Firmware Update Application Guide

SONIX May 23, 2024



Use Files Introduction

Fw_update: BurnAP Tool

Device_Config.ini : Tool settings

SerialNumber.txt: Mask parameter

XXXXX.bin: FW binary file



Device_Config.ini

OpenSpecDev

- √ 1 : Restricted burning by PID / VID (default)
- 0 : Unrestricted

Rework

- √ 1: Depend on SerialNumberAndReworkAddress (default)
- 0 : Disable

WriteSeiralNumber

- 1 : Enable Write SN which is from SerailNumber.txt
- √ 0 : Disable (default)

SerialNumberAndReworkAddress

- √ 1 : write to iSerialNumber (default)
- 0 : write to iManufacturer



Device_Config.ini

- SensorInitialTime(ms): 3000
 - fine tune sensor initial time (Adjusted by engineer)
- EraseDelayTime(ms): 1500
 - fine erase delay time (Adjusted by engineer)
- DeviceFileName: XXXXXX.bin
 - F/W Binary file name. (User fill in)
- BypassSecureBIO: 0
 - √ 1: bypass mechanism protect. (For new backend) (default)
 - 0 : Disable
- ReserveCalibrationData: 0
 - 1 : Enable Write Calibration from Calibration.ini for special sensor. (HM1091)
 - √ 0 : Disable (default)
- CalibrationSectorSize: 3000
 - Read the specified calibration size.



FW Update Command

- root@:/.../FolderPath..# ./fw_update Para1
 - Para1 field
 - -1 is 64KB FW update
 - -2 is 128KB FW update
 - -3 is 256KB FW update
 - -4 is 512KB FW update

Example

- ./fw_update -3
 - Update 256KB Firmware and Keep the serial number information.
- ./fw_update --getbcd
 - Get Device BCD version.
- ./fw_update -h
 - Provide operational information



Use Terminal Window

- 1. To enable developer mode.
- 2. Copy "SONiX_BurnerAP" folder to machine's 'Downloads' folder.
- 3. Open crosh shell terminal (Ctrl+Alt+F2)
- 4. Change "user" execution permissions.
 - sudo mount –o remount,rw –io exec /home/chronos/user



Use Terminal Window

5. Go to the "SONIX_BurnerAP" folder.

6. Change "fw_update" file permissions.

```
chronos@localhost ~/Downloads/0BA503T3_v0710_28_20210916_Chrome_Update $ ls

Device_Config.ini 'Firmware Update Application Guide_v1.0.6.11.pdf' fw_update_x86

chronos@localhost ~/Downloads/0BA503T3_v0710_28_20210916_Chrome_Update $ chmod 777 fw_update
chronos@localhost ~/Downloads/0BA503T3_v0710_28_20210916_Chrome_Update $ ls

Device_Config.ini 'Firmware Update Application Guide_v1.0.6.11.pdf' fw_update
chronos@localhost ~/Downloads/0BA503T3_v0710_28_20210916_Chrome_Update $
```

7. Check Devicefile(xxxx.bin)'s size.



Use Terminal Window

8. Execute the burning tool.

```
>./fw_update -3
```

- -1 is 64KB FW update
- -2 is 128KB FW update
- -3 is 256KB FW update
- -4 is 512KB FW update

```
chronos@localhost ~/Downloads/0BA503T3_v0710_28_20210916_Chrome_Update $ sudo ./fw_update -3
Program : SONiX F/W Update Tool on Linux
Version : v1.0.6.14
Date : 2021-10-25 18:25:37
(c)2019 Copyright Sonix Technology Co., Ltd., All Rights Reserved.

Prepare : enumerate webcam ...
Prepare : select webcam #0 ...
[Progress] Cam_Select OK!
```



FW Update Result

```
Program : SONiX F/W Update Tool on Linux
Version : v1.0.6.14
      : 2021-10-25 18:25:37
(c)2019 Copyright Sonix Technology Co., Ltd., All Rights Reserved.
Prepare : enumerate webcam ...
Prepare : select webcam #0 ...
[Progress] Cam_Select OK!
-----Device Info-----
VendorID:0x0c45
ProductID:0x672f
bcdDevice:0x710
-----End Of Device Info------
[Progress] Setup FW file OK!
Source : 256K from FILE
                                       - SN9C2808S_OV5693_MIPI_All.bin
[Progress] Sensor Initial Time = 3000 (ms)
[Progress] Burn to FLASH
Start the burning process ...
Step 0 : INIT -----> Pass!
[Progress] Run Set_Serial_Number_Rework
[Progress] ReserveCalibration OK !
[Progress] Erase Delay Time = 1500 (ms)
[Progress] BypassFirstFrame OK !
Step 1 : ERASE -----> Pass!
Step 2 : CHECK -----> Pass!
Step 3 : PROGRAM -----> Pass!
Step 4 : VERIFY -----> Pass!
Step 5 : END PROCESS -----> Pass!
[Progress] Burn to Flash Success!
Exit program!
```



Reference

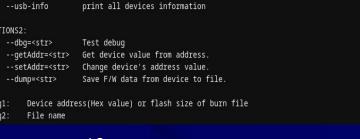
Get Device BCD version

./fw_update --getbcd

```
chronos@localhost ~/Downloads/0BA503T3_v0710_28_20210916_Chrome_Update $ sudo ./fw_update
                                                                                                            --getbcd
Program : SONiX F/W Update Tool on Linux
Version : v1.0.6.14
        : 2021-10-25 18:24:42
(c)2019 Copyright Sonix Technology Co., Ltd., All Rights Reserved.
Prepare : enumerate webcam ...
Prepare : select webcam #0 ...
[Progress] Cam_Select OK!
                                                         ========Help Description=======
-----Get BCD-----
bcdDevice:0x710
                                                         COMMAND: ./fw_update [options1]
                                                             or: ./fw_update [options2] [argv1] [argv2]
Manufacturer:0x2, Sonix Technology Co., Ltd.
SerialNumber:0x0,
                                                                SONiX F/W Update Tool on Linux.
Flash Type:1
                                                         DESCRIPTION:
Exit program!
                                                            Setting device info in Device_Config.ini first and using the following command to process the device.
                                                         OPTIONS1:
                                                                          Burn 64k single file.
                                                                          Burn 128k single file
                                                                          Burn 256k single file.
```

Help Description

>./fw_update -h



Get device information.(bcdDevice, iManufacturer, iSerialNumber)



print help information
print application version

Get device firmware version.