



HDMI to DVI lead    HDMI to HDMI lead    Banana Pro Video Plug cable 2 in 1 Micro USB power adapter    MicroSD card

## BananaPro/Pi:Quick Start

From BananaPro/Pi

By following this short quick start guide, you can use your Banana Pro in just a few minutes. And you can refer to the Banana Pro installation method to complete the Banana Pi installation. There are three steps to booting your Banana Pro.

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## Get what you need

To enjoy the use of your Banana Pro, you will need at the very minimum these accessories in the table below.

No	Item	Minimum recommended specification & notes
1	MicroSD card	Minimum size 4GB; class 4 or faster speed (the class indicates how fast the card is) We recommend using branded MicroSD cards as they are more reliable.
2a	HDMI(Full sized-Type A) to HDMI/DVI cable	HDMI (Type A) to HDMI lead (for HD TVs and monitors with HDMI input). OR HDMI (Type A) to DVI adapter cable (for monitors with only a DVI input). Attention: Some HDMI-DVI adapters will only work on the Linux images (as adapted for B-Pro and in our Downloads section). For "Android 4.2.2 for Banana Pro v2.0" you'd better use an HDMI-HDMI cable (in other words, your monitor or TV must be HD-ready), some HDMI-DVI doesn't work normally.
2b	Composite AV cable(Banana Pro Video Plug cable 2 in 1)	Composite AV cable can be connected to your analogue display (eg a TV) if you are not using the HDMI output.
3	Audio (Option)	You can use a 3.5mm jack audio cable to connect the AV port to external speakers to get sound.(both audio cable and AV composite lead use the AV port to connect the external device.)
4	Keyboard and mouse	Any standard USB keyboard and mouse should work.
5	Ethernet cable/WiFi	Networking is optional, although it makes updating and getting new software for your Banana Pro much easier.
6	Micro USB power adapter	A good quality, micro USB power supply that can provide at least 2A at 5V is essential.
7	Mobile Hard disk (Optional)	However, most mobile phone chargers are NOT suitable — check the label on the plug. It's possible they can deliver 2 amps and 5 volts, but maybe not at the same time!
8	A case for your B-Pro (optional but highly recommended)	You can choose to connect a mobile hard disk to the SATA port to store more files. Special cables are required for this – look on Amazon – but they are not expensive,under 10 dollars/Euros/pounds.  A suitable acrylic or similar case, which should cost less than 10 dollars/Euros/pounds and will protect your B-Pro from dust, moisture and most importantly short circuits and static.  Please be aware that ALL of the the Raspberry Pi cases are NOT compatible (the boarddimensions and also the layout of the Banana Pro's inputs/outputs are different).

## Install Linux OS image

In order to enjoy your Banana Pro, you will need to install an Operating System (OS) onto an MicroSD card. The instructions below will teach you how to write an OS image to your MicroSD card either in Windows or Linux.

Insert your MicroSD card into your computer or card reader. The size of the MicroSD should be larger than the OS image size, generally 4GB or greater. Format the MicroSD card.

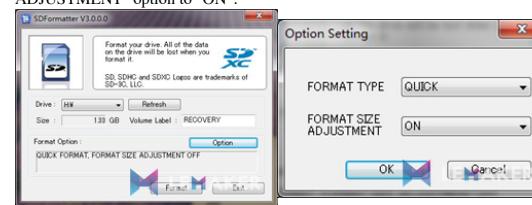
### Windows:

#### 1.Download an MicroSD card format tool such as SD Formatter

from [https://www.sdcard.org/downloads/formatter\\_4/eula\\_windows/](https://www.sdcard.org/downloads/formatter_4/eula_windows/)

Unzip the download file and run the setup.exe (Run as Administrator) to install the tool on your machine.

After installation, start the tool (again, Run as Administrator). In the "Options" menu, set "FORMAT TYPE" option to QUICK, "FORMAT SIZE ADJUSTMENT" option to "ON".



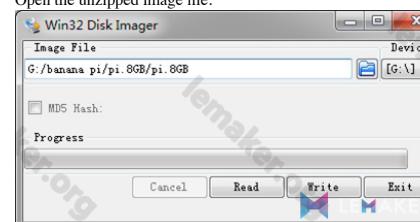
Check that the drive letter of the MicroSD card you inserted matches the one selected by the software. Otherwise it will format and delete all data on another drive or card. To be safe, only have your main hard drive connected and only the MicroSD card that you want to use in your B-Pro. LeMaker is not responsible for any loss of data.

Click the "Format" button

#### 2. Download a tool that can write images to an MicroSD card, such as Win32Diskimager

from <http://sourceforge.net/projects/win32diskimager/>

Open the unzipped image file.



Click the Write button. Wait patiently to successfully complete the writing. Do not disturb or disconnect/remove the card or shut down the computer during this process. When it has finished, soft-eject the card using the 'Safely Remove Hardware' icon in the System Tray/Notification area (bottom right of your screen), then physically remove the card from the card reader.

### Linux

#### 1: Format SD Card

In a terminal, run the `sudo fdisk -l` command to check the MicroSD card node.

Run the `sudo umount /dev/sdxx` to unmount all the partitions of the MicroSD card.

Run the `sudo fdisk /dev/sdxx` command. Use the o command to delete all partition of MicroSD card and use the n command to add one new partition. Use the w command to save change.

Run the `sudo mkfs.vfat /dev/sdxx` command to format the new created partition of MicroSD card as FAT32.

(x should be replaced according to your MicroSD card node as discovered in point vi above)

You can also jump this step under Linux, because write image command `dd` under Linux will format the MicroSD card automatically.

Download the OS image from the Downloads webpage.

Verify if the hash key of the zip file is the same as shown on the downloads page (optional).

`sha1sum [path]/[downloaded filename]` This will print out a long hex number which should match the "SHA-1" line for the MicroSD image you have

Use [this link](#) to get the OS image (should have the extension .img). To do this,

If the filename extension is .tar or .7z, Run `unzip [path]/[downloaded filename].command`

If the filename extension is .tgz, run `tar zxvf [path]/[downloaded filename]` command.

Ensure that neither the file name of the image you're using or the path contain any spaces (or other odd characters, for that matter).

## 2: Write the image file to the MicroSD card

Run the `sudo fdisk -l` command to check the MicroSD card node.

Run the `umount /dev/sdxx` to unmount all the partitions of the the MicroSD card

Run the `sudo dd bs=4M if=[path]/[imagename] of=/dev/sdx` command to write image file to Microsd card. Wait patiently to successfully complete writing. Please note that block size set to 4M will work most of the time, if not, please try 1M, although 1M will take considerably longer. You can use the `sudo pkill -USR1 -n -x dd` command to check progress

## Install Android OS Image

The Android images (4.2 v2.0 & 4.4 beta 1) cannot unfortunately use the dd command in Linux or the Win32Diskimager in Windows, so you need to use the PhoenixCard tool to burn the image to the MicroSD card.

**(Note : If your laptop's card slot cannot burn the MicroSD card, you should use an external USB MicroSD card reader instead.)**

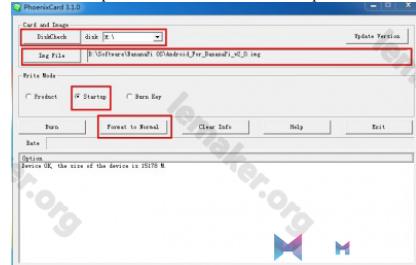
### PhoenixCard:

International download address: [https://drive.google.com/file/d/0B\\_VynIqhAcB7NTg2UkRDdHRWX2s/edit?usp=sharing](https://drive.google.com/file/d/0B_VynIqhAcB7NTg2UkRDdHRWX2s/edit?usp=sharing)

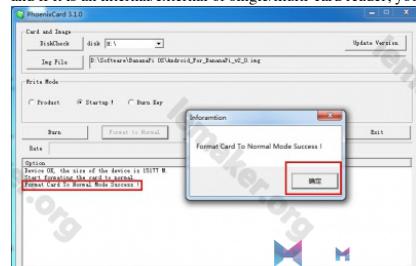
China domestic download address: <https://pan.baidu.com/s/1cIA0RO>

Install the Phoenixcard software (Run as Administrator), then start the program from its icon (also using Run as Administrator).

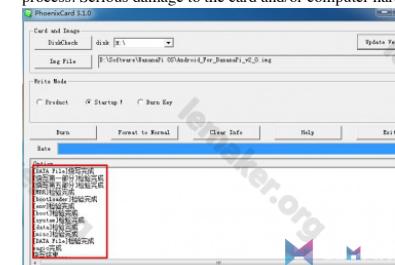
First, check the disk letter is EXACTLY the same as your MicroSD card with the button 'Disk Check'. (Better safe than sorry – disconnect all other USB devices and secondary hard drives before continuing. See this forum link for help if you do this.) Then load the disk file by clicking on the button 'Img File'. Next step – click the radio button 'Startup' in the Write Mode box, then press the 'Format to Normal' button.



Please note: although the text in the window of the above screenshot says "Device OK, the size of the device is XXXXX M", depending on your system and if it is an internal/external or single/multi-card reader, you may instead get only a message such as "Find 4 device, Please select correct the one" [sic].

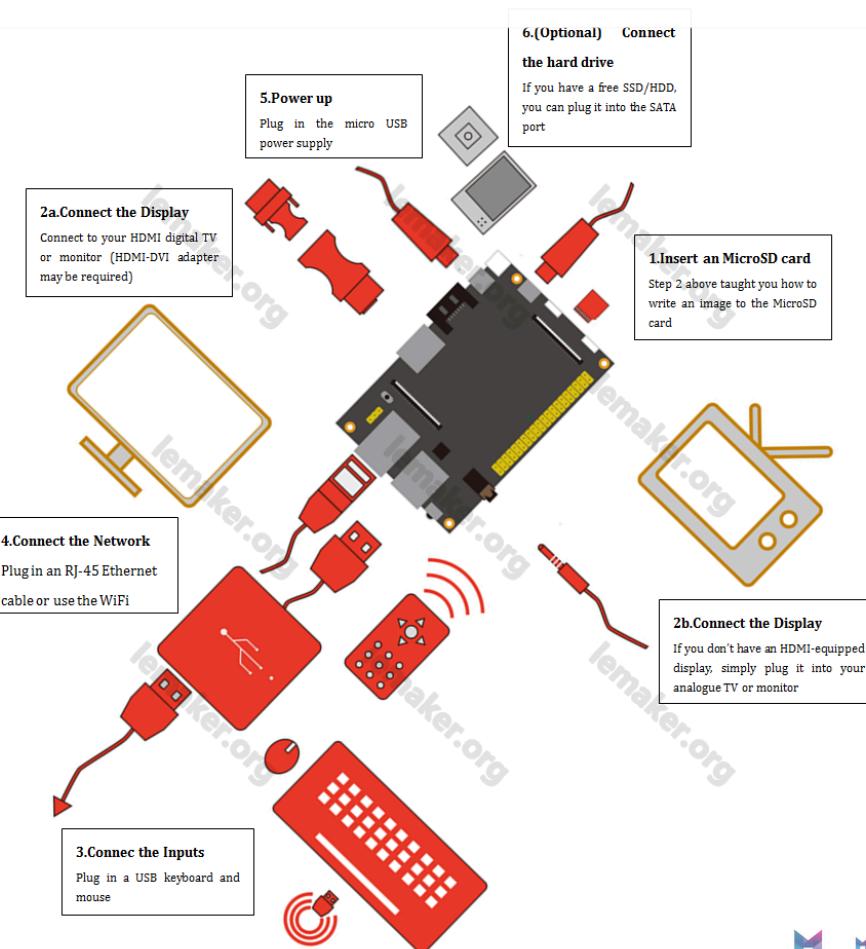


This can take quite a while so be patient. As mentioned previously, do not disturb the MicroSD card or remove it or turn off the computer during this process. Serious damage to the card and/or computer hardware can occur.



When the final 'Success' message appears, soft-eject the card using the 'Safely Remove Hardware' function in the Notification Area/System Tray (bottom right hand corner of the Windows screen). Now you can physically remove it and then insert it into the Banana Pro.

## Set up your Banana Pro



Insert the newly written MicroSD card into the MicroSD card socket on the left side edge of the underside of the board. On the bottom edge in the middle of the board is the HDMI Type A (full sized – 13.9mm wide) port, just to the right of the SATA port. Just connect any HDMI Type A cable from the B-Pro to your TV or HDMI Monitor. If you don't have a TV/Monitor with a HDMI or DVI-D port, you can use the AV jack located in the top edge. Plug a USB keyboard and mouse into the USB slots located on the right hand edge. Just under the USB ports on the right hand edge is the Ethernet connector if you want to plug the Banana Pro into a wired network. Finally, at the very left of the bottom edge is the micro-USB power connector. Plug in a regulated power supply that is rated at 5V ±5% and at least 2A. Any value bigger than 2A (like 2.5A) will also work. Avoid using the smaller chargers used for small GSM phones, as these are often unregulated - even if they claim "5V 2A", they may do "5V" and may do "2A", but not at the simultaneously!



(This step is optional) If you have a free SATA 2.5 inch or 3.5 inch hard drive (SSD or HDD), you can use it on the Banana Pro. Connect the SATA cable to the SATA port just between the micro-USB and HDMI ports. Remember to put the hard drive's power cable with the 2 male 2.54mm headers into the SATA power. Be careful with the connection of the different color cables. And please aware that only 2.5 inch SATA hard drive can use the SATA power on board, the 3.5 inch SATA hard drive need external supply. Then you can plug your hard drive into the the SATA slot..

If all goes well, the Banana Pro will boot in a few minutes. The screen will display the OS's GUI (Graphical User Interface). The first boot of a new OS can sometimes take a long time. Be patient! Subsequent boots are usually much quicker.

## Shut down your BananaPro

You can use the GUI to shut down the Banana Pro safely. Also you can run the command in the terminal:

```
sudo halt
```

or

```
sudo shutdown -h now
```

This will shut down the PRO safely, (just use the power key to turn off might damage the MicroSD-cards file system).

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