# **UPDATING FIRMWARE**

## Equipment needed

- A windows based PC
- USB Type A to Mini B cable
- A copy of 'DfuSe Demo' software
- The latest firmware from Glensound
- A STM32 Device and mains power

### Instructions

1. Download and install DfuSE Demo

'DfuSE Demo' is a firmware updating tool that is required for loading new firmware on to the STM32 Device.

It can be downloaded from the STMicroelectronics website found here: <u>https://goo.gl/AbzhsA</u>. It is the file named "STSW-STM32080".

Once you have downloaded this file you will need to extract the .exe "DfuSe\_Demo\_V3.0.5\_Setup.exe", then run and install it.

2. Download firmware

The latest firmware for the STM32 Device can be found on the Glensound website, under the respective product page. Once you have downloaded the file, place it in a folder or location of your choice.

Name	Date	Туре	Size	-
Dark1616S1.1.1.dfu	21/03/2018 11:18	DFU File	47 KB	

#### Figure 1 Example filename

## 3. Connect To A PC

Connect the STM32 Device to the PC via the USB cable. The Mini USB connector is located on a panel of the STM32 Device.

	- 62	$\square$	Dante <sup>TM</sup> Ethernet interface
		IDENTIFY	- 6
			~ /
		RESET	PRIMARY SECONDARY
@			

Figure 2 Front panel USB connector

4. Firmware update preperation

To prepare the STM32 Device for a firmware update;

- 1. Power on the unit
- 2. Press and hold down the reset button
- 3. Press and hold down the identify button
- 4. Release the reset button and then release the identify button a second after

Your PC should make an audible sound when this process is successful as windows is detecting a new USB device.

5. Loading the firmware

Now open DfuSe Demo.

If the STM32 Device successfully entered DFU mode then it will appear as 'STM Device in DFU Mode' under the 'Available DFU Devices tab'.

STM Device in DF	FU Mode			n Mode:	DFU Mode:
Supports Uplo Supports Dow Can Detach Enter <u>D</u> FU mode, Actions	ad nload 'HID detach	Manifestation tolefant Accelerated Upload (S Leave DFU mode	ST) Procuct ID Version:		Vendor ID: 048 Procuct ID: DF1 Version: 220
Select <u>T</u> arget(s):	Target Id 00 01 02 03	Name Internal Flash Option Bytes OTP Memory Device Feature	Avail 24 se 2 sec 2 sec 1 sec	able Sectors ectors etors etors etors	(Double Click for m
Upload Action File: <u>C</u> hoose. Transferred data 0 KB(0 Bytes) of	. U size	Upgrade File: Vendor II Procuet II Version	or Verify Action	Targets in file	r.
Operation duration 00:00:00		Verify	after download iize Upgrade dura se	ation (Removi Upgrade	e some FFs) ⊻erify

Figure 3 Device successfully recognised

Now the .dfu file needs to be selected so that DfuSe Demo knows the correct firmware to put on to the STM32 Device.

02 03	UTH Men Device Fe	ioiy eature	2 % 1 s	ectors ectors
;ize	<u>U</u> pload	Upgrade or Vo File: Vendor ID: Procuct ID: Version:	erify Action	Targets in file:
I KB(O B)	vtes)	Verify afte	r downloa Jpgrade di	d uration (Remove some FFs
) ):00:00		Ch <u>o</u> ose		Upgrade
		1	77	

Figure 4 Choose .dfu file

Click choose and then select the .dfu file that you downloaded from the Glensound website. This will be located in your downloads folder by default.

If the file loads successfully then it will read along the bottom 'File correctly loaded'.

# 6. Upgrading the STM32 Device firmware

IfuSe Demo (v3.0.5)				-		$\times$	
Available DFU Devices							
STM Device in DFU Mode 🗸 🗸				lication Mode:	DFU Mo	ode:	
Supports Upload     Manifestation tolerant       Supports Download     Accelerated Upload (ST       Can Detach			Venc Proci	lor ID:	Vendor II Procuct I	D: 0483 ID: DF11	
Enter <u>D</u> FU mode/HID detac	h <u>L</u> eave	DFU mode			¥ 613101	. 2200	
Actions							
Select <u>I</u> arget(s): Target I	d Name	1		Available Sector:	s (Double Cli	ck for more	*)
00 Internal Flash 01 Option Bytes 02 OTP Memory 03 Device Feature				2 sectors 2 sectors 1 sectors			
Upload Action File: Choose Upload Upgrade File: Vendor ID: Procuct ID: Version: 0 KB(0 Bytes) of 0 KB(0 Bytes) Operation duration 00:00:00 Choose			erify Ac Dark1 0483 0000 0000 r dowr Jpgrac	stion 616S1.1.1.dfu Targets in f 00 ST 00 ST nload de duration (Remo	ve some FFs	:) ⊻erify	
	Fi	le correctly l	oade	ed.			
Abort			/			Qui	t

Figure 5 .dfu successfully loaded

The firmware is now ready to be put on to the STM32 Device. Tick the 'Verify after download' box first and then click 'Upgrade'.

	-Upgrade or \	/erify Action	1				
	File:	Dark1616	S1.1.1.dfu				
	Vendor ID:	0483	Targets in file	e:			
	Product ID:	0000	00 51	•			
	Version:	0000					
<	Verify aft	ter download Upgrade di	d uration (Remov	e some FF	s)		
	Ch <u>o</u> ose.		Upgrade		⊻erify		
			Г	7			
	le correctly loaded.						
1				$\backslash\rangle$			

Figure 6 Upgrade

Click yes to proceed.

DfuSeDen	no	×
?	Your device was plugged in DFU mode. So it is impossible to make sure this file is correct for this device.	
	Continue however ?	
	Yes No	
	Figure 7 Start upgrade	

The progress bar along the bottom will show the status of the operation.

Bytes)	✓ Verily alter download □ Optimize Upgrade duration (Bemove some EEs)				
Operation duration 00:00:02	Choose Upgrade Verify				
Target 00: Upgr	ading - Download Phase (19%)				
Abort	Quit				



If the operation was successful, DfuSe Demo will report that "Targery 00: Verify Successful!".

You may also see that it will report how much data was successfully transferred.

IfuSe Demo (v3	3.0.5)				_		×
Available DFU Devices STM Device in DFU Mode Supports Upload Manifestati Supports Download Accelerate Can Detach Enter <u>D</u> FU mode/HID detach Leave f Actions		Manifestation toleran Accelerated Upload Leave DFU mode	Ver ST) Pro	plication Mode: ndor ID: cuct ID: /ersion:	DFU Mo Vendor I Procuct Versio	ode: D: 0483 ID: DF11 n: 2200	
Select <u>T</u> arget(s):	Target Id 00 01 02 03	Name Internal Flash Option Bytes OTP Memory Device Feature		Available Sectors 24 sectors 2 sectors 2 sectors 1 sectors	(Double Cl	ick for more	2)
Upload Action File: Choose Upload Upgrade or V File: Vendor ID: Procuct ID: Version: 46 KB(47412 Bytes) of 46 KB(47412 Bytes) Operation duration 00:00:05 Choose			or Verify A Dark ID: 0483 ID: 0000 ID: 00000 ID: 0000 ID:	Action 1616S1.1.1.dfu Targets in file 00 ST. vnload ade duration (Remov Upgrade	e:  ve some FF:	s) ⊻erify	
		Target 00: Ver	ify succ	essful !			
Abort						<u>Q</u> ui	t

Figure 9 Successful upgrade!

# 7. Final steps

Now click "Leave DFU mode" to finish the procedure.

Actions	DfuSe Demo (v3.0.5)   Available DFU Devices   STM Device in DFU Mode   Supports Upload   Supports Download   Accelerated Upload (ST)   Can Detach   Enter DFU mode/HID detach   Leave DFU mode	Application Mode: Vendor ID: Procuct ID: Version:	- X DFU Mode: Vendor ID: 0483 Procuct ID: DF11 Version: 2200
Actions	Can Detach	Version:	Version: 2200
4 A	Actions	7	

You may now disconnect the USB cable and continue to use the STM32 Device with the freshly updated firmware!