

BV500T

Thank you for purchasing this Product.



This is a small circuit board and kit of components that makes it easier to experiment with the BV500.

Construction

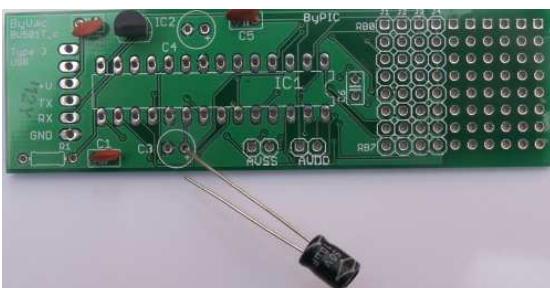
Component List

Part	Value	
R1	100k	1/4W
C1,2,5,6	0.1uF	6V or more
C3,4	10uF	6V or more
IC1	PIC32MX170B	256k Fl, 64kRAM
IC2	MCP1700	3.3V regulator
S1	6 way RA	Pin head
S2	28 way IC socket	Narrow
J1,2,3,4	2.54mm Pin head	8 way [see text]
PCB	BV500T_c	

IMPORTANT NOTES:

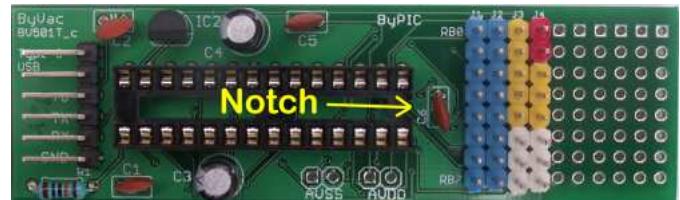
1. The regulator is MCP type and is not pin compatible with the 78L variety
2. The 6 way connector can be mounted on the underside of the board, this way it will not obscure the text on the top side.
3. The Pinhead connector can be supplied as a 40 way strip, this can be snapped to length and will leave 8 spare.

Install the small components first

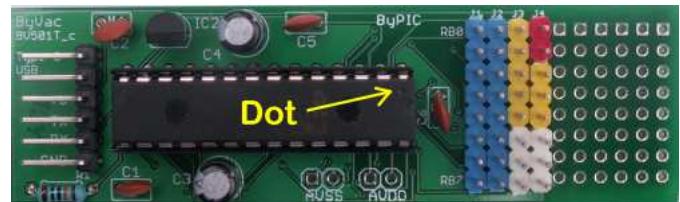


Some components need to be installed the correct way round. C3 and C4 have a longer lead which should go to the + on the PCB.

The IC socket also has a notch at the top.



When installing the IC, make sure that the dot is nearest to the pin head connectors



Some of the pads are connected to the ground plane and will be more difficult to solder, a larger amount of heat is needed for these pads.

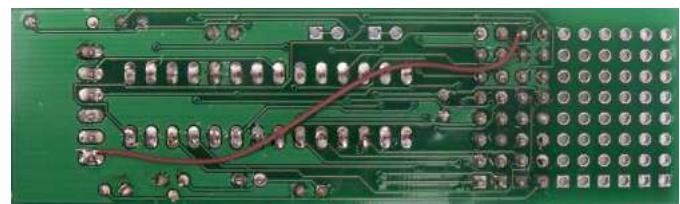
Serial Interface

Any typical USB to serial interface will do, the TX on the serial interface goes to RX on the PCB and the RX on the serial interface goes to the TX on the PCB, i.e. crossed over.

Wires will be needed for this as it is unlikely that the printout of the USB to serial will be the same as the PCB.

DTR

This is part of the serial interface. If using BVSerial, dot r is used as reset. This will momentarily bring DTR low and makes a very useful reset. To implement this on the serial connector, connect the DTR output to pin 8 on J3



Power

The MCP1700 regulator has a maximum input voltage of 6V and so can be supplied from a 6V battery.

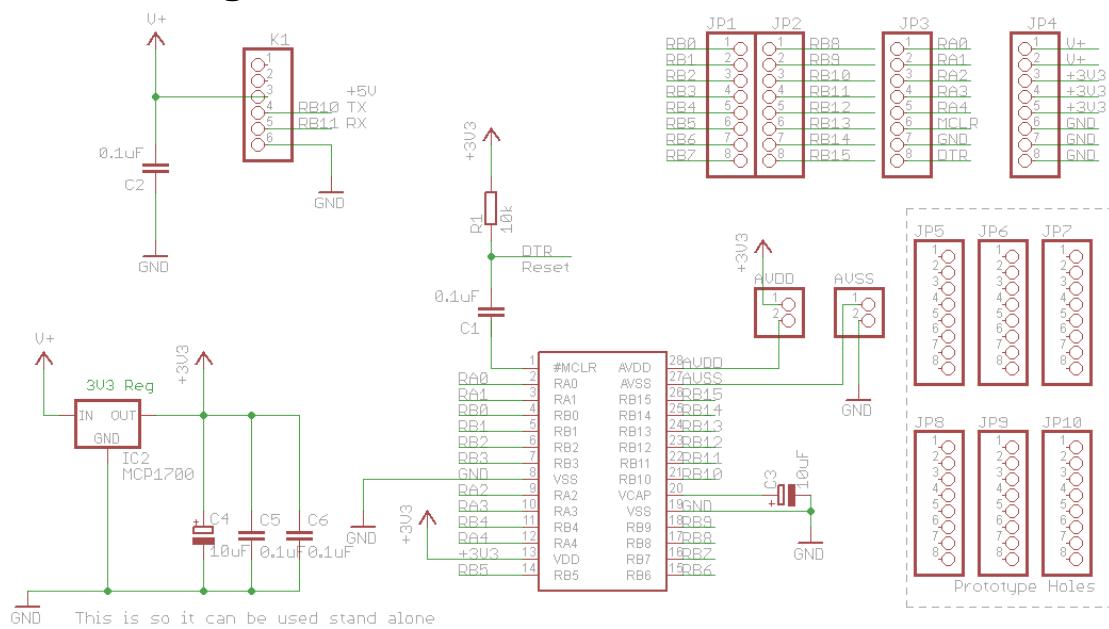
The rest of the circuit operates at 3.3V and on most pins the maximum voltage is 3.3V. However some pins will tolerate 5V. For more information on this see the webpage in the resources section below.

Resources

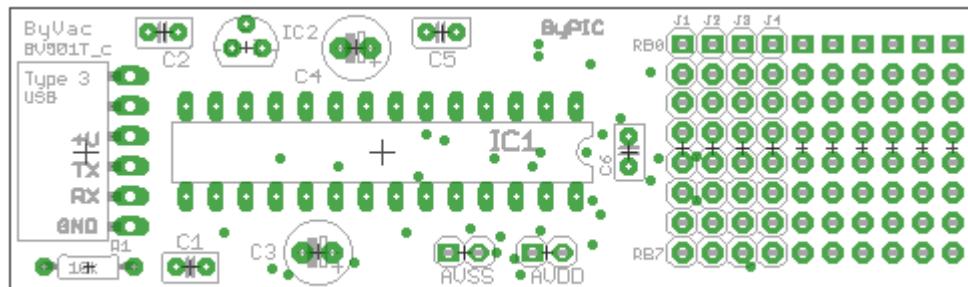
The main page is here:

<http://www.bypic.bvac.com/index.php/BV500>

Circuit Diagram



PCB Layout



Pin Connections

J1	J2	J3	J4
RB0	RB8	RA0	V+
RB1	RB9	RA1	V+
RB2	RB10	RA2	3V3
RB3	RB11	RA3	3V3
RB4	RB12	RA4	3V3
RB5	RB13	MCLR	GND
RB6	RB14	GND	GND
RB7	RB15	DTR	GND
Ports			

J1	J2	J3	J4
AN2	SCL1	AN0	V+
AN3	SDA1	AN1	V+
AN4	RB10	RA2	3V3
AN5	RB11	RA3	3V3
RB4	AN12	RA4	3V3
RB5	AN11	MCLR	GND
RB6	AN10	GND	GND
INT0	AN9	DTR	GND
A to D			