

MU Spacebot Firmware Upgrading Instructions

Morpx.Inc

V1.3

2018-03

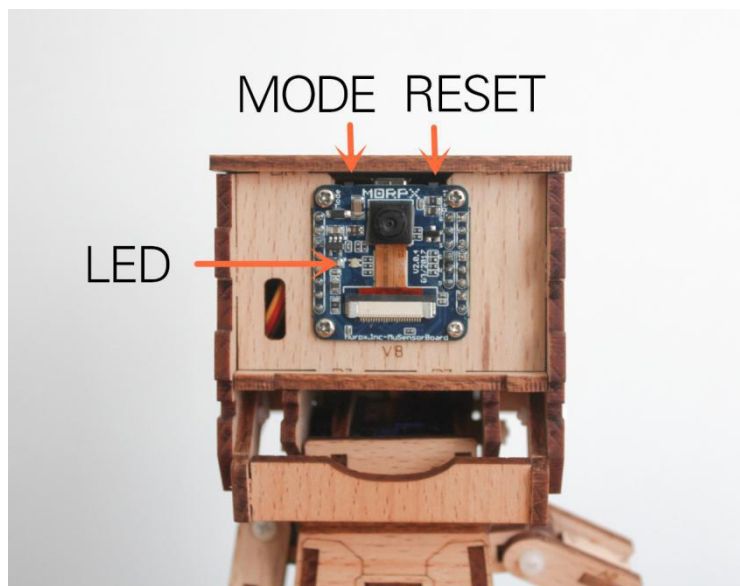
Dfu-util

Dfu-util Device Firmware Upgrade Utilities is an open-source software which support multi-platforms. It is easy to upgrade your micro controller unit's firmware via dfu-util on different OS.

Visit dfu-util's official website for more details:<http://dfu-util.sourceforge.net>

Windows

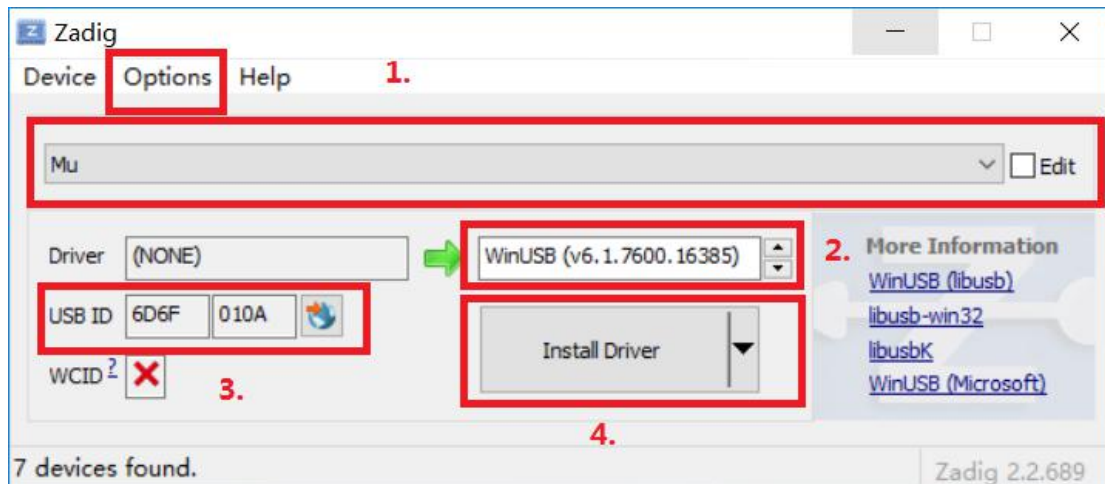
- 1.1 (1) Open the Spacebot front cover.
- (2)Connect your Spacebot to cellphone via an USB cable.
- (3)Hold on the MODE button. (Do Not release)
- (4)Press the RESET button.
- (5)Release the RESET button,the LED are blinking green lights.
- (6)Release the Mode button,set successfully.



- 1.2 Download Zadig software.

Download link: http://zadig.akeo.ie/downloads/zadig_2.2.exe

- 1.3 Run Zadig.exe



- (1) Click “Options>List all devices” on the top of the menu bar and select “MU” in the drop-down menu;
- (2) Select “WinUSB” for the Driver;
- (3) Check the USB ID, should be “6D6F 010A”;
- (4) Click “Install Driver” button. It will show “Driver installed successfully” if it is successful.

1.4 Download dfu-util tool

Download link(Win64): <http://dfu-util.sourceforge.net/releases/dfu-util-0.9-win64.zip>

1.5 Release the ZIP file to your folder, ect. “desktop>dfu-util-0.9-win64”.

1.6 Download “Firmware”from Morpx.com (a zip fire, for example: MU_Update.zip)

After unzip, you will get a bin file (such as: MU.bin)copy to the directory, or other.

<http://mu.morpx.com/firmware/>

MU SpaceBot(Max) - V3.0.2

Update time: 2018-3-22 10:2:6

Use: SpaceBot

MU SpaceBot(Max) with LED Eye Module

Download

MU SpaceBot(Rey) - V3.0.2

Update time: 2018-3-22 10:2:34

Use: SpaceBot

MU SpaceBot(Rey) with LED Eye Module

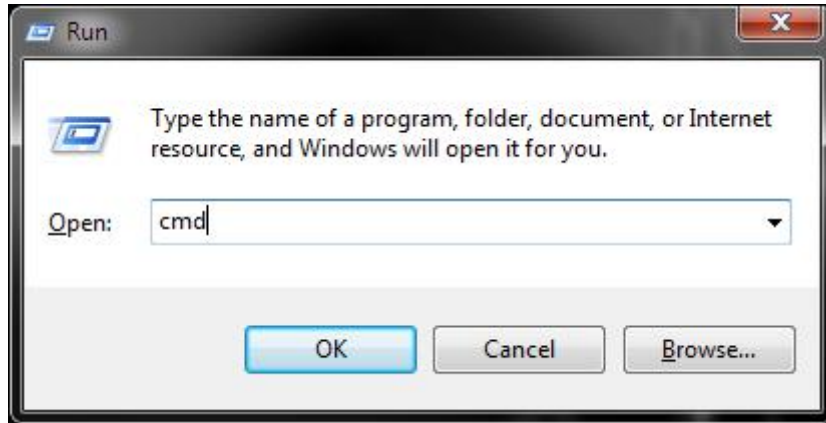
Download

Select the MU SpaceBot version in the firmware page

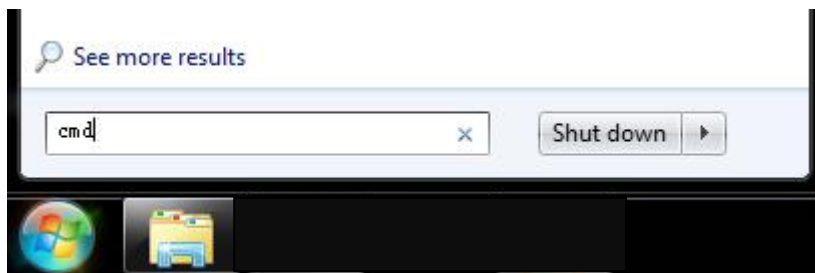
The old version needs to be supported by the LED eye module to update to version V3.0.2

1.7 Launch the Windows terminal tool “cmd.exe”

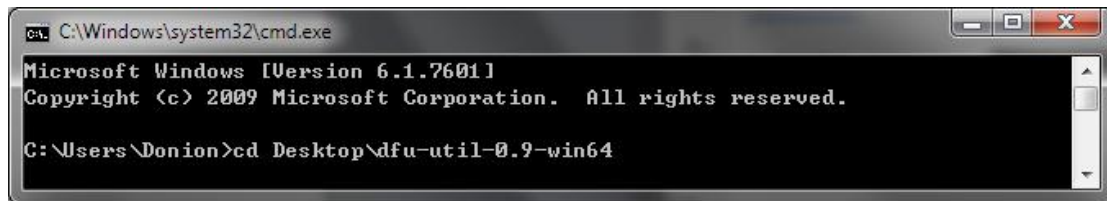
Method 1: Press “Windows + R” combination on the keyboard to open the “Run.exe”. Input “cmd” and click “OK”.



Method 2: Open the “Windows Start Menu”. Input “cmd” in the search box and strike the “Return” key.



1.8 Input “cd xxx\dfu-util-0.9-win64” command in the terminal, xxx is the path of dfu-util folder.



1.9 Follow step 1.2 to set Spacebot to the DFU mode. Enter the following command in the terminal:

`dfu-util.exe -a1 -d 0x6D6F:0x010A -R -D xxx\xxx\yyyy.bin`



dfu-util.exe is the application name.

0x6D6F:0x010A is the Spacebot’s USB ID.

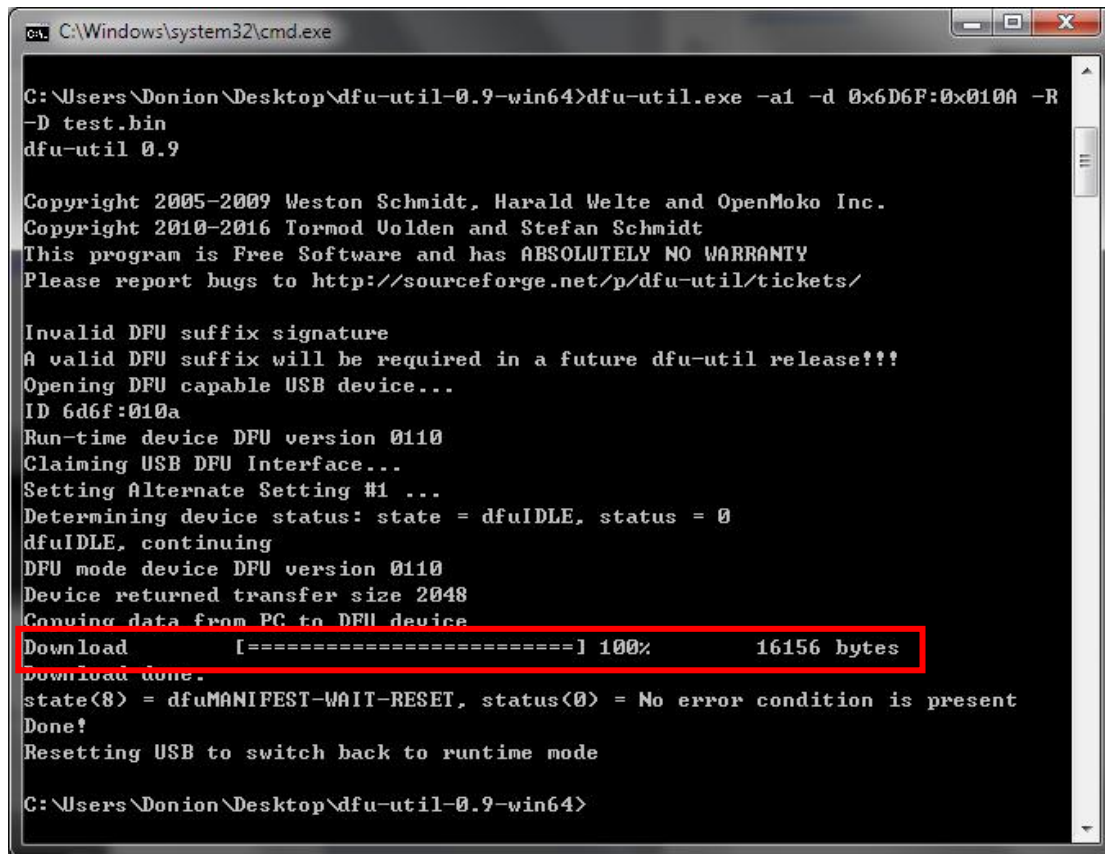
-D is Download command, download data from PC to Spacebot.

xxx\xxx the path of the firmware folder. It is unnecessary if the firmware is in the same folder with dfu-util.

yyyy.bin is the name of firmware.

1.10 The firmware is being downloaded to the Spacebot and is completed when the progress bar

is up to 100%.



```
C:\Windows\system32\cmd.exe
C:\Users\Donion\Desktop\dfu-util-0.9-win64>dfu-util.exe -a1 -d 0x6D6F:0x010A -R
-D test.bin
dfu-util 0.9

Copyright 2005-2009 Weston Schmidt, Harald Welte and OpenMoko Inc.
Copyright 2010-2016 Tormod Volden and Stefan Schmidt
This program is Free Software and has ABSOLUTELY NO WARRANTY
Please report bugs to http://sourceforge.net/p/dfu-util/tickets/

Invalid DFU suffix signature
A valid DFU suffix will be required in a future dfu-util release!!!
Opening DFU capable USB device...
ID 6d6f:010a
Run-time device DFU version 0110
Claiming USB DFU Interface...
Setting Alternate Setting #1 ...
Determining device status: state = dfuIDLE, status = 0
dfuIDLE, continuing
DFU mode device DFU version 0110
Device returned transfer size 2048
Copying data from PC to DFU device
Download [=====] 100% 16156 bytes
Download done.
state(8) = dfuMANIFEST-WAIT-RESET, status(0) = No error condition is present
Done!
Resetting USB to switch back to runtime mode

C:\Users\Donion\Desktop\dfu-util-0.9-win64>
```

1.12 When the firmware upgrade is finished, press the reset button to restart the spacebot, turn on the Spacebot and enjoy it!

Mac OS

2.1 Download "Firmware" from Morpx.com (a zip file, for example: MU_Update.zip)

After unzip, you will get a command file (for example: update_MU.command)

<http://store.morpx.com/article.php?id=72>

2.2 Follow step 1.1 to set Spacebot to the DFU mode.

2.3 Double click xxxx.command file. If the following interface appears, it shows the program is downloading, the progress bar is up to 100% when the download is completed.

MU SPACEBOT FIRMWARE UPGRADING INSTRUCTIONS

Copyright 2018 Morpx.Inc

```
Last login: Sat Nov 5 23:08:23 on ttys000
XXXXXXXXXXXX :~ yanzhang$ /Users/XXXXXXXXXXXX /Update_MU.co
mmand ; exit;
dfu-util - (C) 2007 by OpenMoko Inc.
This program is Free Software and has ABSOLUTELY NO WARRANTY

Opening USB Device 0x6d6f:0x010a...
Found Runtime: [0x6d6f:0x010a] devnum=0, cfg=0, intf=0, alt=1, name="Progr @FLAS
H 0x08005000"
Claiming USB DFU Interface...
Setting Alternate Setting ...
Determining device status: state = dfuIDLE, status = 0
dfuIDLE, continuing
Transfer Size = 0x0800
bytes per hash=4670
Starting download: [#####] finished
!
state(8) = dfuMANIFEST-WAIT-RESET, status(0) = No error condition is present
Done!
Resetting USB to switch back to runtime mode
error resetting after download: usb_reset(ResetDevice): unknown error
***** Update Finished! You can close this terminal window now *****
logout

[Process completed]
```

- 2.4 When the firmware upgrade is finished, press the reset button to restart the spacebot, turn on the Spacebot and enjoy it!
(When the interrupt occurs during the update process, need to replug USB)

Linux Ubuntu

- 3.1 Download "Firmware" from Morpx.com (a zip file, for example: MU_Update.zip)
After unzip, you will get a command file (for example: update_MU.command)
<http://store.morpx.com/article.php?id=72>

- 3.2 Follow step 1.1 to set Spacebot to the DFU mode.

- 3.3 When the firmware upgrade is finished, press the reset button to restart the spacebot, turn on the Spacebot and enjoy it!
(When the interrupt occurs during the update process, need to replug USB)

SN Retrieve

Each MU Spacebot has a unique SN (Serial Number) on the bottom of the package. SN is the certificate to upgrade firmware and to get the technical support from Morpx. The dfu-util software can help you to find the SN back if you lost your shipping box.

- 4.1 Connect your Spacebot to the computer and set it to the DFU mode as shown in the step 1.2.
4.2 Open the terminal.
4.3 Enter the following command to read the information of your Spacebot:

MU SPACEBOT FIRMWARE UPGRADING INSTRUCTIONS
Copyright 2018 Morpx.Inc

Windows:

```
dfu-util.exe -a1 -d 0x6D6F:0x010A -R -U xxx\xxx\yyyy.bin
```

Mac OS & Linux Ubuntu

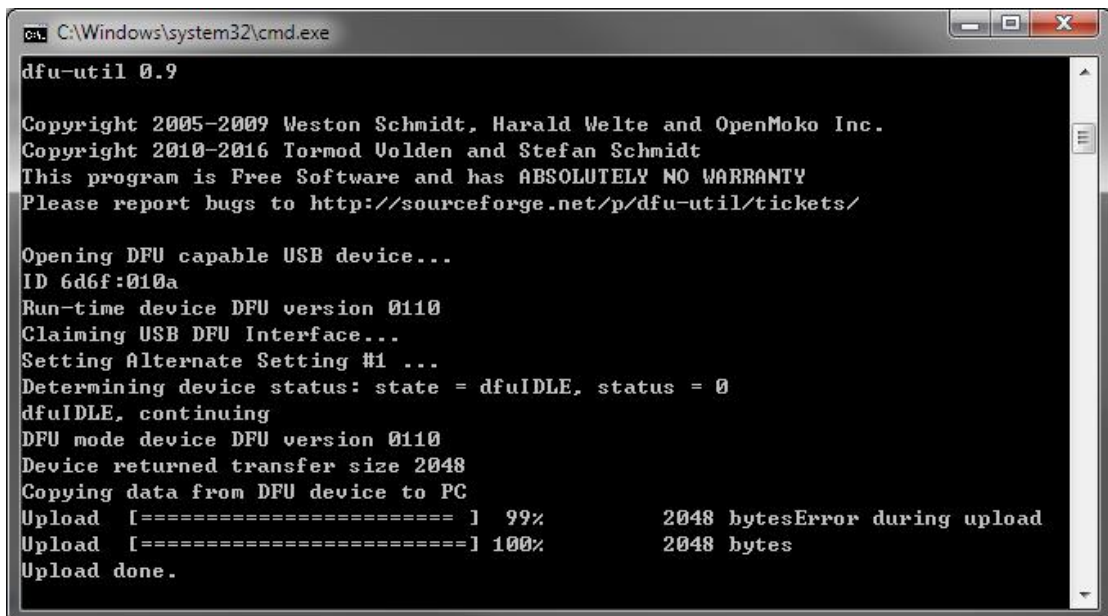
```
dfu-util -a1 -d 0x6D6F:0x010A -R -U xxx\xxx\yyyy.bin
```



```
C:\Windows\system32\cmd.exe
C:\Users\Donion\Desktop>dfu-util-0.9-win64>dfu-util.exe -a1 -d 0x6D6F:0x010A -R
-U read.bin
```

-U is Upload data from MU to computer and save the information to “xxx\xxx\yyyy.bin” file.
xxx\xxx\ is the location of the yyyy.bin. You can choose it wherever you like.
yyyy.bin is the upload file name, you can rename the file, but the file suffix must be “.bin”

4.4 Press “Return ” key to upload the information to PC and save it to yyyy.bin.



```
C:\Windows\system32\cmd.exe
dfu-util 0.9
Copyright 2005-2009 Weston Schmidt, Harald Welte and OpenMoko Inc.
Copyright 2010-2016 Tormod Volden and Stefan Schmidt
This program is Free Software and has ABSOLUTELY NO WARRANTY
Please report bugs to http://sourceforge.net/p/dfu-util/tickets/

Opening DFU capable USB device...
ID 6d6f:010a
Run-time device DFU version 0110
Claiming USB DFU Interface...
Setting Alternate Setting #1 ...
Determining device status: state = dfuIDLE, status = 0
dfuIDLE, continuing
DFU mode device DFU version 0110
Device returned transfer size 2048
Copying data from DFU device to PC
Upload [=====] 99%          2048 bytesError during upload
Upload [=====] 100%         2048 bytes
Upload done.
```

4.5 You need to reset your MU manually if it is not shut down automatically.

4.6 Upload the “yyyy.bin” file to Morpx.com to activate your MU and get better support.

DECLARATION: Dfu-util and Zadig which are mentioned in the doc are third party free open-source software. Morpx uses the software only for the firmware upgrading. Please use Morpx.com supported firmwares to upgrade your MU Spacebot. It may be NOT working or damage your MU Spacebot if you download other third party firmware into it.