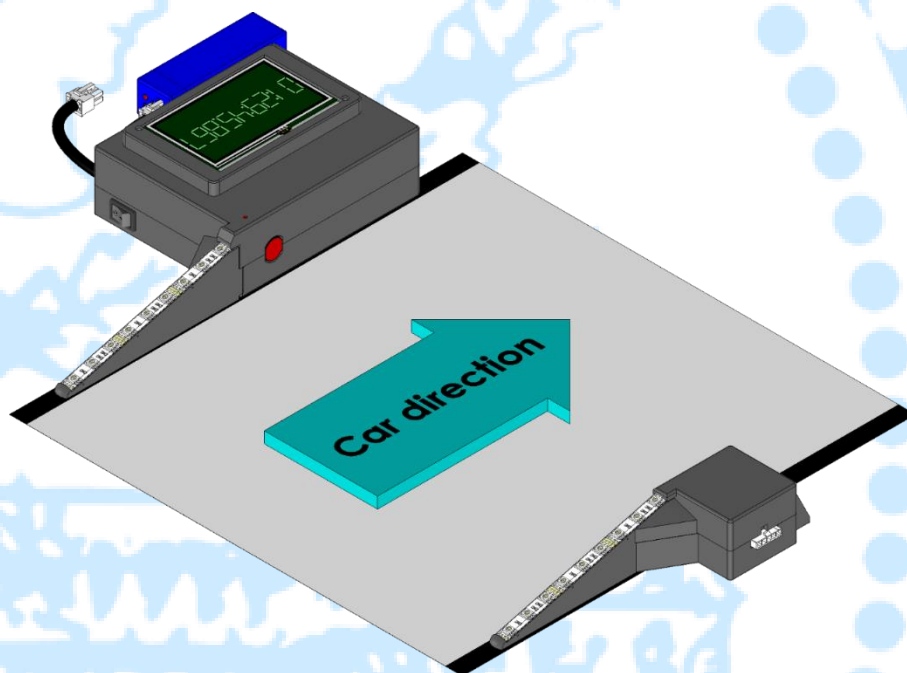


**Politecnico di Torino**

**DIPARTIMENTO DI ELETTRONICA E TELECOMUNICAZIONI**

**LABORATORIO DI NEURONICA**

**TIMEX SYSTEM  
FIRMWARE UPGRADE GUIDE**



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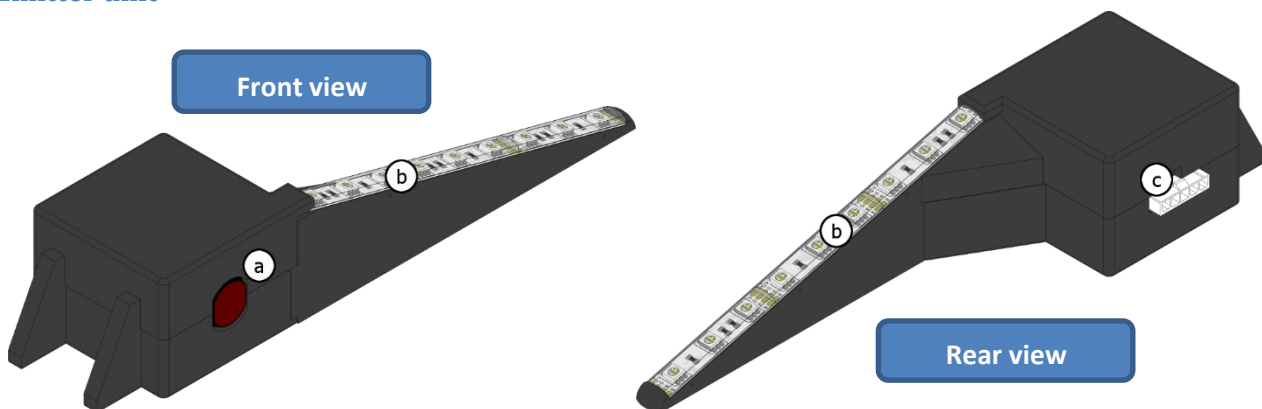
## Package description

The *Timex System* case contains:

- 1) one main unit;
- 2) one emitter unit;
- 3) two battery units;
- 4) two main-emitter connection cables (one is the backup cable);
- 5) one power supply/battery recharger with an “Europlug” connector;
- 6) one battery recharge adapter;
- 7) one micro-USB cable.

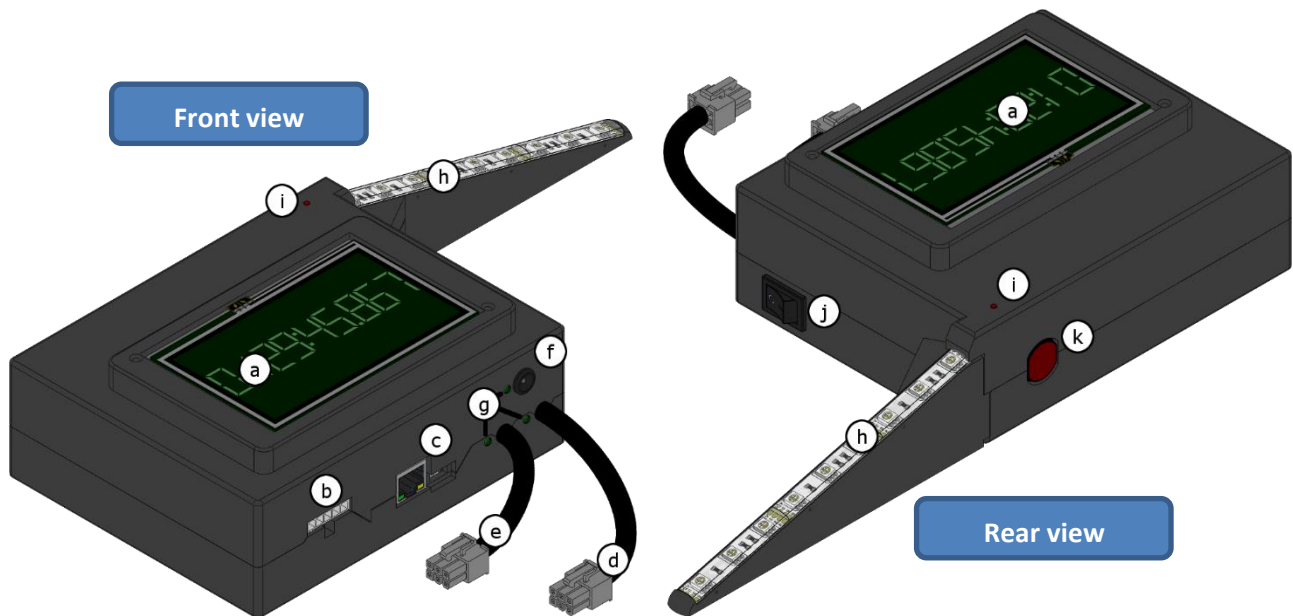


## Emitter unit



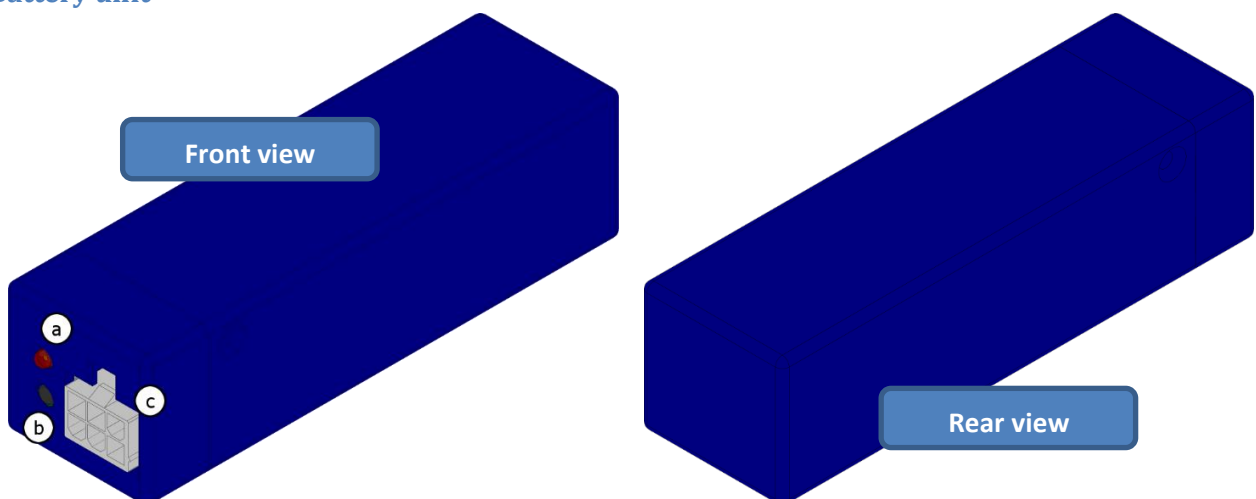
- a) Beam emitter
- b) RGB led strip
- c) Main-emitter cable connector

## Main unit



- a) LCD and touch screen
- b) Main-emitter cable connector
- c') Ethernet connector
- c'') Micro-USB connector
- d) Battery A cable
- e) Battery B cable
- f) DC cable socket
- g) Power-good LED indicators
- h) RGB led strip
- i) Main-emitter unit alignment indicator
- j) Power switch
- k) Beam receiver

## Battery unit



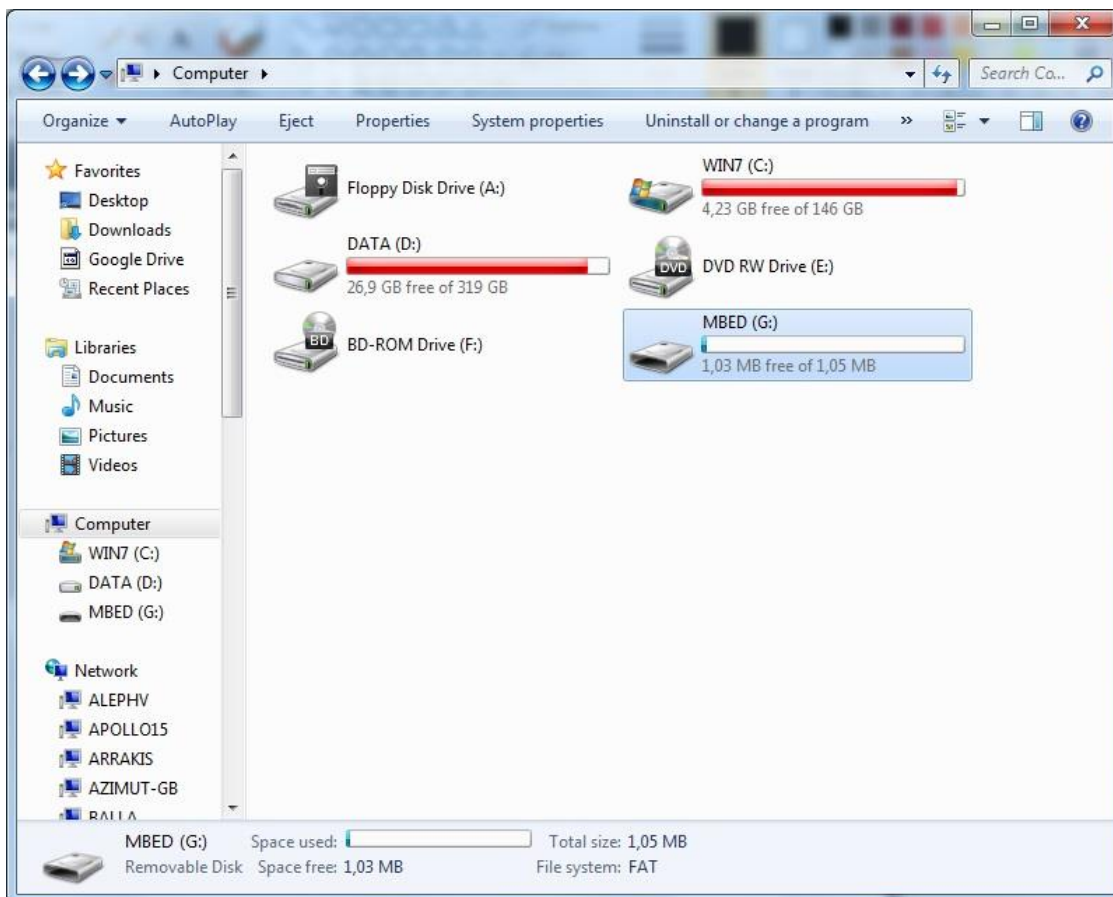
- a) Charge indicator
- b) Reset button
- c) Battery connector

## Setting up for firmware upgrade

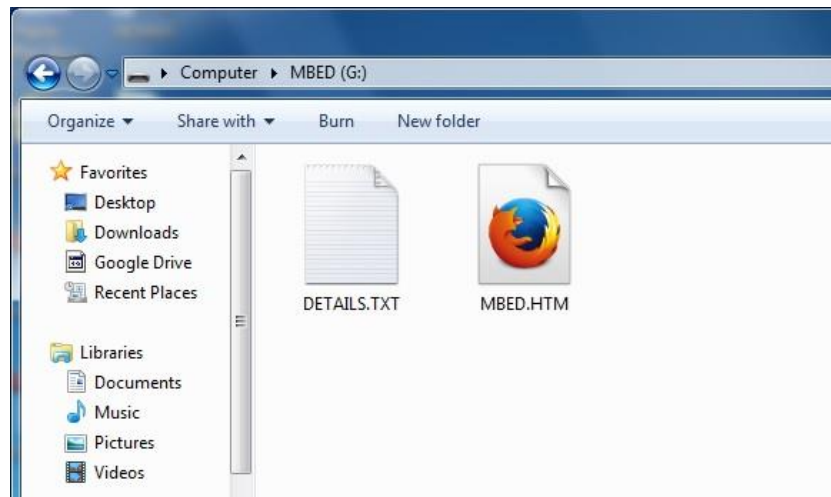
In order to allow the firmware upload:

- 1) Download the new firmware from <http://www.neuronica.polito.it/timex.aspx> (it is a .bin file);
- 2) Turn off the TIMEX device;
- 3) Remove the protecting tape under the “Firmware Update” label of the main Unit (it is placed between C) and D) component of the figure in Main Unit paragraph) to uncover the second micro-USB connector;
- 4) Plug the mircoUSB cable to the uncovered “Firmware Update” socket of TIMEX, and then to the PC port.  
**ATTENTION: Be careful to plug the micro usb connector under “Firmware Update” label;  
If you plug the cable to the connector under “PC COM” label, the firmware upgrade will not start.**
- 5) Wait some minutes for the automatic installation of driver;

Now on computer resources of your PC, you will find a new Mass device called MBED.



6) Open the new drive (MBED). The content will be the following:

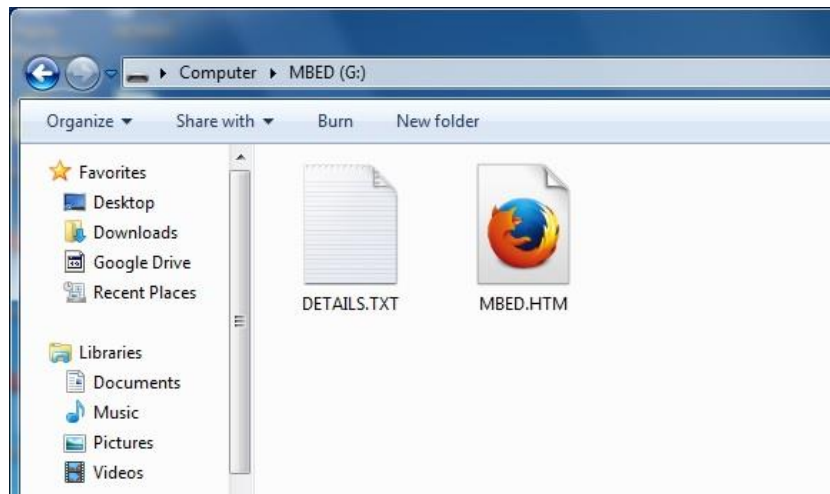


7) To upload the firmware, Drag and Drop the firmware (.bin file) to this new drive (MBED).

The device will disappear and then reappear.

8) Check the content of the drive simply opening it (double click on it).

If the board upgrade is successful, you will see again the same content of the beginning:



Otherwise a log text File with the error will appear.

9) Disconnect the USB cable;

10) Turn ON the TIMEX device and test it;

**Repeat the procedure for each of the TIMEX devices**

## Troubleshooting

If the firmware is not successfully uploaded:

- save a copy of the log error file (copy and paste it into your desktop);
- disconnect the USB cable;
- wait 10 seconds;
- Repeat the procedure.

If even in this case the procedure is not successfully completed:

- ensure that the device is switched off and the USB unplugged;
- Connect the 5V power Supply;
- Turn on the TIMEX device;
- Connect the USB cable;
- Repeat the procedure.