

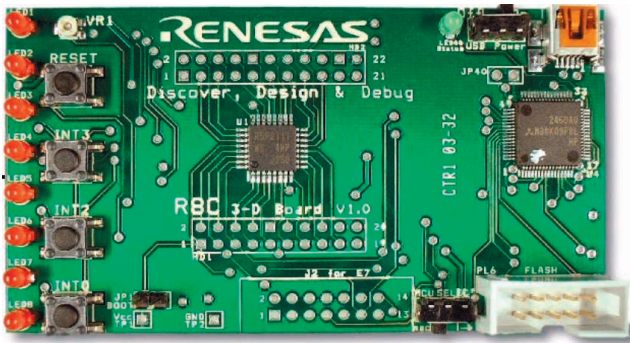
TASKING R8C/Tiny toolset v1.1

Start-up guide for Renesas 3D-starterkit

TASKING
Embedded software development from Altium™

This Start-up Guide describes all steps necessary to successfully connect, debug and flash a 3D-example. This guide applies to the TASKING R8C/Tiny toolset v1.1 in combination with the Renesas 3D-starterkit for the R8C/Tiny. The hints and instructions in this guide are based on the 3D examples (i.e. 3dk-dance) included in the product.

IMPORTANT: Do not plug in the USB cable before installing the USB drivers!



FEATURES

TASKING R8C/Tiny ROM monitor debugger

The key benefit of the TASKING ROM monitor debugger is that regular polling by the host platform is not needed, resulting in optimal run-time performance.

There are three main topics covered in this guide:

- 1) Flash TASKING ROM monitor ELF file (3dk-r8c.elf) into R8C Flash memory
- 2) Debug a 3D-example (3dk-dance) via the TASKING ROM monitor debugger
- 3) Flash a 3D-example (3dk-dance) into the R8C Flash memory

1) Flash TASKING ROM monitor (3dk-r8c.elf) into R8C Flash memory

EDE Quick Start

Take the following steps to successfully flash the TASKING ROM monitor into the R8C Flash memory.

1. Open the ROM monitor Project Space

- a. From the File menu, select **Open**
- b. Select the **c-monitor** directory in the installed R8C/Tiny product directory
- c. Select the file **C-Monitor.psp**
- d. Click **Open**


2. Rebuild the application (3dk-r8c.elf)

- a. Select the **Build** menu
- b. Select **Rebuild**


3. Configure Flash-mode on the board

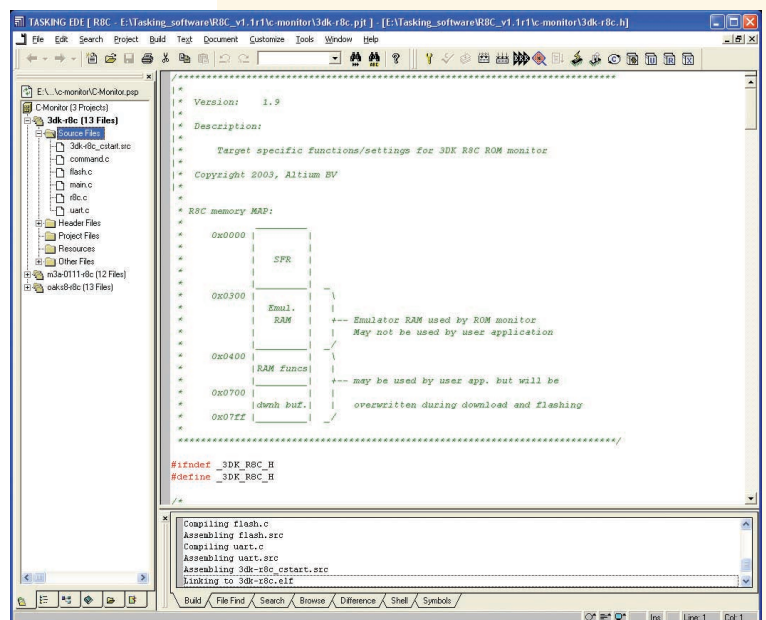
- a. Set the jumper on the board to the Flash/Boot-position (JP1)
- b. Press the **Reset** button on the board

4. Flash the ROM monitor (3dk-r8c.elf)

- a. Click the **Flash** button in the toolbar 
- b. The corresponding ELF file (3dk-r8c.elf) will be flashed automatically

5. Check the flashed ROM monitor

- a. Remove the jumper from the Boot-position
- b. Press the **Reset** button on the board
- c. Click the **Sync** button in the toolbar 
- d. Click **Scan all** button



R8C
Tiny
RENESAS

2) Debug a 3D-example (3dk-dance) via the TASKING ROM monitor debugger

EDE Quick Start

Take the following steps to select and build the 3D-example, creating a successful debugger connection to the target board.

1. Open the 3dk-dance project

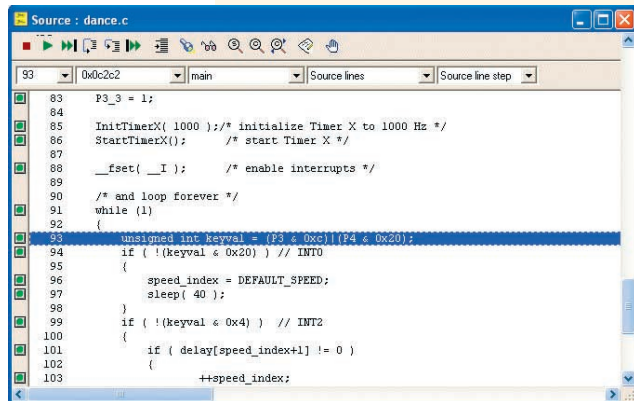
- Right-click on the 3dk-dance project in the Project window at the left
- Select **Set as Current Project**

2. Rebuild the application

- Select the **Build** menu
- Select **Rebuild**

3. You can now start debugging with CrossView Pro

- Select the **Build** menu
- Select **Debug**
- Click the **Run/Continue** button in CrossView Pro



```

83 P3_3 = 1;
84
85 InitTimerX( 1000 ); /* initialize Timer X to 1000 Hz */
86 StartTimerX(); /* start Timer X */
87
88 _fset( _I ); /* enable interrupts */
89
90 /* and loop forever */
91 while (1)
92 {
93     unsigned int keyval = (P3 & 0xc) | (P4 & 0x20);
94     if ( !(keyval & 0x20) ) // INT0
95     {
96         speed_index = DEFAULT_SPEED;
97         sleep( 40 );
98     }
99     if ( !(keyval & 0x4) ) // INT2
100     {
101         if ( delay[speed_index+1] != 0 )
102         {
103             ++speed_index;

```

3) Flash a 3D-example (3dk-dance) into the R8C/Tiny Flash memory

EDE Quick Start

Take the following steps to select and build the 3D-example, then to successfully flash the ELF file into the R8C Flash memory.

1. Open the 3dk-dance project

- Right-click on the 3dk-dance project in the Project window at the left
- Select **Set as Current Project**


2. Rebuild the application

- Select the **Build** menu
- Select **Rebuild**

3. Configure Flash-mode on the board

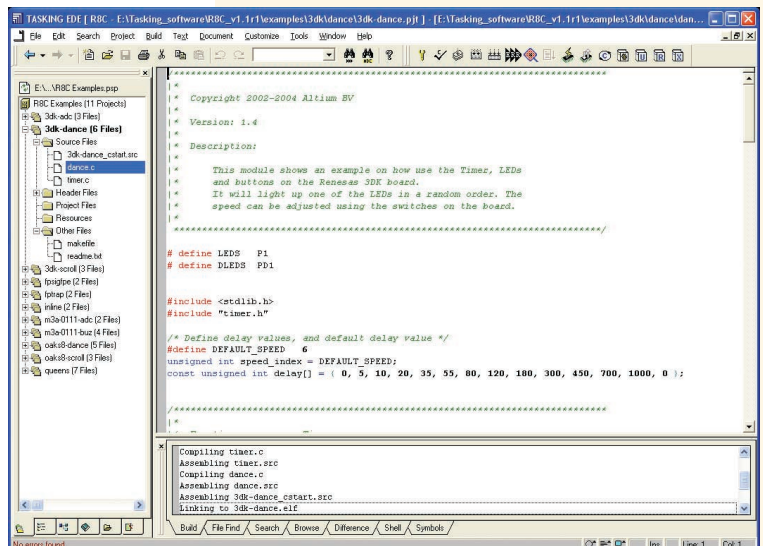
- Set the jumper on the board to the Flash/Boot-position (JP1)
- Press the **Reset** button on the board

4. Flash the 3dk-dance project (ELF file)

- Click the **Flash** button in the toolbar 
- The corresponding ELF file (3dk-dance.elf) will be flashed automatically

5. Check the 3dk-dance project on the board

- Remove the jumper on the board
- Press the **Reset** button on the board
- The 3dk-dance project will run on the board



```

/* Copyright 2002-2004 Allium BV
 * Version: 1.4
 * Description:
 * This module shows an example on how use the Timer, LEDs
 * and buttons on the Renesas 3DK board.
 * It will light up one of the LEDs in a random order. The
 * speed can be adjusted using the switches on the board.
 */

#define LEDS P1
#define DLEDS P1

#include <stdlib.h>
#include "timer.h"

/* Define delay values, and default delay value */
#define DEFAULT_SPEED 6
unsigned int speed_index = DEFAULT_SPEED;
const unsigned int delay[] = { 0, 5, 10, 20, 35, 55, 80, 120, 180, 300, 450, 700, 1000, 0 };


```



FEATURES

TASKING ROM synchronization tool



The 'Sync' tool is used in combination with the ROM monitor debugger. By clicking the Sync button, your project settings (e.g. processor and memory) will be updated with the target specifics found by the TASKING ROM monitor.

TROUBLE SHOOTING

1. CrossView Pro issues the following error:



Solution: Ensure the correct COM port (e.g. COM3) is selected for the 3dk-dance project.

1. Find the correct COM port

- Click the **Sync** button in the toolbar
- Click **Scan** all button
- When the correct COM port/baudrate is found, click the **Sync** button in the synchronize options menu



Alternative:

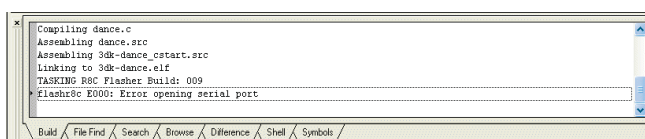
1. Check which COM port the USB drivers have been assigned to, e.g. under Windows XP

- Click **Windows Control Panel**
- Click **System**
- Click **Hardware**
- Click **Device Manager**
- Click **Ports (Com & LPT)**

2. Ensure that the identical COM port is selected under TASKING EDE

- Select **Project** menu in the toolbar
- Select **Project options**
- Select **CrossView Pro**
- Select **Communication**
- Select correct COM port

2. R8C/Tiny Flasher issues the following error:



Solution: Ensure the correct COM port (e.g. COM3) is selected for the 3dk-dance project.

1. Check which COM port the USB drivers have been assigned to, e.g. under Windows XP

- Click **Windows Control Panel**
- Click **System**
- Click **Hardware**
- Click **Device Manager**
- Click **Ports (Com & LPT)**

2. Ensure that the identical COM port is selected under TASKING EDE

- Select **Project** menu in the toolbar
- Select **Project options**
- Select **Flasher**
- Select **Flasher Settings**
- Select correct COM port



FEATURES

R8C/Tiny Flasher



The TASKING R8C/Tiny Flasher allows you to directly flash an ELF/Dwarf, Motorola S-Rec or Intel Hex file into the chip.