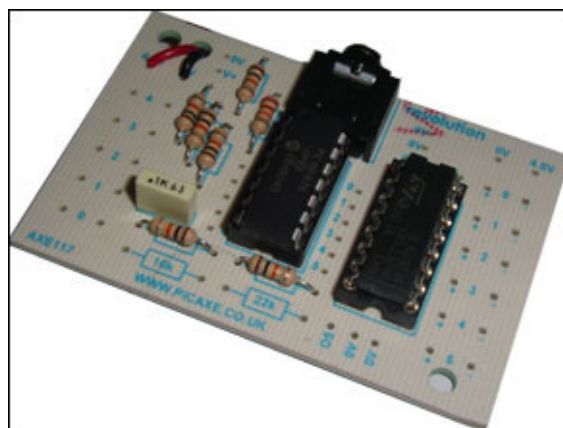# AXE117 PICAXE-14M PROJECT BOARD KIT

Contents:

- PCB   AXE117 Project board PCB
- R1 -7   7 x 10k resistor (brown black orange gold)
- R9-10   2 x 22k resistor (red red orange gold)
- C1   100nF polyester capacitor
- CT1   stereo download socket
- BC   Battery Clip
- IC1   14 pin IC socket
- IC2   16 pin IC socket
- IC2   ULN2003A darlington driver

Description:

The PICAXE-14M project board provides a rapid development system for the PICAXE-14M microcontroller system. It provides the basic download circuit, connection points for inputs / outputs, and an optional darlington driver buffered output circuit (i.e. each output is buffered by the ULN2003A darlington driver).

Instructions:

PICAXE-14M

+V	1	14	0V
Serial In	2	13	Output 0 / Serial Out / Infraout
ADC 4 / Input 4	3	12	Output 1
Infrain / Input 3	4	11	Output 2
Input 2	5	10	Output 3
Input 1	6	9	Output 4
ADC 0 / Input 0	7	8	Output 5

1. Solder the components in place (see photo above). Note the battery clip can be threaded through the board (top left) prior to soldering to generate a stronger joint. Note that the 10k and 22k resistor at the bottom of the board (directly above the WWW.PICAXE.CO.UK text) are optional (see option 2 and errata detail below).
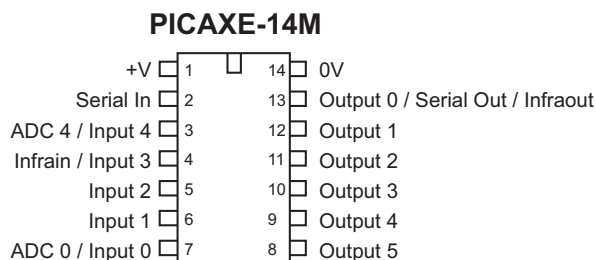
2. Insert a PICAXE-14M microcontroller (purchased separately). ONLY USE A 4.5V or 5V battery pack, not a 9V PP3 battery, as the power supply.

3. Note that the outputs on the right of the board are buffered by the darlington driver chip. They are therefore 'open collector' outputs (outputs are connected between V+ and the output, not 0V and the output).

4. Use the Programming Editor software to develop a control program, and then download the program to the board by connecting the PICAXE download cable (part AXE026 or AXE027).

Output0:

Note that output0 is used as both output 0 and the serial output during a download. Any output device connected to this output will pulse on/off during a new program download.

Option 1 - Direct Input/ Output Connection:

Some output devices (e.g. Serial LCD) require a direct connection to the PICAXE output (rather than the darlington driver output). Each input / output of the PICAXE chip has a direct connection pad directly beside the leg of the chip. The pad marked PZ is designed for connecting a piezo sounder and connects directly to output 2.

Option 2 - 3.3V Output:

Some output devices require a 3.3V output (rather than 5V). The PCB contains an extra 10k/22k potential divider arrangement to allow this connection on output 5. This connection is marked O5 at the bottom of the board. The extra 10k and 22k resistor are fitted at the bottom of the board (directly above the WWW.PICAXE.CO.UK text). Note on version 1 boards the markings are incorrectly reversed = 22k must be above the WWW text and 10k above the .CO.UK

Option 3 - DS18B20 temperature sensor:

Use of a DS18B20 temperature sensor requires a 4k7 pull-up resistor, rather than the 10k pull-down resistor. To connect this resistor replace the vertical resistor on the left (beside input 4) with a 4k7 resistor, but place the top leg of the resistor into the hole marked V+. This then provides a 4k7 pull up resistor on input 4.

Circuit Diagram

AXE117 PICAXE-14M Project Board

NB: '05' pad is a 3.3V safe digital output

PICAXE-14M

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AXE117.PMD