



All switches connects from **Reset, Up, Down, Left, Right, Fire** to **GND**.  
 The DSUB-9 is a male port used for connecting Atari compatible Joysticks.  
 VGA's Vsync is connected directly to PB3; it's not connected to PB0/Hsync.  
 It's recommended to connect Pin19 to VGA's HSYNC rather than first going to PB0.  
 It's good practice to keep wires short, but not critical in this case.  
 VGA is a 15 pin female socket - you can use a 15 pin female plug with 10cm wires; I did; no problems.  
 Sorry for drawing the microcontroller upside down; it was more convenient for me that way.  
 If you have no 750Ω resistors, 680Ω or 820Ω should do just fine. I've used 680Ω myself.