JANUS REMOTE

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Guide for Terminus 2 Device Firmware Update

Overview

The STM32F205 part on the Terminus 2 can be upgraded via the USB port using a Device Firmware Update (DFU) protocol. This is achieved using a DFU tool "DfuSe Demo (v3.0.2)", booting the device into this mode, and upgrading.

Before starting with the hardware you will need to download and install the DfuSe Demo application, this will install the necessary tools and drivers to connect and upgrade your device, and also to create new update binaries for your own software. The use of v3.0.2 is recommended as the later v3.0.3 has observed stability issues with Windows 7 x64, newer versions may address these issues in the future. Be sure to always use the appropriate 32-bit or 64-bit version depending on what you are running.

The Terminus 2 has two ways that it can be put into DFU mode. The first is by utilizing internal jumpers on the T2, and the second is by activating DFU mode from the bootloader itself during runtime.

The unit cannot power from the USB cable, and the main power supply must still be applied.

Method 1:

This method uses the jumper, P9 inside of the case. This is connected to the BOOT0 pin of the processor and runs the built in system loader when power is applied.



Bulletin	JA01-AN112
Revision	01
Date	23 Jan 2014

Method 2:

This method uses the production loaded bootloader to enter DFU mode and does not require opening the case up. Simply apply power to the unit and press Escape when prompted to break out into the bootloader menu.

Press 'F' (not case sensitive) to enter DFU mode.

🎨 T2 DB9 115200 - HyperTerminal
<u>File Edit View Call Transfer Help</u>
[
Janus Remote Communications - TERMINUS 2 R1 - Boot Loader FW: Jun 21 2013 13:20:14 (v2.1)
Application Missing Starting Boot Loader Application Starting Modem Press ESC to break to console Boot Loader E - Erase Application Flash X - XModem Download D - Dump Memory B - Select Baud Rate Z - Select Flow Control I - Set Initial AT command C - Clock Diagnostic F - Fire DfuSe M - Modem Console BL>_

When powered up and connected via USB you will expect to see the device in "Device Manager" as "STM Device in DFU Mode"





The update program should be available via Start -> STmicroelectronics -> DfuSe -> DfuSe Demonstration

DfuSe Demo (v3)	.0.2)			- - X
STM Device in DF Supports Uplow Supports Down Can Detach Enter DFU mode/	ad 🗌 Manifesta nload 🗌 Accelera	▼ ation tolerant ted Upload (ST) e DFU mode	Application Mode: Vendor ID: Procuct ID: Version:	DFU Mode: Vendor ID: 0483 Procuct ID: DF11 Version: 2100
←Actions Select <u>T</u> arget(s):	Target Id Name 00 Internal F 01 Option B; 02 OTP Men 03 Device F	ites nory	Available Sectors 12 sectors 1 sectors 2 sectors 1 sectors	(Double Click for more)
Upload Action File: <u>C</u> hoose Transferred data		Upgrade or V File: Vendor ID: Procuct ID: Version:	Targets in fi	le:
0 KB(0 Bytes) of Operation duratio			er download Upgrade duration (Remo	ve some FFs)
Abort				Quit

The application should acknowledge the attachment of the device, and you should click Choose to select a firmware upgrade file. The file will normally have a .DFU extension

Gir Open		5 mart		×	
Look in:		2	← 🗈 💣 💷 ◄		
<u>C</u>	Name	~	Date modified	Туре	
Recent Places	t2_boot_v2	1.dfu	6/21/2013 1:23 PM	DFU File	
Desktop					
Libraries					
i 🌉					
Computer					
Network	•			4	
	File <u>n</u> ame:	t2_boot_v21	-	<u>O</u> pen	
	Files of type:	Dfu Files (*.dfu)	-	Cancel	
		Open as read-only			



Abort

DfuSe Demo (v3	.0.2)						
Available DFU and	compatible	HID Devices		A F F		DEU Mode	
STM Device in DF	U Mode				on Mode:		
Supports Uploa	ad	🗆 Manifesta	ation tolerant	Vendor II		Vendor ID:	
Supports Dowr				Procuct ID:		Procuct ID	: DF11
🗹 Can Detach				Version	r. 🔽	Version:	2100
Enter <u>D</u> FU mode/	'HID detach	Leave	DFU mode		1		,
Actions							
Select Target(s): Target Id Name		Name		Ava	ailable Sectors	Double Click	for mor
	00 Internal I		lash	12 :	sectors	•	
	01	Option By OTP Men			ectors		
	03	Device Fo			ectors		
Upload Action-	,		Upgrade or V	erify Action			
File:			File:	t2_boot_v	21.dfu		
			Vendor ID:	0483	Targets in fi		
Choose		Upload	Procuct ID:	DF11	00 Inte	ernal Flash	
Transferred data	size		Version:	2100			
0 KB(0 Bytes) of (0 KB(0 Byte	s)	Verify aft	ter downloa			
- Operation duratio			Uptimize	Upgrade d	uration (Remo	ve some FFs)	

Onc

You can select "Verify after download" to confirm the upgrade is correctly applied, and click Upgrade to proceed.

File correctly loaded.

Quit



As the device does not have a unique VID/PID (Vendor/Product ID) it has those of the standard STM32F2 chip, you will be alerted to this.



Click Yes to proceed, and it should continue to Erase, Program and then Verify successfully.

DfuSe Demo (v3.0.2)
Available DFU and compatible HID Devices STM Device in DFU Mode Supports Upload Manifestation tolerant Supports Download Accelerated Upload (ST) Can Detach Leave DFU mode Enter DFU mode/HID detach Leave DFU mode
Actions Select I arget(s): Target Id Name Available Sectors (Double Click for more) 00 Internal Flash 12 sectors 01 Option Bytes 1 sectors 02 OTP Memory 2 sectors 03 Device Feature 1 sectors
Upload Action File: Upload Upgrade or Verify Action File: t2_boot_v21.dfu Vendor ID: 0483 Targets in file: Vendor ID: 0483 Targets in file: 00 Internal Flash Version: 2100 Version: 2100 Verify after download Optimize Upgrade duration (Remove some FFs) Choose Upgrade Verify
Target 00: Verify successful ! Abort

