Carmine 1.08x

[1.081 & 1.082]

3D Sensor

Reference Design v5.8.22

Release Notes

31 July, 2013

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Revision History

Revision	Date
1.0	16 June 2013
1.1	July 31, 2013

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1　Introduction

Scope

This release notes document describes the PrimeSense Carmine 1.08x v5.8.22 firmware update. The update is intended for both the Carmine 1.081 and 1.082 sensors.

This document includes the properties of the new firmware, as well as the information required to install it on Carmine 1.08x sensor units.

IMPORTANT INFORMATION!

Read this prior to upgrading Carmine 1.081 and 1.082 sensors with the new V5.8.22 firmware:

The new firmware includes support for USB 3.0 and enables audio control via UAC (the standard technology for audio control), which replaces the OpenNI method for audio handling.

If OpenNI support for audio is a critical requirement for you, **do not use this update**. Instead, you should update to the new firmware version 5.3.35. This retains the previous audio control, but without USB 3.0 support.

Note: This is not an update for PrimeSense Carmine 1.09 short range sensors.

Support

If you have any questions or require further assistance, please contact PrimeSense customer support: support@primesense.com

2 Package Content

The firmware update package contains the following executable program file for performing the firmware update: **FWUpdate_RD108x-112_5.8.22.exe**

For installation instructions, see Section 5, Installing the Firmware Update.

IMPORTANT INFORMATION!

Once you have installed this update, you will not be able to downgrade to a previous firmware version.

3 Supported Platforms

Firmware v5.8.22 is verified to support the following platforms:

- Windows XP 32-bit
- Windows Vista 32-bit
- Windows Vista 64-bit
- Windows 7 32-bit
- Windows 7 64-bit
- Windows 8 32-bit
- Windows 8 64-bit
- Linux Ubuntu 12.04 32-bit
- Linux Ubuntu 12.04 64-bit
- ARM (Linux Ubuntu 12.04)
- OS X 10.8 (Mountain Lion)
- Android 4.2.2

IMPORTANT INFORMATION!

Sensors can only be updated with the version 5.8.22 firmware on **Windows-based computers** with an existing **OpenNI installation**.

If you use a non-Windows-based environment, you should use a Windows computer to install the new firmware. You can then use the updated sensor unit with a host computer running any of the other operating systems listed above.

4 Corrected Issues and New Features for v5.8.22 firmware

■ The boot time of the sensor has been improved.

■ Further control has been added for white balance, gain and exposure values in RGB.

■ The capability to work with the YUV color stream at 15 FPS in QVGA and VGA modes has been added.

■ An image stream resolution of 1280x1024 for YUV image formats of up to 8 FPS is now supported.

■ An image stream resolution 1280x960 for greyscale output at 15 FPS is now supported.

For a comprehensive description of the updates, corrected issues and new features in previous versions of Carmine 1.08x firmware, see the Updates page on the PrimeSense website.

5 Installing the Firmware Update

Installing for Windows

Before starting the update process please ensure that your environment supports the following requirements:

■ Windows computer [XP, Vista, 7, or 8]

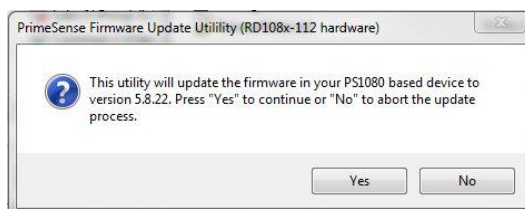■ Any previous version of OpenNI already installed

Download the v5.8.22 firmware update program at http://www.primesense.com/updates/.

IMPORTANT INFORMATION

Do not disconnect the sensor USB cable while the update is still being installed, otherwise it may damage the sensor software installation.

To install the firmware update:

1. Download the **FWUpdate_RD108x-112_5.8.22.exe** firmware update program and save it on the hard drive of your Windows computer.
2. Use the USB cable provided to connect the sensor unit to your Windows.
3. Run the firmware update program. The following message is displayed:

4. Click **Yes**.

5. The installation progress log is displayed:


```
54228481 INFO        *** Reseting the sensor...
54228574 INFO        Setting Device.Reset to 0...
54228662 VERBOSE     Setting mode to 4...
54229991 INFO        Device.Reset was successfully set.
54230091 INFO
54230175 INFO        ****************************************
54230259 INFO        *              SUCCESS!                *
54230346 INFO        ****************************************
54230431 INFO
54230507 VERBOSE     Shutting down USB depth read thread...
54230592 VERBOSE     Shutting down USB image read thread...
54230701 VERBOSE     Device closed successfully
54230810 VERBOSE     Shutting down Scheduler thread...
54231915 VERBOSE     Shutting down USB depth read thread...
54232007 VERBOSE     Shutting down USB image read thread...
54232094 VERBOSE     Device closed successfully

Press any key to exit...
```

6. When the installation has successfully completed, press any key to exit the installation software.

The sensor unit has now been updated with V5.8.22 firmware.

Installing on other Operating Systems

The automatic update tool currently only works on Windows computers.

If you plan to run the sensor with a host using other operating systems, you must first update the firmware on a Windows computer, following the instructions in Section 5.1, Installing for Windows. For more information see Supported Platforms.

Once the Windows computer has had its firmware updated, the updated sensor can be used with other operating systems.

6   Known Issues

■ Using Isochronous USB mode on Linux machines can sometimes cause the depth stream to decrease below 30 FPS.

    Workaround: Use Bulk USB mode (the default operational mode in OpenNI installation for Linux) on Linux machines.

■ When using audio UAC streaming alongside depth streaming on Linux host computers or on host computers with non-Intel USB chipsets, you should always ensure that you first open the depth stream and then the audio stream. If you do not open the streams in this order, the audio can sometimes stop streaming.

■ When a PrimeSense sensor unit is connected to a computer running Windows Vista, Windows 7 or Windows 8, it is represented in the Windows Device Manager as "PrimeSense Device". However, on computers running Windows XP (32 bit), the sensor unit shows up as "USB Device".