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10      ! Example program for ines data acquisition cards
20      ! Uses CSUBS to perform actions
30      ! Takes reading on channel 1, displays graph. Simple data transfer of REAL data.
31      ! Connect frequency generator to pin 17 (AGND) and pin1 (input). Use +-10V range, freq
      0.1..1Khz
40      GINIT
50      CLEAR SCREEN
60      LOADSUB ALL FROM "c:\inesdaq\htbasic\daqhtb.csb"
70      DIM A(1023),D(0) ! Data arrays
80      INTEGER Daqerr ! error variable for DAQ interface
90      DIM Daqerr$(128) ! error string
100     DIM B$(32)
110     INTEGER Hadc,Cadc ! Device handle for A/D converter, samples read
120     INTEGER Hdio,Cdio ! Device handle for digital I/O port, samples read
130     DIM L$(256) ! Label
140     DATA "i108","i116","i250","i508","i516","i608","i616"
145     DATA "i108MF","i116MF","i250MF","i508MF","i516MF","i608MF","i616MF"
150     ! Initialise card
160     CALL Daqhtb_init
170     ! Open devices
180     ! This function looks for a card present
190     RESTORE
200     FOR I=0 TO 14
210     READ B$
220     C$=B$&" ADC"
230     CALL Daqhtb_open(Hadc,C$,0)
240     IF Hadc>0 THEN GOTO 260
250     NEXT I
255     CALL Daqhtb_error(Hadc,Daqerr$)
256     PRINT "Error occurred: "&Daqerr$
258     STOP
260     C$=B$&" DIO"
270     CALL Daqhtb_open(Hdio,C$,0)
275     PRINT "Found card type: ";B$
280     !Card found, now take a reading
290     L$="( ioa ( timeout 10000 fsmpl 100000 chan 1 iomode single trigmode level.gt triglevel -10.0
      pretrigg 0 samples 128 unit v range [ -10 10 ] ) )"
300     CALL Daqhtb_ioctl(Hadc,L$) ! Start acquisition
305     ! CALL Daqhtb_readstat(Cadc,Hadc)
306     ! PRINT "Samples read: ";Cadc
310     CALL Daqhtb_read(Cadc,Hadc,A(*))
315     IF Cadc<0 THEN CALL Daqhtb_error(Cadc)
320     CALL Daqhtb_ioctl(Hdio,"( iod ( bmdir 0 ) ) ") ! Start acquisition
330     CALL Daqhtb_read(Cdio,Hdio,D(*))
340     ! Close devices
350     CALL Daqhtb_close(Hadc)
360     CALL Daqhtb_close(Hdio)
370     ! Show A/D data in XY-display
380     MOVE 1,90
390     CSIZE 2,.3
400     L$="DAQ Example program, card conf: "&L$
410     LABEL L$
420     PEN 4
430     AXES 10,10,0,50,1,1,1
440     PEN 1
450     MOVE 0,50
460     FOR I=0 TO Cadc-1 ! Draw number of samples read
470     DRAW I/Cadc*100,A(I)*4+50
480     NEXT I
490     ! Show port data
500     PRINT "Digital I/O port status:",D(0)
510     GOTO 899
899     END
900     SUB Daqhtb_error(INTEGER Err)
910     Daqerr$="( fctn geterr ) "
920     CALL Daqhtb_ioctl(Err,Daqerr$)
925     PRINT "DAQ error occurred: "&Daqerr$
930     SUBEND
940     SUB Daqhtb_init
945     INTEGER Dummy
960     CALL Daqhtb_ioctl(Dummy,"( fctn init) ")
970     SUBEND

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