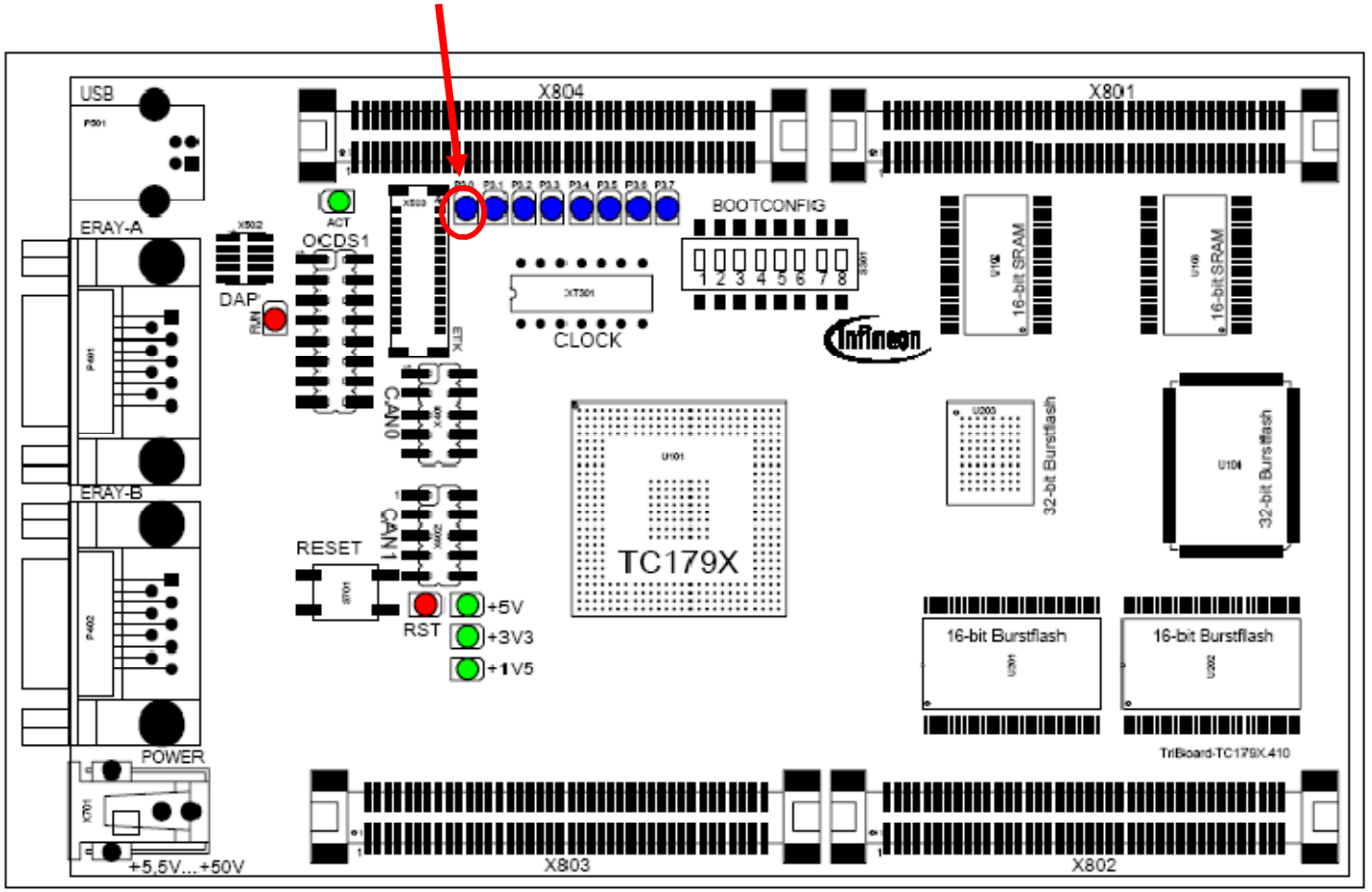
Exercise QuickStart
Run the application

Press the blue reset button on the TriBoard.

- From the Run menu select **Debug** or press **F11**. Alternatively you can click the button in the main toolbar. 
- *The TASKING Debug perspective opens while the application has stopped before it enters main()*
- In the Debug view, click on the (Resume) button. 

Exercise QuickStart - Running the Program

Now, the LED on the TriBoard blinks very fast!!!



Exercise QuickStart - End the Debug Session

- From the **Run** menu select **Terminate** or click on the **Terminate** button in the Debug view. 

- To remove the debug session from the Debug view, right-click on the debug session and select **Remove All Terminated** or click on the **Remove All Terminated Launches** button in the Debug view.



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Never stop thinking.