

*Your Own Custom Embedded Board in 5 weeks !*



- ***What is Mi-embedded ?***






- 4 Boards , 5 weeks , £6k , almost as easy as 1,2,3
- Long Product life
  - 7 year extended lifetime CPUs
- Extended Temperature Range
  - -40C to + 110C In Vehicle compliant
- Full Bios Support
  - Maximum legacy compatibility DOS ,  
Windows XP

# Specification



Off the Shelf Standard Configuration Boards

	Bay Trail	G-Series	Haswell ULT
			
x86 CPU Processor	<b>Intel E3826</b> Dual Core 1.5GHz	<b>AMD</b> Quad Core 1.5GHz	<b>Intel</b> Quad Core 2.1GHz
Little Micro	AT Mega 2560 @ 16Mhz	AT Mega 2560 @ 16Mhz	AT Mega 2560 @ 16Mhz
Price 1 off	£ 225	£ 250	£ 875
Memory	1 So-Dimm upto 8 GB DDR3	1 So-Dimm upto 8 GB DDR3	1 So-Dimm upto 8 GB DDR3
On Board Storage	microSD	microSD	microSD
Graphics	Gen 7	Radeon HD8000	GT3
OS	Linux, Win 7,8 , 8.1	Linux, Win 7,8 , 8.1	Linux, Win 7,8 , 8.1
USB	3 x 2.0 , 2 x 3.0	3 x 2.0 , 2 x 3.0	3 x 2.0 , 2 x 3.0
PCIe	x4	x4	x4
Power TDP	7W	15W	15W
Display Resolution	2560 x 1600@60	3840 x 2160 @ 30	3840 x 2160 @ 30
Displays	HDMI 1.4a , 18 bpp LVDS	HDMI 1.4a , 18 bpp LVDS	HDMI 1.4a , 18 bpp LVDS
SATA	1 x Sata 3.0 ; 1 x mSata Slot	2 x eSata 2.x / 3.x	2 x eSata 2.x / 3.x
IO Functions	3 x I2C , 1 x SPI , 2 x UART , GPIO	1 x I2C , 1 x SPI , 3 x UART , GPIO	1 x I2C , 1 x SPI , 3 x UART , GPIO
Audio	HDMI	HDMI	HDMI
Ethernet	10/100/1000	10/100/1000	10/100/1000
Power Input	7v to 15v DC input	7v to 15v DC input	7v to 15v DC input
Proto Typing Expansion	Arduino , Raspberry Pi , Breadboard	Arduino , Raspberry Pi , Breadboard	Arduino , Raspberry Pi , Breadboard
Customise from	£6k*	£6k*	£10k*

● \* Introductory Offer ●

# Specification





Customise your CPU

Intel Bay Trail	E3845	E3827	E3826	E3825	E3815
# of x86 Cores	4	2	2	2	1
TDU (CPU, GPU, &SB)	10W	8W	7W	6W	5W
Shared L2 Cache	2MB	1M	1M	1M	512K
CPU Freq.	1.91GHz	1.75GHz	1.46GHz	1.33GHz	1.46GHz
GPU Freq. (Graphics)	542MHz	542MHz	533MHz	533MHz	400MHz
Temp Range TjC*	-40 to 105°C	-40 to 105°C	0-90°C	0-90°C	0-90°C

AMD G SOC	GX-411GA	GX-209HA	GX-415GA	GX-210HA	GX-210JA
# of x86 Cores	4	2	4	2	2
TDU (CPU, GPU, &SB)	15W	9W	15W	9W	6W
Shared L2 Cache	2MB	1MB	2MB	1B	1MB
CPU Freq.	1.1GHz	1.0GHz	1.5GHz	1.0GHz	1.0GHz
GPU Freq. (Graphics)	300MHz	225MHz	500MHz (HD 8330E)	300MHz (HD 8210E)	225MHz
Temp Range TjC*	-40 to 105°C	-40 to 105°C	0-90°C	0-90°C	0-90°C

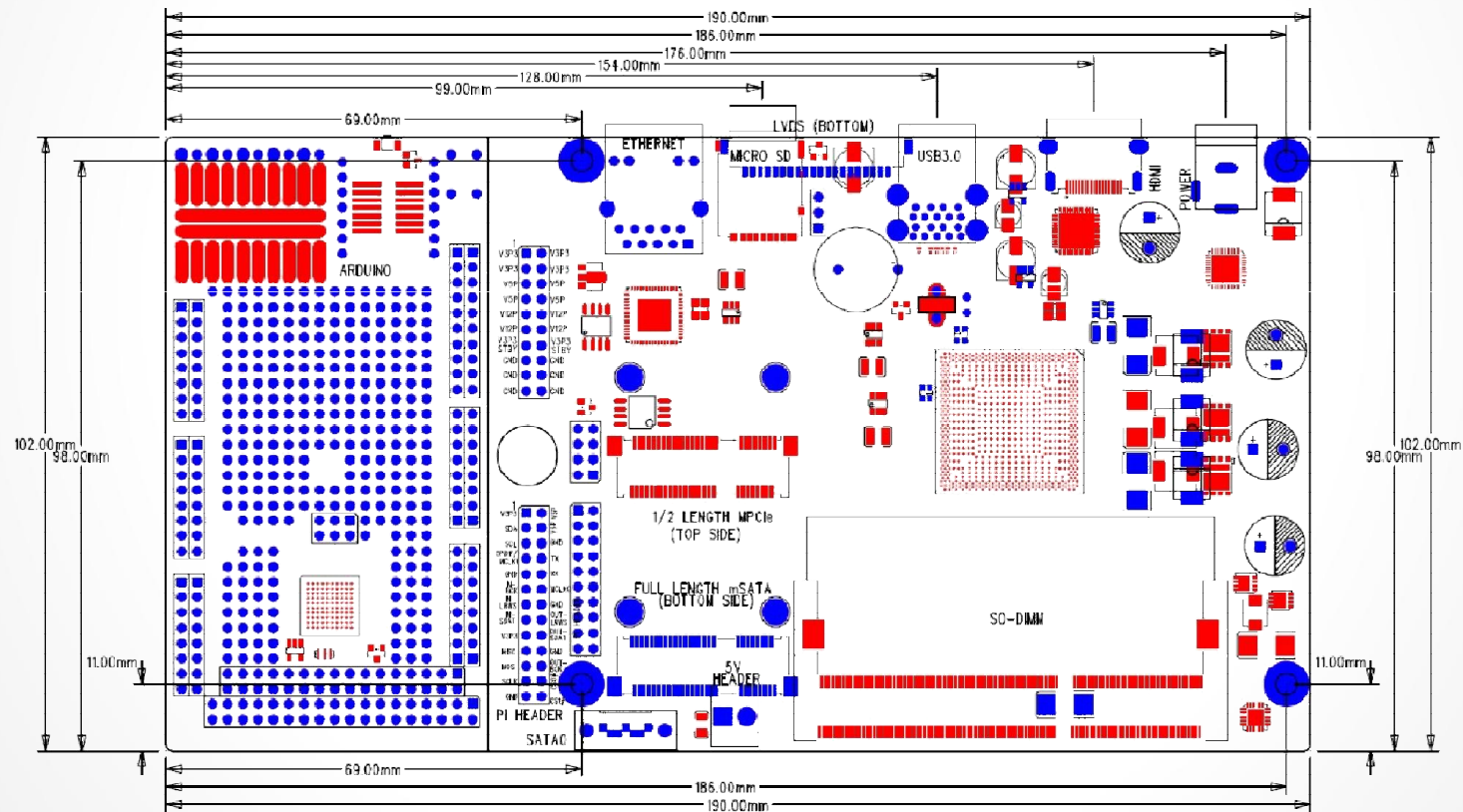
Intel Haswell ULT	I7-4650	I5-4300	I3-4010
# of x86 Cores	2	2	2
TDU (CPU, GPU, &SB)	15W	15W	15W
Shared L2 Cache	4MB	3MB	3MB
CPU Freq.	1.7GHz	1.9GHz	1.7GHz
GPU Freq. (Graphics)	200MHz	200MHz	200MHz
Temp Range TjC*	0-90°C	0-90°C	0-90°C

Standard Mi-embedded board =   
 Extended Temperature range = 

# Specification



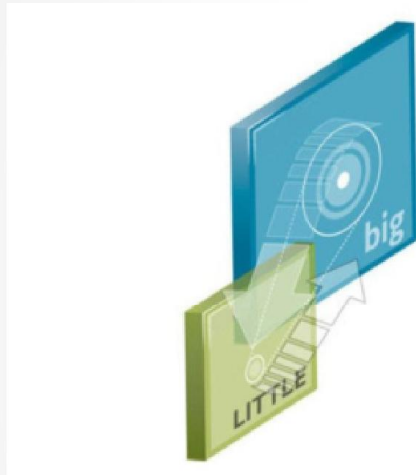
## Mi Embedded Standard Size



# Big.LITTLE processing



The power and flexibility of 2 processors.  
Super low power Atmel “Arduino” with system control and communications to Big x86.



## **Big**

X86 Multi core CPU

Latest IO and hi speed connectivity

Latest Operating Systems. Windows , Linux

## **LITTLE**

Atmel ATmega2560 Arduino Mega 2560

Micro IO available to

Full system control

## **Battery OR Green Powered**

Use the little low current micro to gather long term data, turn on the Big x86.

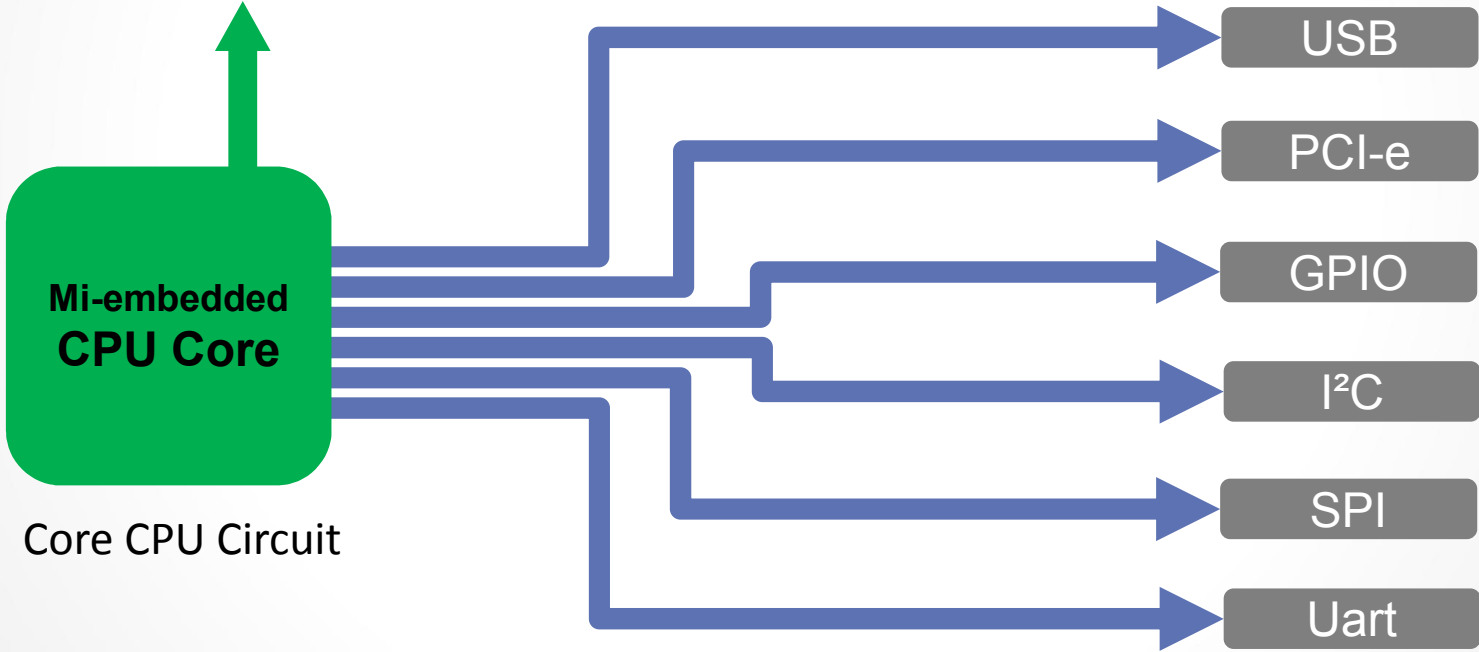
Compute the Big Data in a Big OS Windows / Linux then send on to the Internet.

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# Connectivity



You customise  
Bigger or Smaller PCB you choose.



Standard Buss to connect to your circuit



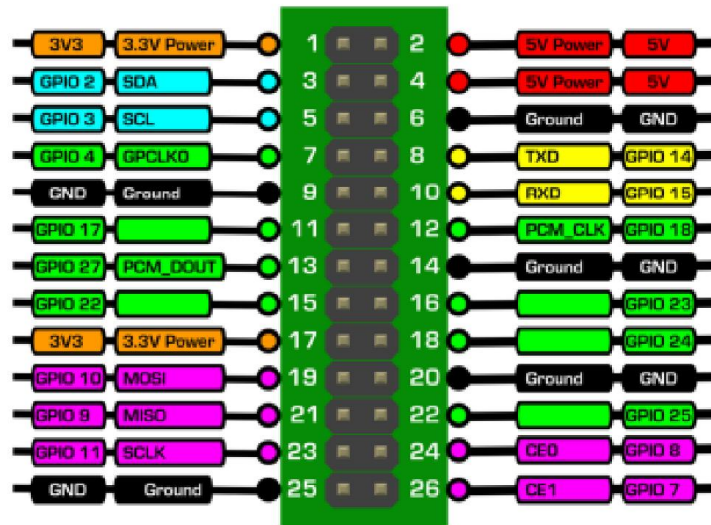
Raspberry Pi

# Compatibility

Off the Shelf Standard Configuration Boards

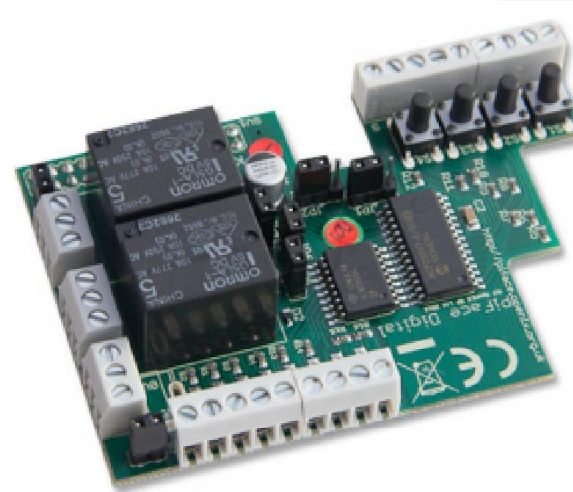


Raspberry Pi Rev2 - P1 Connector

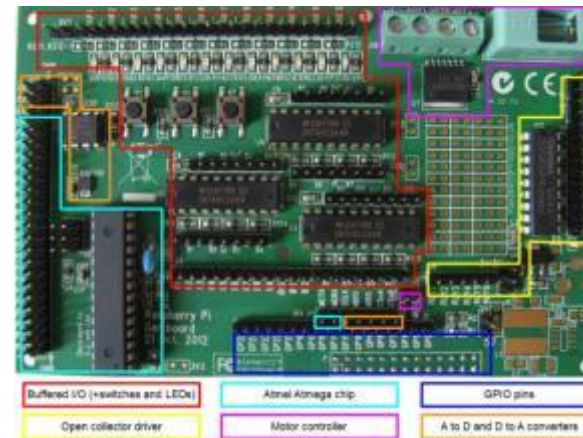


- Power 3.3V maximum current draw 50mA
- Power 5V maximum current draw Model A - 500mA, Model B - 300mA
- Ground
- UART
- I2C pulled-up with 1KΩ resistor to 3.3V
- GPIO
- SPI

PiFace



Gertboard

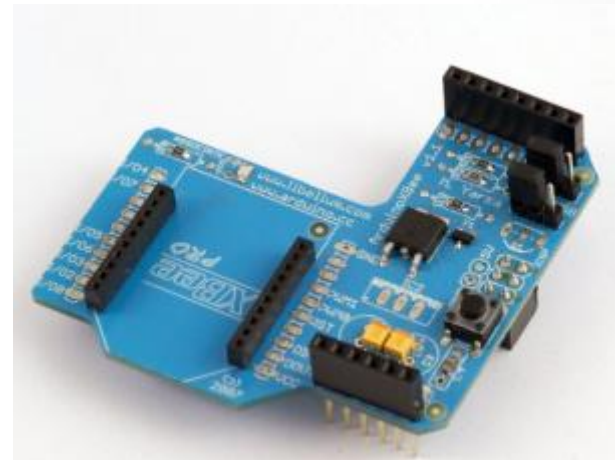
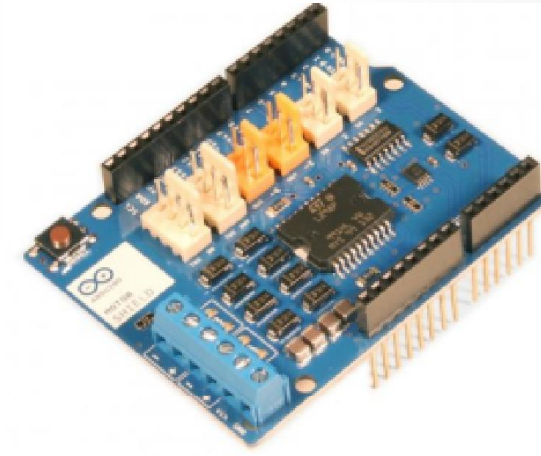






# Compatibility

Off the Shelf Standard Configuration Boards  
Plug straight in.



# Custom Version



4 Units 5 weeks for £6k \*



## Requirements:-

Customer Supplied Validated Schematic.  
Excel Bill of Material. (Digikey, RS, Mouser Pt#)  
Free Issue your parts  
Maximum of 300 nets  
Max net Speed 30Mhz

## Delivered to Customer:-

4pcs Custom Board  
Gerber files and schematics (partial)  
Excel Bill of Material  
Price Quote for a further 10 , 50 , 100 Pcs  
Price Indication of production of; 1k, 5k, 10k pcs

\* Introductory offer

- ***What is Mi-embedded ?***



- What is Mi-embedded ?
  - Mi-embedded is your very own semi customised embedded board to your specification. We have designed the CPU core you can change the connectors , power circuit , add your own peripherals PCB size and mountings etc.
- Why are there a family of boards ?
  - So you can get the best power , performance profile for your project.
- How can I get Started ?
  - We have made a Mi-embedded standard Intel Baytrail , Haswell and AMD G-Series SOC Board with Arduino AT Mega. You can use these to prototype your project.
- BIG x86 and little micro ?
  - Atmel AT Mega Arduino + x86 multicore SOC on a single board the best of both worlds. Giving you the best of number crunching performance, and low power always connected micro. Change it to your own favourite micro , Ti MSP430 , Microchip PIC , Atmel , Si Labs etc .
- Is it my design ?
  - Yes its your design, to make as you please.
- How much does it cost ?
  - The Introductory offer is an amazing £4k.
- How long does it take ?
  - Just 4 weeks
- Can I get a Quantity of my boards ?
  - Yes we can supply you 10 , 50 , 100 , 1k , 5k , 10k pcs



# Customing



- What can I customise ?
  - What ever you want to. Just keep the CPU core the same.
- Can I have a different CPU ?
  - Yes the possible CPU combinations are in the table.
- Can I make the Board Bigger ?
  - Bigger , smaller , thinner , In Vehicle spec , Military Spec whatever you need.
- Can I change the Board fixings ?
  - Yes to whatever you need
- Do I need the Pi OR Arduino Connectors ?
  - No. You can incorporate your Pi OR Arduino peripheral into your Mi-embedded board
- Can I change the power in ?
  - Yes to what ever you need
- What is the Working Temperature Range ?
  - Mi-embedded standard is 0 to 55C working temperature. We do have Hi Temp -40C to 110C as special order
- Can it be used for in Car IVI compliant ?
  - Yes it can. This family is the first that is IVI compliant
- What about the Bios ?
  - We offer Sage Bios and Intel Bootloader. You can download the source to these and modify to fit your own requirements.
- What about micro firmware ?
  - We give you source for the Arduino, that you can adapt / modify as you need.

# Bios / Firmware



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Call Us On 01243 558155

