OS RECOVERY SOP

SRG-3352 & SRG-3352C Series

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AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Content

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
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Part A: Prepare the recovery SD card

Step 1: Prepare micro SD card

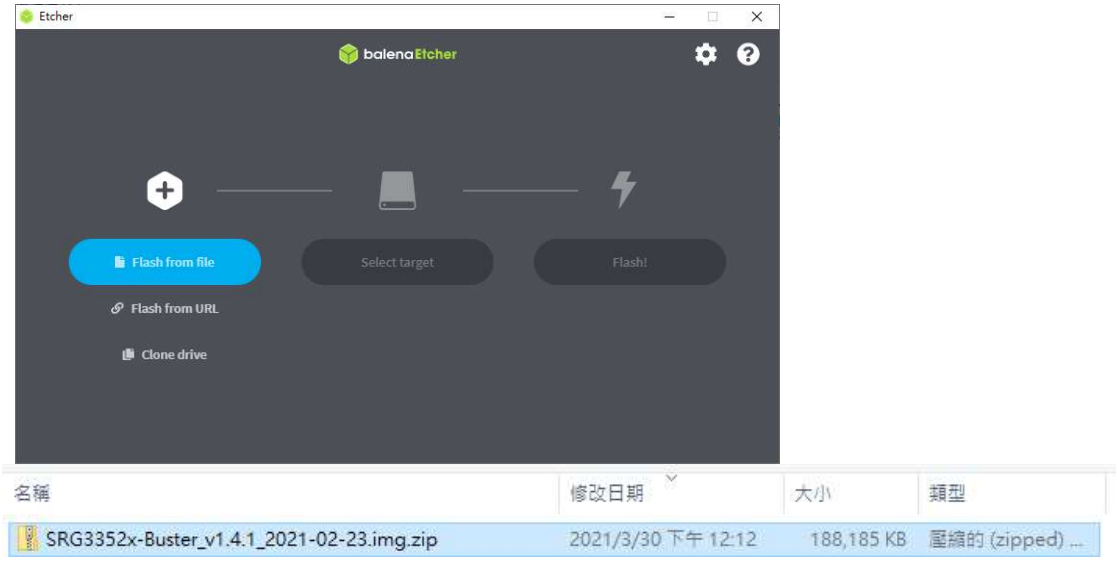
Prepare a micro SD card that the capacity above 8 GB, and insert into the laptop via SD card reader.

Step 2: Download the recovery image

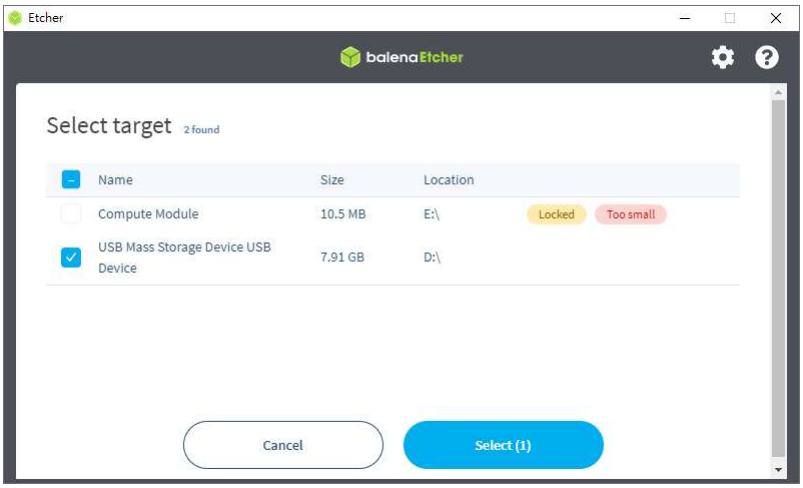
Please download the image file from the website and use the free tools “balenaEther” to flash the image file into the SD card.

The tool could find on the official website: https://www.balena.io/etcher/

Step 3: Select the image file.



Step 4: Select the SD card device.



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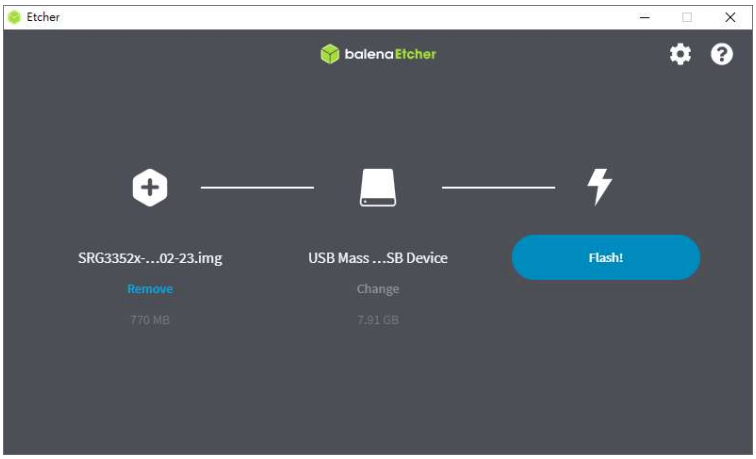
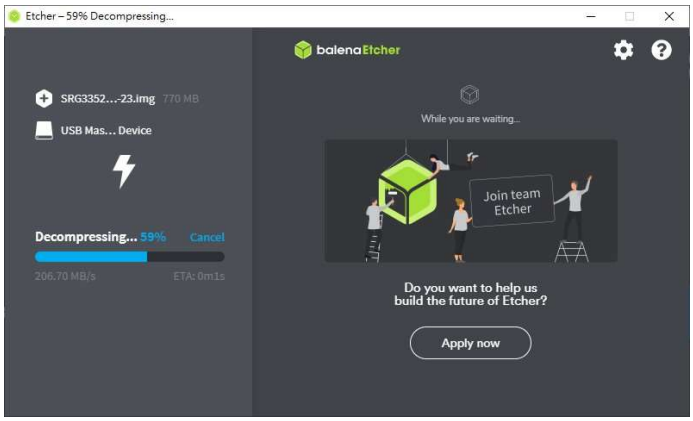
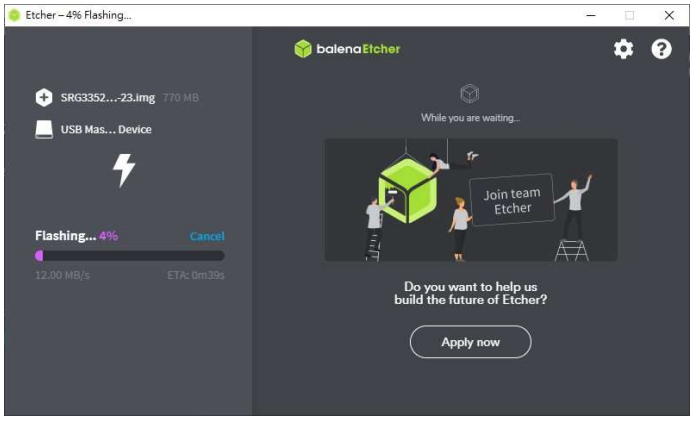
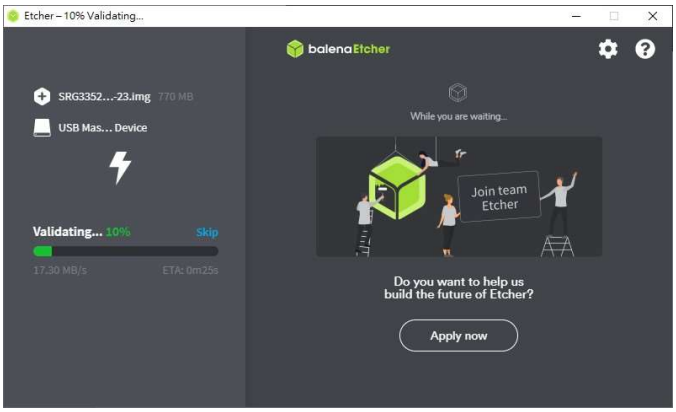
Step 5: Click the “Flash” to make the recovery SD card.

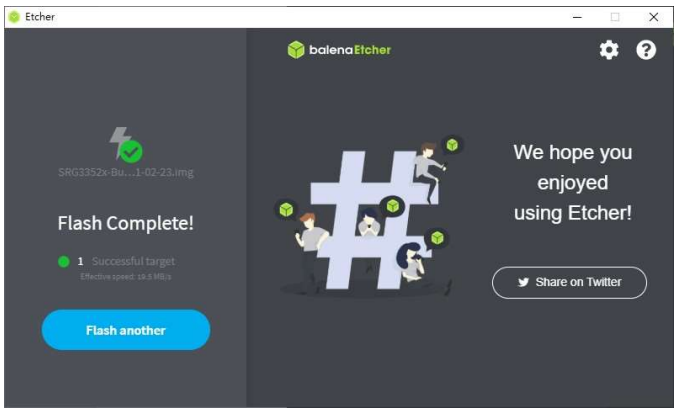


Step 6: Wait until the flashing process done.









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Part B: Setup the gateway to boot from the SD card

This part is for the SRG-3352 or 3352C series which running Debian 9 version.

Step 1: Login into the gateway: (For Debian 9 ver. User/pass ⟶ root/AAEONiot2017)

```
Debian GNU/Linux 9 SRT3352 ttyGS0

SRT3352 login: root
Password:
Last login: Tue Mar 30 13:27:34 UTC 2021 on ttyGS0
Linux SRT3352 4.9.105-DB9X.TIAM335x.SRT3352A001.24-02503-g15030a2 #1 PREEMPT Thu Jul 25 11:48:28 CST 2019 armv7l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
root@SRT3352:~#
```

Step 2: Execute the following command to force the gateway to boot from SD card.

dd conv=fsync if=/dev/zero of=/dev/mmcblk1 bs=1M count=1

Caution: This action will erase the data from the eMMC, please do the data backup when doing this action.

```
root@SRT3352:~#  dd conv=fsync if=/dev/zero of=/dev/mmcblk1 bs=1M count=1
1+0 records in
1+0 records out
1048576 bytes (1.0 MB, 1.0 MiB) copied, 0.236216 s, 4.4 MB/s
root@SRT3352:~#
```

Step 3: After executed the command, key in "***shutdown now***" to shut down the gateway.

```
1048576 bytes (1.0 MB, 1.0 MiB) copied, 0.269326 s, 3.9 MB/s
root@SRT3352:~# shutdown now

Error reading from serial device

Session stopped
    - Press <return> to exit tab
    - Press R to restart session
    - Press S to save terminal output to file

Session stopped
    - Press <return> to exit tab
    - Press R to restart session
    - Press S to save terminal output to file
```


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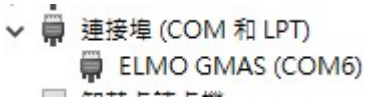
Part C: Recovery the OS from the SD card

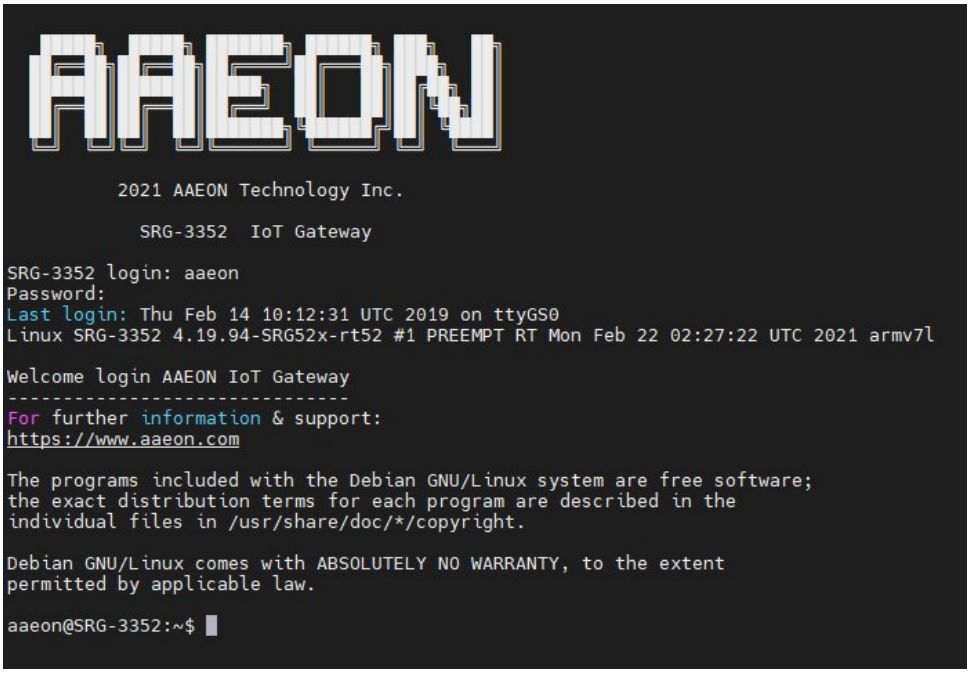
This part is for the SRG-3352 or 3352C series which boot up from the SD card which running Debian 10 version.

Step 1: Insert the SD card and power up the gateway.
If the gateway successful boot up from the SD card, it will show “COM” port in the hardware manager like this:



Step 2: Login to the gateway using the following information:

Login Settings	
Username	aaeon
Password	aaeon



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Step 3: Setup the config for SRG-3352.

※The Step 3 is only for making SRG-3352 Recovery SD card.

The other SKU would skip this step.

Use the following command to setup the config for SRG-3352.

sudo /opt/scripts/tools/to3352.sh; sudo srg52cfg -f -nSRG-3352; sudo fw_setenv board_name SRG-3352

```
aaeon@SRG-3352C:~$ sudo /opt/scripts/tools/to3352.sh; sudo srg52cfg -f -nSRG-3352;sudo fw_setenv board_name SRG-3352

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

    #1) Respect the privacy of others.
    #2) Think before you type.
    #3) With great power comes great responsibility.

[sudo] password for aaeon:
SRG-3352
Environment OK, copy 1
Created symlink /etc/systemd/system/srg52c-bluetooth.service → /dev/null.
Created symlink /etc/systemd/system/srg52c-wlan0.service → /dev/null.
complete setting image for SRG-3352
SRG-3352
Environment OK, copy 1
aaeon@SRG-3352C:~$
```

Key in the password and press enter to continue. Then wait the script done.

Step 4: Flash the OS from SD card

Use the following command to flash the OS from the SD card. Then enter the password to continue if necessary.

sudo /opt/scripts/tools/srg3352c_emmc_flasher.sh

```
aaeon@SRG-3352C:~$ sudo /opt/scripts/tools/srg3352c_emmc_flasher.sh
---------------------------------
rootfs drive: mmcblk0p2
---------------------------------
-----------------------------------------------
copying: [/dev/mmcblk0] -> [/dev/mmcblk1]
NAME         MAJ:MIN RM   SIZE RO TYPE MOUNTPOINT
mmcblk0      179:0    0   7.4G  0 disk
├─mmcblk0p1  179:1    0    32M  0 part
└─mmcblk0p2  179:2    0 700.9M  0 part /
mmcblk1      179:8    0   7.3G  0 disk
mmcblk1boot0 179:16   0   512K  1 disk
mmcblk1boot1 179:24   0   512K  1 disk
-----------------------------------------------
erase all data of EMMC
```

Wait until the flashing process done and it will show the prompt again like this:

```
-----------------------------------------------
erase all data of EMMC
format partitions
write bootloader into EMMC...
0+1 records in
0+1 records out
95224 bytes (95 kB, 93 KiB) copied, 0.0482627 s, 2.0 MB/s
1+1 records in
1+1 records out
419704 bytes (420 kB, 410 KiB) copied, 0.0792328 s, 5.3 MB/s
rsync: / -> /tmp/rootfs/
rsync: /lib/modules/4.19.94-SRG52x-rt52/ -> /tmp/rootfs/lib/modules/4.19.94-SRG52x-rt52/
rsync: /tmp/boot/ -> /tmp/rootfs/boot/
Generating: /etc/fstab
# /etc/fstab: static file system information.
#
# UUID=dfdfc4cb-1c94-4e52-bc1e-326d22baedcd           /                       ext4          noatime,errors=remount-ro
UUID=d0d7189e-bbd8-4af3-a1ee-a991fbedfb62           /boot                   ext4          ro,noatime,errors=remount-ro
proc                    /proc           proc            defaults                                0 0
sysfs                   /sys            sysfs           rw,nosuid,nodev,noexec,relatime         0 0
devpts                  /dev/pts        devpts          rw,nosuid,noexec,relatime,mode=0620,gid=5       0 0
tmpfs                   /run            tmpfs           mode=0755,nodev,nosuid,strictatime      0 0
tmpfs                   /var/volatile   tmpfs           defaults                                0 0
tmpfs                   /dev/shm        tmpfs           defaults                                0 0
debugfs                 /sys/kernel/debug       debugfs         defaults                        0 0
Update boot script into rootfs
rsync: boot partition -> /tmp/rootfs/reserved/
set device model:SRG-3352
SRG-3352
Environment OK, copy 1
100000+0 records in
100000+0 records out
51200000 bytes (51 MB, 49 MiB) copied, 1.81569 s, 28.2 MB/s

This script has now completed it's task
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Note: Actually unpower the board, a reset [sudo reboot] is not enough.
-----------------------------
Shutting Down...
aaeon@SRG-3352C:~$
```

And it will automatic shutting down the gateway. If the gateway still power on then key in the “sudo shutdown now” to power down the gateway and remove the SD card from the gateway.

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Step 5: Confirm the new OS is OK.

Power up the gateway and login to the gateway, if you can see the welcome message, the

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