ELIMINATING THE TOLERANCE EFFECTS OF THE 5 VOLT REGULATOR OUTPUT VOLTAGE

The on board 5 volt regulator chip is used as the reference against which battery voltage is measured, and has a +/-5% tolerance. To make the battery voltage display read correctly on the LCD , adjust the constant in the line "w2=w2 /100" below to somewhere between say 95 to 105 (+/- 5%). You will have to open the file "28X2VHFFinal.bas" in the Programming Editor (from Revolution Education) to modify this file, and then load it into the Picaxe 28X2 using the Programming Editor. See the main page for instructions on how to load the Picaxe 28X2.
battery:

```
readadc A.3,b0          'External resistors are scaled to give a resulting
                        'count of around 120 for a 12volt battery-33K from +12volt to
                        'adc input 3 and 8K2 from adc input 3 to ground.
w2=b0*100               'adjust the adc count by multiplication and then division so that
w2=w2/100               'the display shows the correct voltage - change say division only
w3=w2/100               'Derive individual digits for display
w4=w2//100
w4=w4/10
```

ELIMINATING THE TOLERANCE EFFECTS OF THE CRYSTAL FREQUENCY

Almost any 16MHz crystal made can be used in the clock circuit of this instrument successfully. To make the frequency count on the LCD read correctly, adjust the constant "4092" in the first line of the code to somewhere between 4040 and4140. Modify and load the code into the Picaxe using the procedure detailed above.

```
count C.3,4092 ,w0          'Frequency counter routine. 5 digit resolution
w2=w0/10000             'Max input frequency is 125KHz on digital input 3 (IC pin14)-
w3=w0//10000            ‘200KHz is allowed
w3=w3/1000
w4=w0//1000             'Routines with w1,w2,w3,w4,w6 recover individual digits from
w4=w4/100               'count total w0. Clock rate used is 16MHz. Prescaler divider
w5=w0//100              'ratio used to feed input 3 is 1024.
w5=w5/10
w6=w0//10
```