

FPGA update procedure

1. Do a normal firmware update for the firmware of FPGA update.
 - 1) Connect a USB cable between PC and the unit.
 - 2) Power on the unit.
 - 3) PC detect an external HDD.
 - 4) Put the GEF-SDI-AUDE(FPGA_UPDATE).bin into the HDD.
 - 5) After see the file in the HDD, remove the USB cable.
2. You will see the following boot up message, if the firmware update successfully.

```
*****
Gefen SDI Embedder (for FPGA update)
*****
Revision: V1.01
PCBA      : PCB-1694*C|
Date      : Sep 12 2014
*****
GS2970: 3G-B to 3G-A reset
```

2. Connect USB cable when the unit has been turned on.
3. Issue a RS232 command `#FPGA_UPDATE` to into FPGA UPDATE mode.

[illegible]

4. PC detect a 512KB HDD.
5. Put the FPGA_v14_20410709.bin into the HDD.
(Will see many "Data Write")

```
g_u32DataFlashStartAddr(1) = 2600  
Data Write: 2600  
g_u32DataFlashStartAddr++ = 2800  
Data Write: 2800  
g_u32DataFlashStartAddr++ = 2a00  
Data Write: 2a00  
g_u32DataFlashStartAddr++ = 2c00  
Data Write: 2c00  
g_u32DataFlashStartAddr++ = 2e00
```

6. After you see the file in HDD, remove the USB cable.

7. After remove the cable, it will start verify the data and then reboot itself(very soon, less than 1 second)

```
Verify Flash....

ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff
56 ef ef ef ef ef cf df cf 1f 5f 9f f 9f 1f
3f 1f 1f df 7f 9f bf 9f 5f df 7f ff 9f bf bf 3f
1f 1f 3f 3f 5f 3f 1f 5f 5f e8 f1 ff ff ff ff ff
ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff ff

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8. Issue a debug command "i2cr 3c 0 10"
If you see the "Device[3c][0]= 0x14 means the FPGA update is successfully. (oh yeah!)

```
i2cr 3c 0 10

Device[3c][0]=0x14
Device[3c][1]=0x0
Device[3c][2]=0x0
Device[3c][3]=0x6
Device[3c][4]=0x72
Device[3c][5]=0x5
Device[3c][6]=0x0
Device[3c][7]=0x0
Device[3c][8]=0x6e
Device[3c][9]=0x0
Device[3c][a]=0x28
Device[3c][b]=0x0
Device[3c][c]=0xdc
Device[3c][d]=0x2
Device[3c][e]=0xee
Device[3c][f]=0x2
```

9. Update the firmware back to 2.1C.

Do a normal firmware update.

- 1) Connect a USB cable between PC and the unit.
- 2) Power on the unit.
- 3) PC detects an external HDD.
- 4) Put the SDI_AUDE_V2.1C.bin into the HDD.
- 5) After see the file in the HDD, remove the USB cable.

```
*****
      Gefen SDI Embedder
*****
Revision: V2.1B
PCBA      : PCB-1694*C
Date      : Jan 10 2013
*****
```