



SDK Frequently Asked Questions

1. How could I install the Flash ROM?

The below steps is to install Flash ROM correctly

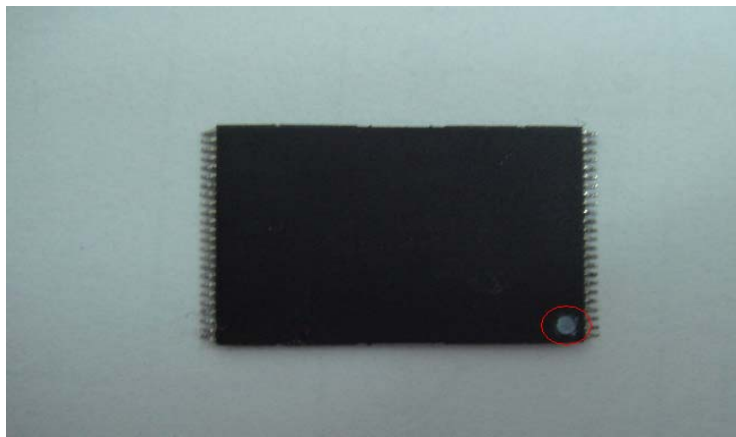
Step 1

You should put the EBR Board on a flat table and get the Flash ROM. [Warning] be careful the Flash ROM's pins!

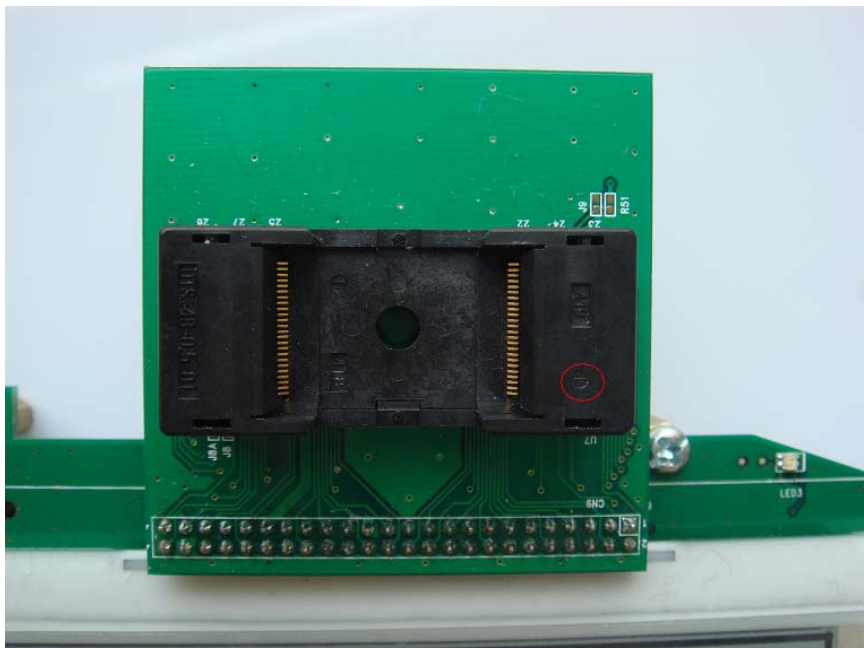
Step 2

Please adjust the Flash ROM to match the socket. You could use the while mark of the Flash ROM at one corner to match the small black circle of Flash ROM Socket.

Please take care the part of Flash ROM which was marked at red circle area



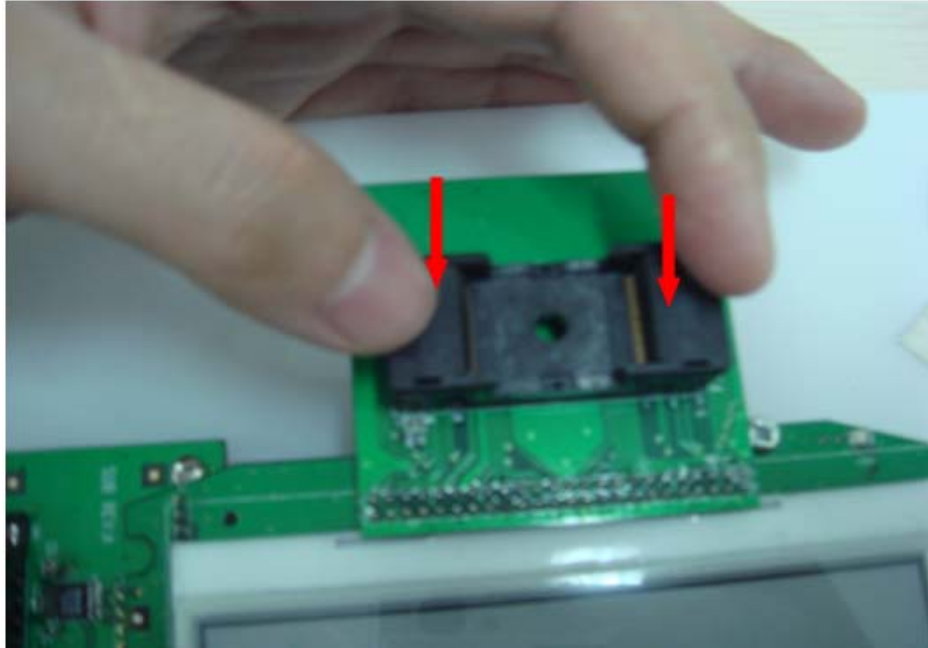
Please take care the part which was marked at red circle area





Step 3

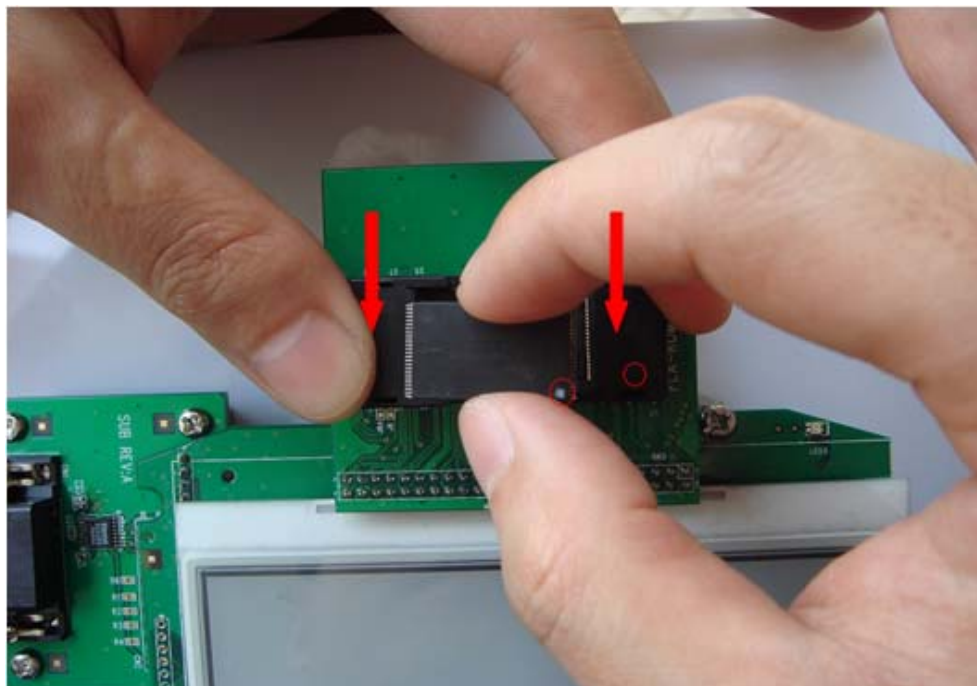
Please follow indication as the below picture to push Flash ROM Socket two sides by you fingers.



Step 4

Please use your left hand to hold the two sides of Flash ROM Socket, and your right hand to get the Flash ROM and then follow the Step 2 to put the Flash ROM into Socket smoothly. Please make sure and be careful that the ROM's pins match with the Socket's pins.

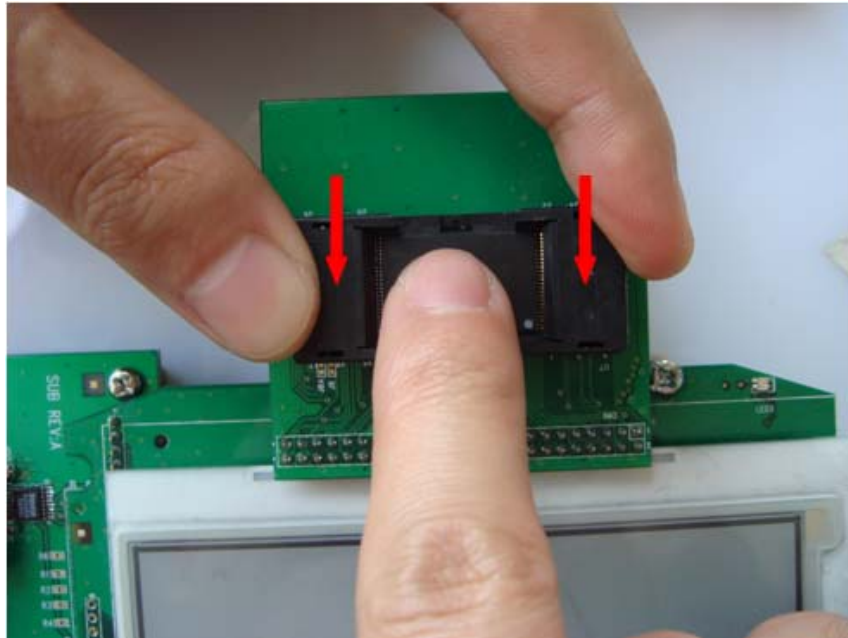
As the below picture: Please note the parts marked by red lines match each other.





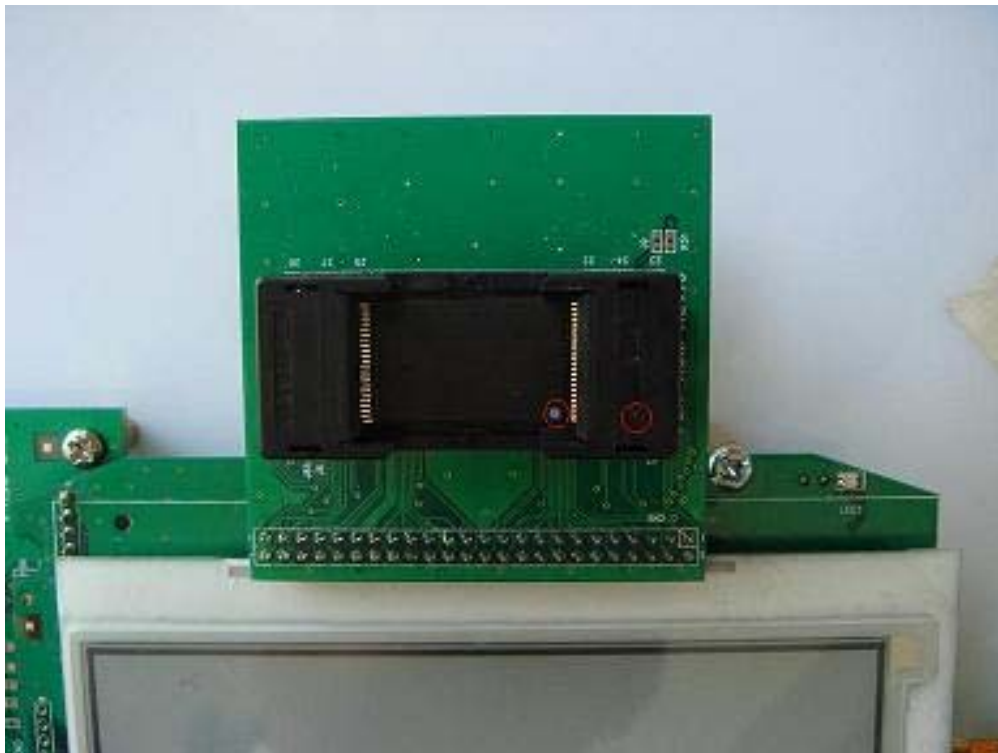
Step 5

Please use your left thumb and left forefinger to push the two sides of Flash ROM socket slowly. After that, the right forefinger holds the Flash ROM and then moves slowly until the Flash ROM's pins match Socket's pins. (Please watch out the Flash ROM's pins)



Step 6

After that, you can see the result as the below picture



2. How can I use PC to connect with EBR (This function need

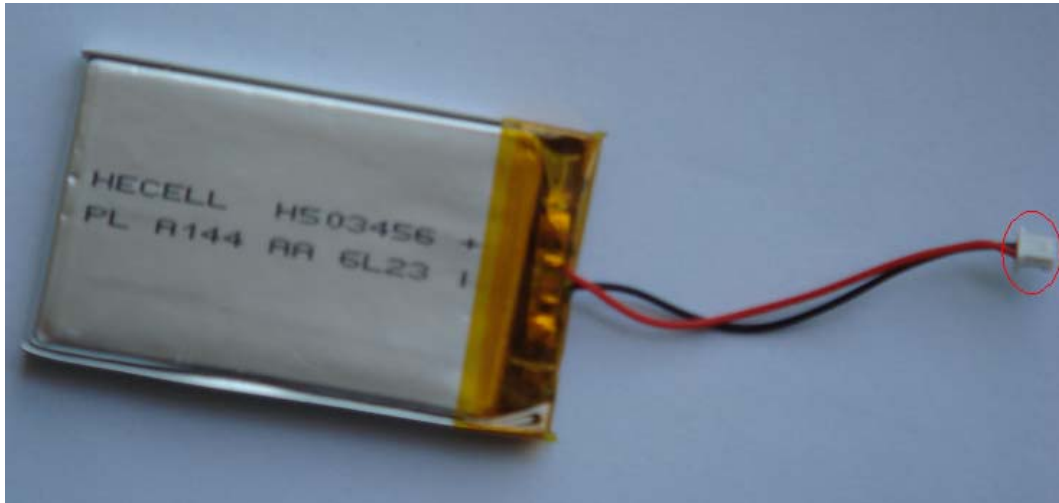


the support by software. Please see more in detail at [Demos\IOCtrl\UsbPlug.c](#))?

The steps of using PC to connect with EBR:

Step 1

Please connect EBR with battery. The battery is showed as the below picture. Please be careful that the bulged side of plug needs to be up. It's showed as the below picture.



Step 2

After you connect EBR with PC by USB Cable, you need to start EBR. At this moment, you could see that a new USB device has just been mounted. (The function needs software's support)





3. How can I use ERB system's Shell

Step 1

Start minicom. After that, you need to restart EBR and then you will see the message which is showed at minicom's window as the below picture

```
scsi0 : SCSI emulation for USB Mass Storage devices
Vendor: STAR      Model: eBOOK STK-101 -0  Rev: 1.00
Type:   Direct-Access          ANSI SCSI revision: 02
cd: can't cd to /ebrmain/led
/usr/etc/rc.local: ./nled1: No such file or directory
Error -3 while decompressing!
c01617b4(2035972279)->c0cc4000(4096)
./ebrmain: error while loading shared libraries: ./ebrmain: undefined symbol: Gr
Open
Waiting for enter to start '/bin/sh' (pid 46, terminal /dev/console)

Please press Enter to activate this console.  Vendor: STAR      Model: eBOOK ST
K-101 -1  Rev: 1.00
Type:   Direct-Access          | ANSI SCSI revision: 02
Attached scsi removable disk sda at scsi0, channel 0, id 0, lun 0
Attached scsi removable disk sdb at scsi0, channel 0, id 0, lun 1
SCSI device sda: 1984000 512-byte hdwr sectors (1016 MB)
sda: Write Protect is off
Partition check:
/dev/scsi/host0/bus0/target0/lun0: p1
SCSI device sdb: 128000 512-byte hdwr sectors (66 MB)
sdb: Write Protect is off
/dev/scsi/host0/bus0/target0/lun1: unknown partition table
-
```

Step 2

After the progress of start is finished, you could put "Ctrl+C" down and then "Enter". After that, you can use the SDK's Shell.

```
Please press Enter to activate this console.  Vendor: STAR      Model: eBOOK ST
K-101 -1  Rev: 1.00
Type:   Direct-Access          ANSI SCSI revision: 02
Attached scsi removable disk sda at scsi0, channel 0, id 0, lun 0
Attached scsi removable disk sdb at scsi0, channel 0, id 0, lun 1
SCSI device sda: 1984000 512-byte hdwr sectors (1016 MB)
sda: Write Protect is off
Partition check:
/dev/scsi/host0/bus0/target0/lun0: p1
SCSI device sdb: 128000 512-byte hdwr sectors (66 MB)
sdb: Write Protect is off
/dev/scsi/host0/bus0/target0/lun1: unknown partition table
Process '-/bin/sh' (pid 45) exited. Scheduling it for restart.? Waiting for ent
er to start '/bin/sh' (pid 49, terminal /dev/console)

Please press Enter to activate this console.
Starting pid 49, console /dev/console: '/bin/sh'

BusyBox v0.60.3 (2002.05.13-08:36+0000) Built-in shell (ash)
Enter 'help' for a list of built-in commands.

#
```



4. How can I manually mount SD Card?

Step 1

Please follow the step 3 instruction. Before starting, you should go into EBR Shell

Step 2

Please put the SD card into EBR ,The method to mount manually is showed as below context. The SD card's device name is "/dev/discs/disc0/part1". However, the driver's name might be different in some cases.

```
# mount -t vfat /dev/discs/disc0/part1 /mnt/ext2
```

OR

```
# mount -t vfat /dev/discs/disc0/part4 /mnt/ext2
```

you could use the command,'df', to check the result after the SD Card is mounted completely.

```
# df
Filesystem      1k-blocks    Used Available Use% Mounted on
/dev/mtdblock/2    2948        2948      0 100% /
tmpfs            7320         0        7320    0% /dev/shm
/dev/mtdblock/5    6652        6652      0 100% /ebrmain
tmpfs            7320         0        7320    0% /dev/shm
# mount -t vfat /dev/discs/disc0/part1 /mnt/ext2
modprobe: modprobe: Can't open dependencies file /lib/modules/2.4.18-rmk7-pxa1/m
odules.dep (No such file or directory)
modprobe: modprobe: Can't open dependencies file /lib/modules/2.4.18-rmk7-pxa1/m
odules.dep (No such file or directory)
# df
Filesystem      1k-blocks    Used Available Use% Mounted on
/dev/mtdblock/2    2948        2948      0 100% /
tmpfs            7320         0        7320    0% /dev/shm
/dev/mtdblock/5    6652        6652      0 100% /ebrmain
tmpfs            7320         0        7320    0% /dev/shm
/dev/discs/disc0/part1 989792    139156    850636   14% /mnt/ext2
# _
```

By the way, SD Card should be mounted at /mnt/ext2.

5. How can I do if the EBR can't start?

There are some solutions which can find the reasons and fix this problem.

Reason 1 the power doesn't connect entirely.

Please check the LED light which is showed in below picture. If the light doesn't work, please reconnect power again and then reboot EBR.

The LED as marked at red circle area in below picture should light up after connecting power.



Reason 2 The Flash ROM installed incorrectly or the Flash ROM Socket didn't match with Board.

Please check if the Flash ROM install upside down and if the pins of Flash ROM are hurt. Please refer to reason 1 and reinstall again and then reboot EBR again.

Reason 3 The progress of burning Flash ROM is not correct.

Please take care the sequence of progress of burning Flash ROM. Don't upside down the sequence and the address have to be right and only when you want to write the NewViVi, you can choose the option, 'Fill unused with'. If you want to know more in detail, please refer Guide 11.4

6. Why minicom does not have any message output?

There are some solutions which can find the reasons and fix this problem.

6.1、 Reason 1. The system does not start.

Please check the power if connect well and the LED should turn on after connecting with power.

6.2、 Reason 2. The device does not connect with RS232 (Serial Cable)completely.

Please reconnect RS232 line.



6.3、 Reason 3. The software of minocom has expectations

Please restart minicon or hyperterm.

6.4、 Reason 4. The setting of parameters of minicom or hyperterm is not correct.

There are some key points when you try to set the parameters.

1) you should choose a right communication port.

2) Hardware Flow Control : NO

Bps: 115200, Data bits: 8, Stop bits : 1, parity : NONE

If you want to more in detail, please refer Guide chapter 5.

7. Why the EBR can't work normally after the update action?

There are some solutions which can find the reasons and fix this problem.

7.1、 the Newebr.cramfs you created doesn't include the file, ebrmain.

Please check that if the file, ebrmain, is at the directory, /usr/local/src/ebr/ebmain. If the file doesn't at the directory, please copy a file to /usr/local/src/ebr/ebmain and then you need to follow the 7.2 steps to change the file permission and make Newebr.cramfs. At end, you need to update the file.

7.2、 the created file,newebr.cramfs, of ebrmain does not have execute permission.

Please use the commands, chmod+ ebrmain, to change the execute permission/ and then create Newebr.cramfs again.

```
[root@localhost test]# chmod +x ebrmain
```

7.3 、 libnano-X.so you don't update libnano-X.so when you make new Newebr.cramfs.

The reason is the file, libnano-X.so, at /usr/local/src/ebr/ebmain/lib does not update so you need to recompile again and copy the file, /usr/local/src/ebr/microwin/src/lib/libnano-X.so, to the directory, /usr/local/src/ebr/ebmain/lib, and then make new Newebr.camfs and then update the file again.

7.4、 The size of Newebr.cramfs is too big (In this situation, it also may make the progress of update action fail)



The address space of Newebr.cramfs is from 0x2A0000 to 0x7E0000 and the size of file is about 5.2 MB. By this reason, if the size of new newebr.cramfs is bigger than this size, the file will cover other files. It may cause the system can't work finally. Please check the size of Newebr.cramfs. if the size is too big, please reduce the context of /usr/local/src/ebr/ebmain and rebuild Newebr.cramfs and then update to Flash ROM. If you want to know how to write data to Flash ROM, you might can refer to Guide 11.4

8. What is the reason of failing to update?

8.1、 The reason of failing to update FLASH ROM

Because the progress of updating FLASH ROM has some risk of fail, sometimes it would make fails. Generally speaking, if it has happened, you just need to reboot device again and do the step again. That's it.

8.2、 How to fix the problem which you might can't reboot after failing to update Flash ROM:

The reason of the problem is a bug of the action when you try to make the ebrmain.tar.bz2 (AP filesystem). You can find a one extra file, mount_usb, is at the directory, emrmain. Please follow the below steps to fix this problem. If you still fail after follow the below steps, the only thing you need to do is to reboot device again. Henceforward you will not have the problem.

8.2.1 To make a new Newebr.cramfs

Step1

Copy and decompress the file “**ebr_ebrmain.tar.bz2**” into the ebr directory. The root file path after decompression is **/usr/local/src/ebr/ebmain**.

```
[root@localhost test]# cp ebr_ebrmain.tar.bz2 /usr/local/src/ebr
[root@localhost test]# cd /usr/local/src/ebr
[root@localhost test]# tar -jxvf ebr_enrmain.tar.bz2
[root@localhost test]# cd ebrmain
[root@localhost test]#
```

Step 2



To delete the “mount_usb” file. (Warning! if you don’t deleted this file, it would cause the fail of updating and then system can’t reboot.

```
[root@localhost ebrmain]# rm -rf mount_usb
```

Step 3

Copy the file mkcramfs to the ebr directory. This file is a tool to make a root file system image.

```
[root@localhost tools]# cp mkcramfs /usr/local/src/ebr  
[root@localhost tools]# cd /usr/local/src/ebr  
[root@localhost ebr]# chmod +x mkcramfs
```

Step 4

make a Newebr.cramfs

```
[root@localhost test]# cd /usr/local/src/ebr  
[root@localhost ebr]# ./mkcramfs ebrmain Newebr.cramfs
```

Step 5

Decompress Update.rar_copy all of the files into SD Card.

Step 6

Copy Newebr.cramfs(**Please do not change the file name**) to SD Card.

Step 7

Shut down the ebr-sdk board power, and then plug in the SD Card with the files needed for update.

8.2.2 Mount SD Card:

Step 1

Please refer to question 3. You should change the environment into the EBR shell first.

Step 2

Mount SD Card. “/dev/discs/disc0/part1” is the SD Card’s device name it is possible to have different driver names.

```
# mount -t vfat /dev/discs/disc0/part1 /mnt/ext2
```

OR

```
# mount -t vfat /dev/discs/disc0/part4 /mnt/ext2
```



Step 3

After succeeding to mount SD Card, you can use the command , 'df', to check the result which is showed as below.

```
# df
Filesystem            1k-blocks    Used Available Use% Mounted on
/dev/mtdblock/2        2948        2948      0 100% /
tmpfs                  7320         0      7320    0% /dev/shm
/dev/mtdblock/5        6652        6652      0 100% /ebrmain
tmpfs                  7320         0      7320    0% /dev/shm
# mount -t vfat /dev/discs/disc0/part1 /mnt/ext2
modprobe: modprobe: Can't open dependencies file /lib/modules/2.4.18-rmk7-pxa1/modules.dep (No such file or directory)
modprobe: modprobe: Can't open dependencies file /lib/modules/2.4.18-rmk7-pxa1/modules.dep (No such file or directory)
# df
Filesystem            1k-blocks    Used Available Use% Mounted on
/dev/mtdblock/2        2948        2948      0 100% /
tmpfs                  7320         0      7320    0% /dev/shm
/dev/mtdblock/5        6652        6652      0 100% /ebrmain
tmpfs                  7320         0      7320    0% /dev/shm
/dev/discs/disc0/part1 989792    139156    850636   14% /mnt/ext2
# _
```

Step 4

Please change the current directory to the SD Card's directory and do the updating progress manually.

```
# cd /mnt/ext2
# ./update_kernel
```

Step 5

When the system goes to the progress of updating, the window of EBR-SDK will show the rate of updating progress. Please wait a moment to finish the progress and then reboot device.

9. Why the progress of writing data to FLASH ROM will have errors?

There are some solutions which can find the reasons and fix this problem.

9.1、 Reason 1 the hardware devices don't connect well.

Please reconnect all hardware devices and make sure that the writer is already connecting with power. Please make sure if the power turn on and the USB line connected ready

As the error message showed on the below picture, it means the hardware devices don't connect correctly.



9.2、 the parameter of setting to write data to FLASH ROM is not correct.

Please refer to Guide 11.4 to set the parameter and rewrite the image file again.

10. Why the FLASH ROM's updating progress has finished but it still can't work?

There are some solutions which can find the reasons and fix this problem.

10.1、 Reason 1. The file you chose is incorrect.

The sequences of the file should be NewViVi, NewImage, NewRoot.cramfs, Newebr.cramfs and NewOpen.cmd. Please check if the image is correct and rewrite the image file. If you want to know more in detail, please refer to Guide 11.4

10.2、 Reason 2 the file, Newebr.cramfs, which you chose doesn't include the file, ebrmain or ebrmain has some errors or ebrmain doesn't have enough permissible right.

Please make sure if ebrmain is included in Newebr.cramfs and has enough permissible right. If you don't have the file, please recompile again and give the file enough right and then make the Newebr.cramfs. After that, you are able to rewrite data to Flash ROM again.

10.3、 The parameter of setting is incorrect when you write data to Flash ROM.



Please refer to Guide 11.4 to set the setting up.

10.4、 the Newebr.cramfs is too big or other image files are too big.

Because the space which Newebr.cramfs has is from 0x2A0000 to 0x7E0000 and the size is about 5.2 Mb, if the size of Newebr.crafs which you want to write is bigger than the real size which device has, the file, Newebr.cramfs, will cover other files. By this reason, the system will crash finally. Please check the file , ‘Newebr.cramfs’. If the file is too big, please reduce the files at /usr/local/src/ebr/ebmain and then rebuild Newebr.cramfs again.

11. Why E-ink has the residual images?

There are some solutions which can find the reasons and fix this problem.:

11.1、 When you shutdown EBR, you don’t push the power button. You just directly plug out the USB power

You should push the power button down and pull power out until there is no message on E-ink.

11.2、 EBR stops on one image for a long time

If you don’t want to use EBR, please follow the above step to shutdown EBR.

11.3、 When developing software, if you want to control the shutdown action, you can do the clear and show image action twice. That means you may can use the functions, GrClearArea and GrShowWindow , twice.

12. What are the storages on EBR?

On EBR Board, The basic storage is mounted on /mnt/ext1 after the system execute and it’s size is about 64 Mb. It also be showed on PC as a USB device when the board connect with PC. The extra storage is SD Card. if you plug the SD Card in, it will be mounted on /mnt/ext2 and the SD Card’s size is the total size but this function need software to support. Otherwise, the size of Flash ROM on Board is about 8 Mb.

13. What kind of files will execute automatically and what is the

sequence of the files' execution?

EBR system will execute a script file (/usr/etc/rc.local) after booting and the files' sequence in detail is showed as below.

Step 1

Follow the step of question to change the environment to Shell.

Step 2

Change to the directory `/usr/etc` and then look up the script file, `rc.local`,

```
[root@localhost test]# cd /usr/etc
[root@localhost ebr]# ls
[root@localhost ebr]# more rc.local
[root@localhost ebr]#
```

14. When you should rewrite the Flash ROM?

If the situation as below list happens, you should rewrite the Flash ROM.

14.1 After all hard wares have connected correctly but the system still can't boot or work smoothly

14.2 When you use other method to update Flash Rom but it can't work.

14.3 When you get the message as blow from minicom, you may rewrite the Flash ROM

[illegible]

1

If you want to know how to rewrite Flash Rom in detail, please refer to Guide 11.4.



15. How can I save files to EBR?

There are a couple of methods which you can save files in EBR.

15.1、 You are able to save files in extra storage.

Firstly, you should copy files to SD Card. Secondly, put the SD Card into EBR and wait for the EBR system mount the SD Card to /mnt/ext2. Finally, you can see the files on SD Card. if you want to know how to mount SD manually, please refer to Guide session 13.

15.2、 you are able to save file in internal storage.

When you follow the question 5's direction step by step, the EBR will be mounted as a USB device on PC. At this time, you could copy files to EBR directly. After that, you can disconnect EBR and PC and then reboot EBR.

16. How should I do if the action of rewriting to /mnt/ext1 is failed?

The causes of fail may have two reasons.

Reason 1 The FAT file system was damaged so the system didn't mount the directory, /mnt/ext1. You could check this by following steps.

Step 1

As the question 3 direction, you switch the environment into EBR firstly and execute command, 'df'. If you don't see the message as the same as the part which marked by red circle in picture on screen that means the system does not mount /mnt/ext1.



```
# ls
bin      ebrmain  fonts    linuette  mnt      proc      tmp      var
dev      etc      lib      linuxrc   pic      sbin      usr
# df
Filesystem            1k-blocks    Used Available Use% Mounted on
/dev/mtdblock/2        2948         2948      0 100% /
tmpfs                  7320          0       7320    0% /dev/shm
/dev/mtdblock/5        3104         3104      0 100% /ebrmain
tmpfs                  7320          0       7320    0% /dev/shm
/dev/discs/disc1/disc  62996         1    62996    0% /mnt/ext1
# _
```

Step 2

If the system doesn't mount /mnt/ext1, please just follow the step of question 2 and then use PC to mount EBR.

Step 3

You will see that the PC has two new areas. You should find the area which unformatted and then format it by FAT32. After that, please remount the USB device from PC.

Step 3

Please pull out the battery and USB Cable and then reconnect the USB power and reboot it.

Reason 2. The directory has added but the source has bugs.

At the Step 1 of reason 1, if the system already mounted /mnt/ext1, please check the version of software and change to correct version.

. All of the graphic interfaces have to use GrShowWindow() and the graphic interface can be showed. Please check the source code again and rewrite it and reboot the device.

17. Why I can see some messages came out from Minicom but I can not see any message from Panel?

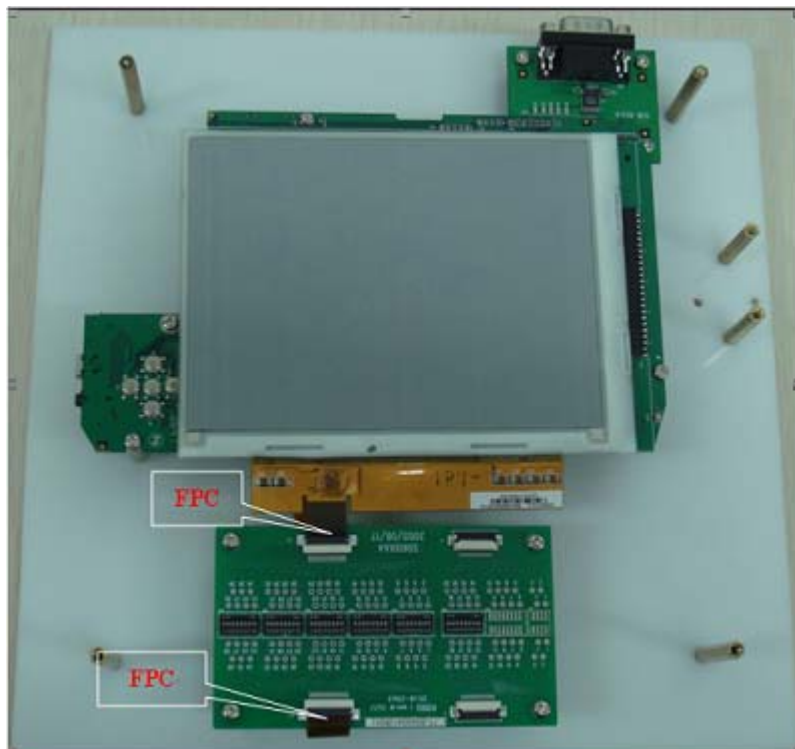
There are four reasons which will make the phenomenon

- 1.If you use the battery, the reason could be that the battery is out of juice. Please change to USB power and reboot the device
2. If you only see the beginning message but don't see the progress message that means the ebrmain has had some problem. Please refer to question 7 to solve this problem.
3. If you don't see the beginning message and the message has been showed on Minicom as below message, please rewrite the data to Flash ROM. Please refer to Guide 11.4 to know more in detail.



1

[Warning] The cable of FPC has to dip into the socket of FPC as dip as possible





18 、 Why is unable to mount /mnt/ext1 or the appears the data of percentage is wrong?

Repeated mount /mnt/ext1, so that result in the partitions of nand flash was damaged. if appears again, please format first (use the FAT32), then uses again

```
mount -t vfat /dev/sda1 /mnt/ext1
```

19 、 Why is unable to mount /mnt/ext2 or it only can mount Read Only?

Appears the reason is almost same to the question 20, if has this kind of problem again, please re-format.

Should confirm first the SD Card has not been mounted before mount SD Card, Mount SD Card order is as follows:

```
mount -t vfat /dev/discs/disc0/part1 /mnt/ext2
```

or

```
mount -t vfat /dev/discs/disc0/part4 /mnt/ext2
```

Do not mount /dev/disc/disc0/disc to the /mnt/ext2
