UNIVERSITY AT BUFFALO
State University of New York
SCHOOL OF ENGINEERING
AND APPLIED SCIENCES

Department of Civil, Structural, and Environmental Engineering

SEESL Structural Engineering and Earthquake Simulation Laboratory SEESL

212 Ketter Hall, North Campus, Buffalo, NY 14260-4300 Fax: (716) 645-3733 Tel: (716) 645 5400 X 16
http://www.nees.buffalo.edu

SCRAMNet DAQ

Users Manual

by

Jason P. Hanley
University at Buffalo

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1. Introduction

The SCRAMNet DAQ Client is an application that controls the acquisition of data from the SCRAMNet shared memory network. Various computers on this network can write data to memory locations shared among all computers on the network. This application represents these memory locations as channels with easy to read names and descriptions.

The actual data acquisition is done by the SCRAMNet DAQ Server which is a node on the SCRAMNet network. This client accesses data from the server and controls its data acquisition functions. The client can access the server from any internet connected computer and will automatically find the server.

2. Installation

The SCRAMNet DAQ Client may be downloaded in binary form from:
http://nees.buffalo.edu/software/SCRAMNetDAQ/

1. Unzip the distribution.

3. Running

This program is written entirely in Java so should run on any platform supported by Java. It has been tested on Windows and Linux.

3.1. For Windows

1. Open Windows Explorer and browse to the directory where you unzipped the distribution.
2. Double click SCRAMNetDAQClient.jar.

3.2. For Linux (and others)

1. Open a terminal and change to the directory where you unzipped the distribution.
2. Run “java –jar SCRAMNetDAQClient.jar”

3.3. The Interface

Once started, the application will automatically connect to the SCRAMNet DAQ Server and retrieve its current configuration. It will display the main UI screen.

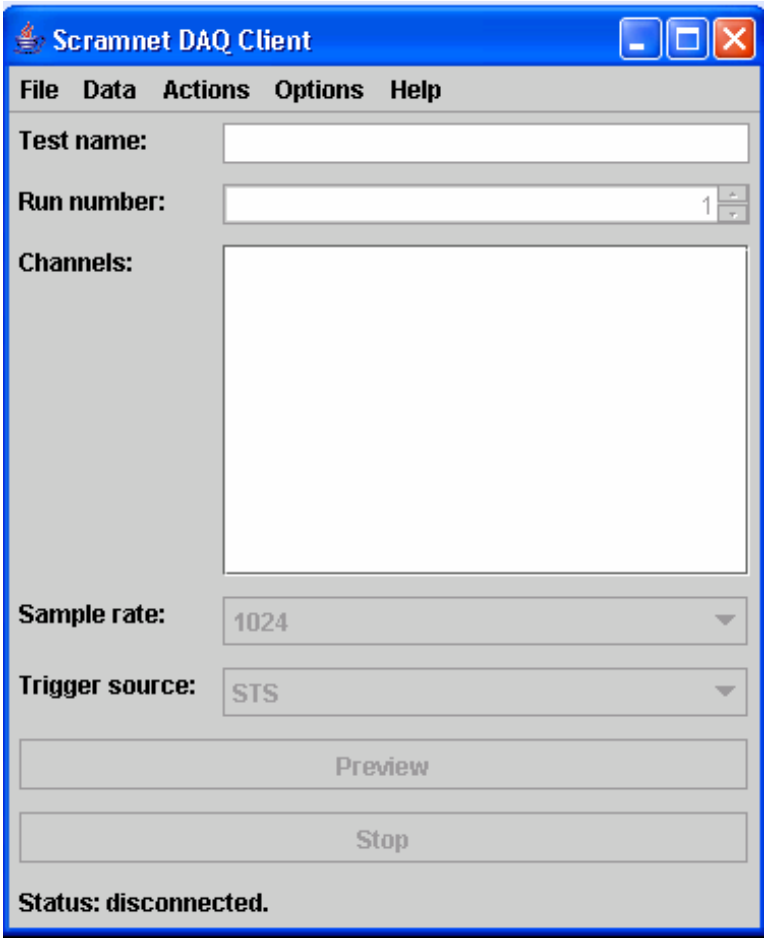

Figure 1: SCRAMNet DAQ Client in disconnected state.

The bottom of the window will always display some status text indicating the state of the server. These states can be:

- **Disconnected** – A connection to the server has not or can not be established.
- **Stopped** – A connection to the server has been established and it is waiting for commands
- **Previewing** – The server is previewing data.
- **Started** – The server is recording data.

4. Configuration

The main screen displays all the options available for configuration. These options can be change before you begin the acquisition.

- **Test name** – The name of the test to be streamed and/or recorded. This will correlate to the source name in the streaming data viewer and the file name for the recorded data.
- **Run number** - The number of times this particular test has been performed. This will automatically increment after each acquisition.

- **Channels** – The channels to be sampled. To select more than one channel, hold down *Ctrl* and click the channel you would like to add to the sample list.
- **Sample rate** – The rate at which samples will be taken. This is a multiple of 2 because it is based off a clock source that is a multiple of 2.
- **Trigger source** –Acquisition to start when this trigger goes high. The manual trigger allows one to start the sampling from the client with the start button as the trigger.

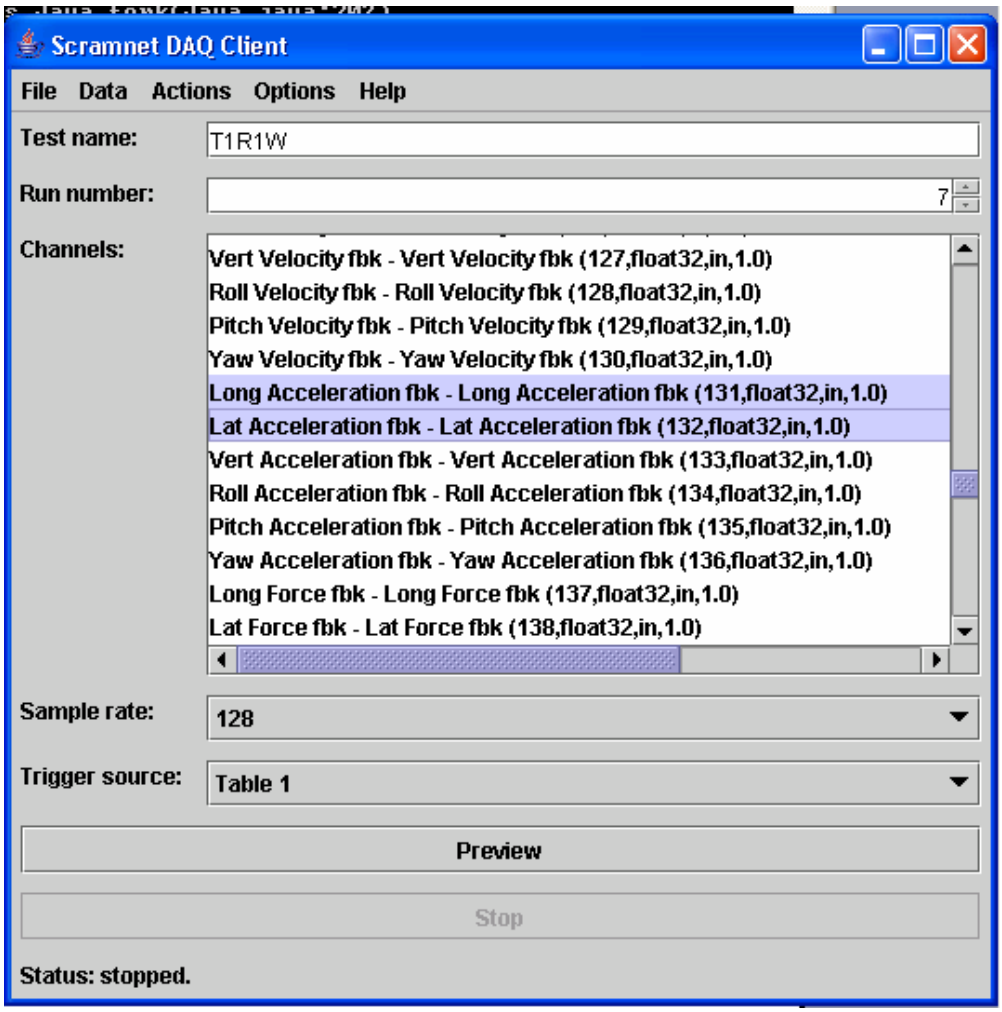

Figure 2: Data Acquisition Configuration Options

5. Previewing Data

Previewing data means get the system read to start acquisition and wait for the trigger. When the system is previewing, data is also being streamed for real time viewing. No configuration options can be changed while the system is previewing.

To start previewing, click the *Preview* button.

Figure 3: Preview Button

For documentation on viewing streaming data, see the *Streaming Data Users Manual.*

6. Collecting Data

Collection of data is started by the trigger set in the configuration. If this trigger is from a controller, the application will start collecting when in preview mode and the trigger goes high.

If the trigger source is set to manual, a S*tart* button will appear and this will act as the trigger to start the collection of data. It is not necessary to first preview and then start when using a manual trigger, but this is allowed. Data streaming will automatically start, if it was not started before, when the *Start* button is clicked.

Figure 4: Start Button

7. Stopping Acquisition

The acquisition of data can be stopped in two ways. It will be stopped when the trigger goes low. This will cause the data file to finish writing and close.

The acquisition can be manually stopped, no matter what the trigger source, by clicking the *Stop* button.

Figure 5: Stop Button

Note: At the end of each acquisition, the run number will be automatically incremented.

8. Exporting Data

To export acquired data. Select the **File->Export to DADiSP** menu. This will export the collected data to a DADiSP file.

Figure 6: Data Export Menu

The following window will appear with the available tests to export. The listing will be in the format: **TestName_RunNumber**.

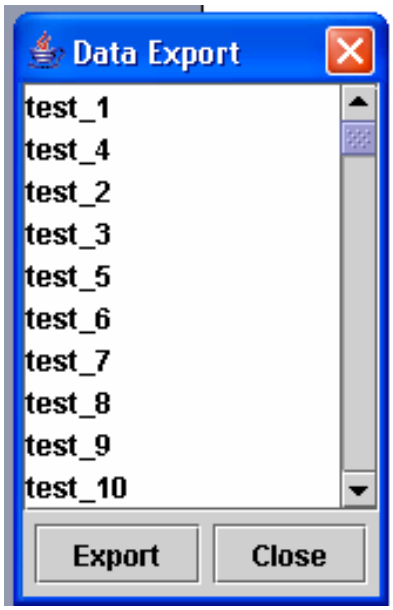

Figure 7: Data Export Window

Select the test you want to export and click export. The file will be saved in the *data* directory in the SCRAMNet DAQ Client application folder. It will be named **TestName_RunNumber.dat**.

9. Authors

Jason P. Hanley
University at Buffalo
email: jphanley@buffalo.edu
phone: (716) 645-2114 ext. 2450

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