LP-5231 Series

OS_Image Update Guide

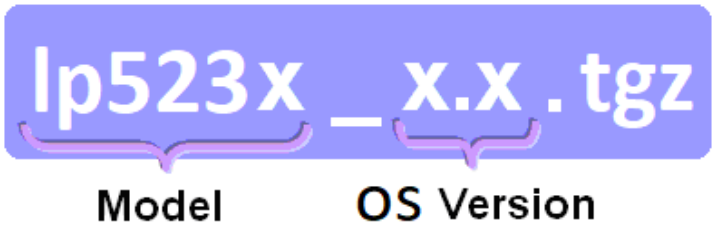
(v1.0)

1.【Download LP-5231 OS Image】

- LP-5231 Series

  Please download the LP-5231 OS Image(lp523x_x.x.tgz) from below web link

  http://ftp.icpdas.com.tw/pub/cd/linpac/napdos/lp-5000/lp-52xx/lp-5231/os_image



After decompressing the lp523x_x.x.tgz, user can find six files. The detail information of six files, please refer to below description:

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.

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.

(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 of LP-5231 to **the first partition of SD card**, please refer to below figure:

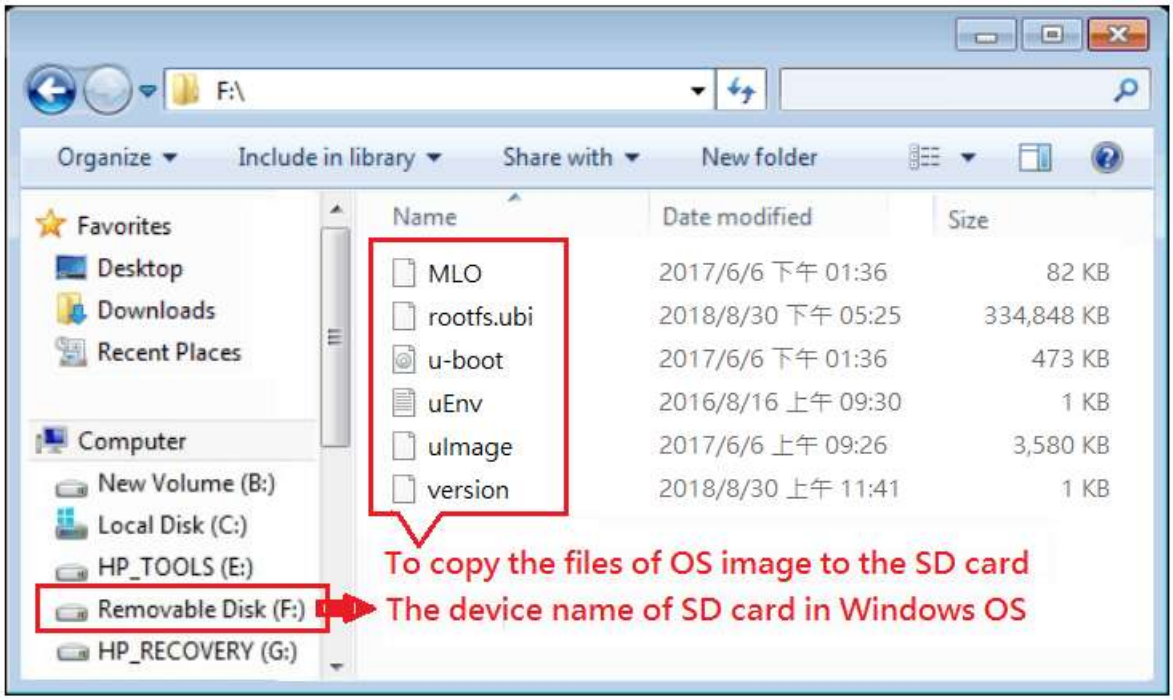


Fig.3 Build LP-5231 Rescue Disk in Windows OS

```
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 LP-5231 Rescue Disk in Linux OS

(3) To **turn off the LP-5231 power** and insert **microSD card** to the LP-5231.

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) **To turn on the LP-5231 power** and the Linux OS would be installed from microSD automatically. The recovery process may spend 4 ~ 5 minutes. When the OS updateing, the LED "RUN" status is red. Please refer to below Fig 5:

Fig 5 LP-5231 OS Updating

(2) If loading the Linux OS successfully, the LED "RUN" status is green, please refer to below Fig 6:

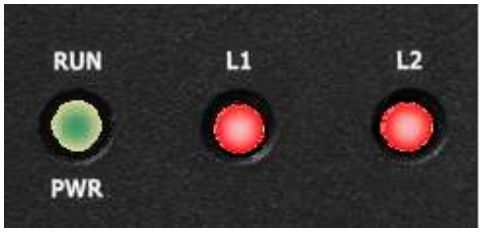


Fig.6 LP-5231 OS Update OK

(3) After the recovery process completed, user can **turn off the power** of the LP-5231 and **remove the microSD card**.

(4) After user had removed the microSD card, user can **turn on the power** of the LP-5231.