

3.2 Linux System Installations

Note: This section assumes that you have in front of the method in accordance with the USB driver installed and the development board is set to NOR flash to start the system update and installed NAND flash, please set to start, set the method please refer to previous chapters.

Description: need to install linux binary file is located in CD-ROM image/linux directory.
Installed Linux system is mainly the following steps:

- (1) Zoning on the NAND flash
- (2) the installation of bootloader
- (3) the installation of core documents
- (4) file system installed

The following are the steps in detail.

3.2.1 Zoning

Tip: Partition will erase all data inside NAND flash

(1) Serial port connected, open HyperTerminal, start power development board, enter the BIOS menu:

```

##### FriendlyARM BIOS for 2440 #####
[x] bon part 0 320k 2368k
[v] Download vivi
[k] Download linux kernel
[y] Download root_yaffs image
[c] Download root_cramfs image
[a] Absolute User Application
[n] Download Nboot
[e] Download Eboot
[i] Download WinCE NK.nb0
[w] Download WinCE NK.bin
[d] Download & Run
[z] Download zImage into RAM
[g] Boot linux from RAM
[f] Format the nand flash
[p] Partition for Linux
[b] Boot the system
[s] Set the boot parameters
[t] Print the TOC struct of wince
[u] Backup NAND Flash to HOST through USB(upload)
[r] Restore NAND Flash from HOST through USB
[q] Goto shell of vivi
Enter your selection: _
    
```

(2) Select [x] the start of NAND flash partition, as shown.

Description: Some of NAND flash zoning district when the report will prompt bad, bad because the district will do supervivi detection records, so this will not affect normal use of the board.

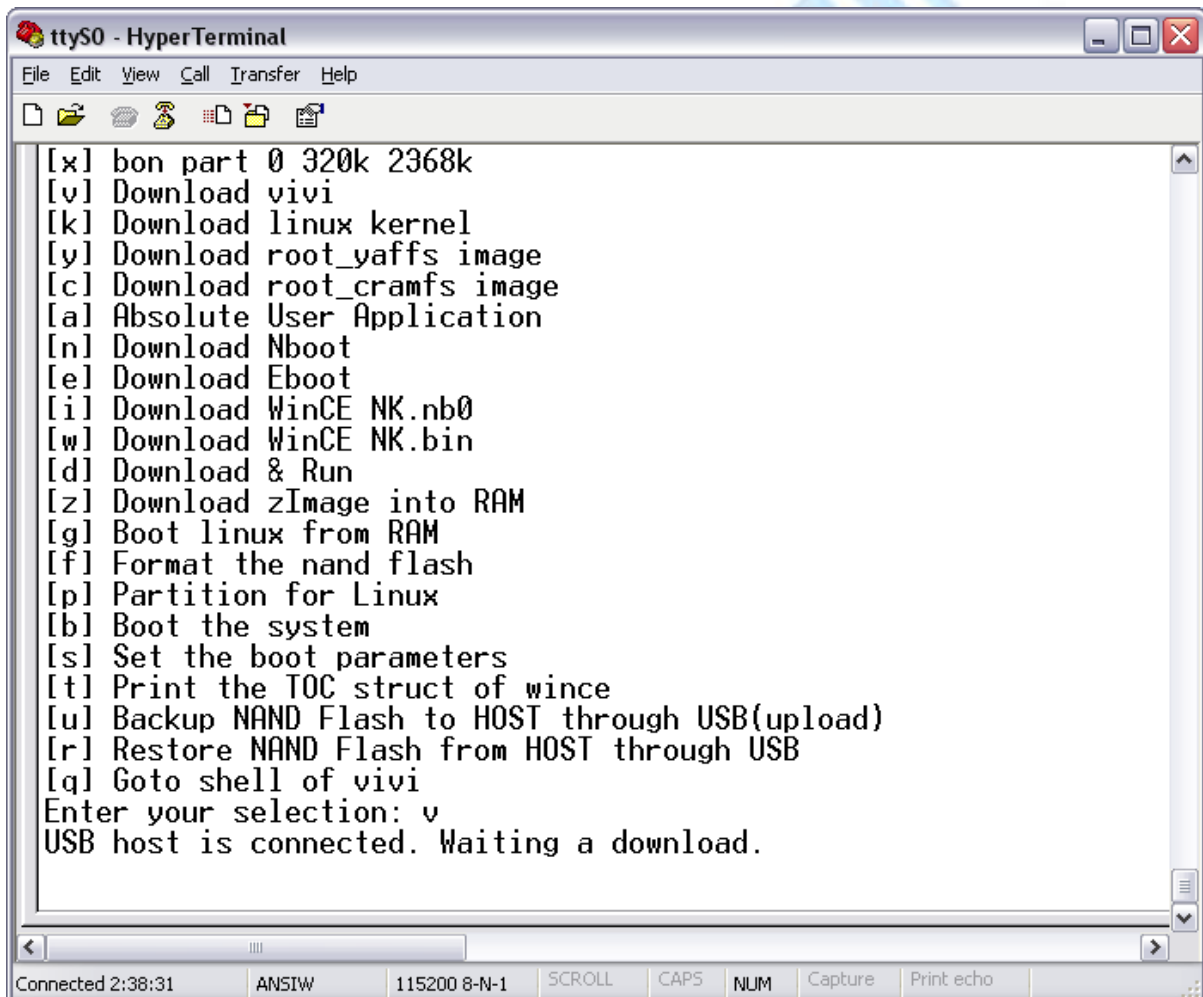
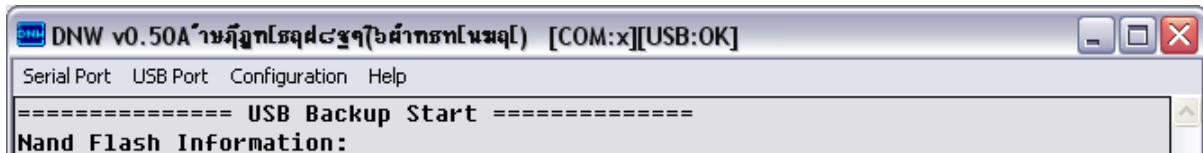
```

[r] Restore NAND Flash from HOST through USB
[q] Goto shell of vivi
Enter your selection: x
doing partition
size = 0
size = 327680
size = 2424832
check bad block
part = 0 end = 327680
part = 1 end = 2424832
part = 2 end = 67108864
BF0000: is bad
k = 0 block = 616
part0:
    offset = 0
    size = 327680
    bad_block = 0
part1:
    offset = 327680
    size = 2097152
    bad_block = 0
part2:
    offset = 2424832
    size = 64651264
    bad_block = 1
    
```

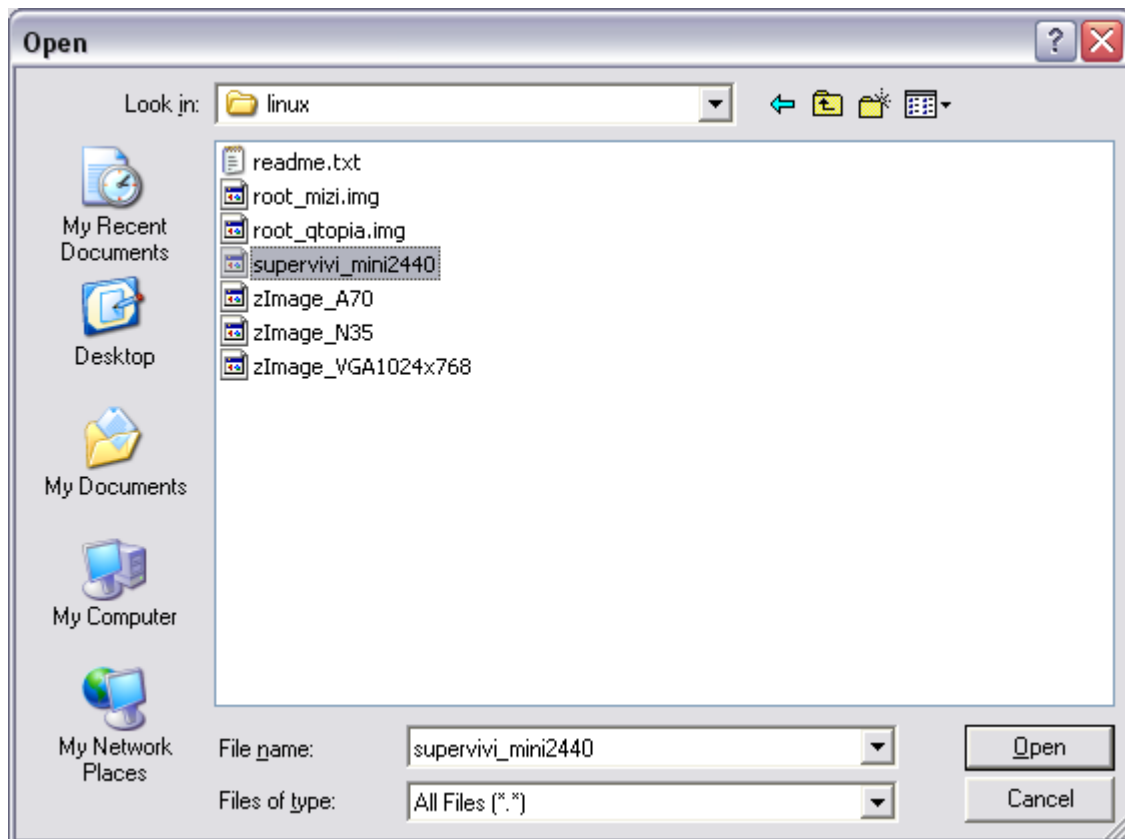
Connected 2:37:18 ANSIW 115200 8-N-1 SCROLL CAPS NUM Capture Print echo

3.2.2 Install bootloader

(1) Open the DNW procedures, connected to USB cable, if the title bar DNW tips [USB: OK], note USB connection, then in accordance with its menu to select the function [v] to start the download supervivi.



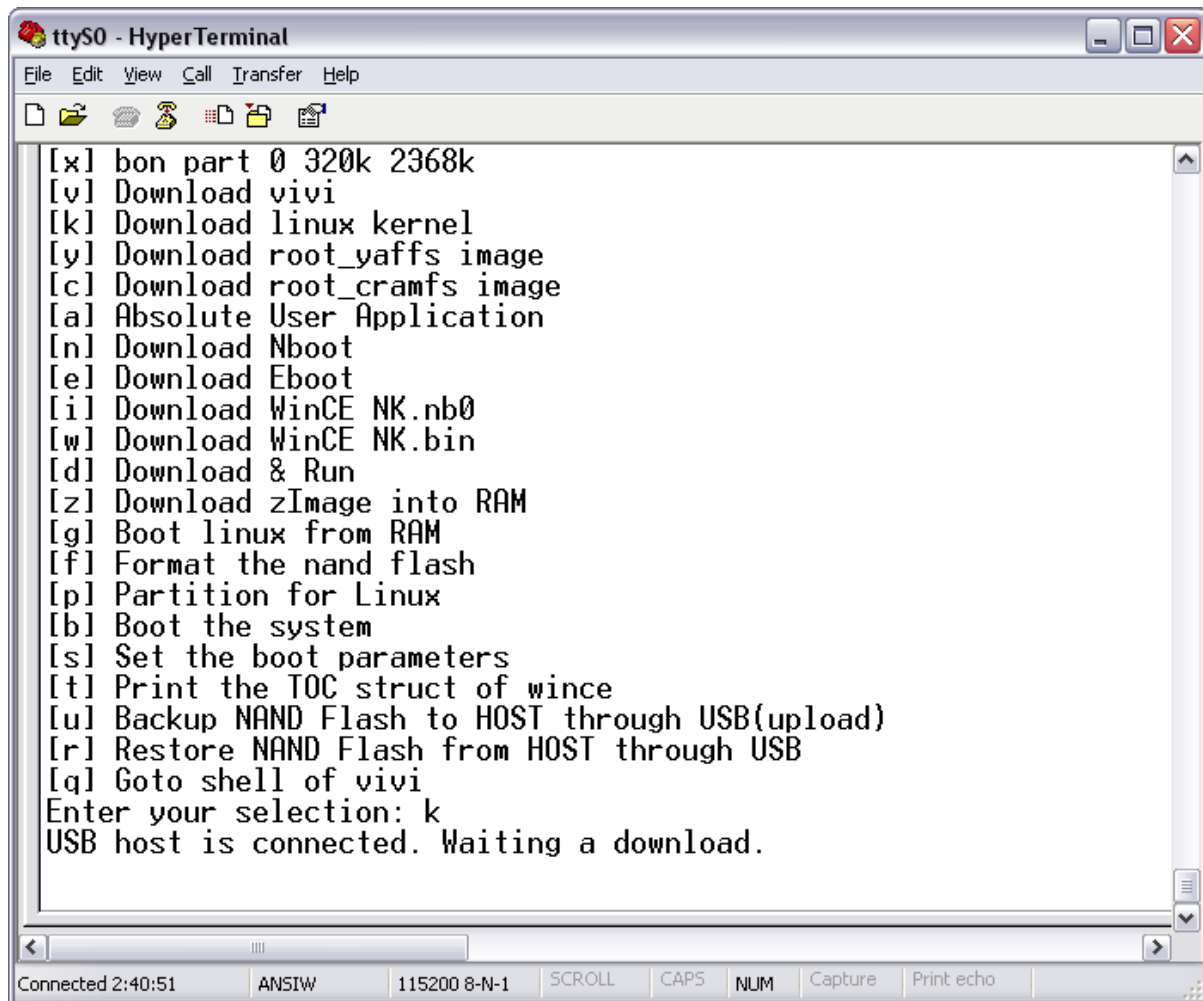
(3) Click "USB Port > Transmit/Restore" option, and select Open File supervivi (the file is located in CD-ROM images/linux/directory) to start the download.



(4) Download, BIOS will automatically NAND flash programmer to the district supervivi, and return to the main menu.

3.2.3 Install Linux Kernel

(1) In the BIOS main menu, select the feature number [k], start the download linux kernel zImage



```

ttyS0 - HyperTerminal
File Edit View Call Transfer Help
[x] bon part 0 320k 2368k
[v] Download vivi
[k] Download linux kernel
[y] Download root_yaffs image
[c] Download root_cramfs image
[a] Absolute User Application
[n] Download Nboot
[e] Download Eboot
[i] Download WinCE NK.nb0
[w] Download WinCE NK.bin
[d] Download & Run
[z] Download zImage into RAM
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[f] Format the nand flash
[p] Partition for Linux
[b] Boot the system
[s] Set the boot parameters
[t] Print the TOC struct of wince
[u] Backup NAND Flash to HOST through USB(upload)
[r] Restore NAND Flash from HOST through USB
[q] Goto shell of vivi
Enter your selection: k
USB host is connected. Waiting a download.
    
```

Connected 2:40:51 ANSIW 115200 8-N-1 SCROLL CAPS NUM Capture Print echo

(2) Click "USB Port-> Transmit" option, and select file to open the corresponding kernel zImage (the document on CD-ROM images /linux/directory) to start the download.

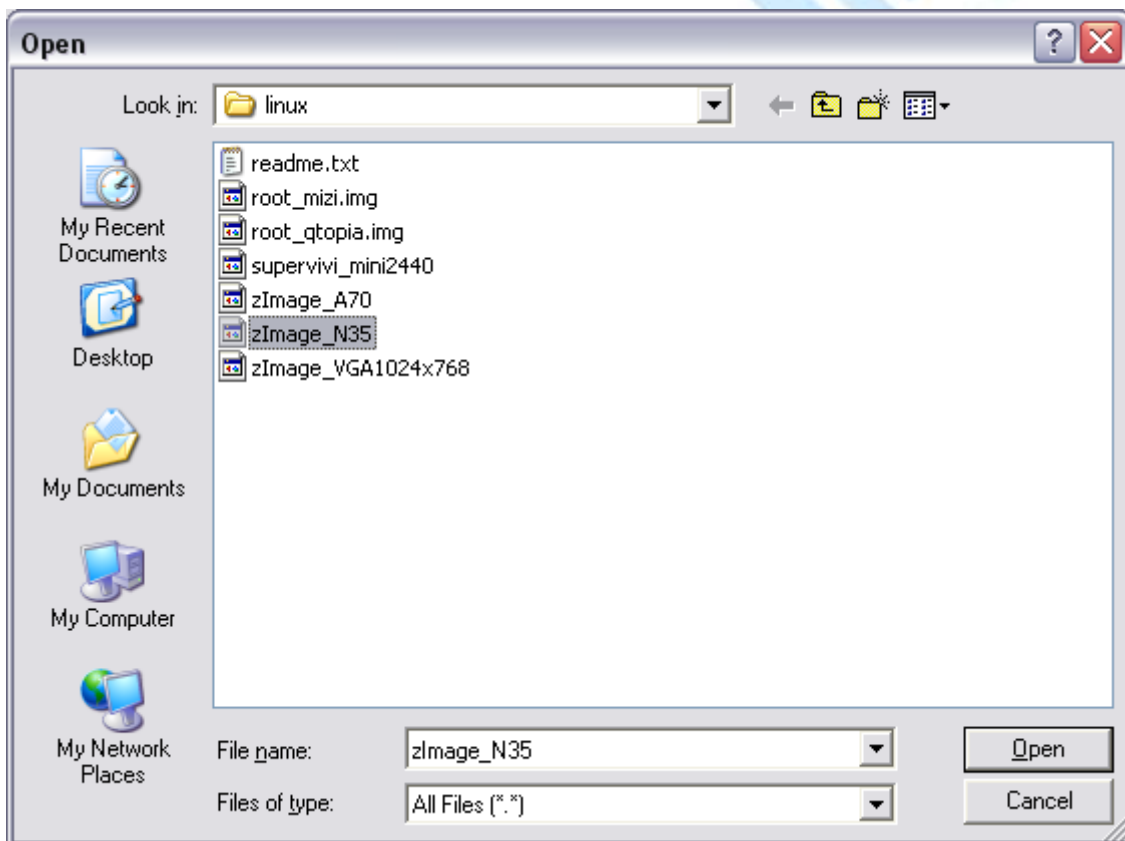
Core files Description:

zImage_n35 - apply to NEC3.5-inch LCD

zImage_a70 - really applies to 7-inch color screen with a resolution of 800x480

zImage_VGA1024x768 - module for VGA output, a resolution of 1024x768

Reality may not be identical with this, please refer to images /linux/directory readme.txt document describes the



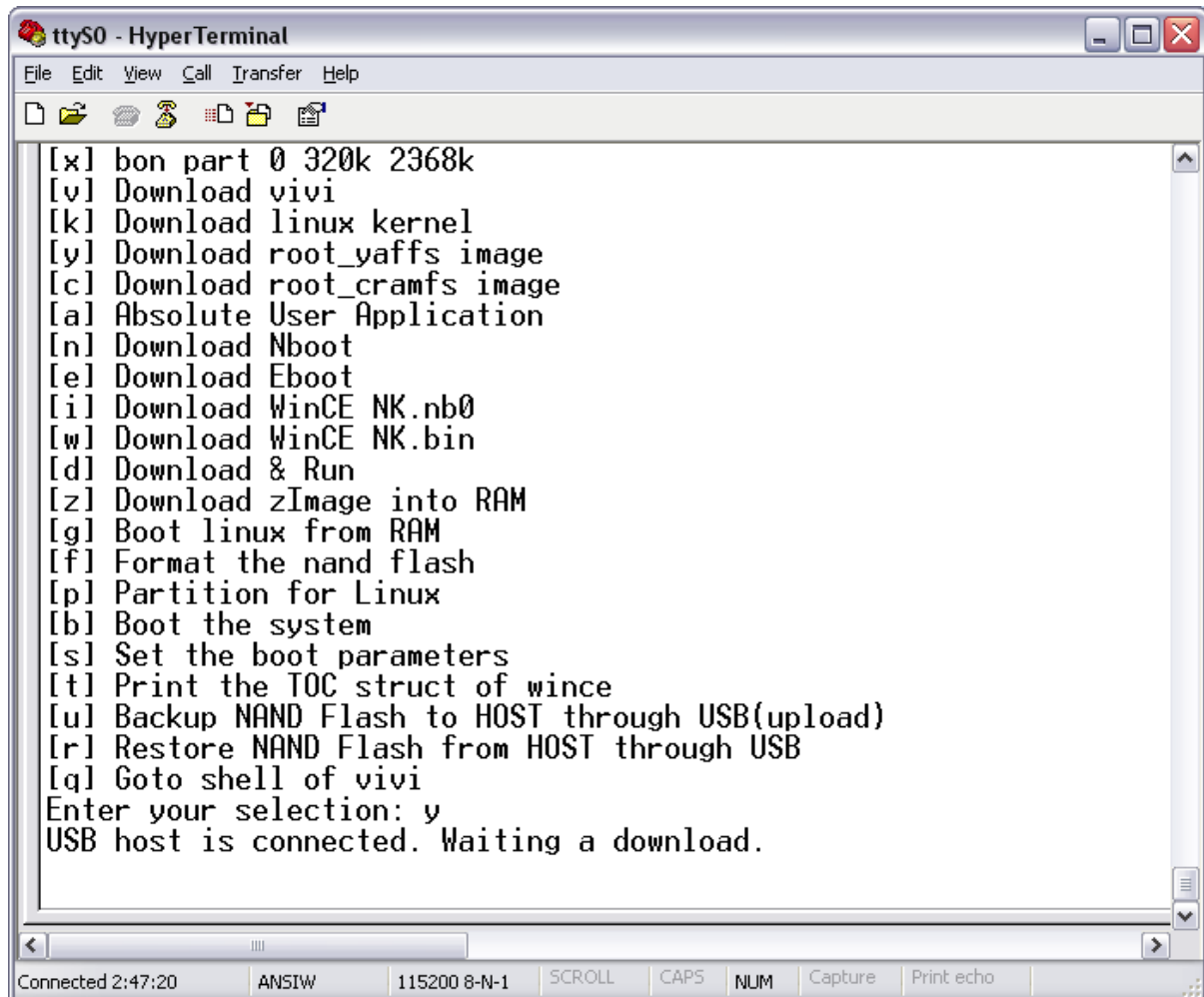
(3) Download, BIOS kernel programmer will automatically partition the NAND flash and return to the main menu, figure.

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3.2.4 Install Root File System

(1) In the BIOS main menu, select the feature number [y], to start the download yaffs root file system image file



```

ttyS0 - HyperTerminal
File Edit View Call Transfer Help
[x] bon part 0 320k 2368k
[y] Download vivi
[k] Download linux kernel
[y] Download root_yaffs image
[c] Download root_cramfs image
[a] Absolute User Application
[n] Download Nboot
[e] Download Eboot
[i] Download WinCE NK.nb0
[w] Download WinCE NK.bin
[d] Download & Run
[z] Download zImage into RAM
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[b] Boot the system
[s] Set the boot parameters
[t] Print the TOC struct of wince
[u] Backup NAND Flash to HOST through USB(upload)
[r] Restore NAND Flash from HOST through USB
[q] Goto shell of vivi
Enter your selection: y
USB host is connected. Waiting a download.
    
```

Connected 2:47:20 ANSIW 115200 8-N-1 SCROLL CAPS NUM Capture Print echo

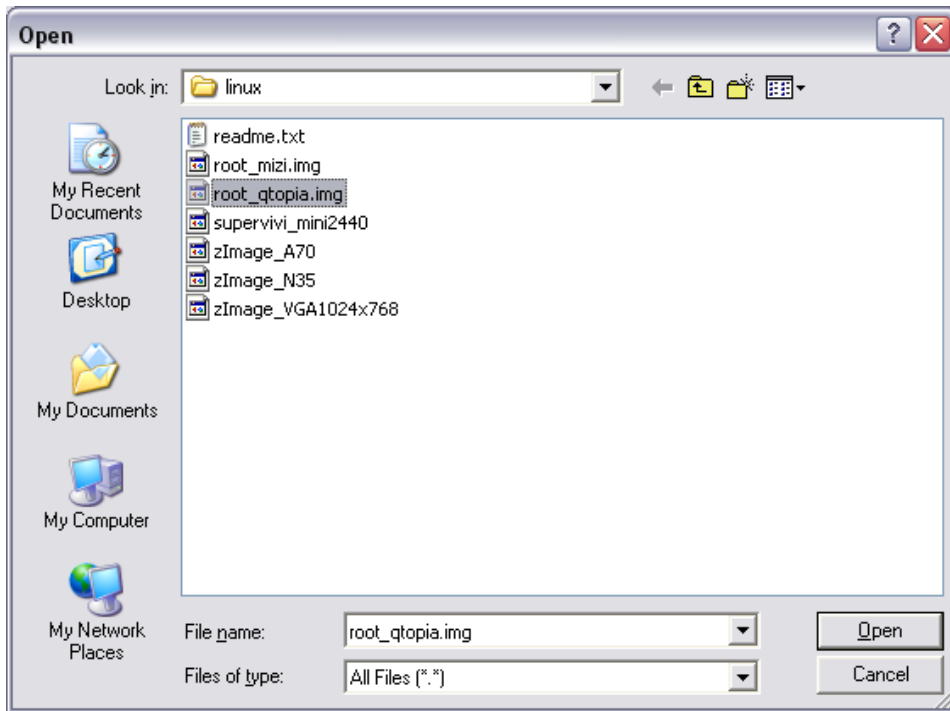
(2) Click "USB Port-> Transmit / Restore" option, and select to open the appropriate file system image file root_qtopia.img (the file is located in CD-ROM images / linux directory) to start the download.

Root file system image file Description:

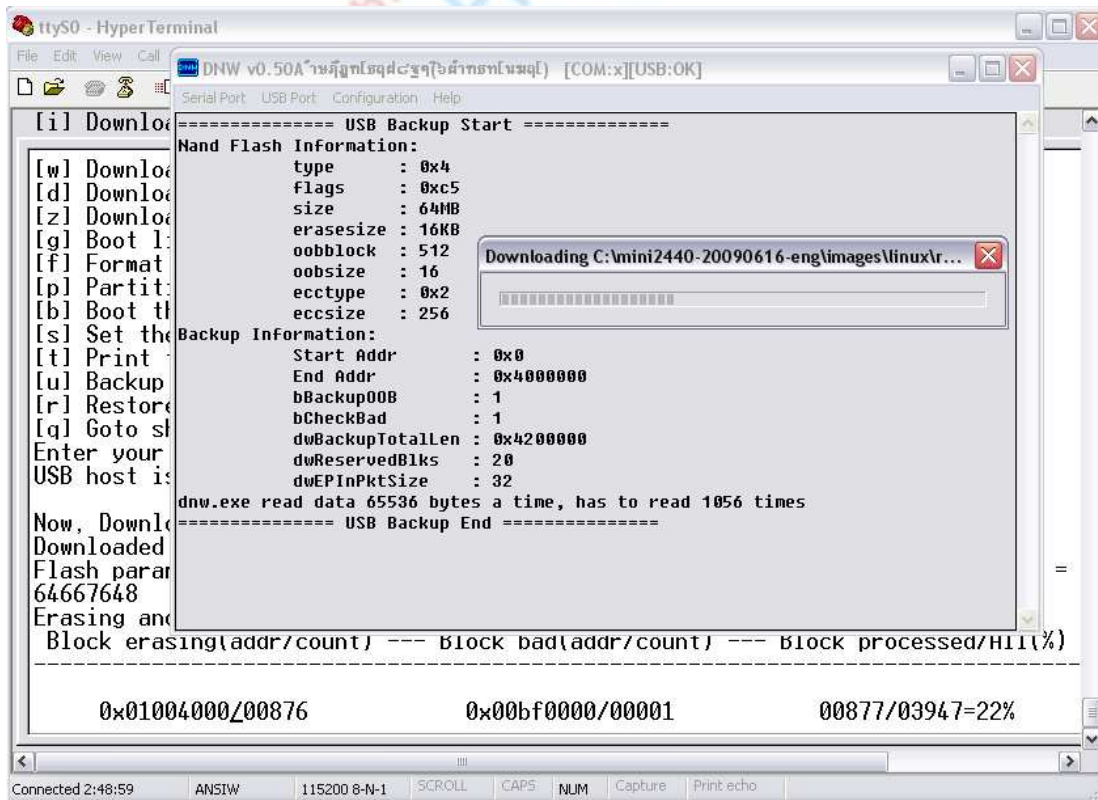
root_qtopia.img - The default file system image installation file, it will also support USB mouse and touch screen, and automatic identification VGA output and NFS module start

root_mizi.img - Mizi image files provided by the company containing Chinese handwriting recognition, browser and so on.

Reality may not be identical with this, please refer to images /linux/directory readme.txt document describes.



(3) As shown in the download process, download completed, BIOS will automatically NAND flash programmer to partition the kernel, and Return to the main menu, figure.



Tip: This process will take approximately 2-3 minutes, the greater the downloaded files, download and programmer time will be longer.

Download is complete, please unplug the USB cable, if we do not get down, there may be reset or restart the system when lead to your computer crashes.

In the BIOS main menu, select the feature [b], the system will be activated.

If your development board to start-up mode is set to start NAND flash, the system will automatically restart after power.

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