SinoVoip CO.,LTD

Banana PI M2
User Manual
<Version: V2.0 >



Banana PI M2 is the open source hardware platform,Banana PI M2 is an quad core version of Banana Pi ,Banana PI M2 is the quad core more better than the Banana Pi M1,it support WIFI on board.

Banana Pi M2 series run Android,Debian linux,Ubuntu linux, Raspberry Pi imange and others image.

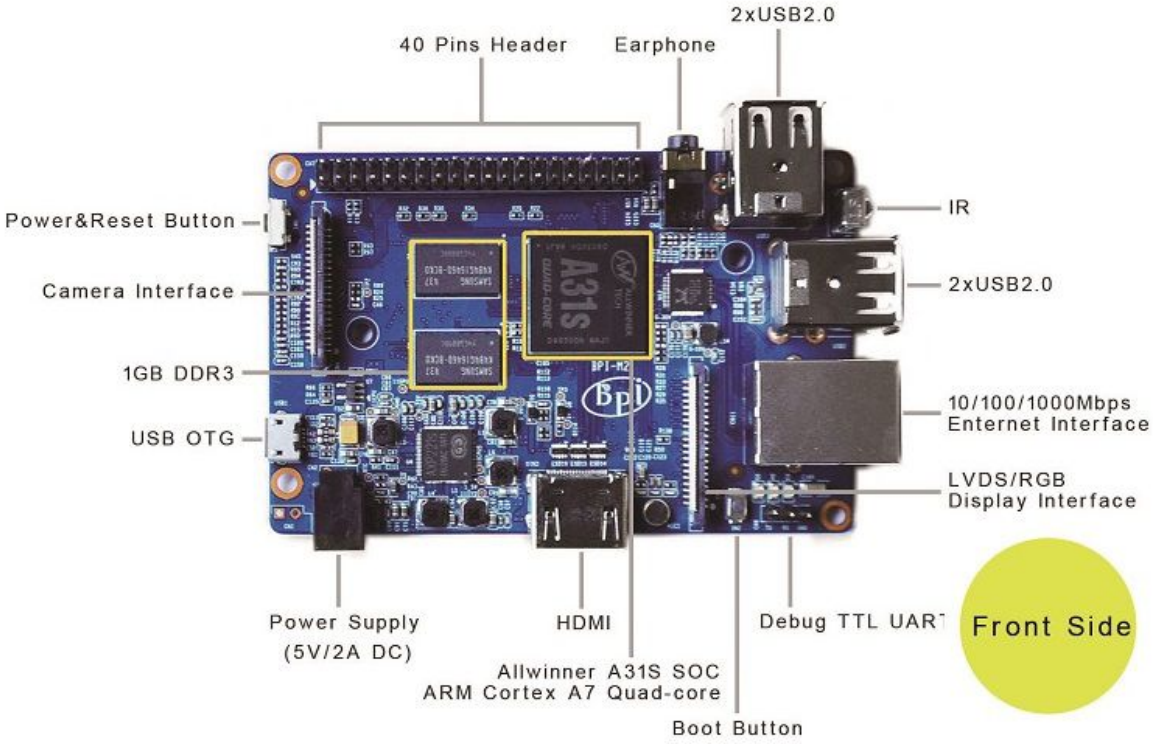
Banana PI M2 hardware: 1Ghz ARM7 quad-core processor, 1GB DDR3 SDRAM,

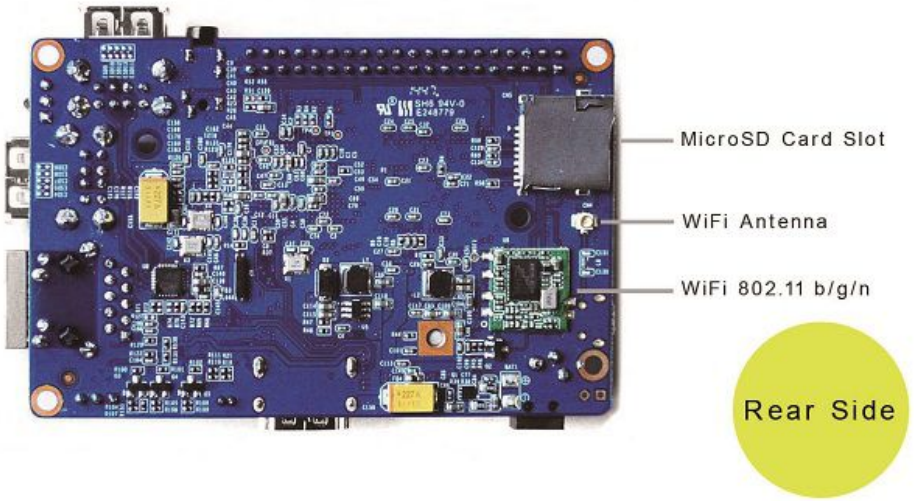
Banana PI with Gigabit ethernet port, It can run with Android 4.4 smoothly. The size of Banana PI M2 same as banana pi M1, it can easily run with the game it support 1080P high definition video output, the GPIO compatible with Raspberry Pi B+ and can run the ROM Image

Note: Banana Pi M2 not support sata port, so you need use USB for hardisk

Hardware specification	
CPU	A31S ARM Cortex-A7 quad-core,256 KB L1 cache 1 MB L2 cache
GPU	· PowerVR SGX544MP2 · Comply with OpenGL ES 2.0, OpenCL 1.x, DX 9_3
Memory (SDRAM)	1GB DDR3 (shared with GPU)
Onboard Storage	TF card (Max. 64GB) / MMC card slot
Onboard Network	10/100/1000 Ethernet RJ45, WIFI onboard
Video Input	A CSI input connector allows for the connection of a designed camera module
Video Outputs	HDMI, CVBS , LVDS/RGB
Audio Output	3.5 mm Jack and HDMI
Power Source	5 volt via MicroUSB(DC In Only) and/or MicroUSB (OTG)
USB 2.0 Ports	4 USB PORT
Buttons	Reset&Power button
GPIO(2X20) pin	GPIO,UART,I2C bus,SPI bus with two chip selects, CAN bus,ADC,PWM,+3.3v,+5v,ground.
LED	Power Key & RJ45
Remote	IR (Optional)
OS	Android and Linux etc. OS
Interface definition	
Product size	92 mm × 60mm
Weight	48g
working temperature range	-15~75℃

Interface:


40 Pins Header
Earphone
2xUSB2.0
Power&Reset Button
IR
Camera Interface
2xUSB2.0
1GB DDR3
10/100/1000Mbps
Enternet Interface
USB OTG
LVDS/RGB
Display Interface
Power Supply
(5V/2A DC)
HDMI
Debug TTL UART
Front Side
Allwinner A31S SOC
ARM Cortex A7 Quad-core
Boot Button


MicroSD Card Slot
WiFi Antenna
WiFi 802.11 b/g/n
Rear Side

Use method

Step 1: Get what you need

First time to enjoy your Banana Pi, you need at least the accessories in the table below.

No.	Item	Minimum recommended specification & notes
1	TF card	• Minimum size 4Gb; class 4 (the class indicates how fast the card is). • We recommend using branded SD cards as they are more reliable.
2a	HDMI(Full sized) to HDMI / DVI lead	• HDMI to HDMI lead (for HD TVs and monitors with HDMI input). OR HDMI to DVI lead (for monitors with DVI input).
2b	AV video lead	• A standard AV video lead to connect to your analogue display if you are not using the HDMI output.
3	Keyboard and mouse	• Any standard USB keyboard and mouse should work. • Keyboards or mice that take a lot of power from the USB ports, however, may need a powered USB hub. This may include some wireless devices.
4	Ethernet cable/USB WiFi(Optional)	• Networking is optional, although it makes updating and getting new software for your Banana Pi much easier.
5	Micro USB power adapter	• A good quality, micro USB power supply that can provide at least 700mA at 5Vis essential. • Many mobile phone chargers are suitable—check the label on the plug.
6	Audio lead (Optional)	• You can choose a 3.5mm jack audio led to connect to audio port to get stereo audio.
7	Mobile Hard disk (Optional)	• You can choose to connect a mobile hard disk to usb port to store more files.



HDMI to HDMI lead



HDMI to DVI lead



AV video lead



SD card



Micro USB power adapter

Step 2: Download the relevant Image file:

Please visit our webmaster: www.bananapi.com to download image, banana pi all image can be download form this web.

Step3: Prepare your SD card for the Banana Pi M2

In order to enjoy your Banana Pi M2, you will need to install an Operating System (OS) onto an SD card. Instructions below will teach you how to write an OS image to your SD card under Windows and Linux.

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

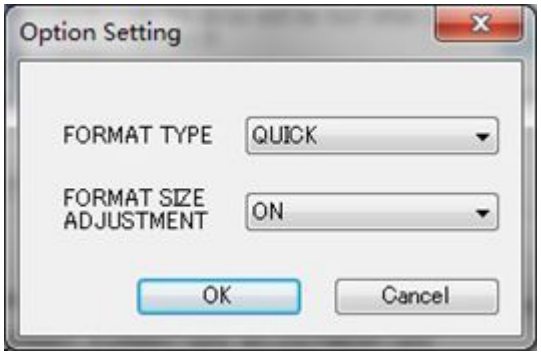
Windows:

Download the a SD card format tool such as **SD Formatter** from https://www.sdcard.org/downloads/formatter_4/eula_windows/

i. Unzip the download file and run the setup.exe to install the tool on your machine.

ii. In the "Options" menu, set "FORMAT TYPE" option to QUICK, "FORMAT SIZE ADJUSTMENT" option to "ON".





iii. Check that the SD card you inserted matches the one selected by the Tool.

iv. Click the “Format” button.

Linux:

v. Run ***fdisk –l*** command to check the SD card node.

vi. Run ***sudo fdisk /dev/sdx*** command to delete all partition of SD card.

vii. Run ***mkfs –t vfat /dev/sdx*** command to format the entire SD card as FAT.

(x should be replaced according to your SD card node)

3. Download the OS image from Download district.
4. Unzip the download file to get the OS image.

Windows: Right click on the file and choose "Extract all".

Linux: Run ***unzip [downloaded filename]*** command.

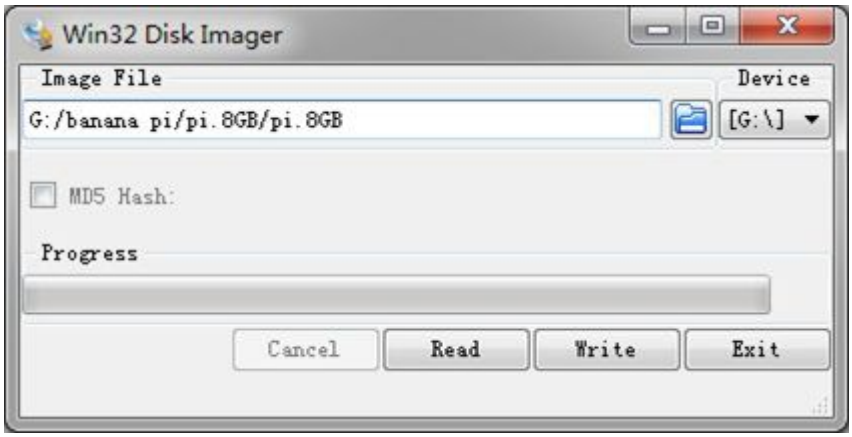
5. Write the image file to the SD card.

Windows:

i. Download a tool that can wirte image to SD card, such as **Win32 Diskimager** from:

http://sourceforge.net/projects/win32diskimager/files/Archive/

ii. Open the unzipped image file.



iii. Click Write button. Wait patiently to successfully complete writing.

Linux:

iv. Run ***fdisk –l*** command to check the SD card node.

v. Run ***dd if=[imagename] of=/dev/sdx*** command to write image file to SD card. Wait patiently to successfully complete writing.

Step4: Set up your Banana Pi M2

According to the set up diagram below, you can easily set up your Banana Pi.

1. Insert the written-image SD card that to the SD card spot on the left side edge of the underside of the board.
2. On the bottom "edge" in the middle of the board is the HDMI Type A (Full sized) port. Just connect any HDMI cable from the board to your TV or HDMI Monitor.
   If you don't have an TV/Monitor with a HDMI or DVI-D port you can use the yellow AV jack located in the middle of the "top" edge and the 3.5 mm stereo headphone jack to the right of it.
3. Plug a USB keyboard and mouse into the USB slots located on the right edge.
4. Just under the USB ports on the right edge is the ethernet connector for anyone who wants to plug the Banana Pi into a wired network.
5. 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 700mA (or 0.7A). Any number bigger than 700 mA (like 1000mA) will also work. Avoid using the smaller chargers used for small GSM phones, as these are often unregulated, even if they claim "5V 1A", they may do "5V" and may do "1A", but not at the same time!
   The mini-USB (on the left) is the wrong one. It's thicker and looks like a trapezoid with its sides pinched in. The micro-USB (on the right) is the

correct one. It is thinner and also looks like a trapezoid except it's sides are rounded outward.



If all goes well, the Banana Pi will boot in a few minutes. The screen will display the OS GUI.



Step5: Shut down your Banana Pi M2

You can use the GUI to shut down the Banana Pi safely.

Also you can run the command in the terminal:

sudo halt

or

sudo shutdown –h.

This will shut down the PI safely, (just use the power key to turn off might damage the SD-cards file system). After that you can press the power key for 5 seconds to turn it off.

If all is well ,so you can use banana pi M2 now.

More Pictures


A31S
BPI-M2




bpi-M2
A31S


bpi
BPI-M2
A31S
QUAD-CORE