Congratulations to your new Electrosense Receiver Kit! This quick setup guide provides you with a brief overview on the necessary steps to get your kit up and running. Please refer to the detailed guide (https://electrosense.org) for details and much more

Parts Overview
Open the package and make sure that all the components are present as shown in the following figure
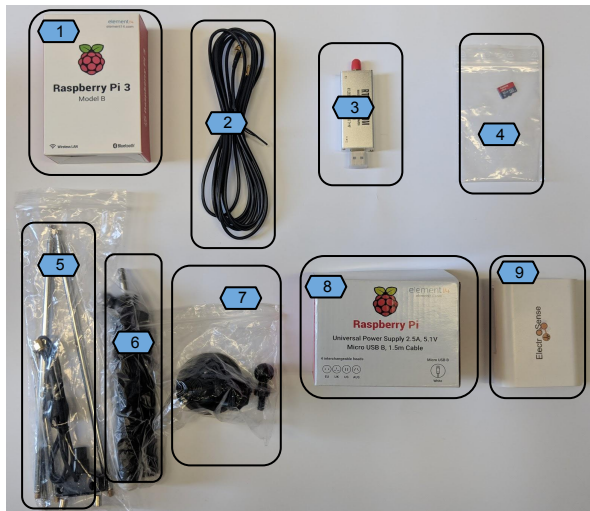
1. Raspberry PI	6. Antenna Tripod
2. Antenna cable	7. Vaccum clip
3. RTLSDR	8. Universal power supply
4. Memory card	9. Sensor enclosure
5. Antenna	

Preparing the SD card
When it comes to software, we provide a pre-configured image. At the moment there is no possibility to set it up with WiFi, so you need to connect the device over ethernet. However, that's all you need to do. We will take care of the measurements and all updates! Spectrum sensing is a quite resource-intensive task such that your Raspberry Pi will be busy and it is not recommended to use it for other tasks. For this reason, our image does not allow user login on the device.

Image Installation
The pre-configured image is under active development. You should ensure that you are running the latest release. For a list of improvements we refer to the changelog (http://repository.electrosense.org/images/CHANGELOG.txt).
For configuring the sensor, follow the instructions below.

1. Download the latest firmware
   ```
   $ wget  http://repository.electrosense.org/images/electrosense_latest.img.gz
   ```

2. Decompress the firmware
   ```
   $ gunzip electrosense_latest.img.gz
   ```

3. Insert an SD card into your computer (4GB or more) and copy the image
   ```
   $ sudo dd if=electrosense_latest.img of=/dev/mmcblk0 bs=4M
   ```
   (/dev/mmcblk0 may be different on your computer. It is the device node of your SD card reader)

4. Now, you need to register the sensor with our platform with its MAC as unique identifier. For this purpose, insert the SD card into your Raspberry Pi, connect it to a monitor, plug in the ethernet cable, and power on. After the boot process has finished, the MAC address is shown on the screen.

5. *Alternatively, if you cannot connect your device to a display:* Insert the SD card into the Raspberry Pi, plug in the ethernet cable, and power on. After waiting for one minute, switch off the device. Remove the SD card and put it in your computer again. You will find the MAC address in the file net_info.txt located on the first partition /dev/mmcblk0p1. Here is an example sequence of commands:

   ```
   $ sudo mount /dev/mmcblk0p1 /mnt/
   $ sudo cat /mnt/net_info.txt

   # Generated automatically Mon Sep 12 13:12:18 UTC 2017
   eth0 - b8:27:eb:c2:71:02 - 192.168.100.150
   ```
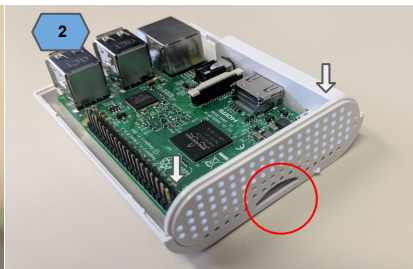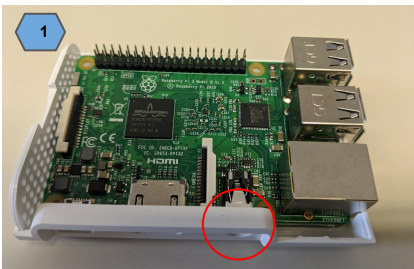   With the MAC address you can add your sensor in the Electrosense App (https://electrosense.org/app.html#!/sensors/add).

6. Finally, insert the SD card into your RPi and the ElectroSense software will start to scan the spectrum around you.

Sensor assembly

Antenna assembly

1. Insert RPi to the bottom enclosure. The best way to insert the RPi is to push the 3.5 mm audio jack into the designated hole in the case (see the red circle in the image on the right) and then push down the RPi, until it sits perfectly.
2. Gently push the rear panel of the case into position and make sure the SD card slot is on the bottom (see the red circle in the image on the right).
3. Place the top part of the case onto the RPi and insert the screws through the holes on the bottom.
4. Assemble the antenna and use the vacuum clip or tripod as given in figures 4-8
5. Prepare the SD as the instructions on the other page
6. Insert the SD card to the RPi slot
7. Insert the RTLSDR dongle and attach the antenna cable to the SMA connector
8. Connect the LAN cable (not provided) to the RPi and connect the power supply as shown in step 9
9. Visit https://electrosense.org for more information.

In case of any problems contact us through this page:

https://electrosense.org/app.html#!/contact