Description

The RKAT40c MCC compact project PCB has been designed to use ATMEL microcontrollers such as the ATMega1284p, ATMega644p and Sanguino

- A low cost method of producing Atmel projects
- Uses a high quality, double sided PCB
- Software is downloaded from a PC into the microcontroller from an Atmel AVR programmer or a FTDI USB cable
- The clock reference can be a ceramic resonator or crystal oscillator
- All input and output pins have a PTH
- Easily interfaced to peripheral devices
- Power supplied via either a DC socket or 2 way header – 5.5VDC max
- Power can also be supplied from the FTDI cable, there is a 2 way header plug to select USB power
- Power switch and LED power indicator

Component List

C1, C2, C3, C6, C7 – 100nF multilayer ceramic capacitor
D3, D4 – 3/5mm LED
ICSP1 - 2x3 way header plug
J1 - DC socket
J2 - header for power supply
J3 - 6 way right angled header plug
J4 - 2 way header plug with jumper tab
J5 ~ J8 – 10 way SIL sockets (optional)
R1 – 10k ¼ watt resistor (brown black orange)
R3, R4 – 1k ¼ watt resistor (brown, black, red)
S1 - tactile switch
U1 – 40 way DIP socket with ATMEL microcontroller
Ultra miniature slide switch for power switch
X1 – ceramic resonator or crystal oscillator, when using an oscillator C4 & C5 will need to be used

Instructions

The PCB has been designed to use Atmel microcontrollers and MCUs based on Atmel such as Sanguino, for instructions on using your chosen microcontroller please see the appropriate website and/or forum.

Connecting Power

Power is connected to the PCB via the DC socket J1 or the 2 way header next to J1 marked J2. The 0V input, usually black is marked clearly as is +VE which is usually red, a regulated power supply should be used. The recommended voltage range for an Atmega1284P-PU MCU is between 1.8 and 5.5VDC, please consult the technical information for your chosen MCU.

A power switch has been included and is to the right of J2. When the PCB is powered the LED D3 should light up.
**Downloading software**

Once the software has been written using an appropriate programming editor it can be downloaded into the MCU. There are 2 methods of downloading software into the MCU,

1) Software can be downloaded using a USB FTDI cable that connects either to your PC’s USB port and to the header J3.

2) Using an AVR programmer or equivalent, connect this to the ICSP 2x3 way header.

Please refer to the technical information for your MCU and/or programming system for specific information relating to the MCU and programming method you are using.

**Using the I/O pins**

Using the i/o pins is simple and is just a case of soldering jumper wires between the appropriate pin and peripheral.

Please visit our website

[www.rkeducation.co.uk](http://www.rkeducation.co.uk)

If you have any comments or queries please email us at

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