LP-22xx and LP-5231 Series

OS_Image Update Guide

(v1.1)







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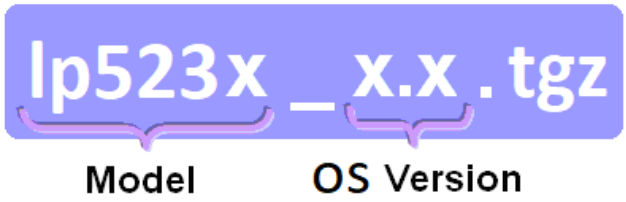
1.【Download OS Image】

Please download the OS Image from below web link:

- LP-22xx OS Image file: **lp2x41_x.x.tgz**

  https://www.icpdas.com/en/download/show.php?num=987&model=LP-2241MX
- LP-5231 OS Image file: **lp523x_x.x.tgz**

  https://www.icpdas.com/en/download/show.php?num=988&model=LP-5231



After decompressing the OS Image **.tgz** file, user can find six files. The detail information of **six** files, please refer to below description:

Contents of lp2x41_x.x.tgz or lp523x_x.x.tgz	
File Name	**Description**
MLO	The boot loader files of U-Boot
u-boot.img	
uEnv.txt	
uImage	The image of Linux kernel
rootfs.ubi	The root files of Linux OS
version	The release version of Linux OS and Linux kernel

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.

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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 card reader for microSD card × 1 (Fig. 1)
- ✓ microSD card × 1 (Fig. 2)



Fig.1 USB card reader



Fig.2 microSD card

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 device while data is being written to or read from the microSD card.
3. The **first partition of microSD** card must be formatted with a **FAT16/FAT32** file system.
4. Scan and repair the microSD card if necessary.
5. Ensure that you perform a backup of any important files, before attempting to update the OS image.
6. **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.

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(2) To insert the microSD card into the USB microSD card reader in Windows PC or Linux PC. User can copy the OS image files to **the first partition of SD card**, please refer to below figure:

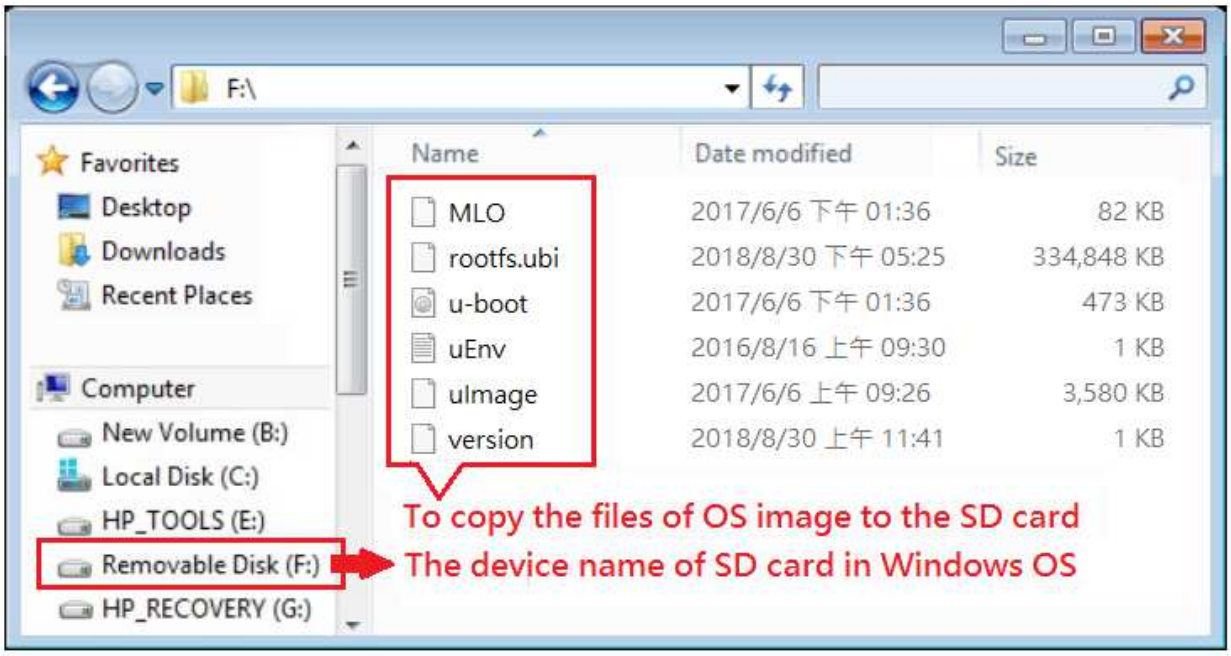


Fig.3 Build Rescue Disk in Windows OS

```
Disk /dev/sdb: 3980 MB, 3980394496 bytes
123 heads, 62 sectors/track, 1019 cylinders, total 7774208 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk identifier: 0x00000000
```

The device name of SD's first partition is "/dev/sdb1".

```
   Device Boot      Start         End      Blocks   Id  System
/dev/sdb1   *        2048     2105343     1051648    b  W95 FAT32
root@golden:~#
root@golden:~# mount /dev/sdb1 /mnt
root@golden:~# tar xvf /tmp/lp523x_1.4.tgz -C /mnt
MLO
rootfs.ubi
u-boot.img
uEnv.txt
uImage
version
root@golden:~#
root@golden:~# ls /mnt
MLO  rootfs.ubi  u-boot.img  uEnv.txt  uImage  version
root@golden:~#
```

To decompress the lp523x_x.x.tgz to the mount directory of SD card.

Fig.4 Build Rescue Disk in Linux OS

(3) To **turn off the power** and insert **microSD card** to the LinPAC.

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3.【Update Procedure】

(1) **To turn on the power** and the Linux OS would be installed from microSD automatically. The recovery process may spend 4 ~ 5 minutes.

(2) When OS update process, the LED "**RUN**" status as shown below:

LP-2241	LP-5231
Status of "**RUN**" LED is **green**	Status of "**RUN**" LED is **red**
 Fig 5. LP-2241	 Fig 6. LP-5231

(3) If loading the Linux OS successfully, the LED "**RUN**" status will be changed.

LP-2241	LP-5231
Status of "**RUN**" LED is light off, "**L1**" is **green**, and "**L3**" is **red**.	Status of "**RUN**" LED is **green**
 Fig 7. LP-2241	 Fig 8. LP-5231

(4) After the recovery process completed, it is necessary that user should **turn off the power** and **remove the microSD card**.

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(5) **Turn on the power**, LinPAC will startup, and the total process is completed (If forgot to remove the microSD card, OS will update again).

Connect **Ethernet cable**, **VGA cable** and **USB keyboard** to the LinPAC, user will see the below screen:



Fig.9 Login LinPAC

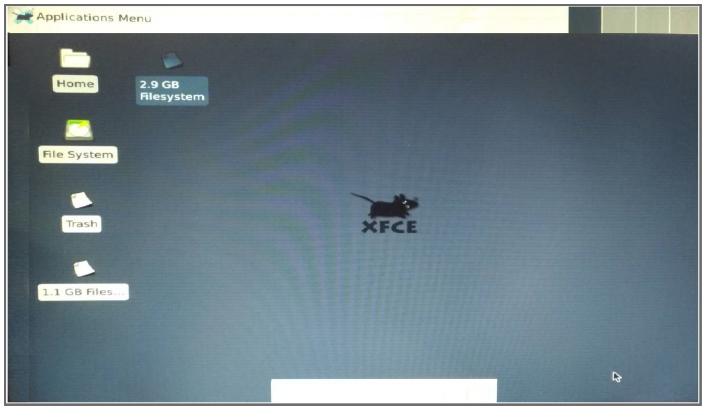


Fig.10 Boot sequence completely

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