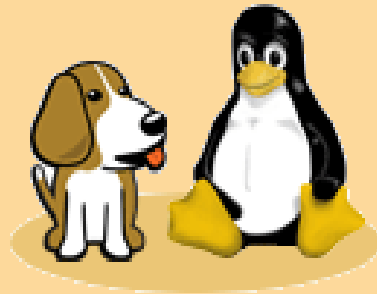


TriLUG

Beagle Board Overview and Demo

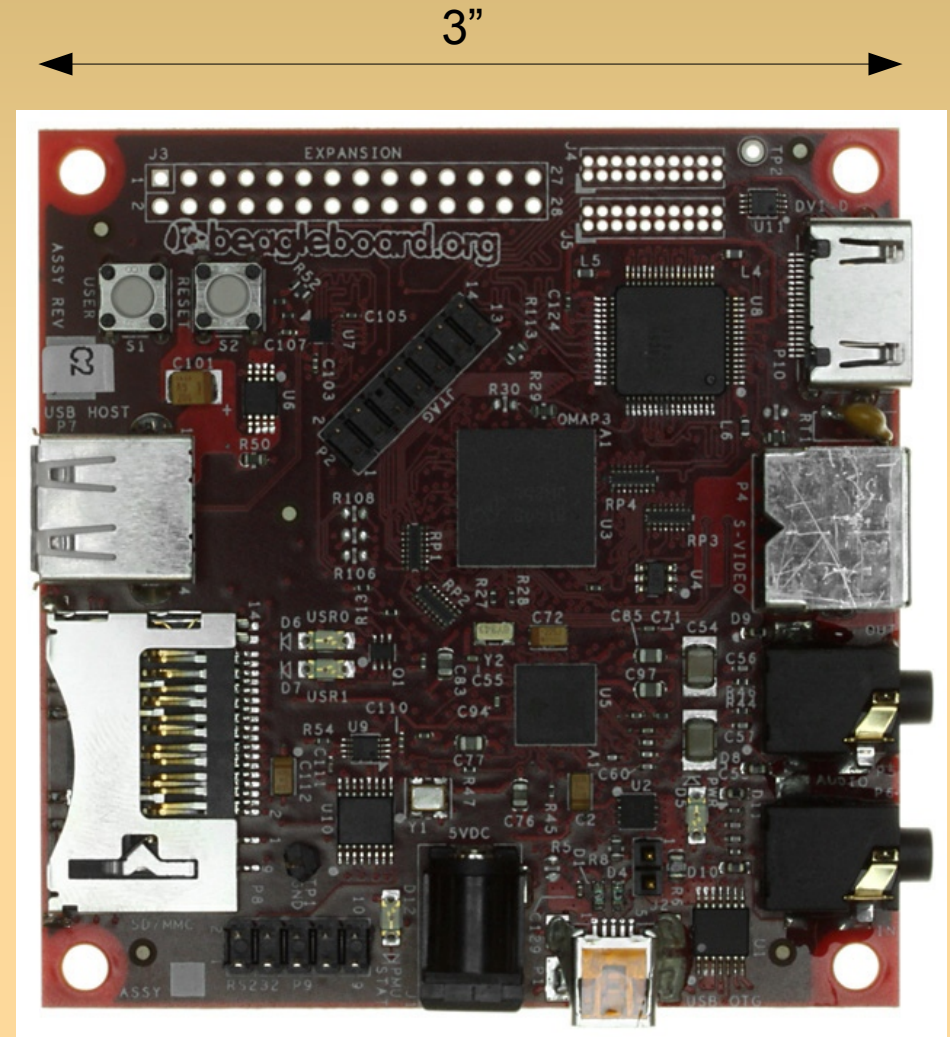


Beagle Board overview and demo

- What is a Beagle Board?
- What is the Beagle Board not?
- Why is the Beagle Board important?
- How do I get one?
- How Do I make it work?

What Is a Beagle Board?

- Desktop PC like performance
- Without the excess of Silicon, Fans, Space, and Watts



Yanked Shamelessly From Wikipedia

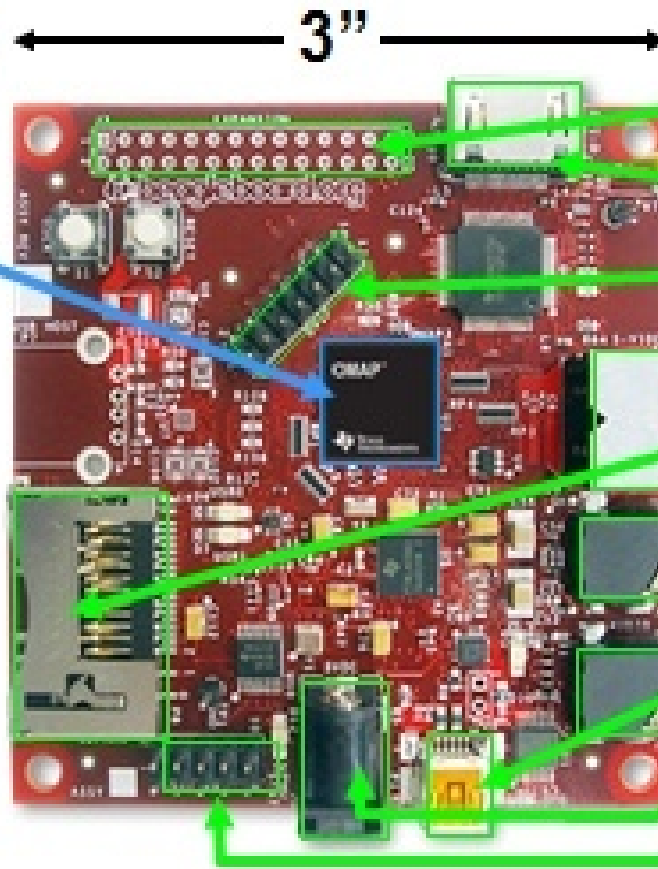
Laptop-like performance

TI OMAP3530

- 600 MHz superscaler ARM[®] Cortex™-A8
- More than 1200 Dhrystone MIPS
- Up to 10 Million polygons per sec graphics
- HD video capable C64x+™ DSP core

Memory

- 128MB LPDDR RAM
- 256MB NAND flash



Flexible expansion

- I²C, I²S, SPI, MMC/SD
- DVI-D
- JTAG
- S-Video
- SD/MMC+
- Stereo Out
- Stereo In
- USB 2.0 HS OTG
- Alternate Power
- RS-232 Serial

What Can It Do?

- Whatever your Linux laptop / desktop can*
- DVI output, up to 1280x1024
- Floating Point hardware
- 3D rendering/games**
- Play/Record Audio
- Video and some Flash
 - Gnash
 - swfdec-player

*ARM code only

**3D is not easy yet

What Can it not Do?

- It can't execute x86 code
SO...
 - No Windows 7
 - No Windows Programs
 - No Wine
 - No Adobe Flash
- OpenGL support is flaky
 - Youve been warned!



What Can it not Do?

- No VGA port
 - Converter is \$60 - \$80
 - Just a DVI->VGA connector/adaptor will not work



Why is the Beagle Board Important?

- Easy intro to "embedded" Linux systems
 - Easy intro to TI ARM/OMAP processors.
- On board development platform
- Powerful embedded platform
- Great hardware support from TI
 - Not perfect due to some HW being patented like 3D, but very good

Where do I get one?

- www.digikey.com



- Supplier of electronic components/supplies, starter kits

- www.mouser.com



- Supplier of electronic components/supplies, starter kits

- www.sparkfun.com



- Supplier of electronic components/supplies and starter kits, personality, applicable knowledge & tutorials, and a friendly user forum

How Do I Make it Work?

- Quick bootstrap HowTo is at the wiki:
<http://elinux.org/BeagleBoardBeginners>
- Need at least following:
 - 1-2G SD card
 - Serial port wire from old PC
 - NULL Modem cable DB9
 - USB with B mini connector
 - HDMI Cable
 - Not actual HDMI signal
 - just a DVI signal



How Do I make it work

- Quick Overview of Getting started
 - Format SD card according to wiki instructions
 - Download demo file system, modules, ulmage
 - Or download an SD card image tarball for a 2G SD
 - Use the serial port and minicom to connect
 - 115200N1
 - Update the uboot and change boot args and boot

How Do I make it Work?

- Getting USB to work is tricky
 - I had to insmod the g_ether.ko module, then:

```
# echo host > /sys/devices/platform/musb_hdrc/  
mode
```
 - Also must solder a few connections
 - For more info on getting USB to work check the elinux BB FAQ or the Mailing List / Newsgroup

