LOADSLAMMER
TRUST AND VERIFY

Orac Software User Guide

Introduction

Purpose and Scope

This document provides detailed technical guidance for:

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Who Should Use this Guide

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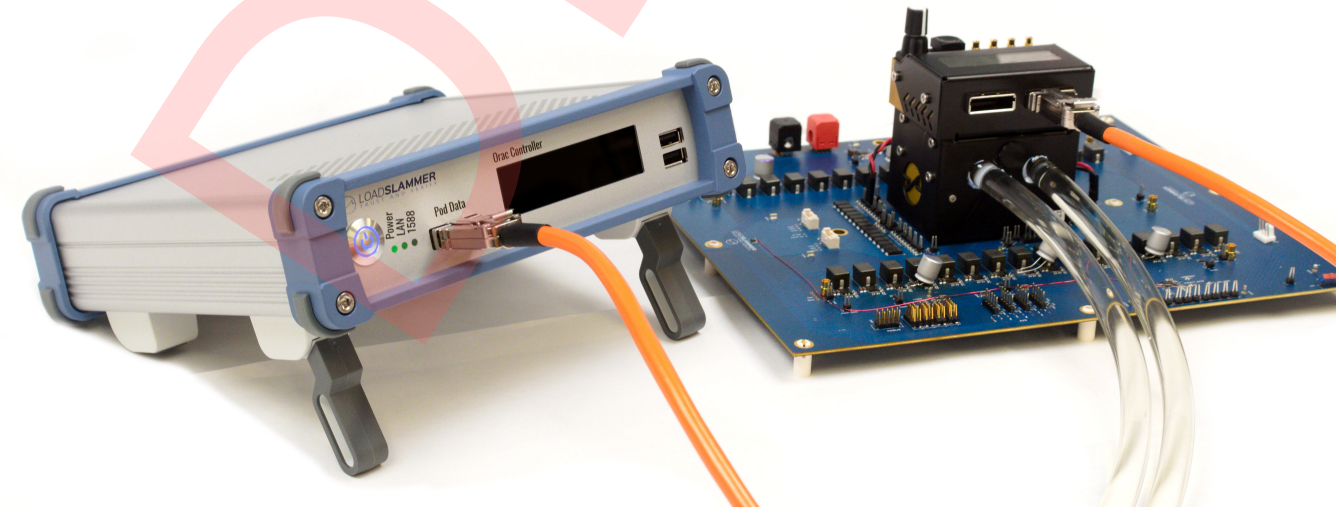

Contents

Getting Started

Remote Connection

It is possible to remotely connect to the Orac controller and launch the GUI using a PC over a network. It's also possible to connect to the Orac 'locally'; as in, one can plug the Orac Ethernet directly (or via a USB to Ethernet adapter) into your computer, and connect to Orac without the need for an external network.

Install Software (Windows)

Two pieces of software are required to remotely connect and run the GUI. A terminal program that can forward X11, and an X11 server. A third program, FileZilla, is required if transferring files is needed.

For windows we recommend the following 3 programs:

vcxsrv

vcxsrv — https://vcxsrv.com/

Install the software, then launch it by searching for "XLaunch" in your start menu. Continue through the wizard with the default settings, they should be as shown below.

You will have to relaunch vcxsrv every time you restart your computer. You will see a an "X" icon in the taskbar system tray (Figure 5).

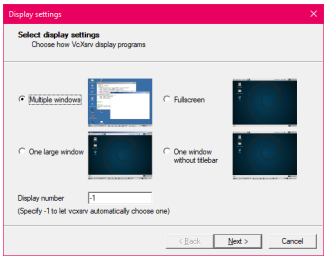

Figure 1

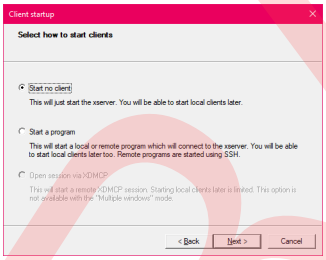

Figure 2

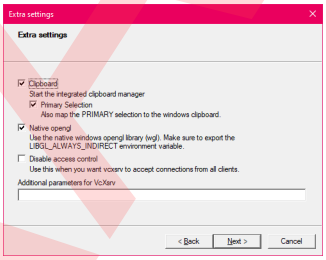

Figure 3

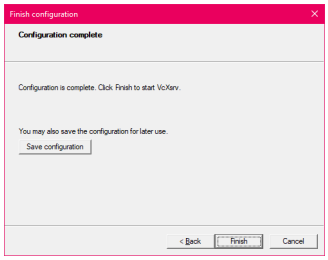

Figure 4

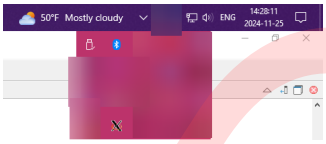

Figure 5

PuTTY

PuTTY — https://www.chiark.greenend.org.uk/ sgtatham/putty/latest.html

You likely want the "putty-64bit-0.x-installer.msi"

FileZilla

FileZilla — https://filezilla-project.org/

Download and install the latest FileZilla client to transfer files between the Orac controller and your remote device.

Determine Orac IP Address

Please note: All commands in the Orac terminal are case sensitive.

You should be able to hover over the network icon in the lower right corner of the screen to determine the ip address. Otherwise, you must use the terminal.

If you are connecting the Orac into a network and are unable to acquire the ip address from IT, you must connect a monitor, mouse, and keyboard to the Orac Controller. Once powered on, launch the terminal (using the keyboard shortcut Win + ↵), and type "ifconfig". You can take just the 'inet' address (IPv4), however we find the 'inet6' (IPv6) more convenient because it should not change.

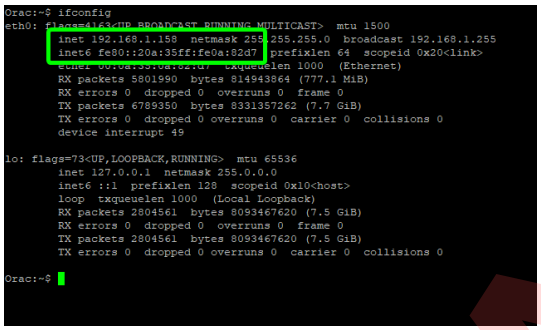

Figure 6: ifconfig

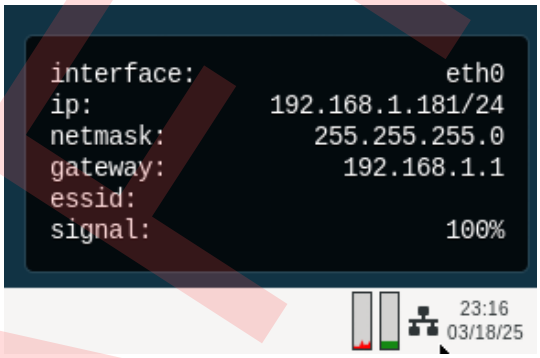

Figure 7: Network Icon

Connect to Orac

To connect to Orac, first make sure vsxsrv is running (see figure Figure 5). Then you can launch PuTTY, and configure the settings as shown in Figure 8 and Figure 9. The first time you connect you will get a "Security Alert" from PuTTY (Figure 10) saying you haven't talked to this device before. Click "Yes" to remember this Orac, and the popup should not appear again for that Orac.

You should then be prompted with a login prompt asking for a user name, enter "orac". The default password will be "loadslammer".

Launch GUI(s)

To launch the GUI, you type the name of the program and add "-X11.sh" to the end and hit enter. The terminal should look like Figure 11, and a new window (LSInfo) should have launched.

Transferring Files

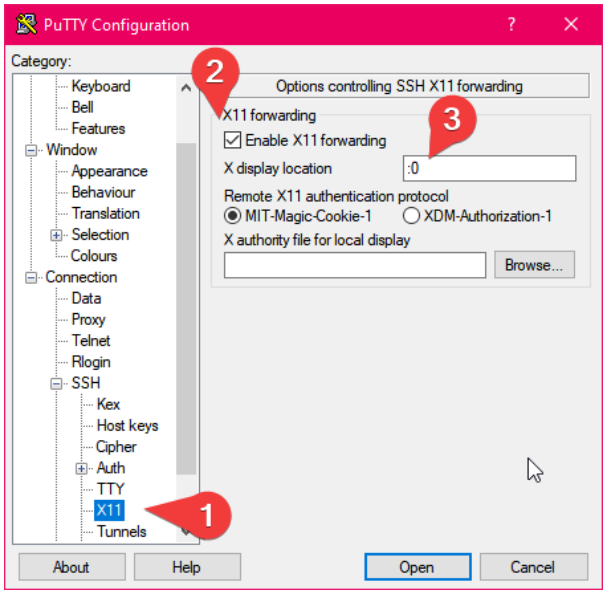

Figure 8: PuTTY Config 1

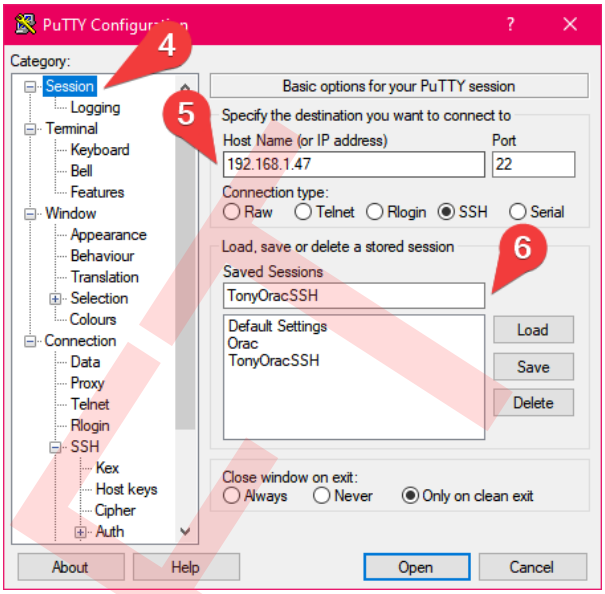

Figure 9: PuTTY Config 2

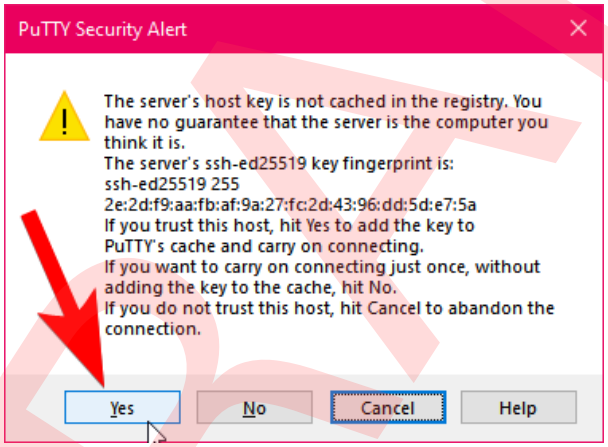

Figure 10: PuTTY Security Alert

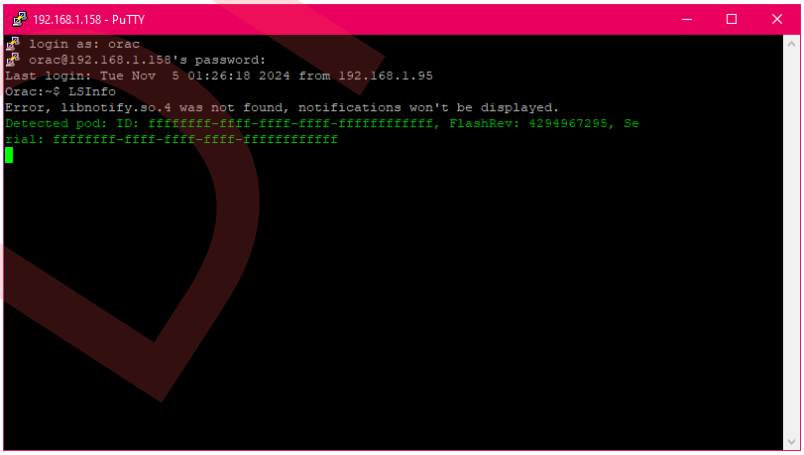

Figure 11: LSInfo running in PuTTY

LSInfo GUI

Launch the LSInfo GUI remotely by using the following command in the terminal.

```
$ LSInfo-X11.sh
```

The LSInfo GUI is designed as a low level debug as monitoring software. It is not intuitive, and it is possible to break things, so be careful how you use this GUI.

Along the left are 2 sections, the top for selecting which part of the system to view, and the bottom for live monitoring of the ADCs. The right section is dependent on the part of the system selected.

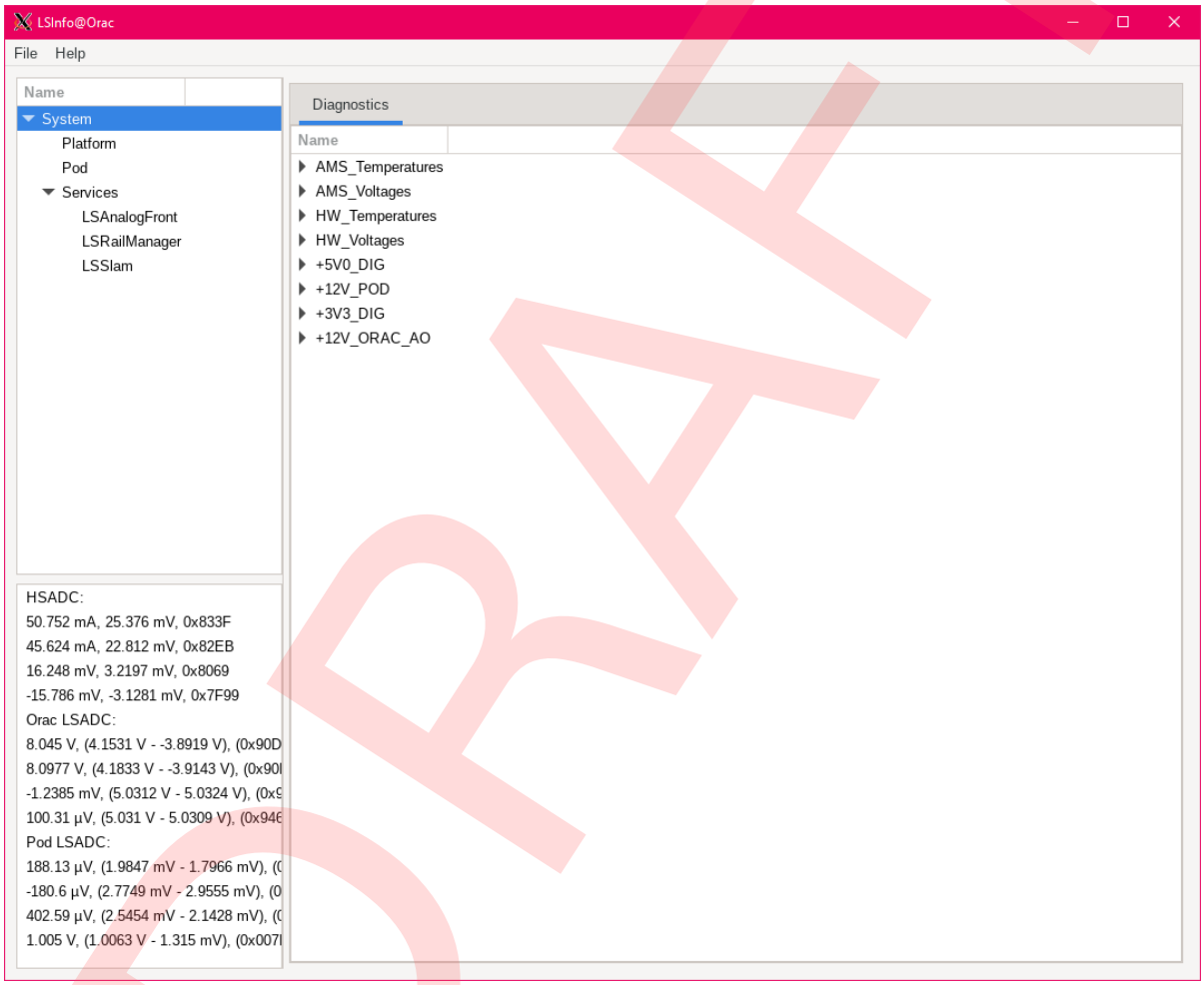

Figure 12: LSInfo GUI

Quick Test GUI

Launch the Quick Test GUI remotely by using the following command in the terminal.

```
$ LSQuickTest-X11.sh
```

The Quick Test GUI is designed to be a intuitive way for customers to setup, run, and analyze a test.

Configure Platform

A head unit (PactivR) must be connected for this page to show all the options. From this page the user can configure the platform by assign the desired rails to the Orac channels, and setup the external IO.

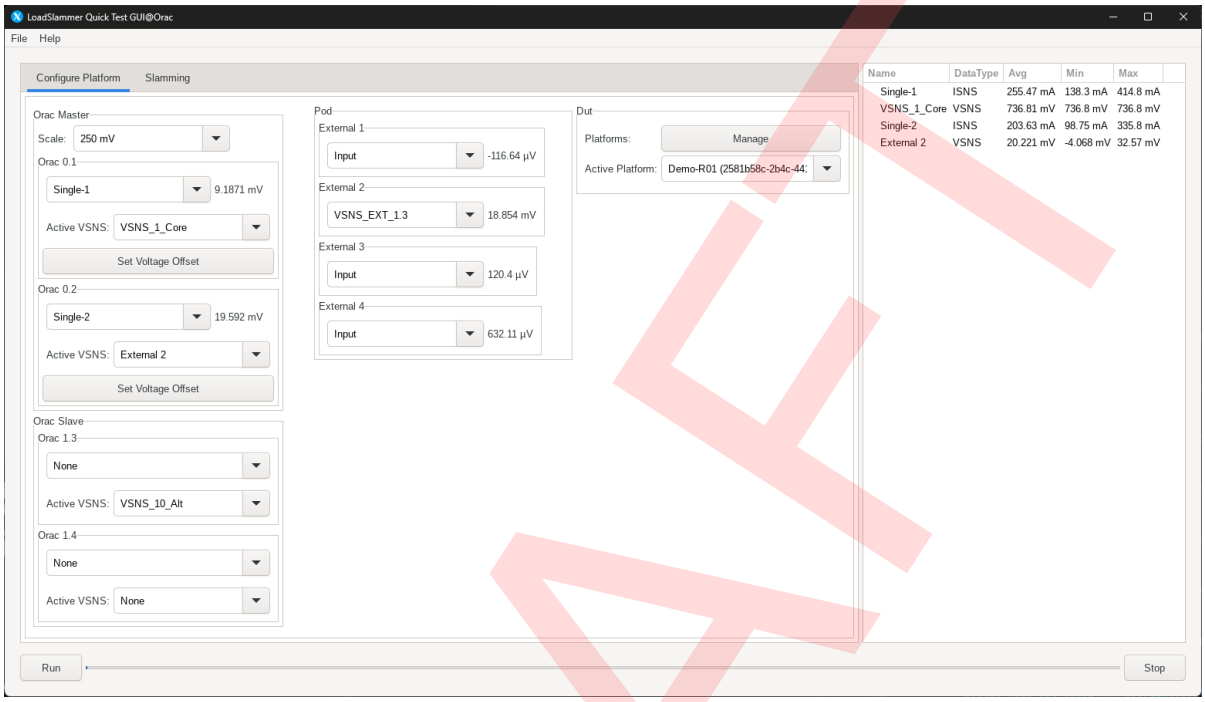

Figure 13: LSQuickTest Configure Platform Page

Create Platform

Create a new platform by selecting the manage button, and hitting the new button in the dialog box that pops up. The first page of the platform has the Name field, the 2nd allows the user to setup the voltage sense labels, nominal voltages, and voltage range. Nominal voltage is the amount the Orac controller will offset the measurement to center it in the ADC range and the voltage range is will set the vertical scale of the ADC capture.

Create Rails

In this tab, you can create and edit, the rails on the platform. Each rail is the collection of LoadCells and relevant voltage sense locations. Rails can have multiple voltage sense points, and different rails can contain the same LoadCells. You can set the default voltage sense point with the drop down (Figure 16) (it does not matter if the default sense point is checked, it will be included). Checking additional will populate the "Active VSNS" list on the main page under the rail selection drop down (Figure 13).

Select Rails and Platform

It's important to know that you can not edit the platform that is active, so you must unset the active platform before editing/managing the platform.

The first thing is to set the active platform (drop down on the right half of the main page (Figure 13)) to populate the rail lists. Then you can set which rail to slam under the "Orac 0.1" label, all the way to the right hand side of the page.

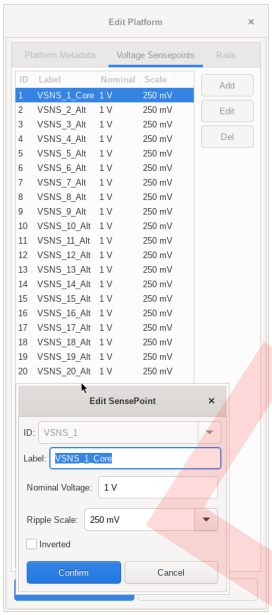

Figure 14: LSQuick-Test Voltage Sense

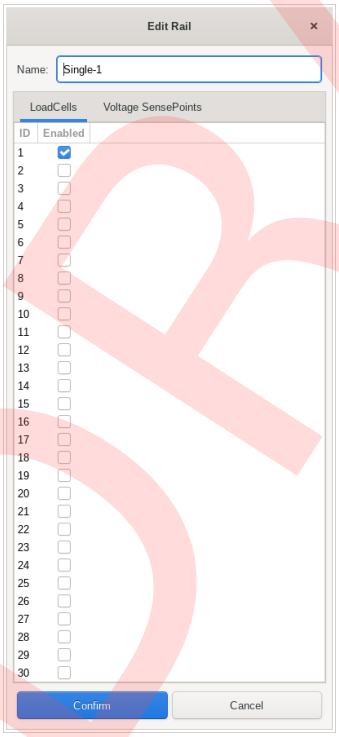

Figure 15: LSQuickTest - Edit Rails - LoadCells

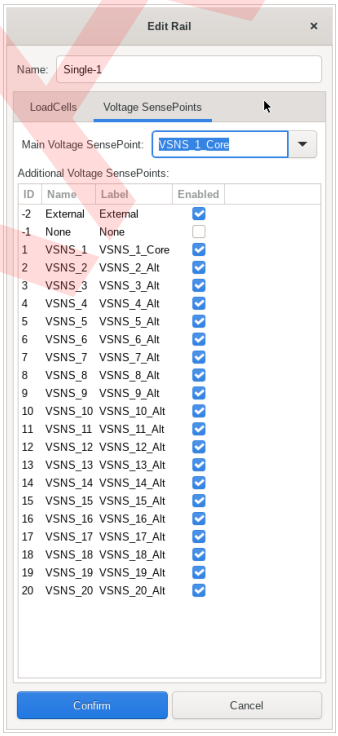

Figure 16: LSQuickTest - Edit Rails - Voltage Sense

Slamming

Once an active platform is set and a rail is configured, the Slamming tab at the top will be populated with the test configuration (Figure 17). From here you can choose the waveform type and setup the test conditions. You can

import and export the test conditions.

When the RunTime is set to Manual, you must hit the "Run" button to step forward, when you click the Automatic button for automatic mode, you can enter a value for how long to spend at each combination of test vectors. The current minimum time is limited to 0.1 seconds.

The center area of the screen will populate with the minimum, maximum, and average measured values for the voltage and current; along with the test parameters. You can right click this area to export the data to a CSV file.

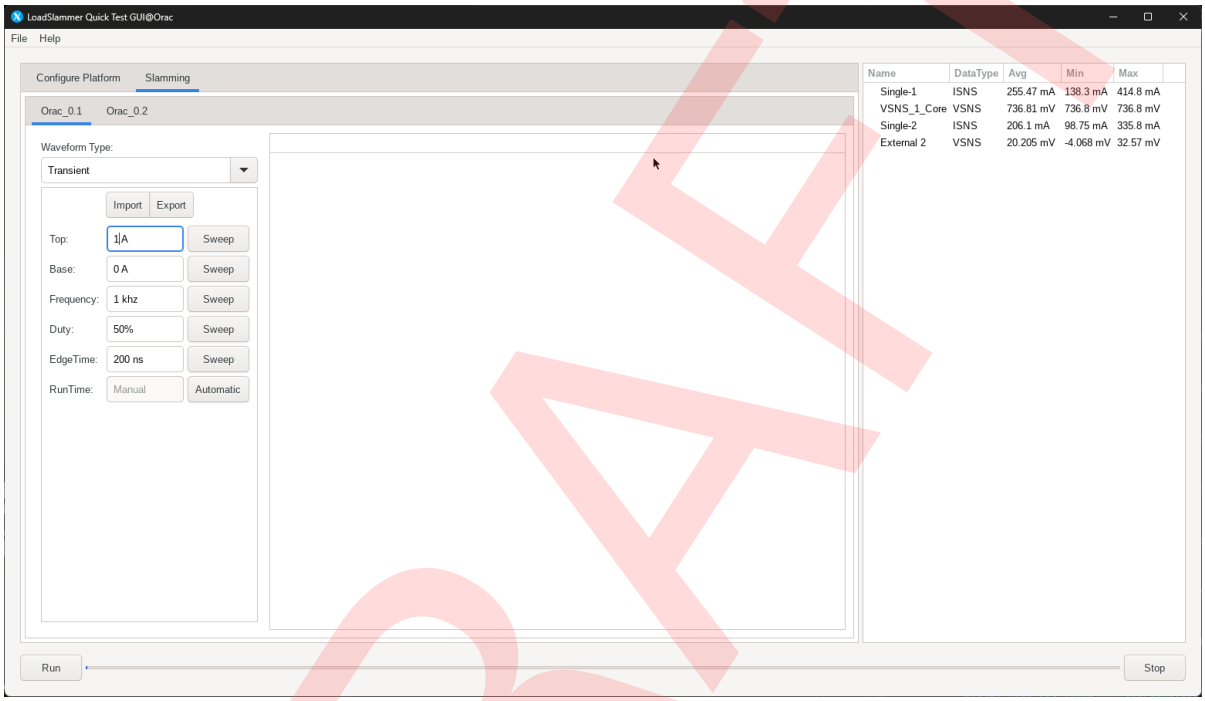

Figure 17: LSQuickTest Slamming Page

Updates

Updating the system happens through the LSUpdate GUI. Launch the LSUpdate GUI remotely by using the following command in the terminal.

```
$ LSUpdate-X11.sh
```

In the LSUpdate GUI, hit the refresh button to show the current version, and load in the list of versions available. Select the version to update to, and click install. The Orac controller will restart once completed.

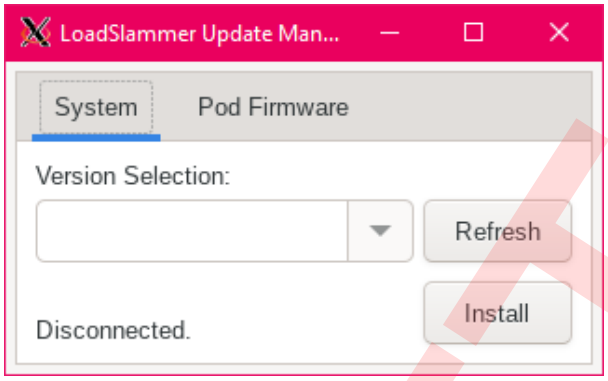

Figure 18: LSUpdate GUI