S1 Testbed Demo

Standard Operating Procedure

For Demonstrations and Conferences

Table of Contents

[Components 2](#_Toc120028850)

[Cable Setup 4](#_Toc2023409537)

[Setup Instructions 5](#_Toc2036660642)

[Fault Types Demo Instructions 7](#_Toc1227015723)

# Components

**Outlet**

* Standard 110 V ~ 120 V

**Transformer**

* 120 V to 240 V Transformer
* Power: plug into Outlet

**Controller**

* **IP Address: 10.44.1.82**
* Power: plug into Transformer
* Ethernet: plug into Router

**S1 Motor**

* Sensor 1 and Sensor 2 connect to Vibration Monitor
* Power: plug into Controller

**Vibration Monitor**

* Cable connections to Sensor 1 and Sensor 2
* Ethernet: plug into Server

**Server**

* **User: iLab, PW: ilab301**
* **IP Address: 10.44.1.136**
* Power: plug into outlet
* Ethernet: plug into Router

**Router**

* **SSID: S1Testbed, PW: S1Testbed**
* Connects to Router by Ethernet cord
* Power: plug into Outlet

**Magic Leap**

* WiFi connection to Router
* Lenses, controller, and compute pack

**ASL iPad**

* PW: 992233
* Linksys app to check IP addresses

# Cable Setup

A diagram of a computer

AI-generated content may be incorrect.A white board with text on it

AI-generated content may be incorrect.

# Setup Instructions

|  |  |  |
| --- | --- | --- |
| Step | Instructions | Associated Parts |
| 1 | Attach cables as shown in the diagram. Ensure the acrylic guard is covering the S1 Motor and secured by the attached Velcro. | All |
| 2 | Ensure the transformer voltage switch on the back is set to 110 V ~ 120 V. | Transformer |
| 3 | Power on the controller, server, and router. | Controller, Server, Router |
| 4 | On the ASL iPad, open the Linksys app. Ensure the IP addresses for the Controller (10.44.1.82) and Server (10.44.1.136) are correct. These IP addresses are reserved and should remain static. You can change them through the Linksys app on the ASL iPad. These IP addresses must be correct in order for the Magic Leap app to work because they are hard coded. | ASL iPad, Controller, Server |
| 5 | On the right side of the controller, press the “Adjust Select” knob. Scroll one box to the right and press the knob to select “Amps.” Turn the knob to change the Amps to exactly 1.400 A. | Controller |
| 6 | On the controller, press the “Output” button to the left of the screen. The “Output” button should turn blue. When blue, the changes in Voltage will be reflected by the S1 Motor. (For a fast way to stop the motor, press the “Output” button again. The light should turn off, along with the motor.) | Controller |
| 7 | Log on to the Server (User: iLab, PW: ilab301). Open the VS Code application. | Server |
| 8 | Navigate to the S1\_Testbed\_Demo repo, then cd to the “code” folder. For more instructions specific to the repo, look at the README. Run the following command: **source s1\_demo\_starter.sh** | Server |
| 9 | Power on the Magic Leap headset and controller. Ensure it is connected to the S1 Testbed WiFi network. | Magic Leap |
| 10 | With the Magic Leap headset on, run the MRTK3 app. | Magic Leap |

# Fault Types Demo Instructions

Instructions for changing the fault types for the S1 Testbed can be found in the Machine Vibration Analysis Trainer User Operating Manual.