AXE055 PICAXE T4 Control Board

AXE056 Starter Pack Contents:

- AXE055   PICAXE t4 Control Training Board
- AXE027   PICAXE USB Download Cable
- PWR009A   9V DC Power Supply
- FEET-L   8 Self Adhesive Feet
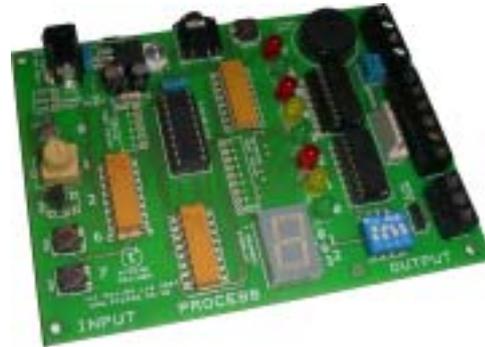
Introduction

The AXE055 PICAXE training board has been specifically designed to
meet the requirements of the t4 Technology curriculum in Ireland.
However as it is a general purpose training board it may also be
utilised in many other courses. The training board can be used with
any software application that supports the PICAXE hardware,
including the free PICAXE Programming Editor and/or Logicator software.

For users unfamiliar with the PICAXE system we strongly recommend the PICAXE manual which can be downloaded
free of charge from the main PICAXE website at **www.picaxe.com**
Part 1 of the manual includes several software tutorials which can all be carried out via use of the AXE055
PICAXE t4 training board.

Initial Assembly and Installation

The training board may be supplied with a protective layer over the test pads on the rear of the board. This is easily
removed by gently lifting the edge and peeling away. The kit is supplied with 8 self adhesive feet, please space all 8
over the underside of the board. Do not just use 4 feet in the corners, as this can cause the PCB to flex in use.

The first time the AXE027 USB cable is used, the Windows 'new hardware wizard' will run when the cable in inserted
into the computer. The driver files required by the wizard can be found on the Programming Editor (or Logicator)
CDROM, or can be downloaded from the software pages at www.picaxe.co.uk
Detailed installation instructions can also be found here: **www.picaxe.com/docs/axe027.pdf**
Remember to ALWAYS use the same USB port on the computer, as the Windows operating system regards each
different USB port as a 'unique location'. If a different port is used it will be necessary to re-install the drivers.

Output Configuration:

Each output has multiple functions. Some of the outputs (LED, 7 segment display, piezo, servo) can be disabled via
use of the 4 pin DIL switch. This can be used, for instance, to prevent the piezo 'clicking' or the other LEDs flashing
whilst the 7 segment display is operating.

DIL Contact	1	2	3	4	-	-
Output 7	- LED	7 Seg				motor D
Output 6	- LED	7 Seg				motor D
Output 5	- LED	7 Seg				motor C
Output 4	- LED	7 Seg				motor C
Output 3	- LED	7 Seg	piezo		stepper	Darlington
Output 2	- LED	7 Seg			stepper	Darlington
Output 1	- LED	7 Seg			stepper	Darlington
Output 0	- LED	7 Seg		servo	stepper	Darlington

Note that the Darlington driver buffered outputs provide an 'open-collector' style output. This means that the output
devices (e.g. a solar motor) must be connected between V+ and the output (not between the output and 0V).
Output 0 is also connected (without buffering) to a terminal block at the lower right hand corner. This is for
connection of digital output devices e.g. the AXE133 Serial LCD module or USB030 MP3 VMUSIC2 module.

Input Configuration:

The 5 inputs are configured as follows. Note that inputs 3,4,5 do not exist on the PICAXE-18X or 18M2 chips..

Input 0	- analogue	LDR	'readadc 0,b1' command
Input 1	- analogue	10k preset resistor	'readadc 1,b1' command
Input 2	- intelligent sensor	DS18B20 Temperature Sensor	'readtemp 2,b1' command
Input 6	- digital	push switch	'if pin6 =1 then jump' command
Input 7	- digital	push switch	'if pin7 = 1 then jump' command

Power Supply:

The board uses a 9V DC, 550mA regulated power supply (part PWR009A) with 2.1mm centre positive tip. The on-board 7805 regulator provides a board operating voltage of 5V.

Test Points:

The board contains 3 sets of test points for connecting a multimeter test probe. The 3 sets of test points are PICAXE inputs, PICAXE outputs and power.

Optional Output Devices:

The board has been designed to be compatible with the following optional output devices:

Solar DC Motor	- part GBX007
Buzzer	- part SPE005
Stepper Motor	- part GBX008
Servo	- part GBX010
Serial LCD Module	- part AXE133
MP3 Music Module	- part USB030

Project PCBs:

For individual student projects we are pleased to offer the following low-cost project PICAXE PCBs:

AXE021	General purpose 8 pin project board	(self assembly kit)
AXE117	General purpose 14 pin project board	(self assembly kit)
CHI030	General purpose 18 pin project board	(supplied assembled)
CHI035	High power 18 pin project board	(supplied assembled)
AXE020	General purpose 28 pin project board	(supplied assembled)

For further details about the large range of PICAXE products please visit www.picaxe.com

Technical Support:

The PICAXE forum at www.picaxeforum.co.uk has over 50,000 members. This is an ideal source for support with project ideas. Alternately call or email Revolution Education directly.

Ordering Additional PICAXE Resources:

All schools in the UK and Ireland have automatic 30 day accounts with Revolution Education. To place an order simply fax your official purchase order to 01761 430044. For further details please do not hesitate to contact us.

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