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'{$STAMP BS2}
'{$PBASIC 2.5}
'use this program to test the adc and to find out
'the max and min values of the adc as you move
'the rotor throught the range of motion in az and el.

DIRS = %0000000011110011

OUTB = 0      'set relay outputs to off

ccw CON 4
cw  CON 5
up  CON 6
down CON 7

' adc variables
adc_config VAR Nib      'configuration nibble for ADC
startb VAR adc_config.BIT0 'ADC start bit
sgldif VAR adc_config.BIT1 'ADC mode select
chan VAR adc_config.BIT2 'ADC channel select
msbf VAR adc_config.BIT3 'ADC 0's sent after transfer

adc_cs CON 0      'adc chip select pin 0
adc_clk CON 1     'adc clock pin 1
adc_data CON 2    'adc data line pin 2
adc VAR Word      'adc data result
adc_average VAR Word
i VAR Byte

doaz:              'getting azmeth position data
  adc_average=0
  adc_config=adc_config | %1011      'reset config nibble
  chan = 0                          'select AZ channel (0)
  GOSUB get_adc_data
  DEBUG HOME, "AZ= ", DEC adc,CR      'display result
  PAUSE 100

doel:
  adc_average=0
  adc_config=adc_config | %1011
  chan = 1
  GOSUB get_adc_data
  DEBUG "EL= ", DEC adc
  PAUSE 100
  GOTO doaz

get_adc_data:
  FOR i = 0 TO 9
    LOW adc_cs      'slect adc
    PAUSE 10
    SHIFTOUT adc_data, adc_clk, LSBFIRST, [adc_config\4] 'send config nib

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SHIFTIN adc_data, adc_clk, MSBPOST, [adc\12] 'get 12 data bits
HIGH adc_cs 'adc offline
adc_average=adc_average + adc
NEXT
adc=adc_average/10

RETURN 'get_adc_data
```