

Troubleshooting Guide for Desktop Development 2.1 Connectivity

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Notes Data and descriptions in this document are subject to change without notice. Product photos and pictures are for illustration purposes only and may differ from the real product appearance.

Table of Contents

1 About user manual..... 4

1.1 Who should read this manual..... 4

1.2 DD2.1 Overview 4

1.3 Sensor Communication: 4

1.4 Graphical display: 4

1.5 Data logging: 4

2 Troubleshooting Procedure 5

2.1 How do I know if the BST board is recognized..... 5

2.1 How do I list the BST board under Device Manager? 6

2.2.1 Check the PC-Board Connection 6

2.2.2 Update USB Driver..... 6

2.2.3 Automatic Update 6

2.2.4 Manual Update 6

2.2.5 Upgrade Firmware..... 6

2.2.6 Upgrade Boot Loader 7

3 Legal disclaimer 7

3.1 Engineering samples 7

3.2 Application examples and hints 7

3.3 Product use..... 8

4 Document history and modifications 8

List of figures

Figure 1 : Communication Interface Window	5
Figure 2 : Device Manager	5
Figure 3 : Device Manager (2).....	6
Figure 4 : Boot mode detected	7

List of tables

Table 1: Revision History	8
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1 About user manual

This manual describes the troubleshooting procedure when communication initialization between the BST board and DD2.1 (Development Desktop) fails.

1.1 Who should read this manual

This information intended to users who wants to troubleshoot Development Desktop 2.1 User Interface(DD2.1 UI) for connectivity issues.

1.2 DD2.1 Overview

DD2.1 UI is a PC based software used to read, capture, and display sensor data. This is a universal demonstration environment for **Bosch Sensortec** sensor products.

Bosch Sensortec sensors are mounted on sensor specific shuttle boards. All sensors shuttle boards have an identical footprint and can be plugged into the application board's shuttle board socket. DD2.1 UI automatically detects the sensor that has been plugged in and starts the corresponding software application.

1.3 Sensor Communication:

DD2.1 UI software supports both SPI and I²C to communicate with the sensor.

1.4 Graphical display:

DD2.1 UI displays the sensor data and interrupts in different graphical formats.

1.5 Data logging:

DD2.1 UI offers data logging of the sensor data.

2 Troubleshooting Procedure

Connect the BST board and DD2.1 via USB/Bluetooth.

When the PC does not recognize the BST board, the connection is not established. The below message is displayed.

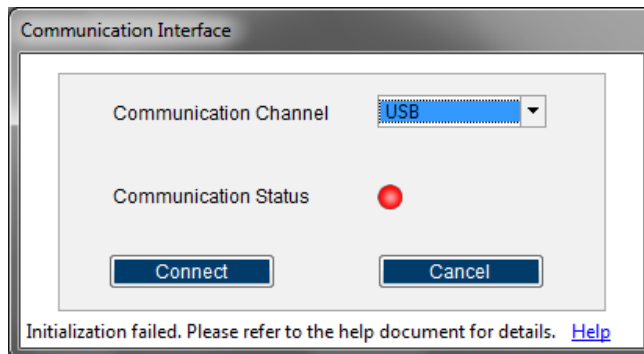


Figure 1 : Communication Interface Window

Note: If the BST board is not recognized in USB3.0 port but in USB2.1 port, update the Boot loader with latest version to be functional in USB3.0 port

2.1 How do I know if the BST board is recognized

1. To open **Computer Management**, go to **My Computer** (right-click) -> **Manage**.
2. In **Computer Management**, go to **System Tools** -> **Device Manager**.
3. BST Board is displayed in the list.

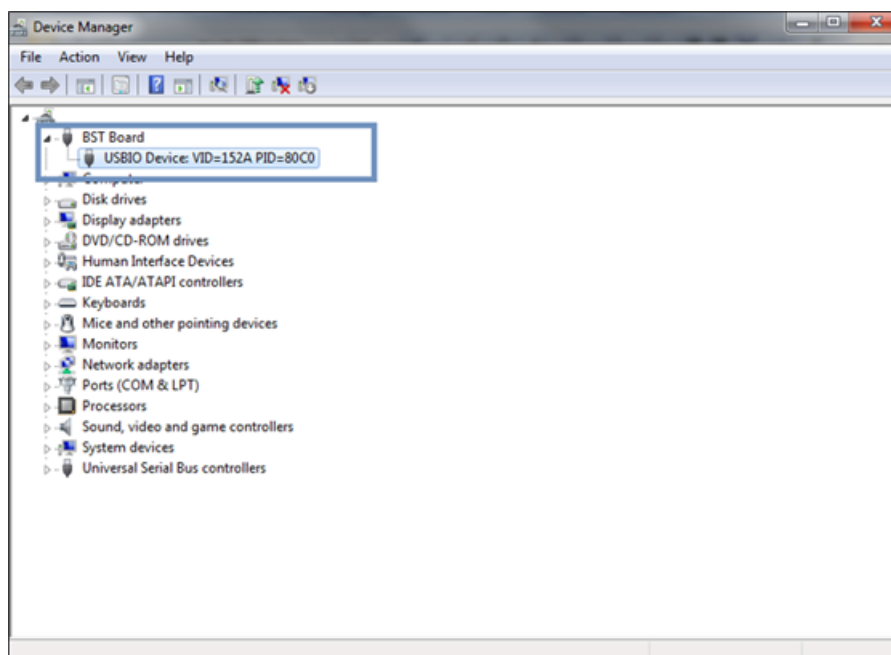


Figure 2 : Device Manager

2.1 How do I list the BST board under Device Manager?

2.2.1 Check the PC-Board Connection

Plug out and plug in the USB cable (from both computer and board), and restart the board.
When connection is established, all LEDs glow simultaneously.

2.2.2 Update USB Driver

The USB driver can be updated either manually or automatically.

2.2.3 Automatic Update

Reinstall the application

Check if the BST board is recognised (in **Device Manager**)

If the board is still not recognised, switch off and on the board

Go to **Device Manager** -> **USB Driver Update**

2.2.4 Manual Update

1. To open **Computer Management**, go to **My Computer** (right-click) -> **Manage**.
2. In **Computer Management**, go to **System Tools** -> **Device Manager**.

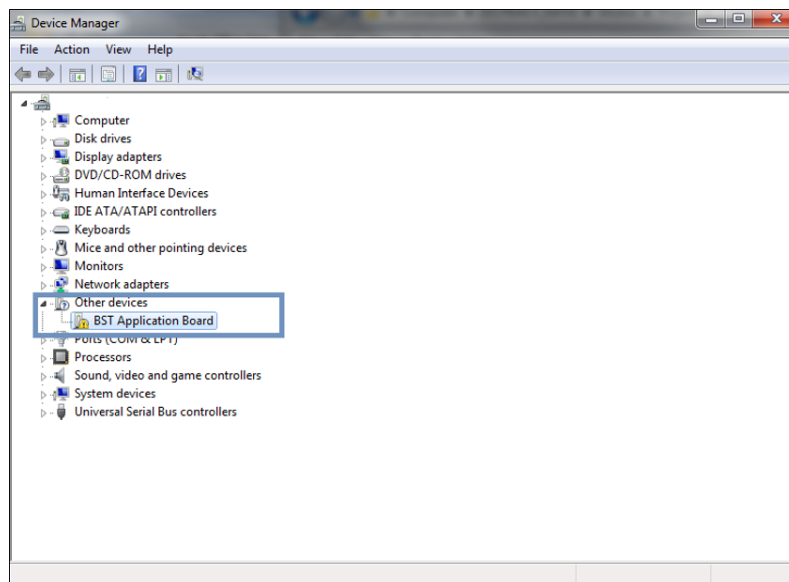


Figure 3 : Device Manager (2)

1. Right click on **BST Application Board** -> **Update Driver Software** -> **Browse My Computer for Driver Software** -> *C:\Program Files\Bosch Sensortec\Development Desktop 2.1\USB Driver* -> **Next**
2. After driver installation, click **Next**.
3. Check if the BST board is recognised (in **Device Manager**)

2.2.5 Upgrade Firmware

When the firmware file is absent, the LED next to SW switch glows

LED above SW1 glows for APP2.1 V1.3

LDI02 glows for DB/AB V1.3

To upgrade firmware in all boards, follow the below procedure:

1. Keeping SW2 pressed, power off and on the board.

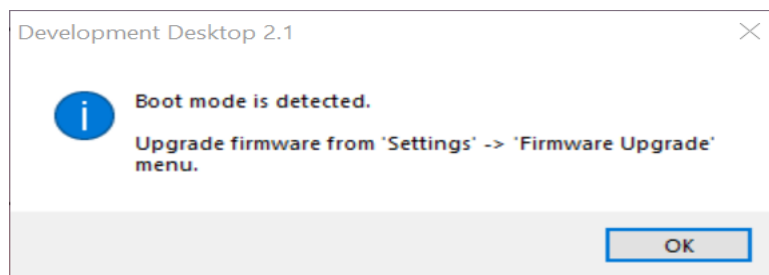


Figure 4 : Boot mode detected

2. Click **OK**.
3. Click **Settings** -> **Firmware Upgrade**.
4. Select the Firmware *fwu2* for App2.0 and *fwu* for DB/AB.
5. Click **Flash**.
6. Restart the board and DD2.1.

2.2.6 Upgrade Boot Loader

The two methods to upgrade the boot loader are:

APP2.0:

In USB 2.0 and USB 3.0, update the bootloader via *Bootupdate_APP2.0.exe*

Development board /Application board:

In USB 2.0 and USB 3.0, update the bootloader via SD card.

Software documentation for flash is available in: *C:\Program Files\Bosch Sensortec\Development Desktop2.1\Bootupdate\Bootupdate_APP2.0\Documents\BootLoader update documentation.pdf*

Note: If problem persists, please contact Bosch Sensortec GmbH.

3 Legal disclaimer

3.1 Engineering samples

Engineering Samples are marked with an asterisk (*) or (e) or (E). Samples may vary from the valid technical specifications of the product series contained in this data sheet. They are therefore not intended or fit for resale to third parties or for use in products. Their sole purpose is internal client testing. The testing of an engineering sample may in no way replace the testing of a product series. Bosch Sensortec assumes no liability for the use of engineering samples. The Purchaser shall indemnify Bosch Sensortec from all claims arising from the use of engineering samples.

3.2 Application examples and hints

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The purchaser must monitor the market for the purchased products, particularly with regard to product safety, and inform Bosch Sensortec immediately of all security relevant incidents.

4 Document history and modifications

The functions of BMI090L in DD2.1 are discussed in the below sections.

Rev. No	Chapter	Description of modification/changes	Date
1.0		Document creation	08 Oct 2014
1.1		Scenario addition for USB driver update	13 June 2017
1.2		Adopt to new format	21 August 2020
1.3		Updated DD application version	01 April 2023

Table 1: Revision History

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Modifications reserved
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