

LP-51xx OS Image Update Guide (V1.7)

2017/07/14



1. 【Required Software Versions】

Before updating OS image, check the shipment date for your device. This is important as there are three versions of the OS image update depending on the shipment date:

Shipment Date	Model Name	Download page
Earlier than 2013/03/25	LP-5131 LP-5131-OD	ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-51xx/lp-513x/os_image/
	LP-5141 LP-5141-OD	ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-51xx/lp-514x/os_image/

Note: user will only need to download the latest version of the **OS image** file and the **boot.ini** file.

Shipment Date	Model Name	Download page
Later than 2013/03/25	LP-5131 LP-5131-OD	ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-51xx/lp-513x/sd_card/boot/
	LP-5141 LP-5141-OD	ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-51xx/lp-514x/sd_card/boot/

Note: user will need to download the latest version of **/boot/** directory, which includes the **OS image** file, and the **boot.ini** file, etc.

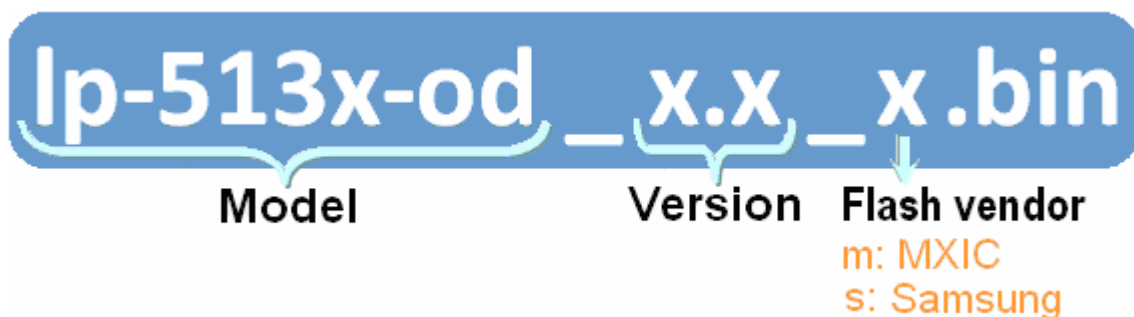
Shipment Date	Model Name	Download page
Later than 2017/07/16	LP-5131-OD	ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-51xx/lp-513x-od_aic/sd_card/boot/
	LP-5141-OD	ftp://ftp.icpdas.com/pub/cd/linpac/napdos/lp-5000/lp-51xx/lp-514x-od_aic/sd_card/boot/

Note:

(1) Support for the latest Audio board - aic3x version only.

(2) User will need to download the latest version of **/boot/** directory, which includes the **OS image** file, and the **boot.ini** file, etc.

The OS image parameters are specified as follows:



Please note:

The flash and microSD disk have a finite number of program-erase cycles.

Important information should always be backed up on other media or storage device for long-term safekeeping.

2. 【Preparation】

(1) Preparation tools as below:

- ✓ Power Supply: +10 to +30V_{DC} (E.g., DP-665)

See http://www.icpdas.com.tw/products/Accessories/power_supply/power_list.htm for a full list of the available accessories.

- ✓ USB microSD card reader × 1 (Fig. 1)
- ✓ microSD card × 1 (Fig. 2)
- ✓ RS-232 cable × 1 (Fig. 3)

This cable is used to connect the LP-51xx console to the COM port on the Host PC. Note that it is unnecessary to connect to a converter. For full details of the cables available, refer to http://www.icpdas.com/products/Accessories/cable/cable_selection.htm



Fig. 1 USB microSD card reader



Fig. 2 microSD card

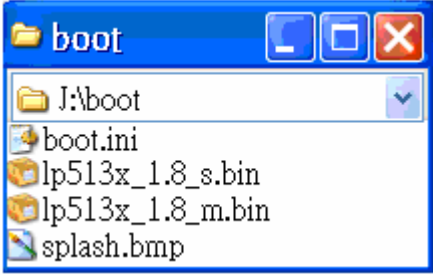
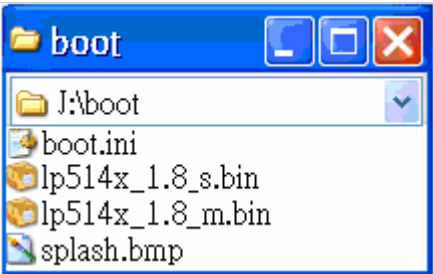


Fig. 3 RS-232 cable

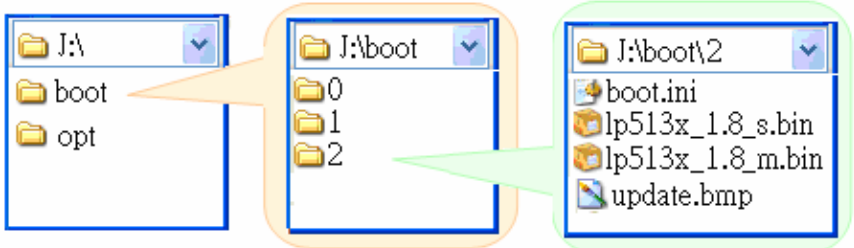
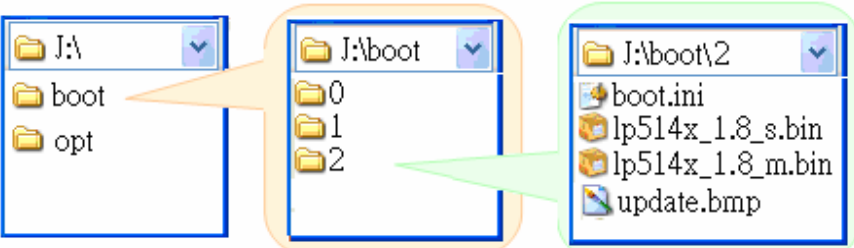
< Important notes regarding microSD cards >

1. Ensure that the microSD card is properly dismounted before unplugging it.
2. Do not power off or reboot the LP-51xx while data is being written to or read from the microSD card.
3. The microSD card must be formatted with a VFAT, EXT2, or EXT3 file system.
4. Scan and repair the microSD card if necessary.

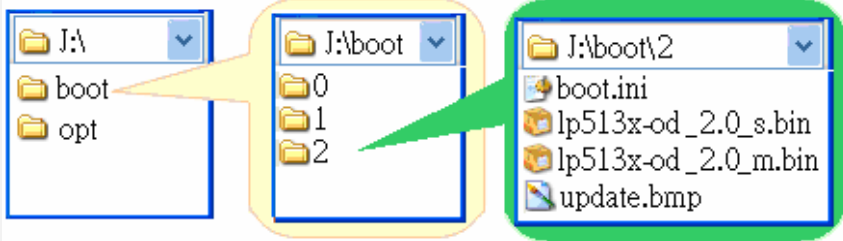
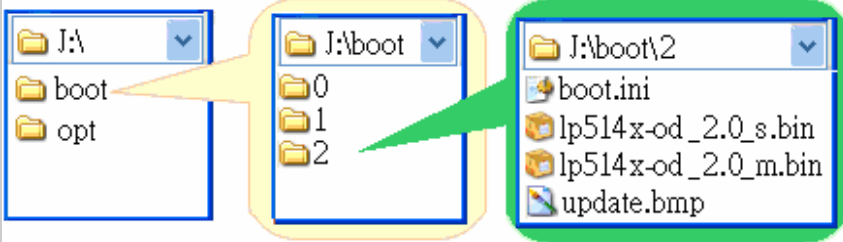
(2) Insert the microSD card into the USB microSD card reader, and then make a copy of the directories indicated below, including all the subdirectories, for backup purposes. The directories that should be copied depend on your shipment date:

Shipment Date	Model Name	Show the contents of the /boot/ directory
Earlier than 2013/03/25	LP-5131 LP-5131-OD	 <p>Fig. 4 LP-513x series</p>
	LP-5141 LP-5141-OD	 <p>Fig. 5 LP-513x series</p>

Note: Copy the files from the **/os_image/** directory of CD or FTP site into the **/boot/** directory of microSD card.

Shipment Date	Model Name	Show the contents of the /boot/ directory
Later than 2013/03/25	LP-5131 LP-5131-OD	 <p>Fig. 6 LP-513x series</p>
	LP-5141 LP-5141-OD	 <p>Fig. 7 LP-514x series</p>

Note: Copy the files from the **/boot/** directory on the CD or FTP site into the **/boot/** directory of microSD card

Shipment Date	Model Name	Show the contents of the /boot/ directory
Later than 2017/07/16	LP-5131-OD	 <p>Fig. 8 LP-513x-OD</p>
	LP-5141-OD	 <p>Fig. 9 LP-514x-OD</p>

Note: Copy the files from the **/boot/** directory on the CD or FTP site into the **/boot/** directory of microSD card

- (3) **Turn off the power** to the LP-51xx, and then connect the **Ethernet cable** and the **VGA cable** (if necessary), and insert the **microSD card** to the LP-51xx (Refer to Fig. 10).



Fig. 10 microSD card

- (4) Move the rotary switch to position **2**, as shown in Fig. 11.



Fig. 11 Move the rotary switch to position 2

3. 【Update Procedure】

< Important Notes >

1. Ensure that you perform a backup of any important files, before attempting to update the OS image.
2. DO NOT power off or reboot the controller while the OS image is being updated, as this may result in the OS image becoming corrupted, which may cause the controller to malfunction.

(1) Choose an Operating Environment

For Windows XP or earlier:

Open HyperTerminal by clicking the **Start button**, point to **All Programs**, point to **Accessories**, point to **Communications**, and then click **Hyper Terminal**. In the 'COM properties' dialog box, set the parameters for COM 1 to 115200 bps, 8 data bits, no parity, 1 stop bit and no flow control, and then press the OK button, as show in Fig. 12.

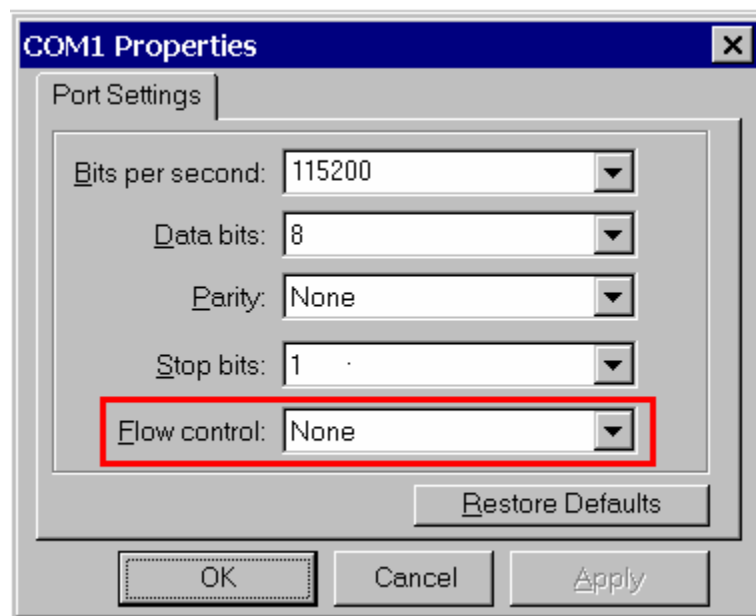


Fig. 12

Note that HyperTerminal is not available as part of the default installation for Windows Vista, Windows 7 and Windows 8, but it is possible to install the required files from a Windows XP computer or download and use open source Putty terminal software.

For Linux:

In the terminal window, type '**minicom -s**' to enter the Minicom configuration menu. To configure the COM1 port, use the keyboard arrow keys to select the menu item labeled '**Serial port setup**' and then press '**Enter**'. Set the parameters for COM 1 and then press '**Exit**'.

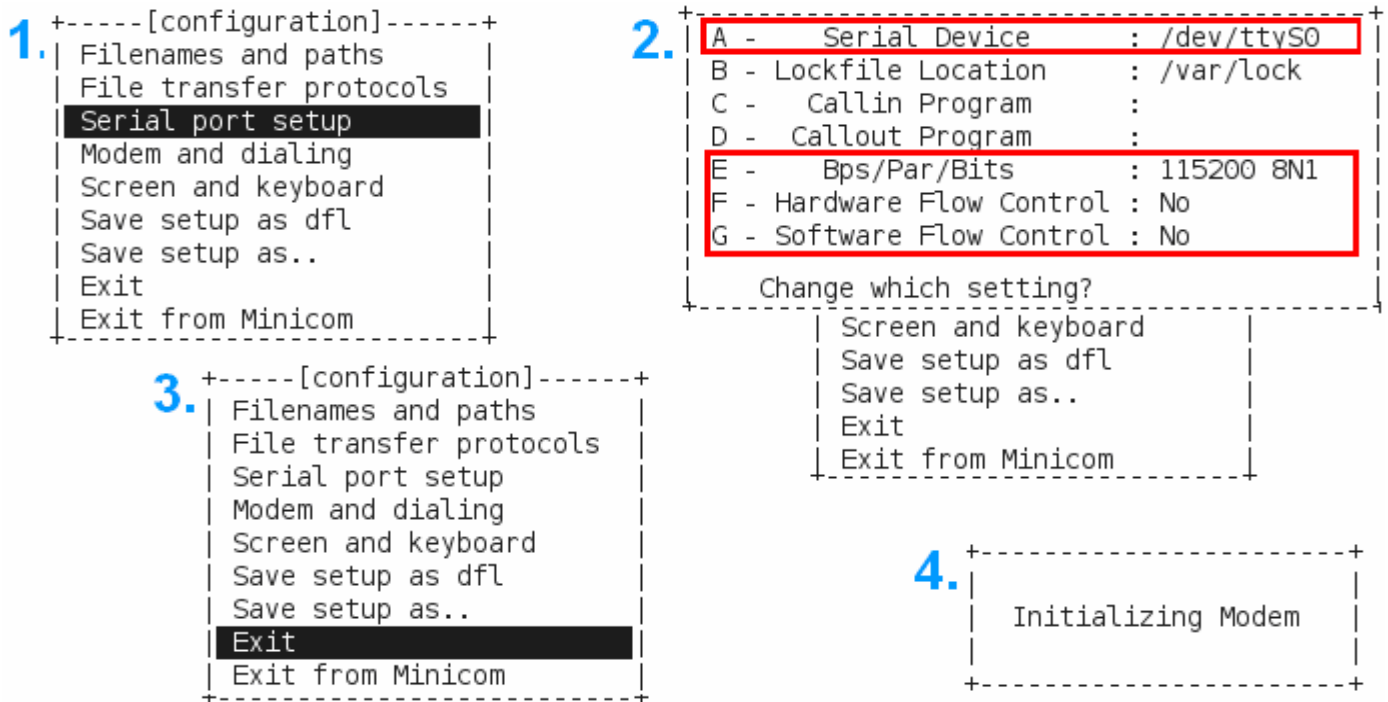


Fig. 13

(2) **Turn on the power** to the LP-51xx, and the screen illustrated in Fig. 14 will be displayed.

```

U-Boot 1.3.0 (Sep 30 2012 - 17:24:45)

DRAM: 128 MB
Flash: 64 MB
LinPAC Rotary Switch 2
Detected: 1989632 blocks of 512 bytes (971MB) SD card.
Vendor: Man 1b OEM SM "00000" Date 02/2008
Product: 2977882485
Revision: 1.0
reading /boot/splash.bmp
Loading : 0x0007 done

308278 bytes read
reading /boot/boot.ini
Loading : 0x0000
138 bytes read
Hit any key to stop autoboot: 0

```

Fig. 14

- (3) Move the rotary switch to position **0**, as show in Fig. 15, and the OS Image will begin loading from the SD card, as illustrated in Fig. 16, then monitor the upload process.



Fig. 15 Move the rotary switch to position 0

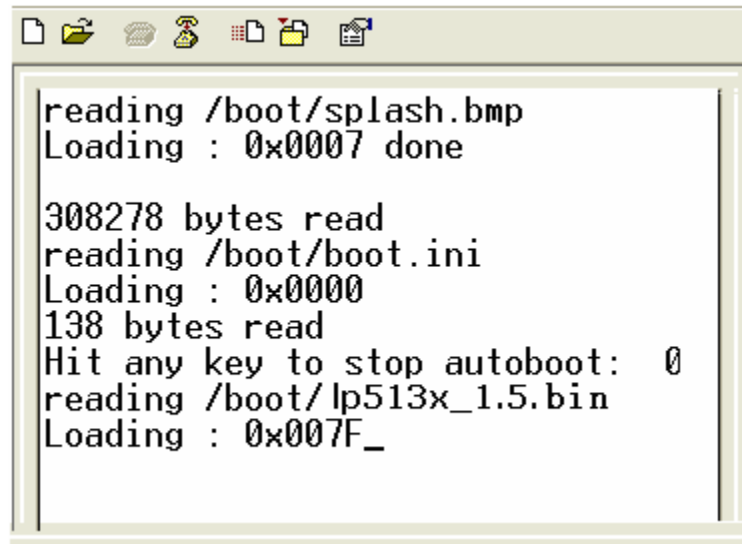


Fig. 16 Loading the OS Image

- (4) Being uploading the OS Image to the Flash memory on the LP-51xx, as show in Fig. 17.

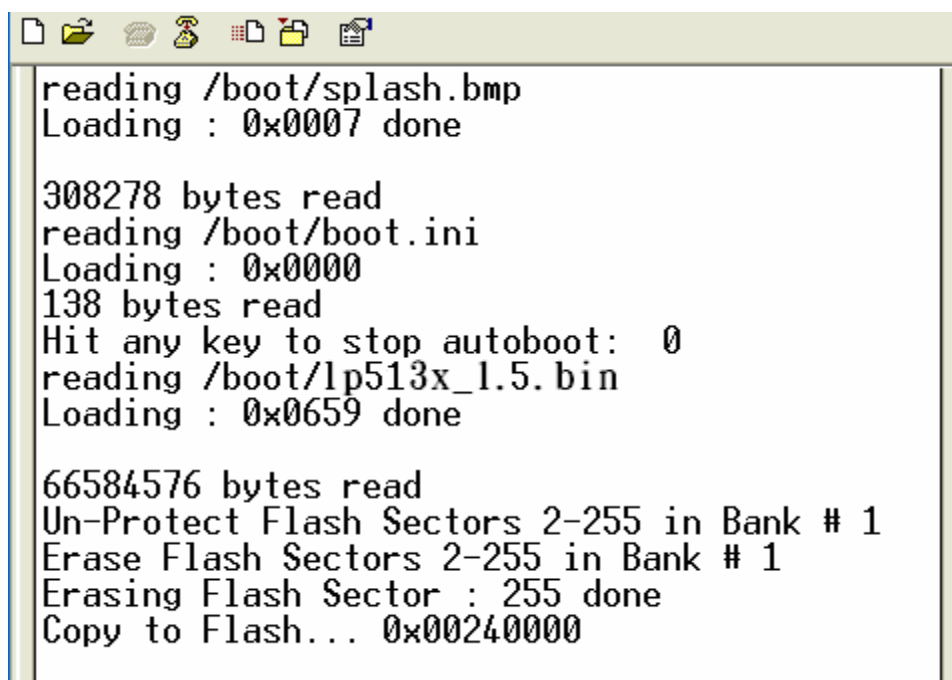
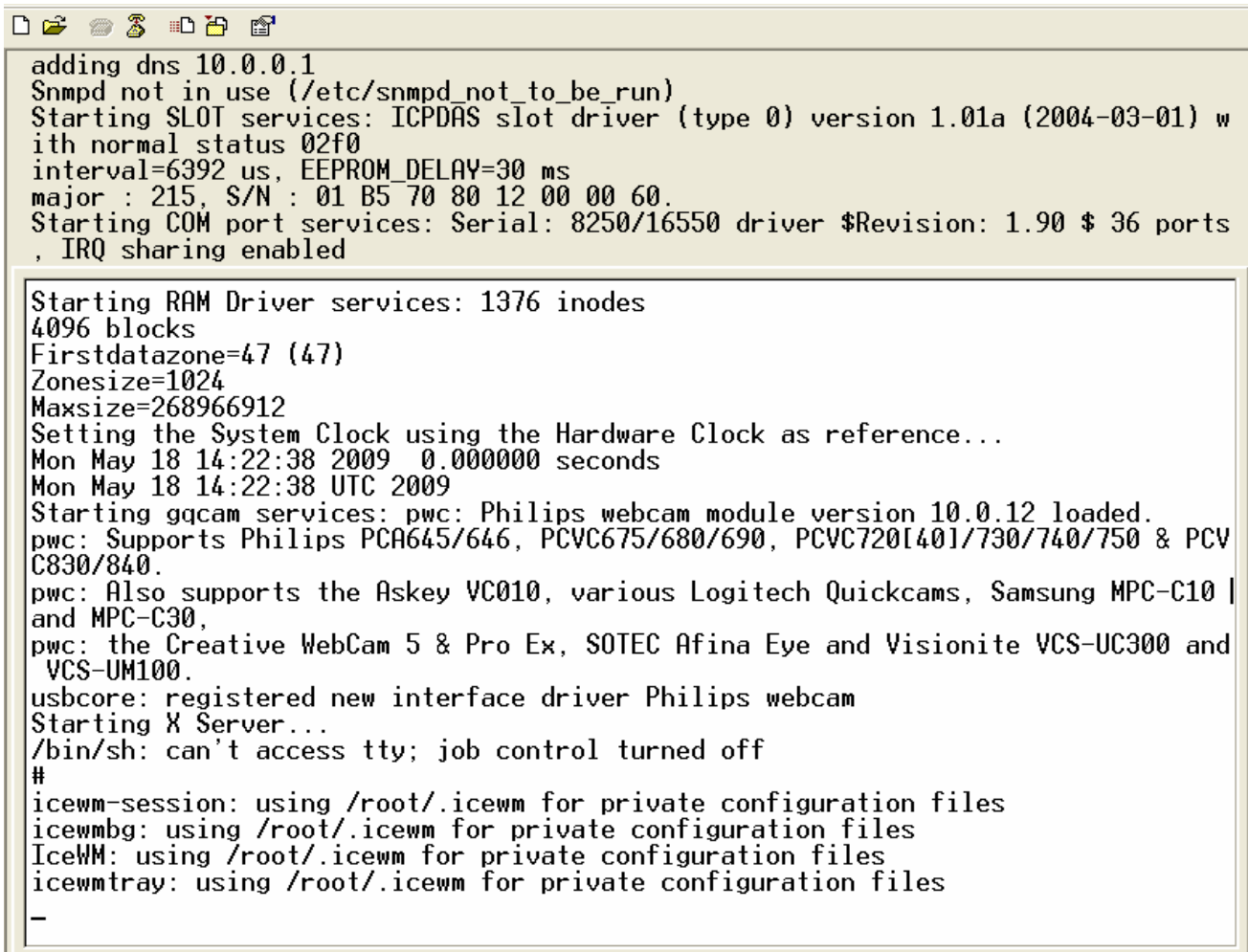


Fig. 17 Uploading the OS Image to the Flash memory

- (5) After the upload process is complete, the LP-51xx will automatically reboot to finalize the update process, as show in Fig. 18. If the VGA cable is connected, the starting screen will be displayed while rebooting, as illustrated in Fig. 19. Once the boot sequence is complete, the XWindows screen will appear, as show in Fig. 20.



```

adding dns 10.0.0.1
Snmpd not in use (/etc/snmpd_not_to_be_run)
Starting SLOTT services: ICPDAS slot driver (type 0) version 1.01a (2004-03-01) w
ith normal status 02f0
interval=6392 us, EEPROM_DELAY=30 ms
major : 215, S/N : 01 B5 70 80 12 00 00 60.
Starting COM port services: Serial: 8250/16550 driver $Revision: 1.90 $ 36 ports
, IRQ sharing enabled

Starting RAM Driver services: 1376 inodes
4096 blocks
Firstdatazone=47 (47)
Zonesize=1024
Maxsize=268966912
Setting the System Clock using the Hardware Clock as reference...
Mon May 18 14:22:38 2009 0.000000 seconds
Mon May 18 14:22:38 UTC 2009
Starting gqcam services: pwc: Philips webcam module version 10.0.12 loaded.
pwc: Supports Philips PCA645/646, PCVC675/680/690, PCVC720[401/730/740/750 & PCV
C830/840.
pwc: Also supports the Askey VC010, various Logitech Quickcams, Samsung MPC-C10 |
and MPC-C30.
pwc: the Creative WebCam 5 & Pro Ex, SOTEC Afina Eye and Visionite VCS-UC300 and
VCS-UM100.
usbcore: registered new interface driver Philips webcam
Starting X Server...
/bin/sh: can't access tty; job control turned off
#
icewm-session: using /root/.icewm for private configuration files
icewmbg: using /root/.icewm for private configuration files
IceWM: using /root/.icewm for private configuration files
icewmtray: using /root/.icewm for private configuration files
-

```

Fig. 18 Console display during automatic reboot



Fig. 19 Starting screen

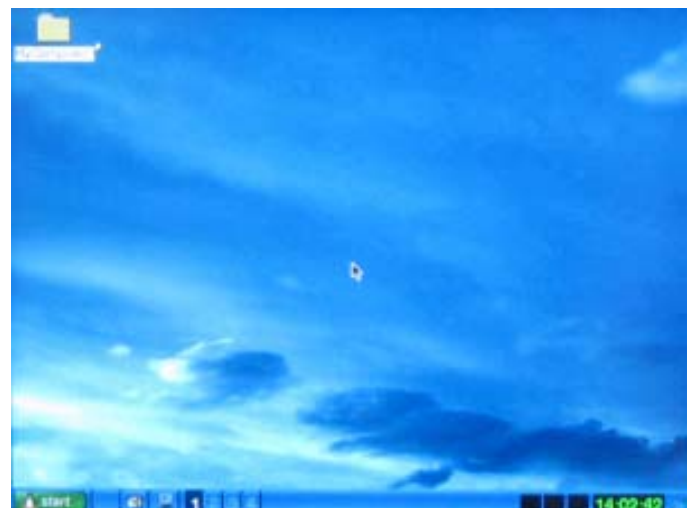


Fig. 20 Boot sequence completely