

## ***EB020 – Installation Instructions.***

### ***32-bit Systems – WIN2000, XP, Vista 32, Win7 32***

***Detailed below are the 3 steps needed to get up and running with the CPLD board. This 3 step process needs to be completed only once and then the drivers should all be loaded and ready.***

***Step 1 – Installing the driver for the EB020 CPLD board.***

***Step 2 – Add or modify the LPT driver for use with the USB EB020 board***

***Step 2 has two options – Only one of these needs to be done depending on your PC.***

- a) PCs without a LPT port onboard their motherboard***
- b) PCs with a LPT port onboard their motherboard***

***Step 3 – Install the Altera Quartus II Software***

### ***64-bit Systems***

***The kernel driver that allows the Quartus software to talk to the LPT subsystem will not work for Windows x64 based systems. To get around this problem you can either use a 32-bit operating system or use a virtual machine such as Sun's VirtualBox to load a 32-bit operating system inside your 64-bit OS. We are currently investigating ways around having to do this.***

## 1) EB020 USB Driver

Make sure that J3 of the EB020 has a jumper in the PSU position

Insert a USB cable between the EB020 and your PC.

Plug in the PSU and switch on.

Switch on the EB020

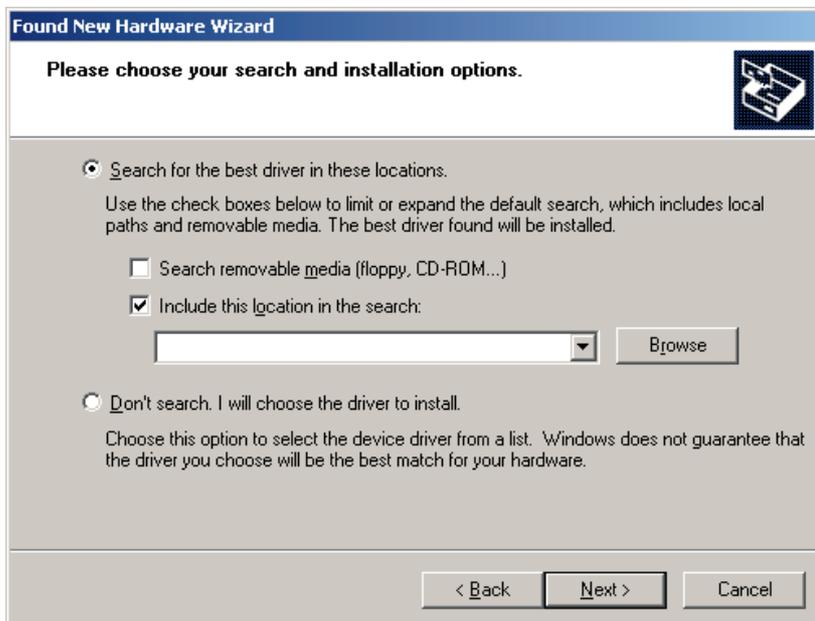
The USB LED should light indicating a connection

On the 'Found New Hardware Wizard' screen select Install from specific location (Advanced)



Click next

Tick the box next to include this location in the search and then click Browse



Locate the EB020 driver and click OK

Click Next

Click Continue Anyway

Configure the port address to 3BCh (956, LPT1 1985)

Configure the enhancement mode to ECP

Click Next



Click Finish

## 2a) Quartus LPT Driver – PC Motherboard does 'not' have a parallel port.

### XP ONLY

Click on the start menu and select control panel.  
Click switch to classic view.  
Double click the Add Hardware icon

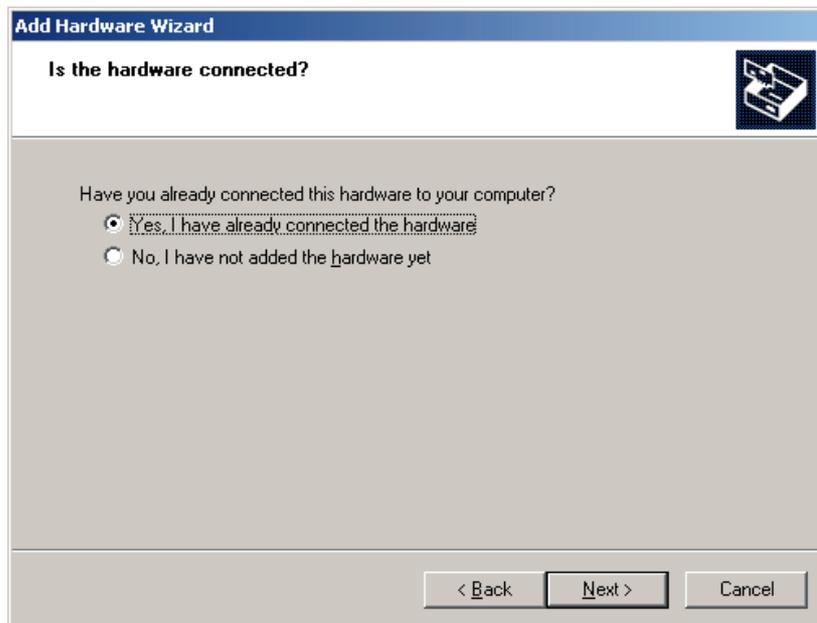
### VISTA / WIN7 ONLY

Click the start menu, then right click Computer and select properties.  
Click the Device manager link on the left of the window.  
Select an item in the device manager.  
Click the Action menu and select Add legacy hardware.

### ALL

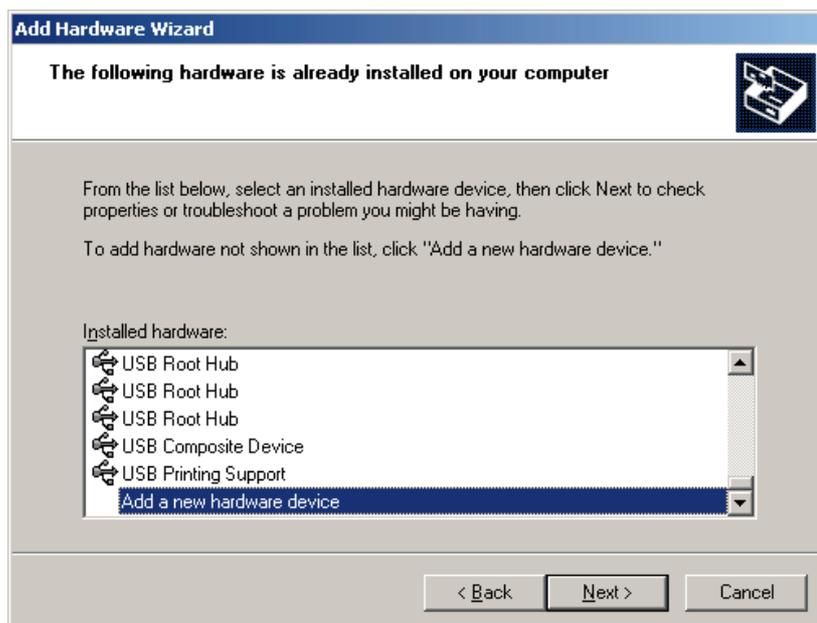


Click Next  
Select Yes, I have connected the hardware



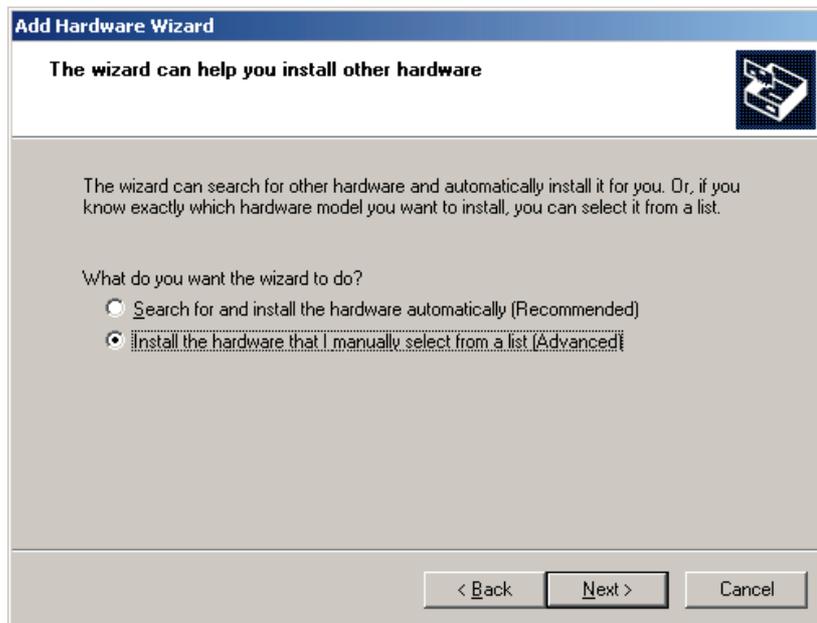
Click Next.

Scroll down to the bottom of the list and select Add a new device

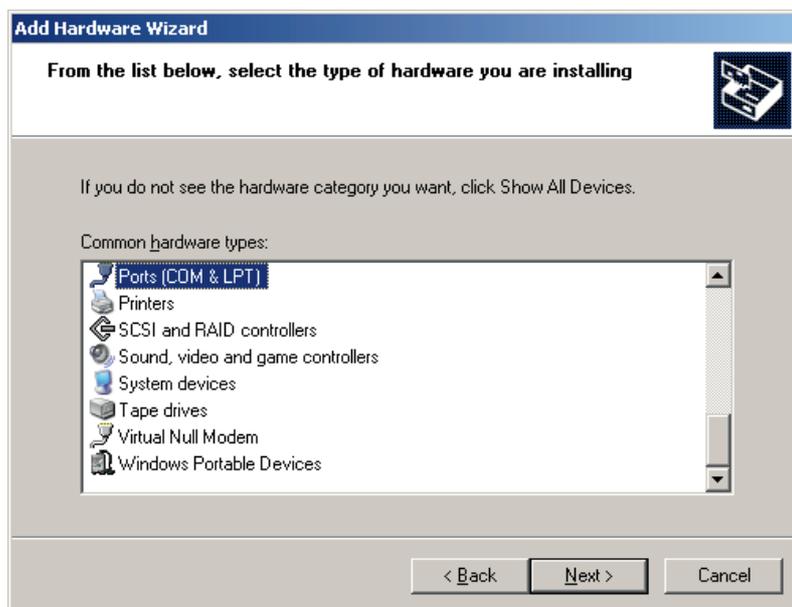


Click Next

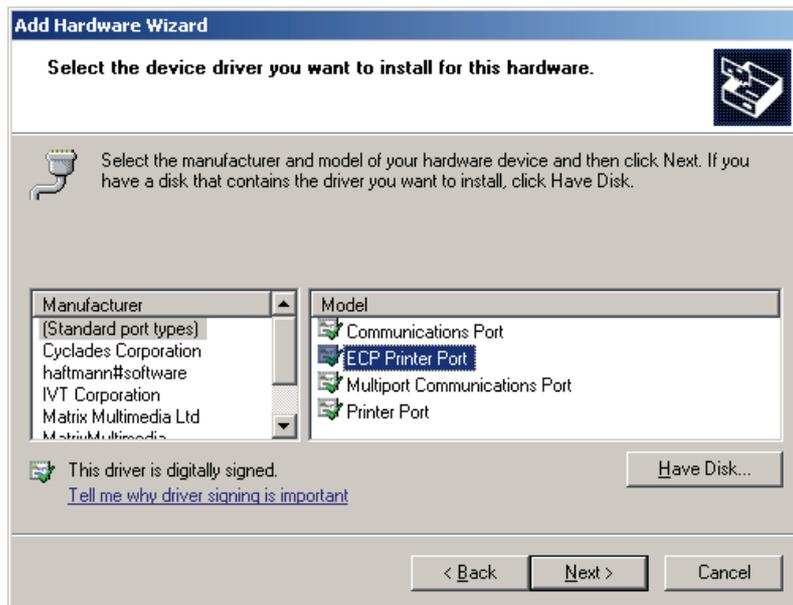
Select Install the hardware that I select manually



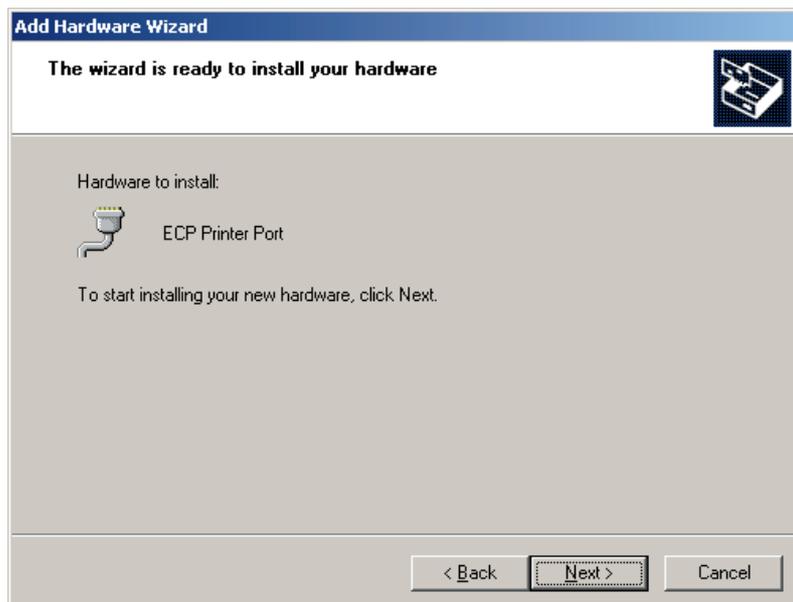
Click Next  
Select Ports (COM & LPT)



Click Next  
Under the standard ports types header select the ECP Printer Port



Click Next



Click Next

Click Finish

Click on Start and select Control Panel

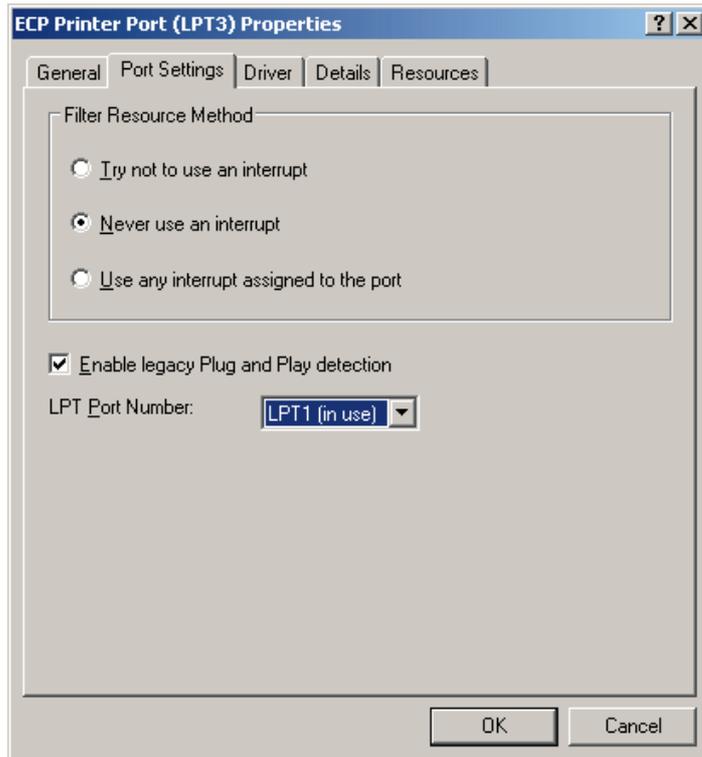
Double click the System icon

Click on the hardware tab and then open device manager

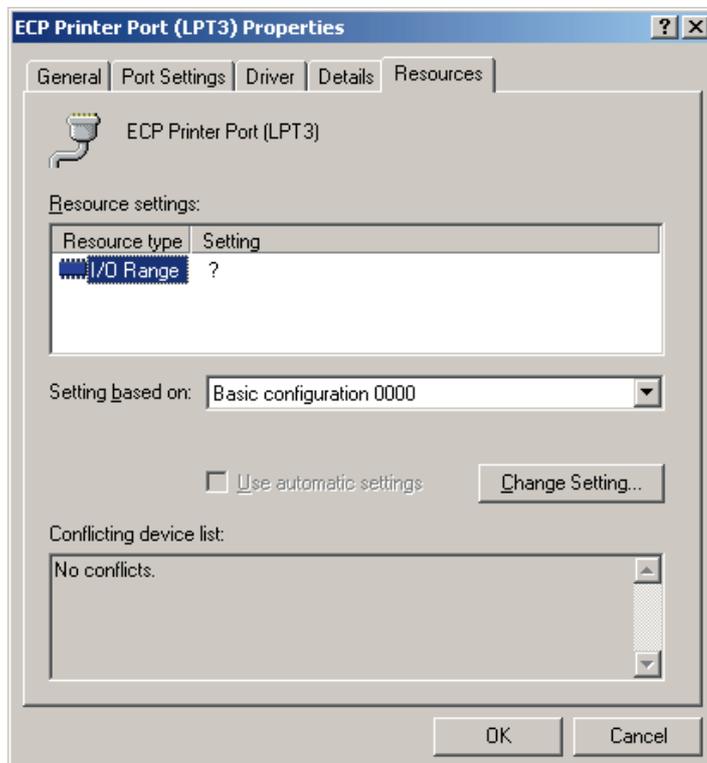
Open the heading Ports (COM & LPT)

You should now have at least two entries (ECP Port and CPLD device).

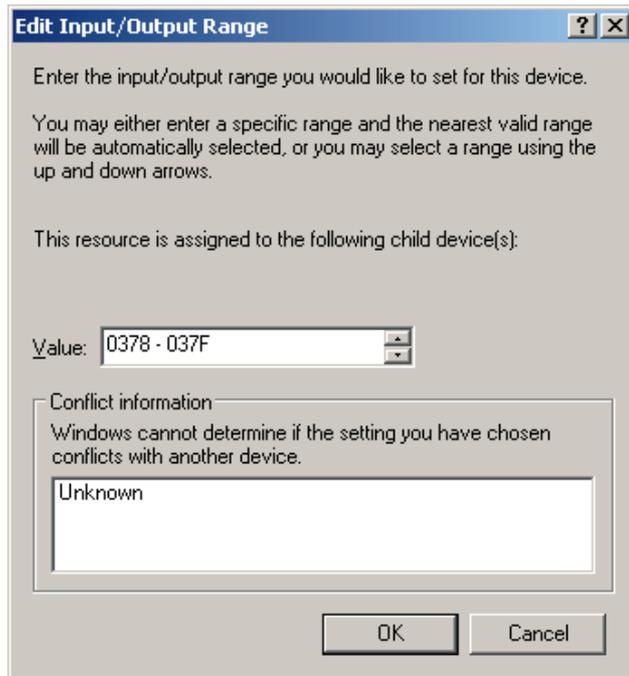
Double click the ECP Printer Port and click the port settings tab



Change the LPT port number to LPT1 or LPT2 depending on your configuration and then enable legacy plug and play detection  
Next click on the resources tab and click the 'Set configuration manually' button.  
Highlight the I/O range list item  
Un-tick the box saying use automatic settings.



Click the change settings button  
Type in the following '03BC – 03BE' into the value field.



Click OK  
Close Device manager.

### **Vista / WIN7 ONLY**

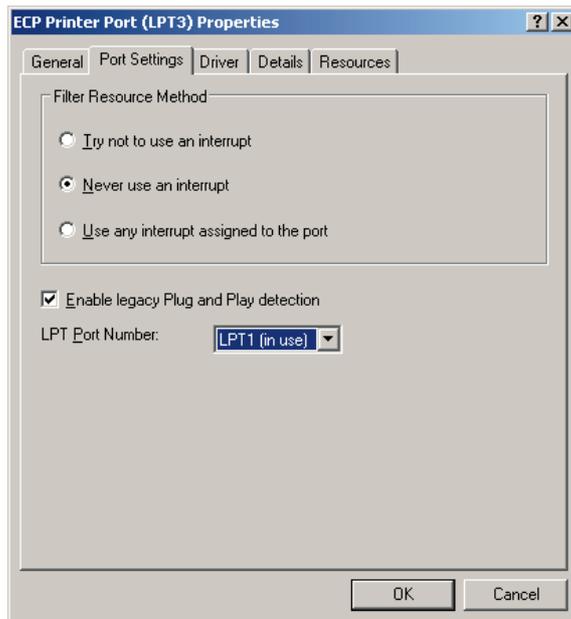
Click start and type the following into the search bar without the quotes "GPEDIT.msc"  
Click User Configuration -> Administrative Templates -> System -> Driver Installation  
Double click the item "Code signing for device drivers"  
Select the Disabled tick box and click ok

### **ALL**

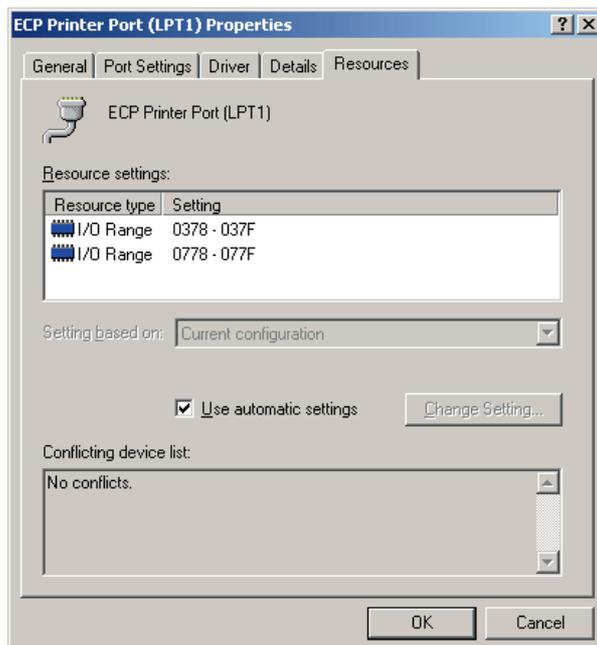
Restart your PC.

## 2b) Quartus LPT Driver – Motherboard has a parallel port.

Click on Start and select Control Panel  
Double click the System icon  
Click on the hardware tab and then open device manager  
Open the heading Ports (COM & LPT)  
You should now have at least two entries (ECP Port and CPLD device).  
Double click the ECP Printer Port and click the port settings tab

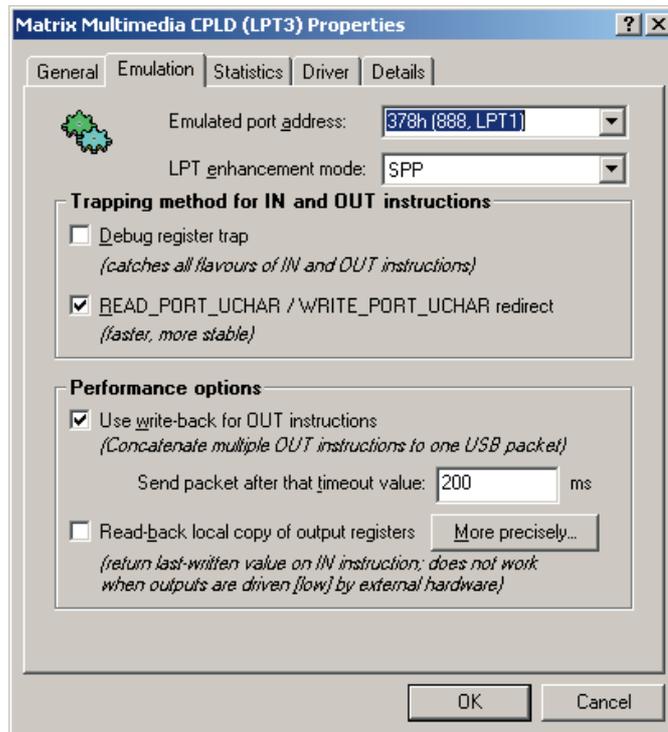


Change the LPT port number to LPT1 and then enable legacy plug and play detection  
Next click on the resources tab and take note of the resources used.  
In the example below the resource starting address is 0378.  
Click OK.



Back in device manager double click the Matrix CPLD device and select the emulation tab

Select the emulated port address that matches the resource starting address from above.



Click OK.

### **Vista / WIN7 ONLY**

Click start and type the following into the search bar without the quotes "GPEDIT.msc"

Click User Configuration -> Administrative Templates -> System -> Driver Installation

Double click the item "Code signing for device drivers"

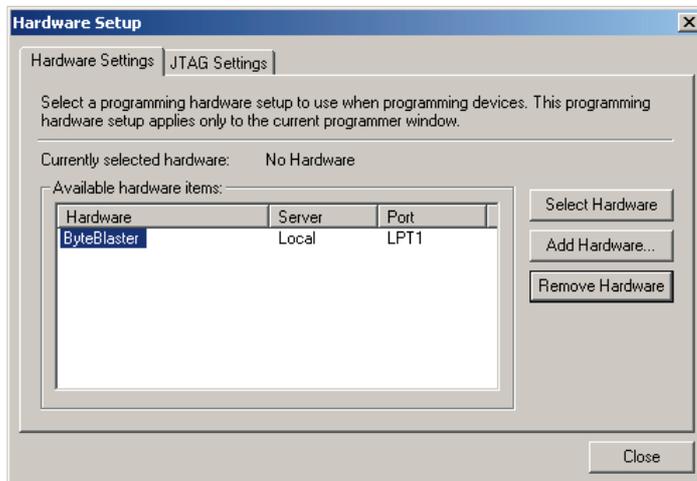
Select the Disabled tick box and click ok

### **ALL**

Restart your PC.

### 3. Installing Quartus Software (internet enabled computer)

- 1) Insert "CPLD Programming CD"
- 2) Run Quartus software installing program
  - Either from the autostart pop-up window
  - OR from the start menu enter the RUN command Find the file
  - D:\Quartusexe\quartusii\_30\_web\_edition\_single.exe
- 3) Navigate through the installation program
  - Once installation is complete
- 4) Open Quartus Software
- 5) A licence Error pop-up window may occur
  - a) Check the box for "request up-date licence from web"
  - b) Navigate through the licence pages
  - c) Send the .dat license file to your email
  - d) Save the .dat license file from your email onto your PC
  - e) Load the .dat file into the Quartus license manager
- 6) Enter programming software in Quartus
  - Tools -> Programmer
    - a. Click on the "Hardware" button  
    - b. Click on the "Add Hardware" button 
    - c. Select "ByteBlaster MV or Byteblaster II"
    - d. Select which port this is on – it is normally defaulted to LPT1 this should be correct
    - e. Click "OK"
    - f. Highlight the ByteBlaster and press the "Select Hardware" as shown below
    - g. Click "Close"



If byteblaster port says kernel mode driver not installed then check your device manager for device related issues and check that the resources for the Matrix CPLD match the resources for the onboard or dummy ECP parallel port. Also check your driver signing setting has been disabled.

The Quartus software can sometimes become stuck in a loop when you try to run it on Vista or WIN7. To get around this bug you should follow the steps below.

Right click Quartus shortcut and select Properties.  
Click the Compatibility tab.  
Under Privileges – select the item run this program as administrator.  
Click OK.