



SpiderHarp Manual

Version 1.0

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Contents

1 SpiderHarp Setup	2
2 SpiderHarp Shutdown	4

1 SpiderHarp Setup

This section details how to power on and ready the SpiderHarp for demonstrations starting from a depowered state. These instructions assume that all of the mechanical setup is complete and that all systems are wired and connected correctly, which should be sufficient for demos in Graf.

1. Electrical Power-On

- (a) Make sure all power cables are connected to power strips. The current setup in Graf shares power outlets with other LRAM experiment space so SpiderHarp power strips occasionally get repurposed. You'll want to check power cables for:
 - All speakers
 - Mac Mini
 - Square WiFi dongle
 - Computer monitor
 - SpiderHarp internal power
- (b) Toggle on power switches:
 - i. Power strips (usually there are two)
 - ii. SpiderHarp internal power (white mount, bottom right foot of harp)
 - iii. Mac Mini
 - iv. Speakers

2. Start SpiderHarp Program

- (a) Log into Mac Mini with keyboard and computer monitor
 - Username: LRAM
 - Password: lram
- (b) Ensure Mac Mini is connected to the local "spider harp" wifi network
- (c) Launch SpiderHarp program
 - i. Open new finder window
 - ii. Open "Box Sync" folder
 - iii. Run file "SpiderHarpMax/SpiderHarp/SH_DataProcessorV17.maxpat"
- (d) Wait 1-2 minutes for program to initialize. This can be slow, and you can tension up the web while you wait.

3. Tension Web

- In the back of the web, use the tuner knobs to bring all tension displays up to approx 110-115 N.
- If starting from 60 N or below, work your way around in a circle bumping each line up 30 N at a time to make sure that the web stays centered and tension is evenly distributed. I usually aim for 120 N and let downcreep take the web to 115 N.

- When a line is wound up tightly after being detensioned for a while, it will slowly equalize tension into the lax sections wound inside the tuning apparatus. Downcreep is expected. Come back after a couple minutes and check displays again, bumping up as needed.

4. Enable SpiderHarp Play

- (a) In the main program window
 - i. Toggle "Audio On/Off" to On
 - ii. Open max console using icon in the middle of the right side of the main program window
 - iii. Click circular "s bang" button on the left side of the screen
 - iv. In max console, verify MIDI data populates with no error messages
 - v. Close max console
- (b) In the secondary control panel window
 - i. "Stereo Mix Enable" if using two speakers
 - ii. "Enable Sample Plucks"
- (c) Do some test plucks
 - i. Examine piano visualization in control panel to see what notes are being detected when you pluck.
 - ii. Determine which octants are C. Sometimes the program puts them at the top, sometimes at the left. Don't fully know why it's inconsistent.
 - iii. Verify that most octants are behaving well
 - If any are misbehaving, double-check web tension in back
 - If that doesn't fix it, just avoid those sections of the web when doing demos. Bottom-right of the web can be occasionally problematic when the harp is in a bad mood.
 - iv. Adjust speaker volume as necessary

5. Play Music!

- I like to enable sustain using the physical "sus" button below the monitor and play a simple C-major chord by sequentially plucking C,E,G. Very simple, usually sounds very good and provides a great first impression of the instrument. Sustain rattles a little bit if left on too long though so I usually disable it fairly quickly.

2 SpiderHarp Shutdown

This section takes the SpiderHarp from a ready-to-play state back down into a powered-off config.

1. Shut down Mac Mini
 - (a) Close both spiderharp program windows. They occasionally interrupt computer shutdown if not closed manually.
 - (b) Soft shutdown Mac Mini.
2. Detension all web lines to approx 60 N using tuners on the back of the harp
3. Turn off power switches
 - Speakers
 - SpiderHarp internal power
 - Power strips
4. Verify all lights are off
5. Walk away, ignore the feeling that you're forgetting something. You didn't.