Notes on Using the LBNE Calibration Module (LCM) Control Application

Shih-Kai Lin
Colorado State University
E-mail: sklin@mail.colostate.edu

1. Introduction

This note is for using and configuring the application written for controlling the calibration signal outputs of the LBNE Calibration Module (LCM) designed and manufactured by the Argonne National Laboratory (ANL). This application is based on Martin Haigh's standalone C++ application for controlling the SiPM Signal Processor (SSP), also from ANL. Martin's original application is on the `lbne35t-gateway01.fnal.gov` machine, under the folder `/data/lbnedaq/ssp/scope`.

For complete information on the LCM, see DocDB-10842. For the register map, see DocDB-9929.

2. Application Setup

Below are steps to setup and run the LCM control application. The LCM control application is located in
`/data/lbnedaq/scratch/skin/my_projects/LBNECalibrationModule`.

(i) Log in to the `lbne35t-gateway01.fnal.gov` machine. In order to see the LCM in the local network, log in to the `lbnedaq1` machine from the `gateway01`:

```
$ ssh lbnedaq1.fnal.gov
```

(ii) Source the LBNE artdaq:

```
$ source /data/lbnedaq/ssp/setupLBNEARTDAQ
```

(iii) Go to the application directory:

```
$ cd /data/lbnedaq/scratch/sklin/my_project/LBNECalibrationModule
```

(iv) Export the paths of shared objects this application uses. A script is ready for this job:

```
$ source setup.sh
```

(v) Run the application:

```
$ bin/lcmtest.exe
```

3. Application Configuration

Under `/data/lbnedaq/scratch/skin/my_projects/LBNECalibrationModule` there is a file called lcm.conf. This is the file to configure the register values the application sets.

This configuration file should be self-explanatory. Currently, the application can only set up all the registers for the three systems (TPC, IU, and Photon Detector) as a whole. To set up registers channel by channel, modification to the source code is needed.

This application is currently in its infancy. If more functions are needed, please let me know.