**Library manual for CALDAQ**

1. CALDAQopen
2. CALDAQclose
3. CALDAQread\_DATASIZE
4. CALDAQread\_run
5. CALDAQread\_DATA
6. Open CALDAQ

| int CALDAQopen(int sid) |
| --- |

<Description>

open DAQ board. It is necessary to do this before using other functions of CALDAQ.

<Arguments>

sid : module number of TCB board

<Return value>

0 : DAQ board is well running

-1 : some errors occurred.

<error list>

<speed>

1. close CALDAQ

| void CALDAQclose(int sid) |
| --- |

<Description>

close and remove device with DAQboard

<Arguments>

sid : module number of TCB board

<Return value>

None.

1. read data size in CALDAQ

| unsigned long CALDAQread\_DATASIZE(int sid) |
| --- |

<Description>

read size of data. [0x0] address is data size

<Arguments>

sid : module number of TCB board

<Return value>

data size (64KB)

1. read run in CALDAQ

| unsigned long CALDAQread\_RUN(int sid) |
| --- |

<Description>

read whether the DAQ board is running or not. [0x1] address is run.

<Arguments>

sid : module number of TCB board

<Return value>

1 : now running

0 : not run

1. read data in CALDAQ

| void CALDAQread\_DATA(int sid, unsigned long data\_size, char \*data) |
| --- |

<Description>

read data of 32 channels

<Arguments>

sid : module number of TCB board

data\_size : size of data

data : data array for waveform. data format can be found at below table

| data format | |
| --- | --- |
| header(64 byte) |  |
| data length = 65536 | 4 byte |
| run number | 2 byte |
| trigger type | 1 byte |
| TCB trigger number | 4 byte |
| trigger fine time | 1 byte |
| trigger coarse time | 6 byte |
| module id | 1 byte |
| local trigger number | 4 byte |
| local trigger pattern | 4 byte |
| local trigger fine time | 1 byte |
| local trigger coarse time | 6 byte |
| reserved(0s) | 30 byte |
| ADC sample (64 byte/sample) |  |
| ch1 data |  |
| ….. |  |
| ch32 data |  |

<Return value>

None.