

# **Bridging Local Outreach & Seismic Signal Monitoring (BLOSSM)**

## **Raspberry Shake: Quick Start Guide**

**Oklahoma Geological Survey**

## Requirements for Raspberry Shake Installation:

- Internet access via Ethernet cable
- Power supply (with surge protection)
- Computer on same network as Raspberry Shake (for the initial online configuration/registration)
- Coordination with facility IT

## Excellent locations for the Raspberry Shake:

- Somewhere quiet and out of the way (where no one will kick it)
- On a hard surface that is level (the more solidly connected to foundation, the better)

## Requirements for real time display:

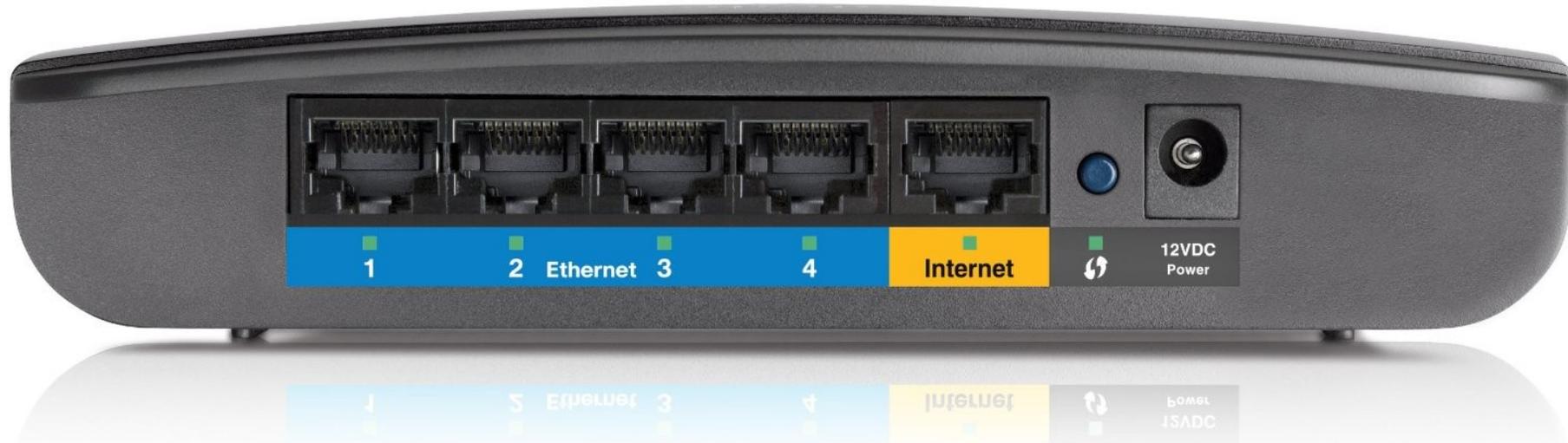
- Display and computer with internet connection

# Raspberry Shake Installation

Tip: Before installing at your institution, try installing at home. This will allow you to become familiarized with the Raspberry Shake on your home network. This is strongly recommended, as home networks typically permit for smoother updating and initial setup of the unit.

The following steps will apply at home as well as at your institution.

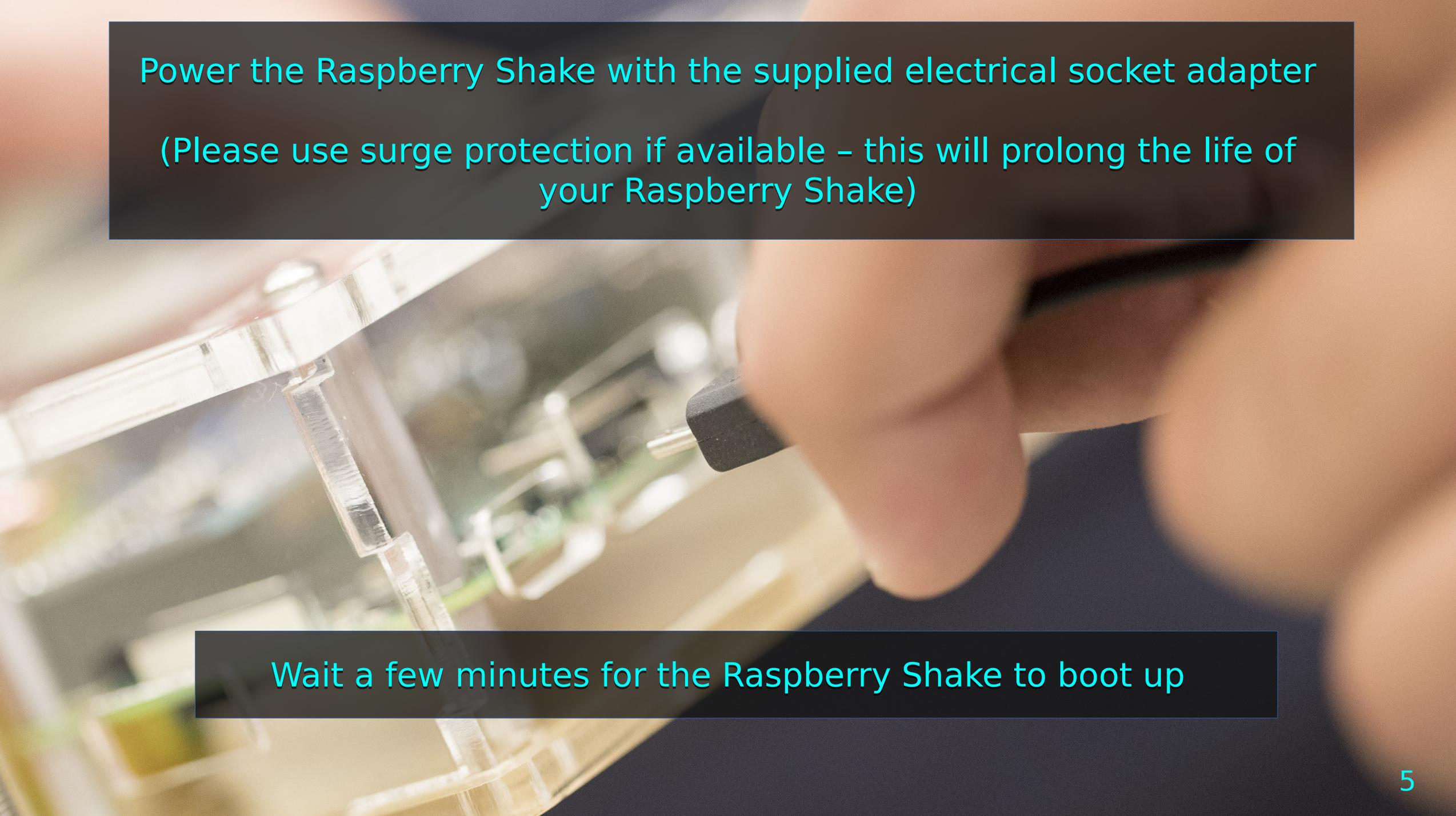
# Connect the Raspberry Shake to a wired internet source



Router for home use

Wall port for institutions



A close-up photograph showing a person's hand inserting a black power adapter into the power port of a Raspberry Shake. The device is a clear plastic enclosure with a metal plate on top. The background is blurred, showing other components of the device.

Power the Raspberry Shake with the supplied electrical socket adapter  
(Please use surge protection if available – this will prolong the life of  
your Raspberry Shake)

Wait a few minutes for the Raspberry Shake to boot up

# Raspberry Shake Configuration and Registration

Open a web browser (Google Chrome is recommended), using a computer that is on the same network as your Raspberry Shake

Go to:

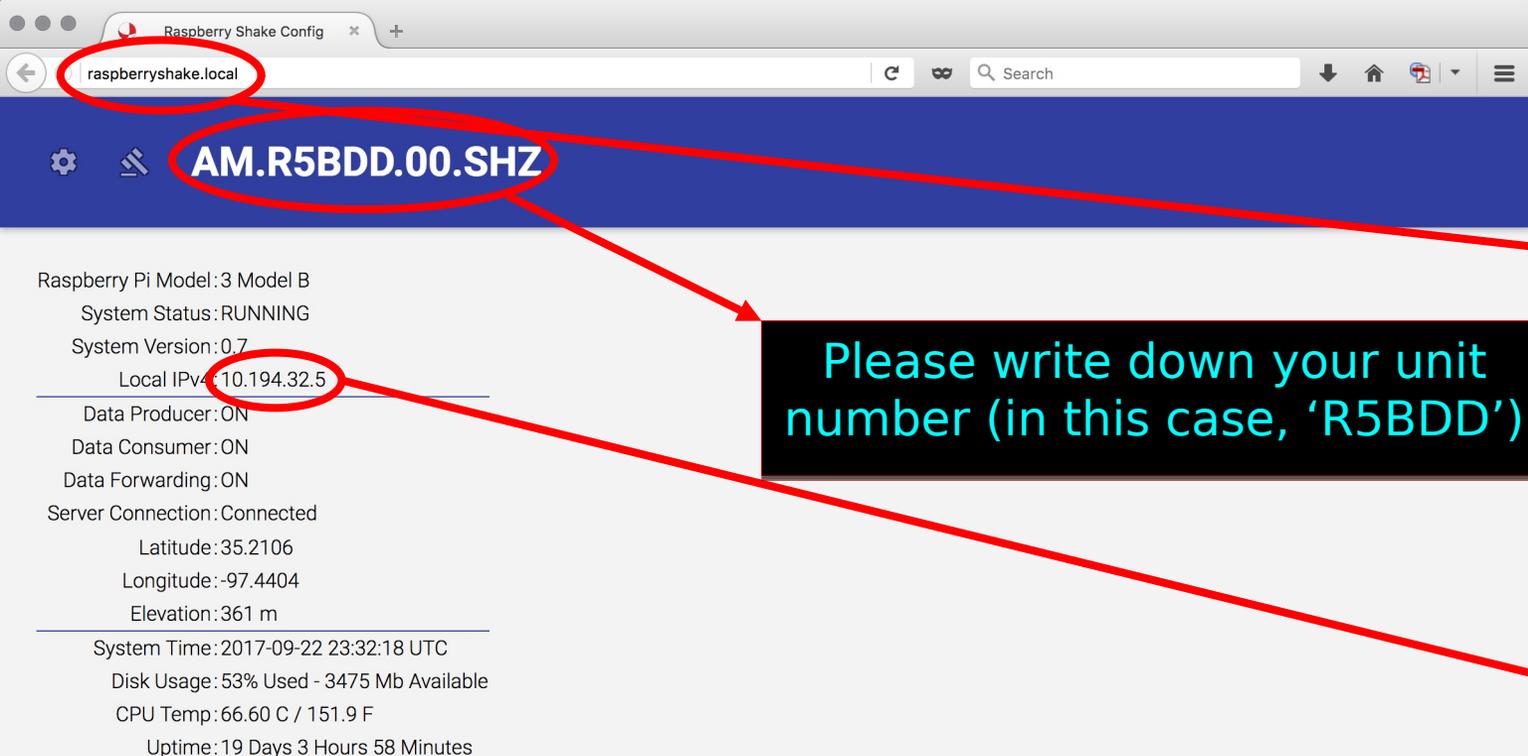
<http://rs.local/>

to view the Raspberry Shake dashboard. From there, click the 'gear' symbol and go to 'Settings: DATA' to configure and register your shake.

There are excellent instruction videos concerning these steps here:

<https://manual.raspberryshake.org/quickstart.html>

The following slides have picture examples, including which data fields are required



Go to URL address:



Please write down your unit number (in this case, 'R5BDD')

The Local IPv4 number (or ip-address) is where your Raspberry Shake lives on your network. **Your ip-address will likely be different than what is shown here.** Please write your ip-address down, as it may come in handy in the future.

If having difficulty on Windows:  
<https://manual.raspberrysake.org/windowsWorkAround.html>

Freely explore the site to familiarize yourself with it.

The DNS rs.local is equivalent to the Local IPv4. If I open another browser window and type 10.194.32.5 into the address bar, the browser will open an identical page.





## Settings: DATA

Make sure to forward the data

Fill these with your information

Set the location of the Raspberry Shake as accurately as possible

Save your settings

Default username: myshake  
Default password: shakeme

Page layout may differ slightly, depending on software version.

AM.R5BDD.00.SHZ

DATA ADVANCED

Data sharing settings

Forward data

Did you receive the geophone with the Raspberry Shake? \*

Yes

First name  
Jefferson

Last name  
Chang

E-mail  
jeffersonchang@ou.edu

SET LOCATION

Note: Update the location every time you move the Raspberry Shake

Elevation (in meters)  
361

Floor the instrument is on:  
2

Total Floors in Building:  
15

SAVE AND RESTART

Powered By OSOP

Once you've completed the configuration/registration on the 'Settings: DATA' page, be sure to click 'save and restart'

Once the unit restarts, refresh the 'home' page of the dashboard and check that Data Producer, Data Consumer, and Data Forwarding are all 'ON' and that Server Connection is 'Connected'

If any of these are not 'ON' or 'Connected', then the network firewall is likely prohibiting the Raspberry Shake from communicating outside the network. In that case, please have local IT grant network permissions.

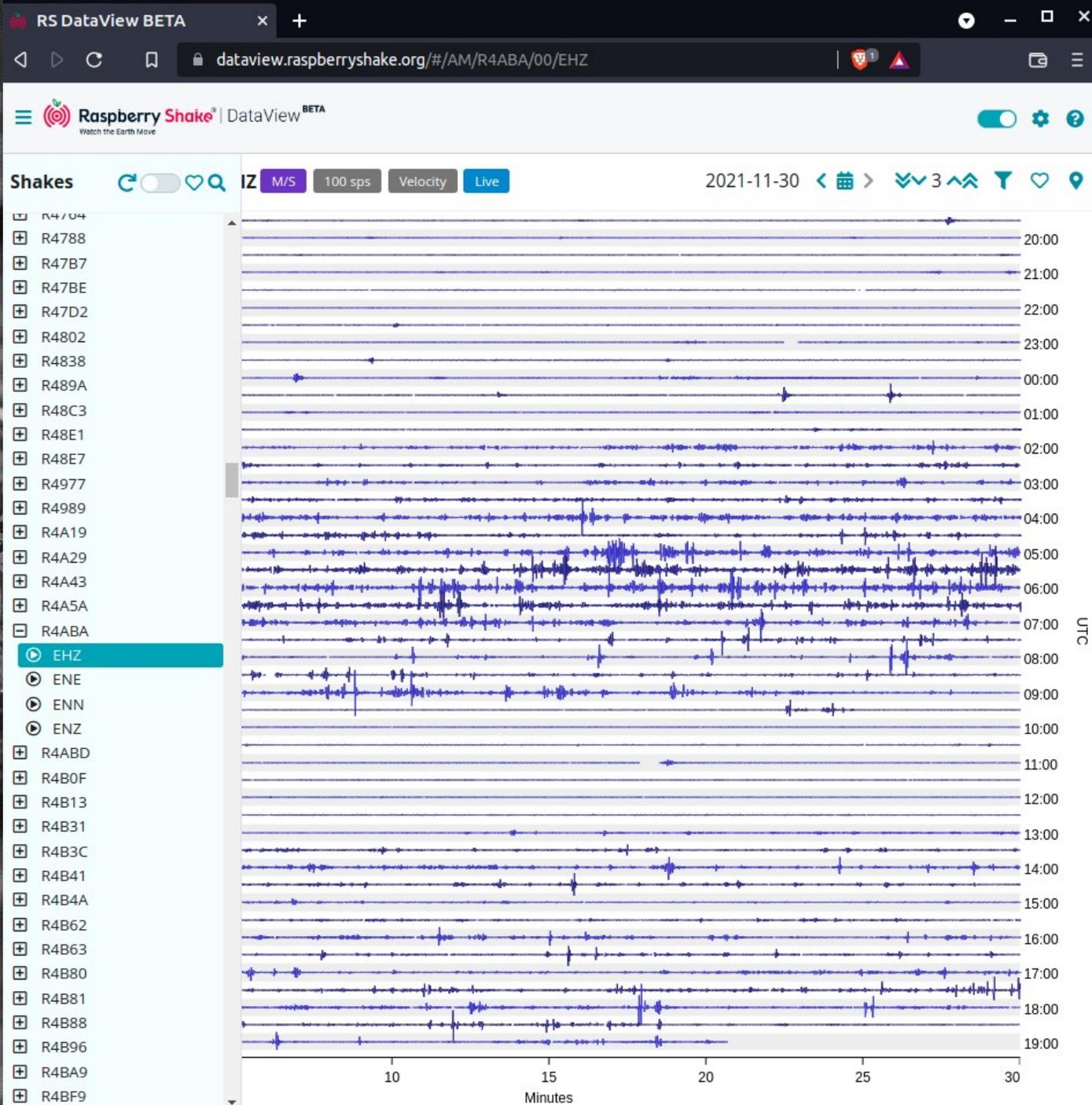
The information they'll need can be found here:

<https://manual.raspberrysake.org/firewallissues.html#firewallissues>

## Displaying Raspberry Shake Data

Once you've completed the configuration/registration, go to:  
<https://dataview.raspberrysshake.org/#/>  
to access the dataview tool. Note that this *does not* require the computer to be on the same network as the Raspberry Shake.

Find your unit number on the list, click on it to expand the channels, then select a channel to view the data



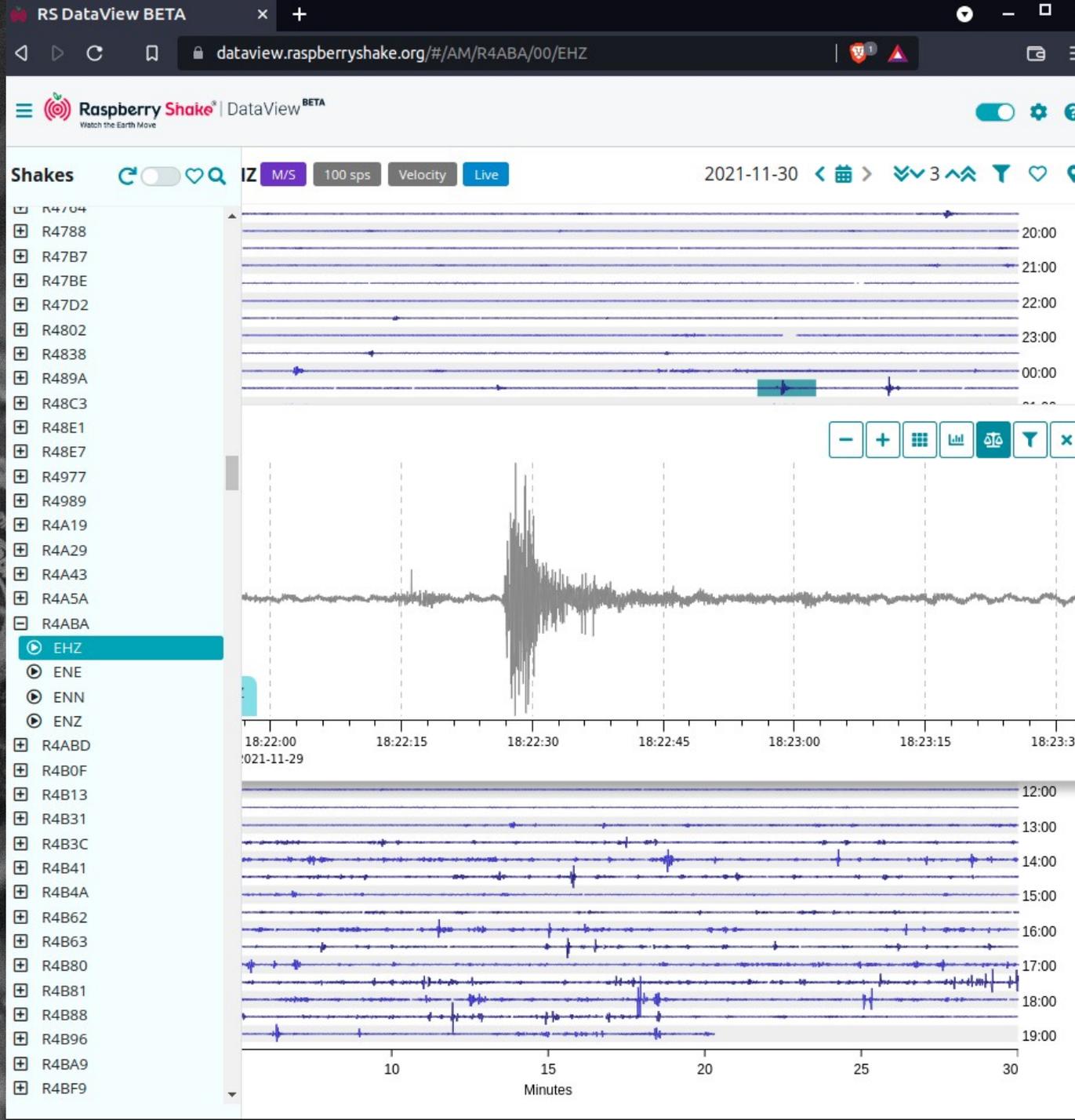
This data is called a 'helicorder', and shows movement the sensor recorded over a 24 hour period

Each horizontal line represents half an hour, with minutes shown on the X axis, and hour increments (of UTC time) shown on the Y axis

Most recent time is bottom right, oldest time is upper left. Time progresses as one would read a book

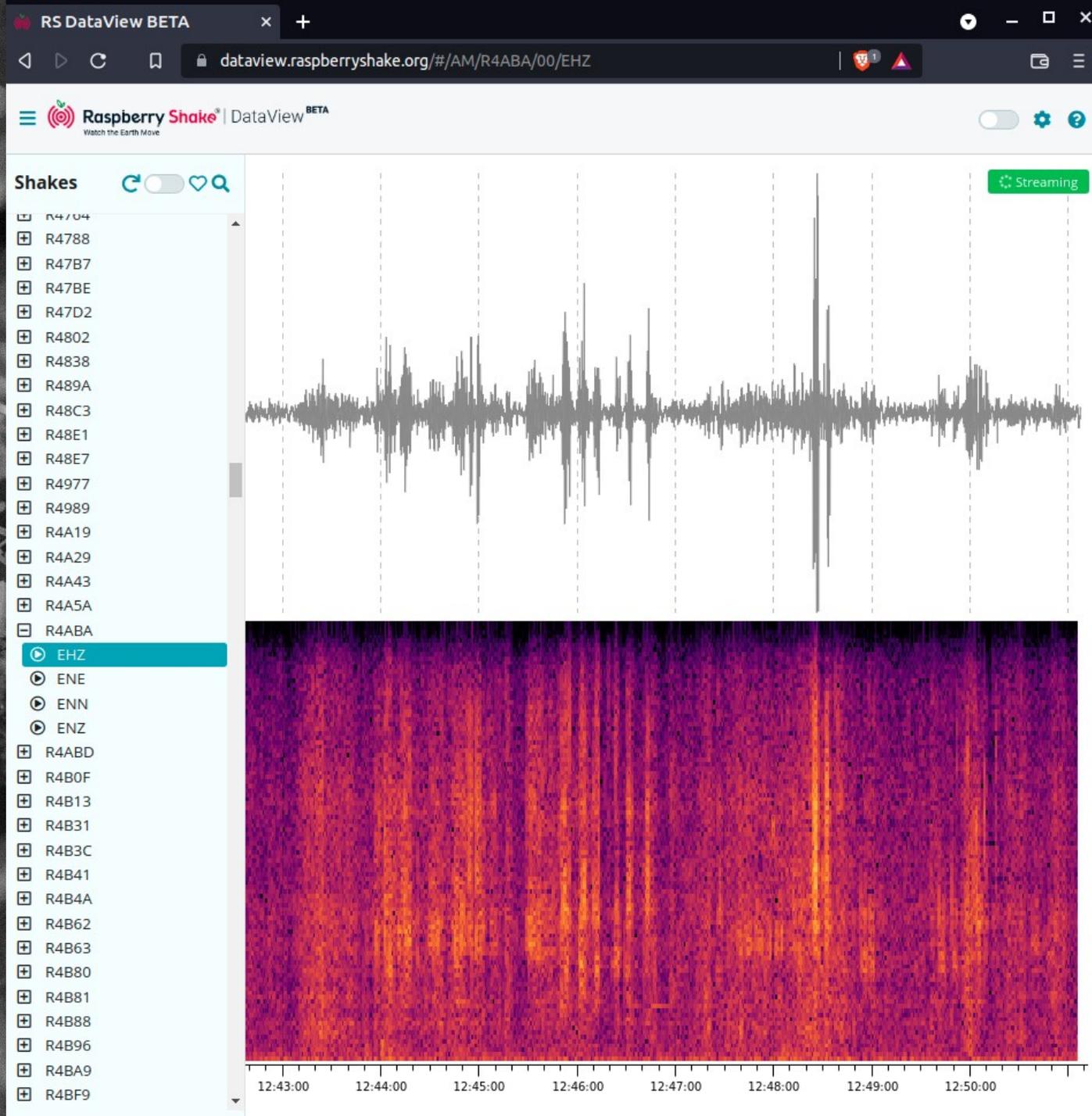
For UTC to local time conversion:  
<http://www.timebie.com/std/utc.php>

You can view data from earlier by clicking the calendar icon and choosing a time



By clicking on a time in the helicorder, you can view a zoomed in window that shows 1.5 minutes of data

Earthquakes will typically have a 'cone-like' signature, with a strong movement earlier (at left) followed by a gradually tapering tail (extending to the right, or forward in time)



For demonstration purposes, click the toggle in the upper right corner that reads 'Activate the live streaming plot'

This shows the past 8 minutes of data

Useful for 'stomp' demonstrations: have students jump on the ground near the sensor (not too near!) to view the recorded waveforms

The gray graph is a seismogram, which essentially shows recorded ground movement

The purple/yellow graph is a spectrogram, which essentially shows how much energy is being recorded

## Useful links:

### **Official:**

Website: <http://raspberrysshake.org/>

Shop: <https://shop.raspberrysshake.org/>

Manual: <http://manual.raspberrysshake.org/>

Shakenet: <https://shakenet.raspberrysshake.org/>

### **Community:**

RaspberryShake forum discussion on Oklahoma units: <https://groups.google.com/forum/?pageId=117966443217982258830#!topic/raspberrysshake/JFuGFc3L62E>

### **Social media:**

Instagram: <https://www.instagram.com/raspishake/>

Facebook: <https://www.facebook.com/raspishake/>

Twitter: <https://twitter.com/raspishake/>

Hashtag: #rasperrysshake

## Questions or comments?

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