

libminidaq.a, Version 1.00

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Overview

libminidaq.a is a gcc static ELF C library that was written to help programmers access the MiniDaq hardware functions.

To use libminidaq.a in your program, you will need to add the include file, minidaq.h, to your source code. This file contains the declarations for all of the libminidaq.a subroutines and functions.

libminidaq.a is compiled with gcc Version 2.7.2.1 for Linux x86. This library will not run on any other Linux platforms.

If you find a problem or have a suggestion for making the library or associated documentation more helpful, please share your knowledge and let us know.

Subroutine Reference

This section lists and describes the subroutines contained within libminidaq.a library.

outbyte

Declaration extern void outbyte(int *nPort*, int *nData*);

Description: Sends a byte value to the I/O port *nPort* specified by *nData*.

inbyte

Declaration extern int inbyte(int *nPort*);

Description: Reads a byte value from the I/O port specified by *nPort*.

bpse12

Declaration extern int bpse12(int *channel*, int *baseaddress*);

Description: Function will start a bipolar single ended conversion and return integer value between -2048 and +2047

channel is a input integer from 0 to 7 corresponding to the 8 A/D channels on MiniDaq.

Bipolar A/D channel pin assignments for MiniDaq

Channel 0	P2 pin 1
Channel 1	P2 pin 2
Channel 2	P2 pin 3

Channel 3	P2 pin 4
Channel 4	P2 pin 5
Channel 5	P2 pin 6
Channel 6	P2 pin 7
Channel 7	P2 pin 8

baseaddress is the address of the PC parallel port MiniDaq is connected to.

unise12

Declaration extern int unise12(int *channel*, int *baseaddress*);

Description: Function will start a unipolar single ended conversion and return integer value between 0 and 4097

channel is a input integer from 0 to 7 corresponding to the 8 A/D channels on MiniDaq.

Unipolar A/D channel pin assignments for MiniDaq

Channel 0	P2 pin 1
Channel 1	P2 pin 2
Channel 2	P2 pin 3
Channel 3	P2 pin 4
Channel 4	P2 pin 5
Channel 5	P2 pin 6
Channel 6	P2 pin 7
Channel 7	P2 pin 8

baseaddress is the address of the PC parallel port MiniDaq is connected to.

bpdf12

Declaration extern int bpdf12(int *channel*, int *baseaddress*);

Description: Function will start a bipolar differential conversion and return integer value between -2048 and +2047

channel is a input integer from 0 to 3 corresponding to the 4 differential A/D channels on MiniDaq.

Differential A/D channel pin assignments for MiniDaq

	Negative	Positive
Channel 0	P2 pin 1	P2 pin 2
Channel 1	P2 pin 3	P2 pin 4
Channel 2	P2 pin 5	P2 pin 6
Channel 3	P2 pin 7	P2 pin 8

baseaddress is the address of the PC parallel port MiniDaq is connected to.

unidf12

Declaration extern int unidf12 (int *channel*, int *baseaddress*);

Description: Function will start a unipolar differential conversion and return integer value between 0 and 4097

channel is a input integer from 0 to 3 corresponding to the 4 differential A/D channels on MiniDaq.

Differential A/D channel pin assignments for MiniDaq

	Negative	Positive
Channel 0	P2 pin 1	P2 pin 2
Channel 1	P2 pin 3	P2 pin 4
Channel 2	P2 pin 5	P2 pin 6
Channel 3	P2 pin 7	P2 pin 8

baseaddress is the address of the PC parallel port MiniDaq is connected to.

readpa

Declaration extern int readpa(int *nPort*, int *baseaddress*);

Description: Function will read the status of the digital output lines of MiniDaq port PA.

The value returned is 1 when port PAx is high and 0 when low.

nPort is a input integer with value of:

- 0 = function will read port PA0, P2 pin 18
- 1 = function will read port PA1, P2 pin 19
- 2 = function will read port PA2, P2 pin 20
- 3 = function will read port PA3, P2 pin 21
- 4 = function will read port PA4, P2 pin 22
- 5 = function will read port PA5, P2 pin 23
- 6 = function will read port PA6, P2 pin 24

baseaddress is the address of the PC parallel port MiniDaq is connected to.

readpb

Declaration extern int readpb(int *nPort*, int *baseaddress*);

Description: Function will read the status of the digital input lines of MiniDaq port PB

The value returned is 1 when port PBx is high and 0 when low.

nPort is a input integer with value of:

- 0 = function will read port PB0, P2 pin 9
- 1 = function will read port PB1, P2 pin 10
- 2 = function will read port PB2, P2 pin 11
- 3 = function will read port PB3, P2 pin 12

baseaddress is the address of the PC parallel port MiniDaq is connected to.

outpa

Declaration extern void outpa(int *nBit*, int *nPort*, int *baseaddress*);

Description: Function will set individual digital output ports of MiniDaq port PA high or low determined by the value of *nBit*.

nBit is a input integer set to 0 or 1.

0 = set digital output low

1 = set digital output high

nPort is a input integer with value of:

0 = function will set port PA0, P2 pin 18

1 = function will set port PA1, P2 pin 19

2 = function will set port PA2, P2 pin 20

3 = function will set port PA3, P2 pin 21

4 = function will set port PA4, P2 pin 22

5 = function will set port PA5, P2 pin 23

6 = function will set port PA6, P2 pin 24

baseaddress is the address of the PC parallel port MiniDaq is connected to.

outpahi

Declaration extern void outpahi(int *nPort*, int *baseaddress*);

Description: Function will set individual digital output ports of MiniDaq port PA high.

nPort is a input integer with value of:

0 = function will set port PA0, P2 pin 18

1 = function will set port PA1, P2 pin 19

2 = function will set port PA2, P2 pin 20

3 = function will set port PA3, P2 pin 21

4 = function will set port PA4, P2 pin 22

5 = function will set port PA5, P2 pin 23

6 = function will set port PA6, P2 pin 24

baseaddress is the address of the PC parallel port MiniDaq is connected to.

outpalow

Declaration extern void outpalow(int *nPort*, int *baseaddress*);

Description: Function will set individual digital output ports of MiniDaq port PA low.

nPort is a input integer with value of:

0 = function will set port PA0, P2 pin 18

1 = function will set port PA1, P2 pin 19

2 = function will set port PA2, P2 pin 20

3 = function will set port PA3, P2 pin 21

4 = function will set port PA4, P2 pin 22

5 = function will set port PA5, P2 pin 23

6 = function will set port PA6, P2 pin 24

baseaddress is the address of the PC parallel port MiniDaq is connected to.

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