

MU Firmware Upgrading Instructions

--- SN Retrieval

Morpx Inc.

V1.2

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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>

SN Retrieval

Each MU 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.

1.1 Connect your MU to computer via an USB cable. Hold on the Mode button (1) (Do Not release) and then press the Power button (2), the MU's eyes are blinking green lights, which means it is in the DFU mode. Release the Mode button.

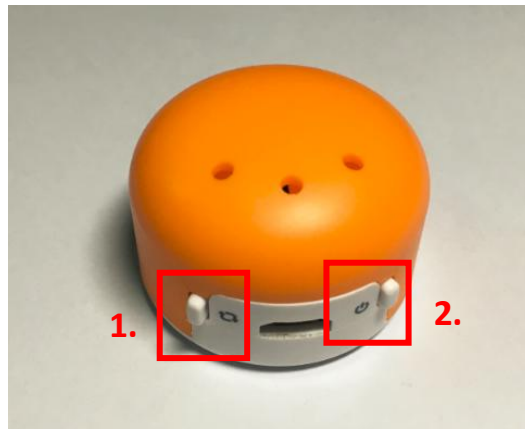


Fig1. Power and Mode Buttons of Mu

1.2 Open the terminal and enter the following command to read the information of your Mu:

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
```

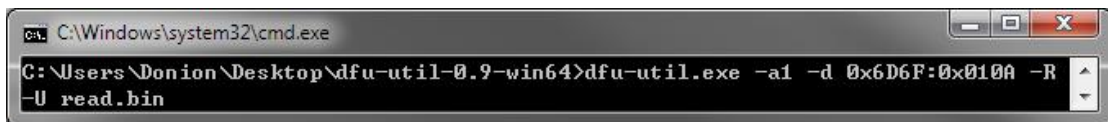
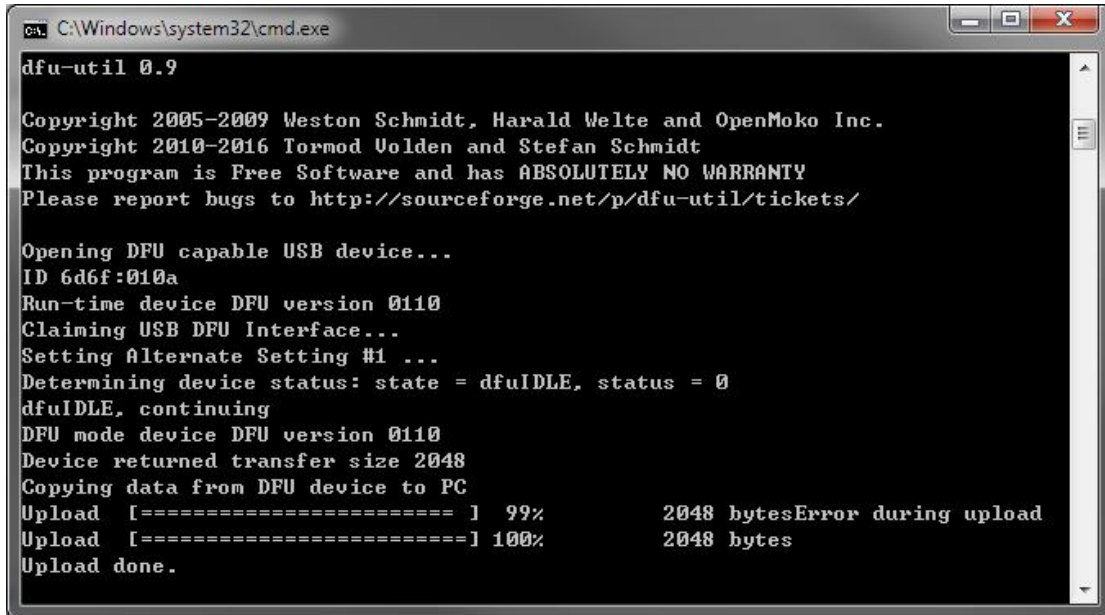


Fig2. Input command

-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"

1.3 Press "Return" key to upload the information to PC and save it to yyyy.bin.



```
ca: 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.
```

Fig3. Read the MU's information

1.4 You need to reset your MU manually if it is not shut down automatically. You can insert something slender like wire or paper clip to the reset hole at the bottom of the Mu to reset it manually if needed.

1.5 Upload the “yyyy.bin” file to our firmware webpage (see below for the url) to activate your MU and get further support.

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

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

WARNING : MU offers a set of integrated circuit solutions. It has a lithium battery charging management IC on its internal PCB (Printed Circuit Board). In a standard MU package, a rechargeable battery is connected to the power port at the bottom of its PCB and a USB port is available at the back of MU for charging.

In order to meet the demands of the developers who want to use the MU as an intelligent vision sensor module, we provide the MU's PCB as a separate developer package to the makers. There are two ways to power MU: 1. via the USB port, the input voltage is 5V; 2. via the power port on the bottom of the PCB, the input voltage range is 3.3V to 5V which might come from an Alkaline battery, Ni-MH rechargeable battery, Li-ion Battery or a power output of some other development board. Please note that YOU SHOULD USE ONE POWER SUPPLY ONLY and DO NOT USE BOTH OF THEM AT THE SAME TIME. If not, the power from the USB port will be used to charge the bottom power port and probably damage your battery, even cause safety concerns. Even if you have a 3.7V rechargeable Li-ion Battery, that DOES NOT means you can charge it

through the USB port. **ESPECIALLY when you upgrade your firmware via the USB port, please disconnect the power supply of the bottom power port.**