

Firmware Update Application Guide

SONiX

July 28, 2021

v1.0.6.11



Use Files Introduction

- **Fw_update :** BurnAP Tool
- **Device_Config.ini :** Tool settings
- **SerialNumber.txt :** Mask parameter
- **XXXXXX.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)
- ✓ 0 : Disable (default)

- **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@:/home/XX/Desktop# ./fw_update Para1

- Para1 field

- -1 is 64kB FW update
- -2 is 128kB FW update
- -3 is 256kB 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. Copy "SONiX_BurnerAP" folder to machine's 'Downloads' folder.
2. Open crosh shell terminal (Ctrl+Alt+T)
3. Change "user" execution permissions.
 - `sudo mount -o remount,rw -io exec /home/chronos/user`

```
crosh> shell
chronos@localhost / $ sudo mount -o remount,rw -io exec /home/chronos/user
Password:
chronos@localhost / $
```

Use Terminal Window

4. Go to the "SONiX_BurnerAP" folder.

5. Change "fw_update" file permissions.

```
chronos@localhost ~/Downloads/Chromebook_ARM_PCcam_v1.0.6.10/SONiX_BurnerAP $ ls
Device_Config.ini  FW.bin  SerialNumber.txt  fw_update
chronos@localhost ~/Downloads/Chromebook_ARM_PCcam_v1.0.6.10/SONiX_BurnerAP $ chmod 777 fw_update
chronos@localhost ~/Downloads/Chromebook_ARM_PCcam_v1.0.6.10/SONiX_BurnerAP $ ls
Device_Config.ini  FW.bin  SerialNumber.txt  fw_update
chronos@localhost ~/Downloads/Chromebook_ARM_PCcam_v1.0.6.10/SONiX_BurnerAP $
```

6. Execute the burning tool.

➤ **./fw_update -3**

```
chronos@localhost ~/Downloads/Chromebook_ARM_PCcam_v1.0.6.10/SONiX_BurnerAP $ sudo ./fw_update -2

Program : SONiX F/W Update Tool on Linux
Version : v1.0.6.10
Date    : 2021-5-4 18:1:13
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```


FW Update Result

```
Program : SONiX F/W Update Tool on Linux
Version : v1.0.6.10
Date    : 2021-5-4 18:7:34
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```

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

```
-----Device Info-----
VendorID:0x174f
ProductID:0x245c
bcdDevice:0x1004
-----End Of Device Info-----
```

```
Prepare : read .ini file - FW.bin ...
[Progress] Setup FW file OK!
```

```
Source : 128K from FILE          - FW.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] 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!
```

=====Help Description=====

```
COMMAND: ./fw_update [options1]
        or: ./fw_update [options2] [argv1] [argv2]
```

NAME: SONiX F/W Update Tool on Linux.

DESCRIPTION:

Setting device info in Device_Config.ini first and using the following command to process the device.

OPTIONS1:

```
-1          Burn 64k single file.
-2          Burn 128k single file.
-3          Burn 256k single file.
-h, --help  print help information
-v          print application version
--getbcd    Get device information.(bcdDevice, iManufacturer, iSerialNumber)
--getver    Get device firmware version.
--usb-info  print all devices information
```

OPTIONS2:

```
--dbg=<str> Test debug
--getAddr=<str> Get device value from address.
--setAddr=<str> Change device's address value.
--dump=<str> Save F/W data from device to file.
```

Arg1: Device address(Hex value) or flash size of burn file

Arg2: File name

```
Program : SONiX F/W Update Tool on Linux
Version : v1.0.6.10
Date    : 2021-5-4 18:8:17
(c)2019 Copyright Sonix Technology Co., Ltd., All Rights Reserved.
```

```
Prepare : enumerate webcam ...
Prepare : select webcam #0 ...
[Progress] Cam_Select OK!
-----Get BCD-----
bcdDevice:0x1004
Manufacturer:0x2, Sonix Technology Co., Ltd.
SerialNumber:0x0, Sonix Technology Co., Ltd.
Flash Type:20
-----
```

Exit program!

```
chronos@localhost ~/Downloads/Chromebook_ARM_PCam_v1.0.6.10/SONiX_BurnerAP $
```