

Instructional Guide for Flashing Firmware via USB Cradle

updated by hawpaw@yahoo.com

IMPORTANT NOTE: Flashing a Firmware via USB cradle only works in a Windows platform because the hardware driver is available for Windows only.

Here are the things you need before flashing the latest Firmware on your Kreyos Meteor via USB cradle:

- 1) Kreyos Meteor



- 2) Kreyos Meteor charger (USB cradle)



3) 'KreyosFirmware' by hawpaw github repository

<https://github.com/hawpaw/KreyosFirmware-hwp-/tree/master/KreyosFirmware>

- This folder contain several files:

Bibliotecas > Documentos > GitHub > KreyosFirmware > KreyosFirmware	
Nombre	Fecha de modificación
BSL.exe	15/10/2014 22:40
firmware.txt	15/10/2014 22:40
firmware_update.bat	15/10/2014 22:40
get watch firmware from compiling folder.bat	28/10/2014 22:52
prog	28/10/2014 22:01
reset	15/10/2014 22:40
run.bat	28/10/2014 22:57
watch.txt	29/10/2014 0:05

These 4 files are the original files from Kreyos

- o **BSL.EXE**
- o **prog**
- o **reset**
- o **firmware.txt**

The **BSL**, **prog** and **reset** are necessary for programming the watch. The **firmware.txt** is the original firmware from Kreyos, I keep that only as a backup solution.

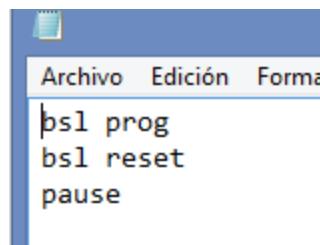
This is the new hawpaw firmware:

- o **watch.txt**

And this is the batch file to make easy the watch programing

- o **firmware_update.bat**

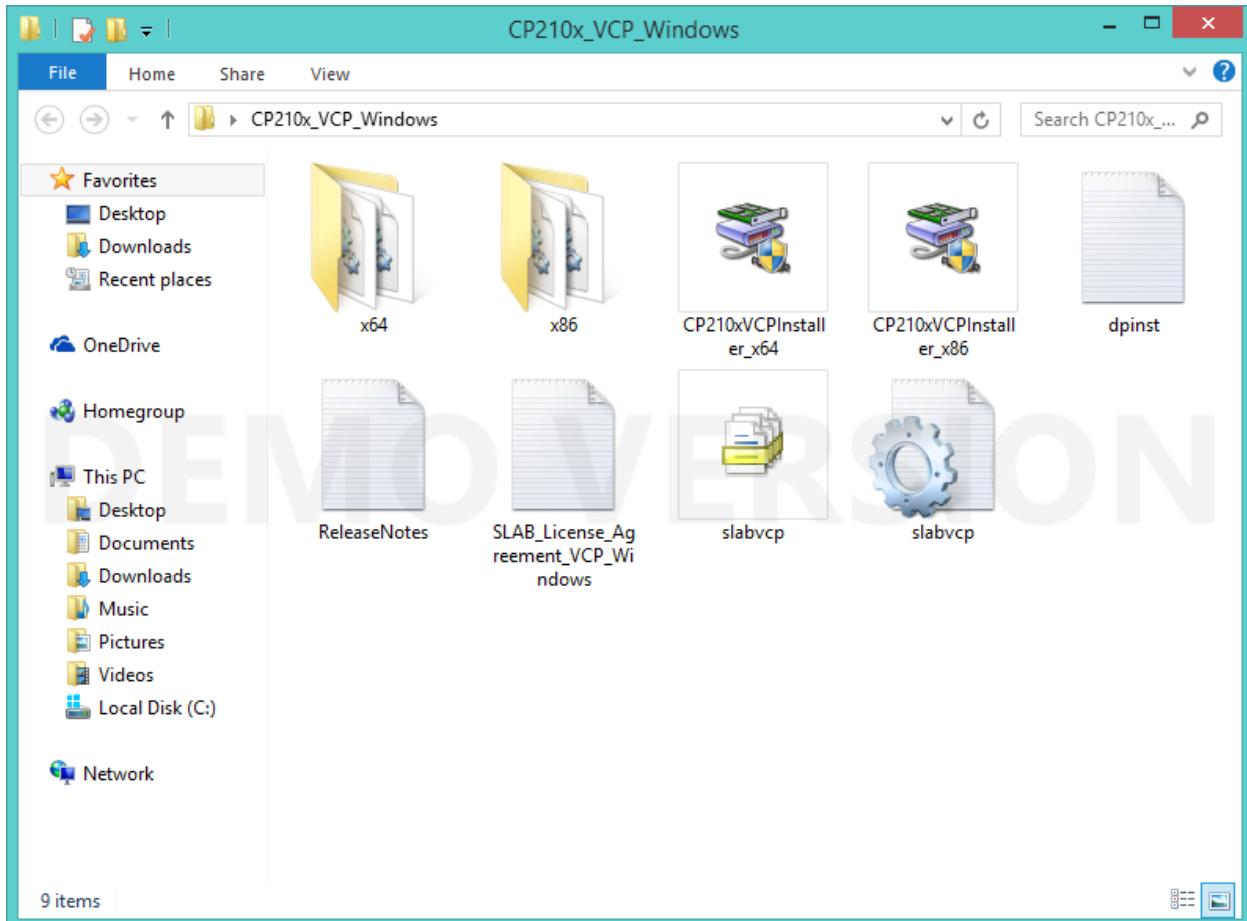
This batch file launches several commands:



```
Archivo Edición Forma
bsl prog
bsl reset
pause
```

4) 'CP210x_VCP_Windows' folder (driver)

https://github.com/hawpaw/KreyosFirmware-hwp-/tree/master/Driver/CP210x_VCP_Windows



Before to proceed with the firmware updating, you need to download the content of these two folders, **firmware** and **driver**.

VERY IMPORTANT DOWNLOAD ALL THE FULL REPOSITORY TO GET THE RIGHT FIRMWARE!!! use [download zip](#)

The screenshot shows a GitHub repository page for 'KreyosFirmware-hwp-'. The repository has one branch, 'master', and one commit, 'cb65055f89'. The commit message is 'Instructions for watch flashing'. The repository contains several files: 'Documents', 'Driver/CP210x_VCP_Windows', 'KreyosFirmware', 'Watch', '.gitattributes', '.gitignore', '.project', 'LICENSE', 'README.md', and 'ReleaseNotes.txt'. The 'Watch' file was updated 9 hours ago with 'Small changes'. The '.gitattributes' and '.gitignore' files were added a day ago. The 'LICENSE' and 'README.md' files were updated a day ago with 'Initial upload'. The 'ReleaseNotes.txt' file was updated a day ago with 'Small changes'. On the right side of the page, there are links for 'Issues' (0), 'Pull Requests' (0), 'Wiki', 'Pulse', 'Graphs', and 'Settings'. Below these is an 'HTTPS clone URL' field with the URL 'https://github.com/l...'. A note says 'You can clone with HTTPS, SSH, or Subversion.' At the bottom right, there are buttons for 'Clone in Desktop' and 'Download ZIP', with 'Download ZIP' being highlighted by a yellow box.

And you have to assure before programming than the content of the

watch.txt file is correct, this must be the file:

it starts like that

The screenshot shows a hex editor window displaying a hex dump of a file. The menu bar includes 'Archivo', 'Edición', 'Formato', 'Ver', and 'Ayuda'. The dump starts with the byte sequence '@5C00' followed by a series of hex values: 31 40 00 5C B2 13 D4 D9 0C 93 12 24 8C 00 DA 1F, 3E 40 2C 22 3F 40 00 00 B2 13 7A D8 8C 00 7C 1D, 8D 03 AC D3 3E 40 5D 02 3F 40 00 00 B2 13 AC DF, B1 13 F0 DA B2 13 D8 DF 0F 14 1F 42 0E 07 3F 90, 06 00 04 20 40 18 92 42 20 07 68 23 0F 16 00 13, 0A 14 3F 14 A2 93 AE 03 3E 20 B2 B0 20 00 80 03, 06 28 1F 42 94 03 1F 82 90 03 1F 93 F6 27 B2 50, 00 10 01 02 01 00 05 02 01 00 00 00 00 00 00 00. The first few bytes are highlighted with a yellow box.

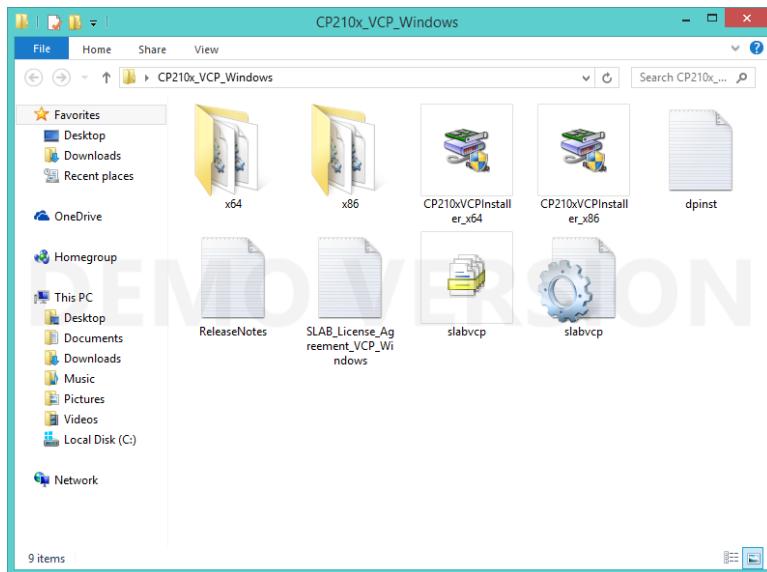
and it finishes like that:

```
70 0A 92 09 75 08 19 07 7D 05 A2 03 88 01 30 FF  
97 FC BF F9 01 00 2E 00 01 00 01 00 0E 00 63 00  
01 00 10 D2 03 00 10 D2 03 00 E8 D7 02 00 02 00  
03 07 15 05 15 04 15 01 15 15 08 09 15 15 0D 15  
0E 15 15 01 07 FF FF FF FF FF 08  
q
```

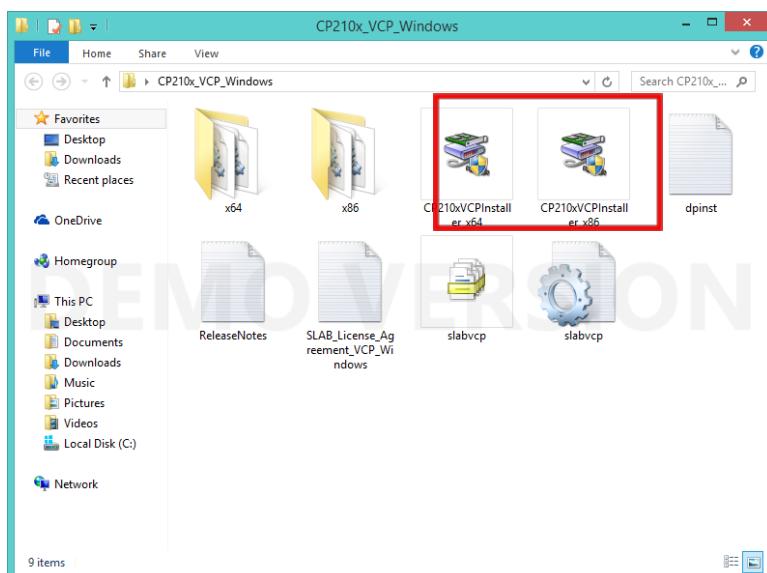
If you have programmed with a bad firmware you will get a stuck watch but it can be fixed flashing the correct firmware.

PROCEDURE

- 1) Install the driver
 - o To do this, go to the 'CP210x_VCP_Windows' folder



- o Click on either 'CP210xVCPIstaller_x64' or 'CP210xVCPIstaller_x86' depending on your OS system type. to install the hardware driver



- o **IMPORTANT NOTE:** 'CP210xVCPIstaller_x64' is for 64-bit OS while 'CP210xVCPIstaller_x86' is for 32-bit OS.

- 2) Plug the watch to your computer
 - o Make sure the "Battery is charging." screen is showing on the watch



- 3) Locate the 'KreyosFirmware' folder **downloaded to your computer**
 - o Open the Command Prompt "cmd"
 - o Locate the 'KreyosFirmware' folder directory
 - o **IMPORTANT NOTE:** Copy the 'KreyosFirmware' folder to drive C: for easier access.

```
C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware>dir
El volumen de la unidad C es TI30982400A
El n m ero de serie del volumen es: E83C-6906

Directorio de C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware

29/10/2014  21:12      <DIR>          .
29/10/2014  21:12      <DIR>          ..
15/10/2014  21:40           303.091 BSL.exe
15/10/2014  21:40           687.524 firmware.txt
15/10/2014  21:40           26 firmware_update.bat
28/10/2014  22:52           72 get watch firmware from compiling folder.bat

28/10/2014  22:01           177 prog
15/10/2014  21:40           77 reset
28/10/2014  22:57           110 run.bat
29/10/2014  00:05           697.555 watch.txt
                           8 archivos   1.688.632 bytes
                           2 dirs    49.526.804.480 bytes libres

C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware>
```

- 4) Now if you are in the folder that we mentioned before, its time to update your watch.

Important: To perform the programming, you need to put the watch in listening mode, or the programming process won't start and you'll get something like that, FAIL!!

```
C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware>firmware_update
C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware>bsl prog
-----
BSL Scripting application 1.07
The local time is: 21:15 on 29.10.2014
-----
Revert RST
Initializing, Mode: 5xx User Port: Silicon Labs CP210x USB to UART Bridge <COM4>
COM: \.\COM4      DONE
Changing Baud Rate to 115200          FAIL
Mass Erase:                         FAIL<ee>
RX Password:                        FAIL<af>
Toggling info flag                 FAIL
Erasing segment at addr 1800         FAIL
Writing watch.txt to device:        retry write @5c00
FAIL writing data block starting at 5c00
```

You only have some seconds to start the **firmware_update.bat**, let's start!!!!

You need to press the 4 buttons of the kreyos til see that the bright of the lcd reduces a bit and start the reboot process, at this moment you have to execute the **firmware_update.bat**.

If you arrive late, no problem, you can cancel the batch process pressing "CTR+C" and press again the four buttons and run again the batch.

Don't change the order, don't execute the bat file and then the 4 buttons, the programing won't run correctly.

If the programing has started correctly you'll see something like that:

```
C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware>firmware_update
C:\Users\Victor\Documents\GitHub\KreyosFirmware\KreyosFirmware>bsl prog

-----
BSL Scripting application 1.07
The local time is: 21:23 on 29.10.2014
-----
Revert RST
Initializing, Mode: 5xx User Port: Silicon Labs CP210x USB to UART Bridge <COM4>
COM: \.\COM4      DONE
Changing Baud Rate to 115200          DONE
Mass Erase:                      DONE
RX Password:                     DONE
Toggling info flag              DONE
Erasing segment at addr 1800       DONE
Writing watch.txt to device:      DONE
```

and it will continue and will finish when you get:

```
COM: \.\COM4      DONE
Reset           Done
Changing Baud Rate to 115200
$OK SPIFLASH
status register 1 = 0000 status register 2 = 0000 Find SPI Flash DeviceId = 0017
$OK BACKLIGHT
$OK MOTOR
I2C: Initialize...
$OK I2C
$OK CODEC
$OK MIC
Found firmware, length = 220474
LCD: Initialize...Done
WIN: Initialize...Done
$OK FONT
I2C: Initialize...
$OK I2C
central device db init: count = 4
Central Device DB dump, devices: 4
central file BLEDB0.db failed to open read
central file BLEDB1.db failed to open read
central file BLEDB2.db failed to open read
central file BLEDB3.db failed to open read
$OK CODEC
CTS is readyDone
$OK MPU6050
enter 1 0--- todos: 0010---
load config fil0@level:3401
todo 0010
GAP_RUN: enable advertisements
    bb||r-.µ=4HARDWARE_RESET_LINE  SUSPEND_RESET
$OK ANT
HARDWARE_RESET_LINE COMMAND_RESET
hci_read_buffer_size: used size 102, count 4
--> Name Meteor FFFF
hci_le_read_buffer_size: size 27, count 15
Start initialize bluetooth chip!
HCI W 3\king!
$OK BLUETOOTH
$END
irk C7 CF 41 E7 59 79 A5 3F A2 FC 7B 31 60 EE EA E6
dhk B5 4F C6 73 2A 32 0A A2 AA 8F B9 59 92 17 29 C7
todo 001C
GAP_RUN: set advertisement data
02 01 02 03 03 F0 FF 0E 09 4D 65 74 65 6F 72 4C 45 20 46 46 46 46 00
todo 0018
GAP_RUN: set scan response data
todo 0010
GAP_RUN: en0'.GgW.F..WiWG.@level:3403
level:3404
```

Now the watch is ready to use!!!

If new firmware is updated in github firmware folder, you only will need to download this last **watch.txt**, replaces the older one and perform the same operation.