
USB 3.0 Host Controller Driver

Driver Installation Guide

Introduction

This manual is intended for users who wish to utilize the RENESAS uPD720201 and uPD720202 USB 3.0 Host Controller in a Windows™ based system using RENESAS device drivers.

Target Device

USB3.0 Host Controller uPD720201 and uPD720202

Contents

1	Overview	2
1.1	System Requirements	2
1.1.1	Installer Package	2
1.1.2	Command Line Options	2
1.2	Installation	2
2	Installing Driver	3
2.1	Installing the drivers for the uPD720201 and uPD720202	3
2.2	Uninstalling the drivers for the uPD720201 and uPD720202	4
2.3	Installing the host controller drivers	5
2.4	Selective Suspend Function	6
2.5	Silent installation of the drivers for the uPD720201 and uPD720202	7
2.5.1	Silent installation	7
2.5.2	Recording the response file (setup.iss)	7
2.6	Option: Check existence of USB3 Host Controller	7
2.7	Option: Monitor Application not Installed	8
2.8	Option: Disable the Selective Suspend function	8
2.9	Option: Hide the pop-up message	9
2.10	Option: Disable the Dynamic U1/U2 state control function	9
2.11	Option: Not display the Custom Property page on the device manager	9
2.12	Option: Disable the check-box on the Custom Property Sheet page	9
3	USB 3.0 Host Controller Applications	10
3.1	Installing the Host Controller Applications	10
3.1.1	Check FW Version and Change the Power Management	10
3.1.2	USB3.0 Host Controller Monitor	10

1. Overview

This software is Renesas' original device driver for Windows Operating System that operates USB 3.0 Host controllers uPD720201 and uPD720202.

1.1 System Requirements

The device drivers for the uPD720201 and uPD720202 work under the following Operating Systems.

1. Microsoft Windows XP (x86 and x64)
2. Microsoft Windows Vista (x86 and x64)
3. Microsoft Windows 7 (x86 and x64)
4. Microsoft Windows Server 2008 Release 2 (x64)

1.1.1 Installer Package

The USB3.0 Host Controller Driver Installer Package includes the following files that provide the interface between uPD720201/uPD720202 and desktop, laptop, Docking Station, or notebook PC:

Files

1. RENESAS-USB3-Host-Driver-3080-setup.exe
2. Setup.iss

1.1.2 Command Line Options

The USB3.0 Host Controller Driver Package supports the following command Line options:

- /s** : Silent install command (refer to section 2.5.1)
- /v"CHECK_HW_EXIST=1"** : Check existence of USB3 Host Controller (refer to section 2.6)
- /v"CHECK_HW_EXIST=1 NO_MESSAGE=1"** : Hide the pop-up message when Host Controller is not found on used "CHECK_HW_EXIST=1" option (refer to section 2.9)
- /v"NO_MONITOR=1"** : Monitor application not installed when previous driver package is not installed (refer to section 2.7)
- /v"SET_SEL_SUS_MODE1=1"** : Disable the Selective Suspend function. (refer to section 2.8)
- /v"U1U2_DISABLE=1"** : Disable the Dynamic U1/U2 state control function. (refer to section 2.10)
- /v"NO_DP_PROPERTY=1"** : Not display the Custom Property page on the device manager (refer to section 2.11)
- /v"U1U2_PROPERTY_DISABLE=1"** : Disable the check-box on the Custom Property Sheet Page (refer to section 2.12)

1.2 Installation

The installation procedure includes 3 main steps:

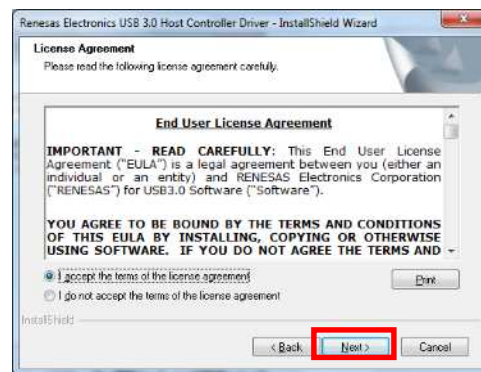
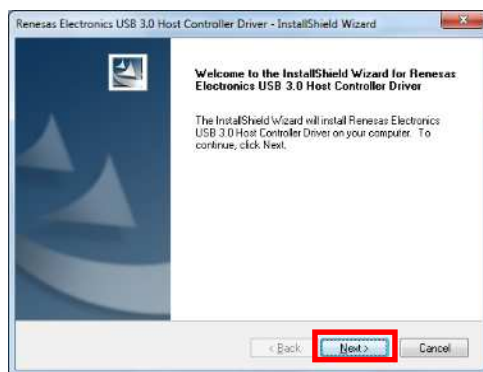
- Step 1.** Installing the driver software package to a computer
- Step 2.** Installing the hardware
- Step 3.** Installing the driver for USB 3.0 host controller.

2. Installing Driver

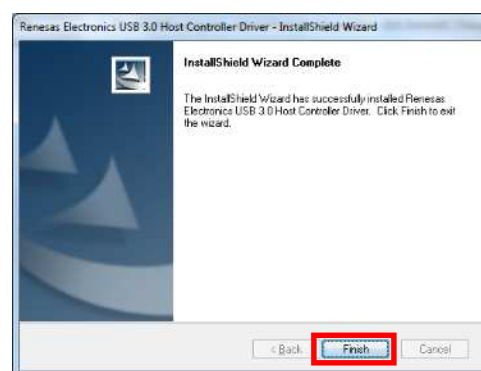
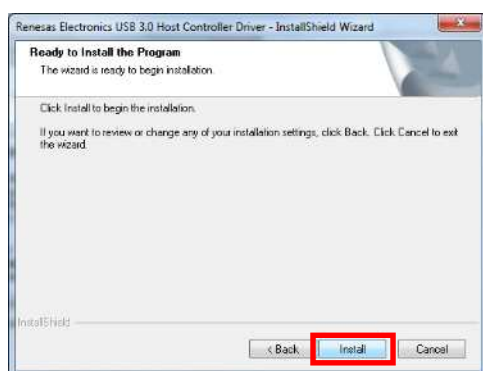
This chapter describes how to install drivers for uPD720201 and uPD720202. All the following sections are written based on Windows 7. Note that the comments and conditions for other OS platforms may be different from these sections.

2.1 Installing the drivers for the uPD720201 and uPD720202

1. Save the **RENESAS-USB3-Host-Driver-3080-Setup.exe** on your PC at location of your choice. The **3080** portion shows version of installer package.
2. Start the **Run...** command on the **Start** menu and **Browse...** for the **RENESAS-USB3-Host-Driver-3080-Setup.exe** in your folder containing the driver files. Click on the **OK** button to start the installation procedure.
3. When the following dialog box is displayed, click on the **Next** button.
4. After accepting the terms in the License Agreement, click on the check box and the **Next** button.



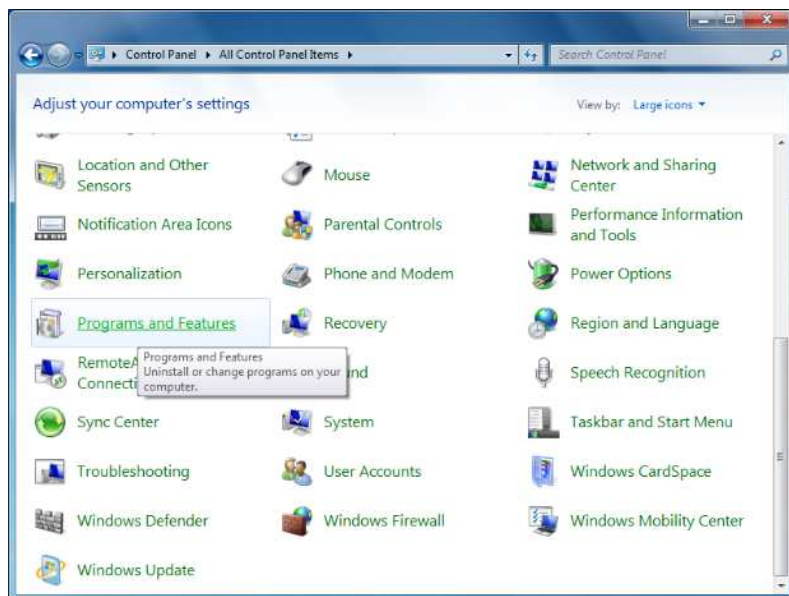
5. Click on the **Install** button to start installing the Renesas Electronics drivers.
6. Click on the **Finish** button to exit the driver installation program.



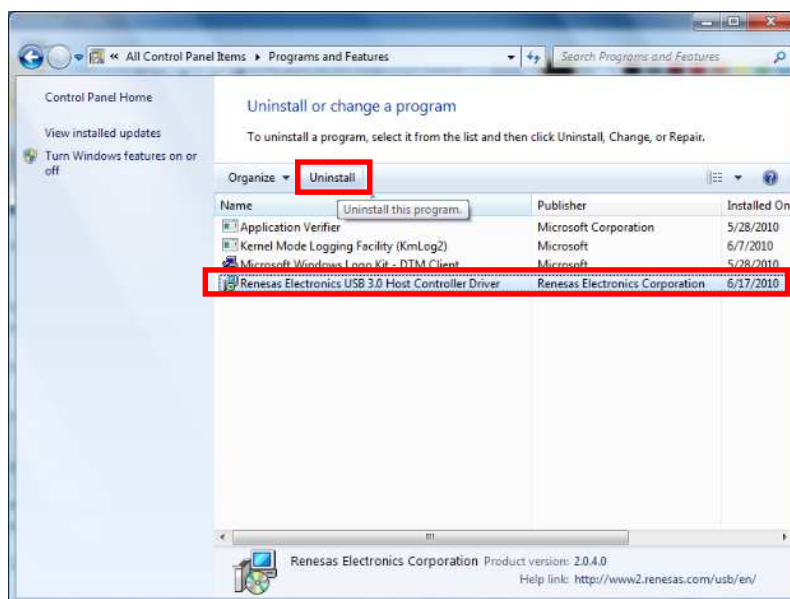
2.2 Uninstalling the drivers for the uPD720201 and uPD720202

RENESAS-USB3-Host-Driver-3080-Setup.exe can uninstall only by using Programs and Features in Control Panel. This section describes how to uninstall in more detail.

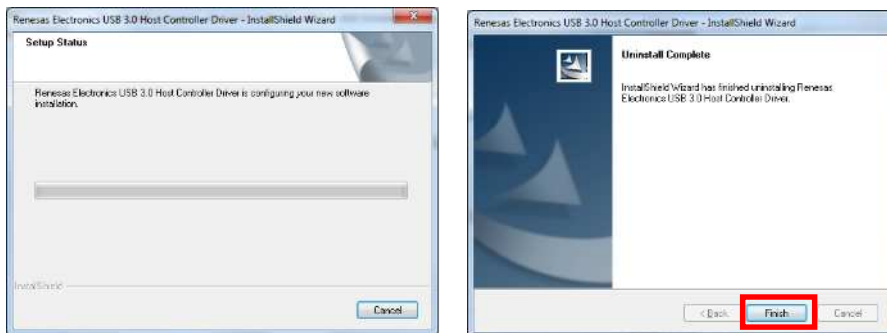
1. Open "control panel". And click the "Programs and Features".



2. When the following dialog box is displayed, select the **Renesas Electronics USB3.0 Host Controller Driver**. Click **Uninstall** button.

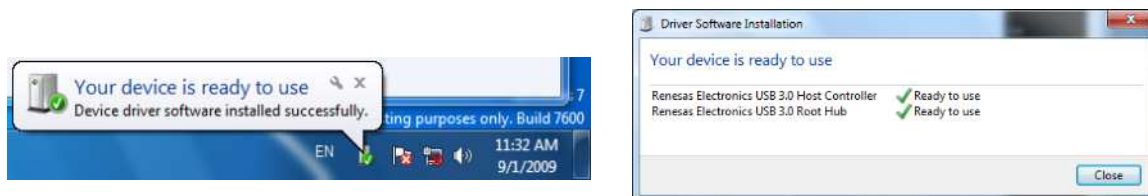


3. Start the Uninstalling.
4. Click on the **Finish** button to exit the uninstall program.

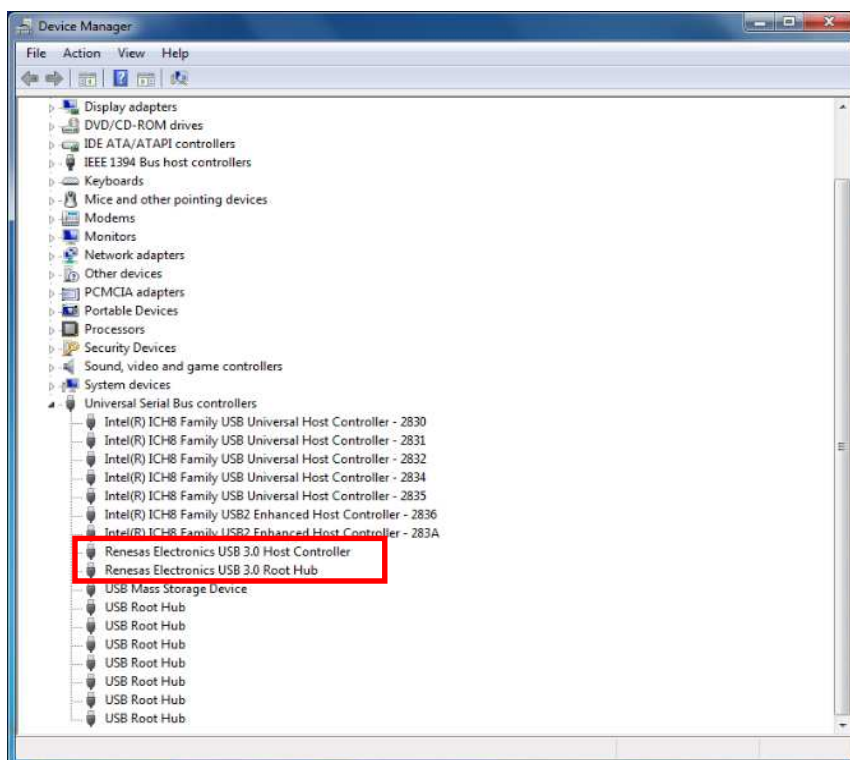


2.3 Installing the host controller drivers

1. The computer will detect the USB 3.0 Host controller at power on, or when a card is plugged into a PCI Express or Express card slot. Once the Host Controller is detected, a dialog box is displayed and should read "Device driver software installed successfully." When you click this dialog box, the Driver software Installation dialog box is displayed as shown,

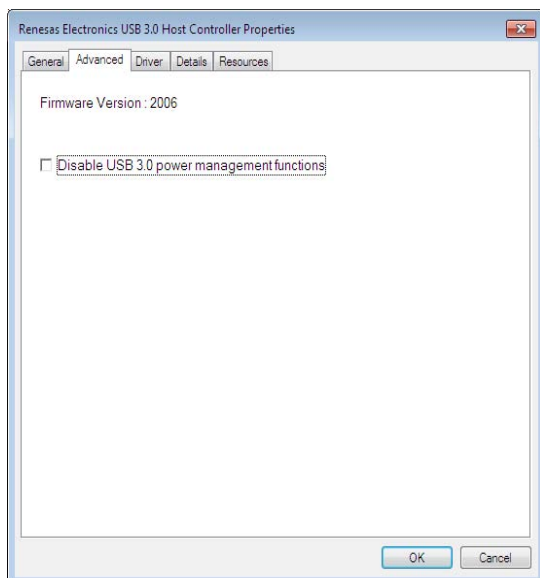


2. From the **Start** menu, click on the **Control Panel**. From **Control Panel**, click on **System and Security**, and then click on the **Device Manager**. You should find the **RENESAS Electronics USB 3.0 Host Controller** and the **RENESAS Electronics USB 3.0 Root Hub** under the **Universal Serial Bus controllers** entry in the Device Manager. If there is not an "X" or "!" beside these entries, the driver installation for USB 3.0 Host Controller has finished successfully.



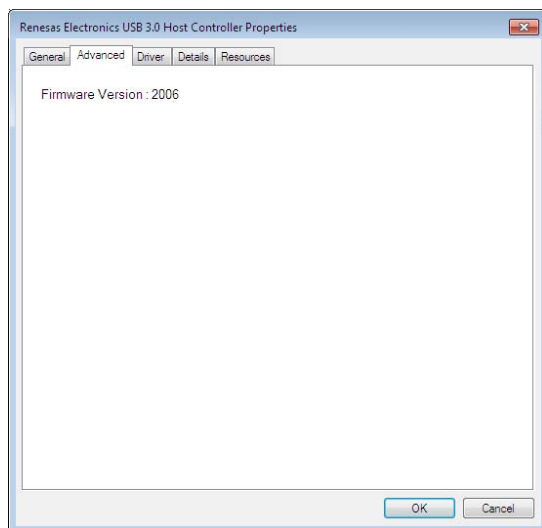
2.4 Selective Suspend Function

USB 3.0 Host Controller Driver supports the Selective Suspend function for External Hubs. When RENESAS-USB3-Host-Driver-3080-setup.exe is installed without command line option on your PC, the Selective Suspend function is supported as follows. End Users can change it to “disable” on the Power Management tab of the External Hub’s property page in Device Manager.



If you want to disable the Selective Suspend function, use the install option (v"SET_SELSSUS_MODE1=1"). Please see section 2.8.

When using this command line option, the Selective Suspend function can be disabled as follows.



Note : Selective Suspend function for External Hub is based upon Windows 7.

2.5 Silent installation of the drivers for the uPD720201 and uPD720202

A normal installation receives the necessary input from end users in the form of responses to dialog boxes. However, a silent installation does not prompt the end user for input. A silent installation must get its end-user input from an InstallShield silent response file. (.iss file)

2.5.1 Silent installation

1. Uninstall the drivers for the uPD720201 and uPD720202, if the drivers are installed on your PC. See section 2.2.
2. Run the following command: **setup.exe /s**

Note: When you run the silent installation command, the return code file will be generated in the “setup.log” file.

2.5.2 Recording the response file (setup.iss)

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Move the directory of the **RENESAS-USB3-Host-Driver-3080-Setup.exe** or **Setup.exe** on your PC to the location of your choice.
3. Run the following command and run the installation step (see section 2.1):
setup.exe /r /f1“.setup.iss” (Save the setup.iss file in the current directory.)

2.6 Option: Check existence of USB3 Host Controller

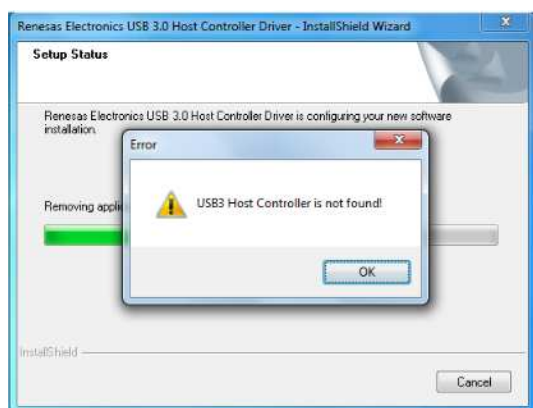
This option checks existence of a USB3 Host Controller. If a USB3 Host controller doesn't exist on your PC, the device driver is not installed on your target PC. On the other hand, if a USB3 Host Controller exists, the device driver is installed.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.1) setup.exe /v"CHECK_HW_EXIST=1"

Ex.2) setup.exe /v"CHECK_HW_EXIST=1 NO_MESSAGE=1"

3. If USB 3.0 Host Controller doesn't exist on your PC, Installer stops the installation. Also the following pop-up is shown when using Ex. 1 command.



Note : If this pop-up message doesn't need to show, please use the “NO_MESSAGE” option, which is shown as Ex. 2 above and described in section 2.9 in more detail.

Note : It is necessary to restart your PC after uninstalling the device driver in the case of an existing USB3 Host Controller. This is a restriction of this command line option. This option checks existence of a USB3 Host Controller. When USB3 Host Controller doesn't exist on your target PC, this option causes the driver not to be installed.

2.7 Option: Monitor Application not Installed

This option causes the Monitor application of USB 3.0 not to be installed. If you don't want to install the Monitor application, you should use this option on command prompt.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.1) setup.exe /v"NO_MONITOR=1"

Note : If there is a USB3.0 Monitor Application already installed, it is necessary to uninstall the USB3 driver package of the previous version before installing the new USB3 driver package (v3.0.8.0 or later).

2.8 Option: Disable the Selective Suspend function

Selective Suspend function is enabled by default. This option disables the Selective Suspend function. The Selective Suspend function is described in section 2.4. If you want to disable the Selective Suspend function, you should use this option on the command prompt.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.) setup.exe /v"SET_SEL_SUS_MODE1=1"

2.9 Option: Hide the pop-up message

This option suppresses the pop-up message when it is used with the "CHECK_HW_EXIST" option. If you want to hide the pop-up message on the "CHECK_HW_EXIST" option, you should use this option on the command line.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.) `setup.exe /v"CHECK_HW_EXIST=1 NO_MESSAGE=1"`

Note : This option can be used only with the "CHECK_HW_EXIST" option. If this option is used alone, it has no effect.

2.10 Option: Disable the Dynamic U1/U2 state control function

If you want to disable the Dynamic U1/U2 state control function, you should use this option on the command prompt.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.) `setup.exe /v"U1U2_DISABLE=1"`

2.11 Option: Not display the Custom Property page on the device manager

This Custom Property Sheet page is enabled on default installation. If you don't want to display the Custom Property Sheet page, please use this install option on the command prompt.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.) `setup.exe /v"NO_DP_PROPERTY=1"`

2.12 Option: Disable the check-box on the Custom Property Sheet page

The Custom Property Sheet Page enables the check-box to disable the Dynamic U1/U2 state control function in default installation. If you don't want to display the check-box on the Custom Property Sheet page, please use this option on the command prompt.

1. Start the **Run...** command on the **Start** menu and **open command prompt**.
2. Run the following Installing command.

Ex.) `setup.exe /v"U1U2_PROPERTY_DISABLE=1"`

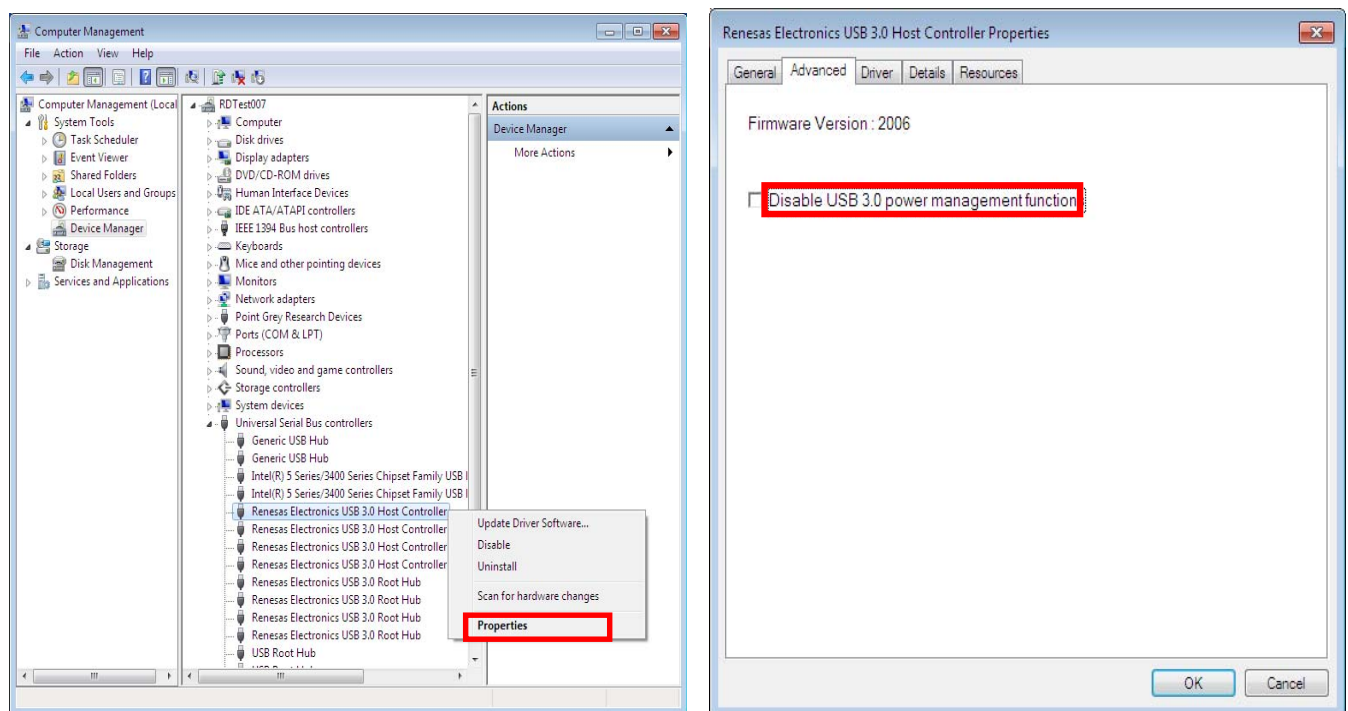
3. USB 3.0 Host Controller Applications

This chapter describes the applications in more detail. All of the following sections are written based on Windows 7. Note that the comments and conditions for other OS platforms may be different from these sections.

3.1 Installing the Host Controller Applications

3.1.1 Check FW Version and Change the Power Management

The property sheet of Power Management Functions is implemented in Device manager. This function is to check the FW ver & to change the U1/U2 power management.

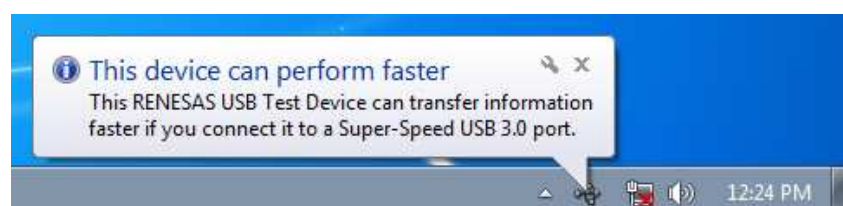


3.1.2 USB3.0 Host Controller Monitor

This is a mini-application which displays a pop-up window giving information about the USB connection to the end user. There are only two cases that should appear in this pop-up window:

(1) **Pop-up window case1**

A USB3.0 capable device is connected to a port on the USB3.0 Host Controller via a USB2.0 hub or USB 2.0 cable.



(2) **Pop-up window case2**

A Lack of bandwidth for Super Speed (SS) periodic transfers (Isochronous and Interrupt) for a port on our Host Controller was detected. This is only for super-speed periodic devices. To produce this situation, multiple super-speed isochronous devices are required. (Currently there are no SS isochronous devices.)



Example)

