

FrameGrabber 4 PCIe Card

Firmware update – Windows OS

Classification: Public, Author: MAJ 16.12.2021

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1.Introduction

This document describe steps for FG4 PCIe card firmware update / change inside MS Windows OS.

Preconditions:

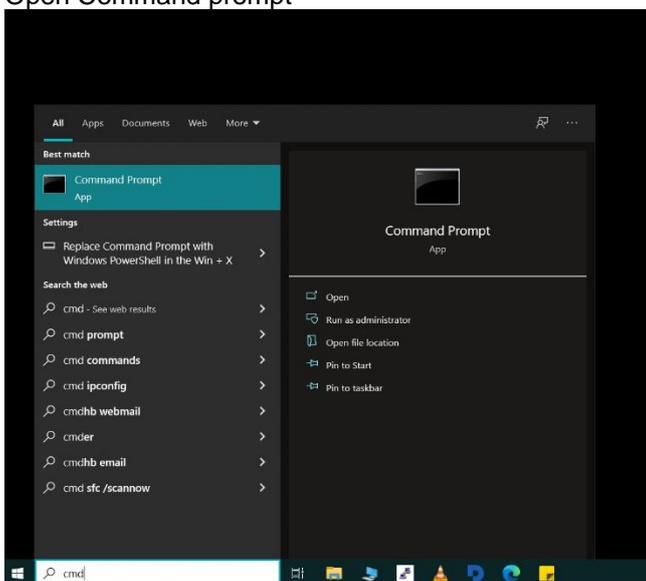
- Personal computer with successfully installed FG4 PCIe card (PCIe x4, PCIe x8 or PCIe x16)
- Properly working FG4 PCIe device driver for Windows OS
 - These versions of MS Windows are currently supported:
 - MS Windows 10 – 64bit
 - MS Windows 10 – 32bit
 - MS Windows 8 – 64bit
 - MS Windows 8 – 32bit
 - MS Windows 7 – 64bit
 - MS Windows 7 – 32bit

Note: Before starting FG4 card flashing process you have to close all running streams from that source

Firmware flashing (single FG4 PCIe card installed)

(in case you have only **one** FG4 PCIe Card inside your PC)

1. Make a “new folder“ anywhere at your machine
2. Copy FG4Firmware.exe file (flash tool) into the “new folder“
3. Copy file with desired firmware type and version *.bdq (e.g *gmsl3_v13.bdq*) into the same location as a FG4Firmware.exe.
4. Open Command prompt



- Find desired folder with firmware app.

e.g In our PC there is fw. inside `c:\User\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool`



```

Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DQ_FG4develop>cd C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool
  
```

- Start FG4firmware flash with following input:

“FG4firmware.exe –flash desired_flash_file.bdq”

e.g In our case `gmsl3_v13.bdq`



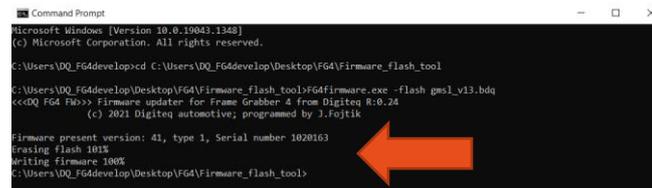
```

Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DQ_FG4develop>cd C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool
C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -flash gmsl3_v13.bdq
  
```

After command input confirmation, memory will be erased and new firmware will be written.

When the command line reappears – Updating process has ended



```

Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DQ_FG4develop>cd C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool
C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -flash gmsl3_v13.bdq
<<<Q FG4 FW>> Firmware updater for Frame Grabber 4 from Digiteq R:0.24
(c) 2021 Digiteq automotive; programmed by J.Fojtik

Firmware present version: 41, type 1, Serial number 1020163
Erasing flash 101%
Writing firmware 100%
C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool>
  
```

- After flashing process there should be two records with following results:

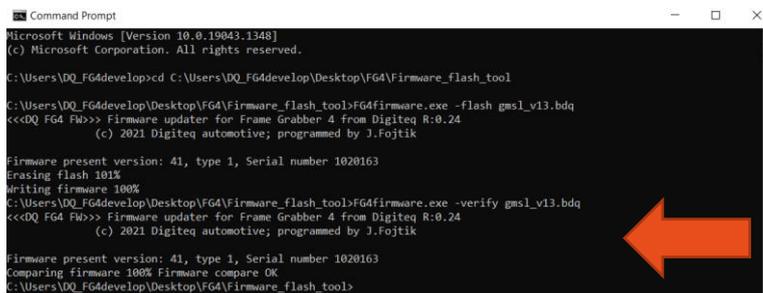
Erasing flash 100%

Writing firmware 100%

- Shut down your PC
- Switch on your PC

- Now you can verify data written into FG4 PCIe card memory with source file.

“FG4firmware.exe –verify desired_flash_file.bdq (e.g `gmsl3_v13.bdq`)“



```

Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DQ_FG4develop>cd C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool
C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -flash gmsl3_v13.bdq
<<<Q FG4 FW>> Firmware updater for Frame Grabber 4 from Digiteq R:0.24
(c) 2021 Digiteq automotive; programmed by J.Fojtik

Firmware present version: 41, type 1, Serial number 1020163
Erasing flash 101%
Writing firmware 100%
C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -verify gmsl3_v13.bdq
<<<Q FG4 FW>> Firmware updater for Frame Grabber 4 from Digiteq R:0.24
(c) 2021 Digiteq automotive; programmed by J.Fojtik

Firmware present version: 41, type 1, Serial number 1020163
Comparing firmware 100% Firmware compare OK
C:\Users\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool>
  
```

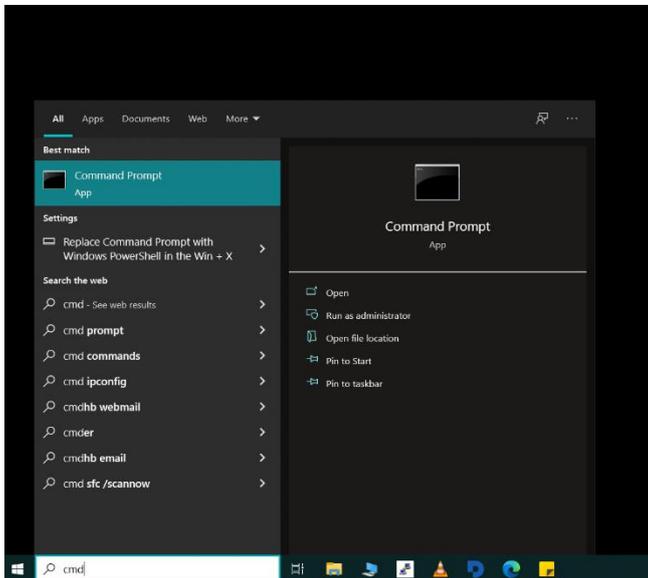
Successful flashing is confirmed if there is a following result:

100% firmware compare OK.

Firmware flashing (multiple FG4 PCIe cards installed)

(in case you have more than one FG4 PCIe Card inside your PC)

1. Make a “new folder“ anywhere at your machine
2. Copy FG4Firmware.exe file (flash tool) into the “new folder“
3. Copy file with desired firmware type and version *.bdq (e.g *Fpd13_v46.bdq*) into the same location as a FG4Firmware.exe.
4. Open Command prompt



5. Find desired folder with firmware app.

e.g In our PC there is fw. inside `c:\User\DQ_FG4develop\Desktop\FG4\Firmware_flash_tool`



6. Start FG4firmware flash tool with following input:

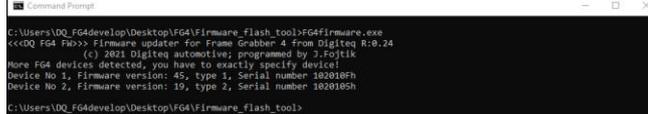
“FG4firmware.exe”

Tool lists all active FG4 PCIe cards currently in your system.

e.g In our PC there are two cards:

Device No1. Firmware version:45, type:1, serial number 102010F

Device No 2. Firmware version:19, type:2, serial number 1020105



Device No 1. Firmware version:45, type:1, serial number 102010F

Card order in system

Firmware type: 1= FPDLink3
2=GMSL 2/3

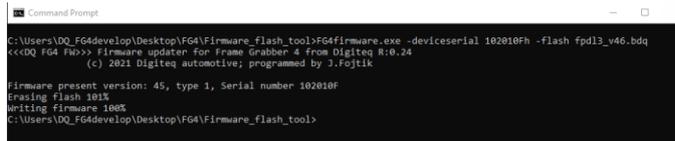
Serial number in hexa:
102010F = 01-02-01-015

7. From the list choose card where we want to update / change firmware.
We need this information to point which card will be flashed.

8. To start flashing process we have to options:

a. Pointing to card via device serial number:

“FG4firmware.exe –deviceserial 102010Fh –flash desired_flash_file.bdq”
(Fpdl3_v46.bdq)



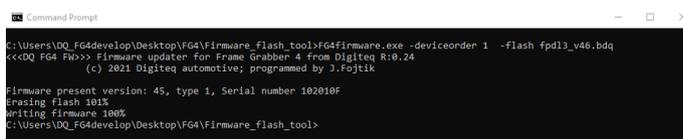
```

C:\Users\VDQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -deviceserial 102010Fh -flash fpdl3_v46.bdq
<<<<DQ FG4 FW>>> Firmware updater for Frame Grabber 4 from Digiteq R:0.24
(c) 2021 Digiteq automotive; programmed by J.Fojtik

Firmware present version: 45, type 1, Serial number 102010F
Erasing flash 101%
Writing firmware 100%
C:\Users\VDQ_FG4develop\Desktop\FG4\Firmware_flash_tool>
  
```

b. Pointing to card via device order:

“FG4firmware.exe –deviceorder 1 –flash desired_flash_file.bdq”
(Fpdl3_v46.bdq)



```

C:\Users\VDQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -deviceorder 1 -flash fpdl3_v46.bdq
<<<<DQ FG4 FW>>> Firmware updater for Frame Grabber 4 from Digiteq R:0.24
(c) 2021 Digiteq automotive; programmed by J.Fojtik

Firmware present version: 45, type 1, Serial number 102010F
Erasing flash 101%
Writing firmware 100%
C:\Users\VDQ_FG4develop\Desktop\FG4\Firmware_flash_tool>
  
```

9. After command input confirmation, memory will be erased and new firmware will be written.
When the command line reappears – Updating process has ended.

10. After flashing process there should be two records with following results:
Erasing flash 100%
Writing firmware 100%

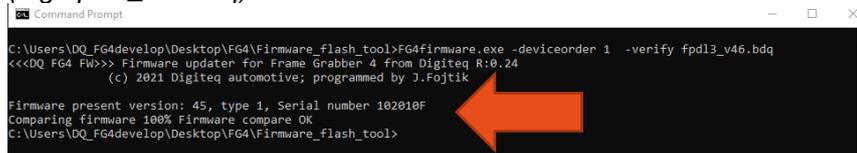
11. Shut down your PC

12. Switch on your PC

11. Now you can verify data written into FG4 PCIe card memory with source file

By typing command:

“FG4firmware.exe –deviceorder 1 –verify desired_flash_file.bdq”
(e.g Fpdl3_v46.bdq)



```

C:\Users\VDQ_FG4develop\Desktop\FG4\Firmware_flash_tool>FG4firmware.exe -deviceorder 1 -verify fpdl3_v46.bdq
<<<<DQ FG4 FW>>> Firmware updater for Frame Grabber 4 from Digiteq R:0.24
(c) 2021 Digiteq automotive; programmed by J.Fojtik

Firmware present version: 45, type 1, Serial number 102010F
Comparing firmware 100% Firmware compare OK
C:\Users\VDQ_FG4develop\Desktop\FG4\Firmware_flash_tool>
  
```

Successful flashing is confirmed if there is a following result:
100% firmware compare OK.

Changes

Version	Date	Change description	Changed by	Approved by
1.00		First release version	MAJ	
1.10	18.5.2022	Updated –flashing with multiple cards in system	MAJ	