

Renesas Synergy[™] Platform

Installing Synergy Signed USB CDC Driver

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Introduction

The USB Communication Device Class (CDC) driver must be installed on the Windows[®] host PC (7/8/10) for the Synergy MCU configured as a CDC Device to be recognized by the Windows[®] host PC.

This application note walks through the instructions to install the Synergy signed USB CDC driver on the Windows[®] host PC. The Synergy signed USB CDC driver provided along with this application note supersedes all previous versions of the Synergy USB CDC drivers.

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1. Background Information

This USB CDC driver package is created with the following USB Vendor and Product IDs:

- Vendor ID: 045B
- **Product ID: 5300** (This Product ID is dedicated for Synergy USB CDC Class devices)

This USB CDC driver package is officially signed by Microsoft Trusted Signing Authority.

2. Required Resources

Hardware

- 1. Any Synergy Kit (such as Starter Kit, Target Board Kit, or Development Kit)
- 2. Two micro USB cables
- 3. Host PC running Windows 7/8/10

Software

1. e² studio or IAR Embedded Workbench (any version)

2. Any Synergy project using USB CDC

3. Updating an Existing or New Synergy Project using USB CDC

In a Synergy project using USB CDC, the USB Vendor ID and Product ID need to be updated to match the requirements for this Synergy signed USB CDC driver.

To change the Vendor ID and Product ID, open the Synergy project using USB CDC and go to the USBX Device Configuration properties window (applies to both e² studio and IAR Embedded Workbench for Synergy projects).

Under the **USBX Device Configuration** properties window, update the **Vendor ID** to **0x045B** and **Product ID** to **0x5300** and **class code** to **Miscellaneous** as shown in Figure 1 below.

	e Configuration					
Settings	Property	Value				
Information	 Module USBX Device Configuration 					
	Vendor ID	0x045B				
	Product ID	0x5300				
	Device Release Number	0x0000				
	Index of Manufacturer String Descriptor	0x00				
	Index of Product String Descriptor	0x00				
	Index of Serial Number String Descriptor	0x00				
	Class Code	Miscellaneous				
	Index of String Descriptor describing this configuration	0x00				
	Size of USB Descriptor in bytes for this configuration (Moc	0x00				
	Number of Interfaces (Modify this value only for Vendor-s	0x00				
	Self-Powered	Enable				
	Remote Wakeup	Disable				
	Maximum Power Consumption (in 2mA units)	50				
	Supported Language Code	0x0409				
	Name of USBX String Framework	NULL				
	Total index number of USB String Descriptors in USBX Strir	0				
	Name of USBX Language Framework	NULL				
	Number of Languages to support (US English is applied if					

Figure 1 USBX Configuration in the Synergy Configurator



To implement the above changes, make sure to click on **Generate Project Content** in the Synergy Configurator (applies to both e² studio and IAR Embedded Workbench for Synergy projects) as shown in Figure 2 below.

hreads Co	onfiguration					Ge	nerate Project Conter	
Threads	👰 New Thread 🛛 🧌 Remove	ove USB Thread Stacks 🔄 New Stack > 🔬 Remo						
g_cgc Cl g_elc EL	Al Driver on r_fmi GC Driver on r_cgc C Driver on r_elc	<pre> g_ux_device_class_cd </pre>	c_acm0 USBX Device	Class CDC-A	СМ			
Button_Processing_Thread pb_switch_sem Semaphore USB Thread g_ux_device_class_cdc_acm0 USBX Device Class CDC-ACM g_usb_queue Queue g_cdc_activate_semaphore Semaphore								
		Add USBX Device Class CDC-ACM Source [Optional]	USBX Device	Configuratio		g_usb_interfa _cdcacm_0 US Interface Configuration		
			USBX Port DCD on sf_el_ux for USBFS			🖑 USBX on ux		
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Figure 2 Generate Project Content

Rebuild the Synergy project using USB CDC and reprogram the Synergy Kit with the rebuilt project. Make sure to connect the debug USB port on the Synergy Kit while reprograming the Synergy Kit to the Windows PC.

Now you can use the Synergy Kit acting as the USB CDC device to install and test the Synergy signed USB CDC driver.

4. USB CDC Driver Installation Procedure

Please follow the following instructions to install the Synergy signed USB CDC driver.

4.1 Installing Synergy signed USB CDC Driver

The following instructions are meant for the users who have not previously installed any Synergy USB CDC drivers and are installing the Synergy signed USB CDC driver for the first time.

- 1. Using the second micro USB cable, connect the USB device port of the Synergy Kit acting as the USB CDC device to your Windows PC.
- 2. Launch the Windows Device Manager.
- 3. On a Windows 7 PC, the Synergy Kit will be listed as an **Unknown device**. On Windows 10, the default usbser.sys driver will be loaded and the Synergy Kit will be listed as a **USB Serial COM port** device.
- 4. Right-click the **Unknown Device** or **USB Serial COM port** and select the **Update Driver Software** option as shown in Figure 3 below.





Figure 3 Device Manager in Windows 7

5. Select the directory in which the Synergy signed USB CDC driver is located on the Windows PC.

File Up	date Driver Software - Unknown Device	×	
() ()	Update Driver Software - Unknown Device		•
15	Browse for driver software on your computer		
	Search for driver software in this location:		
	C\Users\jennifer.zou\Desktop\SynergyUSBCDC Browse_		
1	✓ Include subfolders		-
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.		*
—	Next	Cancel	

Figure 4 Update Driver Software

- 6. Click on **Next** and follow the instructions to install the Synergy signed USB CDC driver.
- 7. The Synergy Kit will be listed as **Synergy Communication Port** in the Windows Device Manager, confirming successful installation of the Synergy signed USB CDC driver.

4.2 Updating an Existing USB CDC Driver

The following instructions are meant for the users who have previously installed any Synergy USB CDC drivers and are updating to the new Synergy signed USB CDC driver.

- 1. Using the second micro USB cable, connect the USB device port of the Synergy Kit acting as the USB CDC device to your Windows PC.
- 2. Launch the Windows Device Manager.



- 3. Locate the Synergy Kit (configured as a USB CDC device) in Device Manager under **Ports (COM & LPT)**. The device will show up as **<Name of the device>** as shown in Figure 5 below.
- 4. Right click on the **<Name of the device>** and uninstall the driver.



Figure 5 Device Manager in Windows 7

5. Select **Delete the driver software for this device** and press **OK**.

File Action View Help	Eaus, there are t
Mice and other pointing devices Monitors Monitors Wide viewing angle & High density FlexView Display 192 Wetwork adapters Network adapters Suetcoath Device (Personal Area Network) #2	0x1080
Bluetooth Device (RFCOMM Protocol TDI) #2 Cisco AnyConnect Secure Mobility Client Virtual Minipor Intel(R) Dual Band Wireless-AC 7260 Intel(R) Ethernet Connection 1218-LM Microsoft Virtual WFi Miniport Adapter #2 Ports (COM & LPT) Prots (COM & LPT) Thet(R) Active Management Technology - SOL (COM3) Synergy USB Communications Port (COM6) Processors Intel(R) Core(TM) 17-4600U CPU @ 2.10GHz Intel(R) Core(TM) 7-4600U CPU @ 2.10GHz Microsoft C	Synergy USB Communications Port (COM6) Warning: You are about to uninstall this device from your system

Figure 6 Delete Driver

- 8. Unplug the Synergy Kit acting as the USB CDC device and plug in again.
- 9. On a Windows 7 PC, the Synergy Kit will be listed as an **Unknown device**. On Windows 10, the default usbser.sys driver will be loaded and the Synergy Kit will be listed as a **USB Serial COM port** device.
- 10. Right-click the **Unknown Device** or **USB Serial COM port** and select the **Update Driver Software** option as shown in Figure 3 below.





Figure 7 Device Manager in Windows 7 and 10 <add picture>

11. Select the directory in which the Synergy signed USB CDC driver is located on the Windows PC.

Browse for driver software on your computer Search for driver software in this location: CAUSers\jennifer.zoU\Desktop\SynergyUSBCDC Browse. Include subfolders Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
 Include subfolders Let me pick from a list of device drivers on my computer This ist will show installed driver software compatible with the device, and all driver
Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver
This list will show installed driver software compatible with the device, and all driver

Figure 8 Driver Location

- 12. Click on 'Next' and follow the instructions to install the Synergy signed USB CDC driver.
- 13. The Synergy Kit will be listed as **Synergy Communication Port** in the Windows Device Manager confirming successful installation of the Synergy signed USB CDC driver.



Website and Support

You can use the following self-service help and support resources:

- Documentation: renesassynergy.com/docs
- Knowledgebase: renesassynergy.com/knowledgebase
- Forums: renesassynergy.com/forum
- Training: renesassynergy.com/training
- Videos: renesassynergy.com/videos

You can also obtain personalized technical support through online chat and web ticket at renesassynergy.com/support.

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Revision History

		Description			
Rev.	Date	Page	Summary		
1.00	Apr 13, 2018	-	Initial release.		

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