

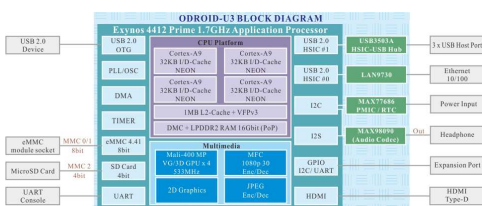
## U3 Odroid

- [specification](http://hardkernel.com/main/products/prdt_info.php?g_code=G138745696275) ([http://hardkernel.com/main/products/prdt\\_info.php?g\\_code=G138745696275](http://hardkernel.com/main/products/prdt_info.php?g_code=G138745696275))
  - 1.7GHz Quad-Core processor and 2GByte RAM
  - 10/100Mbps Ethernet with RJ-45 LAN Jack
  - 3 x High speed USB2.0 Host ports
  - Audio codec with headphone jack on board
  - XUbuntu 13.10 or Android 4.x Operating System
  - Size : 83 x 48 mm, Weight : 48g including heat sink
  - Package includes the main board and the heat sink

## Competing with the Raspberry pi

- monthly magazine (<http://magazine.odroid.com>)
- [schematics available](https://docs.google.com/file/d/0B5aZmgmqP9rORU5xUXR5MHV5OGs/edit?pli=1) (<https://docs.google.com/file/d/0B5aZmgmqP9rORU5xUXR5MHV5OGs/edit?pli=1>)

## Block diagram



## Peripherals

- micro SD card
- eMMC card
- usb devices
- I/O shield

## I/O shield

- the IO shield has 2 blocks
  - “I2C IO expansion block” and
  - “Arduino Compatible block”
- [I/O shield](http://hardkernel.com/main/products/prdt_info.php?g_code=G138760240354&tab_ic) ([http://hardkernel.com/main/products/prdt\\_info.php?g\\_code=G138760240354&tab\\_ic](http://hardkernel.com/main/products/prdt_info.php?g_code=G138760240354&tab_ic))

## Benchmarks

- Compiling GNU Modula-2
  - builds in 61 minutes
  - using standard make
  - should build in much less once the Makefiles have been debugged to allow make -j 4 to keep all four processors busy
- compare to the raspberry pi which took 9 days, and failed
  - crucially the problem on the pi was lack of ram, thus swapping had to be enabled

## Video playback

- U3 supports 720p, whereas the pi supports 1040p
- ioquake builds, but I've not yet managed to get it perform with opengl
  - ioquake worked with the pi out of the box (60 frames/sec), for most of the time

## Desktop

- desktop is useable with the U3
  - whereas on the pi it is unusable
- chromium on the U3 works fine, quite responsive
  - libreoffice works well
- compare to a painful experience on the pi

## Audio

- Raspberry pi
  - the analogue audio output is very good, great for testing amplifiers with vinyl rips
- U3 not tested yet

## Conclusion

- U3 Odroid is a very interesting piece of equipment
  - it feels responsive
  - will be a desktop terminal replacement, aka plan9 or lisp
- first arm machine which has compiled gm2 successfully
  - quad core, 2GB ram
- would like 1040p video playback
- need to investigate opengl support under the U3