

# XNET Installation Steps: Lucius



# Lucius Activation Instructions

Congratulations on your XNET Lucius bundle. This page is intended to assist in getting your XNET Lucius system deployed and earning XNET tokens.

## **Step 1. Unboxing Lucius.**

Your Lucius bundle includes:

1. Pre-configured xNode gateway, power supply, and (red) patch cable
2. Lucius radio and outdoor mounting hardware, POE power supply, (blue) POE cable
3. 150 ft (45 meter) (black) POE Ethernet cable for outdoor deployment of your Lucius radio



Lucius bundled components in shipping box



Lucius eNodeB Radio in it's shipping box with installation instructions.

## Step 2. Connecting components together, powering up.

a) Place your xNode gateway in a safe, indoor location. Connect the red patch cable to ETH0 port on the gateway and the other end to your Internet connection (router/switch).



b) Next, plug one end of the short blue ethernet cable to the ETH1 port. Plug in the other end to the LAN port of the "PoE Brick" which acts as the power supply to the Lucius radio unit.

c) Mount your Lucius radio unit in its operational location. Make sure the top of the unit has clear view of the sky for proper GPS signal reception. If the unit cannot receive GPS signal, it can cause issues with token generation. *Note: make sure you connect the ground lug on the bottom of the unit to a good grounding location.*



d) Connect the end of the 150' ethernet cable (black cable) into the interior ethernet port on the Lucius radio:



1. Loosen the three screws on the side panel.



2. Remove the smaller diameter weather plug on the right side



3. Pass the ethernet cable through the weather plug retaining clip

e) Make sure the cable enclosure is sealed properly for protection against the weather.

1. Close the side panel door carefully, ensuring the cable stays centered in the access port
2. **HAND TIGHTEN** the three screws on the side panel.  
Do not over-tighten!
3. Ensure that the door seals completely and is flush with the side of the case



**Note- The cover must fully close to seal properly against weather!**

f) To finish installation, return inside and plug the power cord into the POE port on your "PoE Brick" (power adapter). Green lights should start flashing on your Felix radio if properly plugged into power.



### Step 3. Site Installation Data collection and submission

Now that your installation is done, we need to collect some information about it and submit that data for FCC compliance. For the following steps you will need the following:

- Magnetic Compass - either a physical compass, compass app on a mobile device, or virtual compass page on the [NOAA website](#) loaded on your mobile device.
- Inclinator / Angle Finder - a physical angle measuring device, physical inclinometer, or an inclinometer app on a mobile device.
- Camera - to take photos of your installation and photos of the measurement device.

*If you are using your mobile device (phone) to take measurements, you'll need another mobile device or camera to take a picture of it during this process.*

#### Suggested products / apps:

Stern's Surveyor's Compass (inclinometer + compass)



Amazon



Lowe's

Angle Meter / Inclinometer



Simple  
Inclinometer  
(Android)



Measure  
Angels  
Bubble Level  
(iOS)

Virtual Compass on mobile device:



NOAA  
Website  
Virtual  
Compass  
(Android +  
iOS)



Simple  
Compass  
(Android)

## 1. Record pictures of installation:

- a. **Height** - It is required to show at least 2 photos that show the installation height. Consider taking photos from the ground, from the roof/site-location, and from multiple directions. If pictures are not possible, Google Earth can be used but must mark accurate location of antenna.
- b. **Azimuth angle** - Take at least one photo that shows the Azimuth (cardinal direction) angle of the installation. This needs to be measured using a compass. If you do not own a compass, you can use a virtual one on any mobile device using the [NOAA website's Virtual Compass](#) easily available through this QR Code below. If you plan on doing many installations, you might find the Stern Surveyors' Compass to be a more helpful tool, which can be purchased from [Amazon](#) and [Lowe's](#) (QRs also below). Place your compass (or mobile device) on top of the unit with the arrow of the compass pointing in the direction of the front of the unit. Then take a picture of the compass like this:



NOAA Virtual Compass (Android and iOS)



Simple Compass (Android)

- c. **Elevation angle** - This should be measured using a protractor, angle finder, or you can use an inclinometer app on your mobile device (free Android options below). Angle should be measured and then a photo taken of the measurement. Here are some examples:



Measure Angles Bubble Level (iOS)



Simple Protractor (Android)

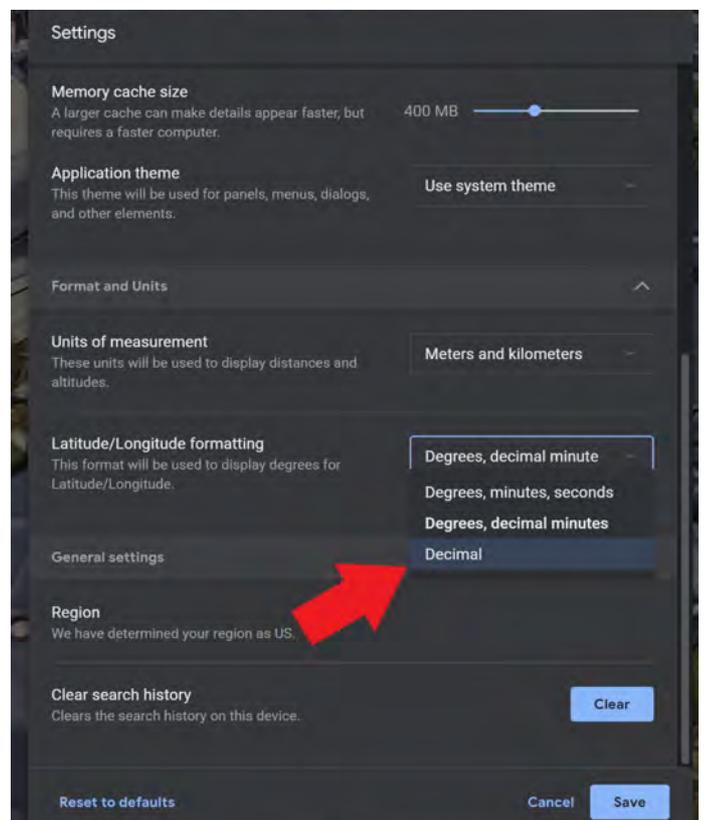
Do **NOT** use the markings on the mount to provide your elevation angle. These are not accurate enough and do not take into account any issues with alignment/plumb of the mounting mast.



The mount markings are not accurate, do not use them or send us pictures of the mount.

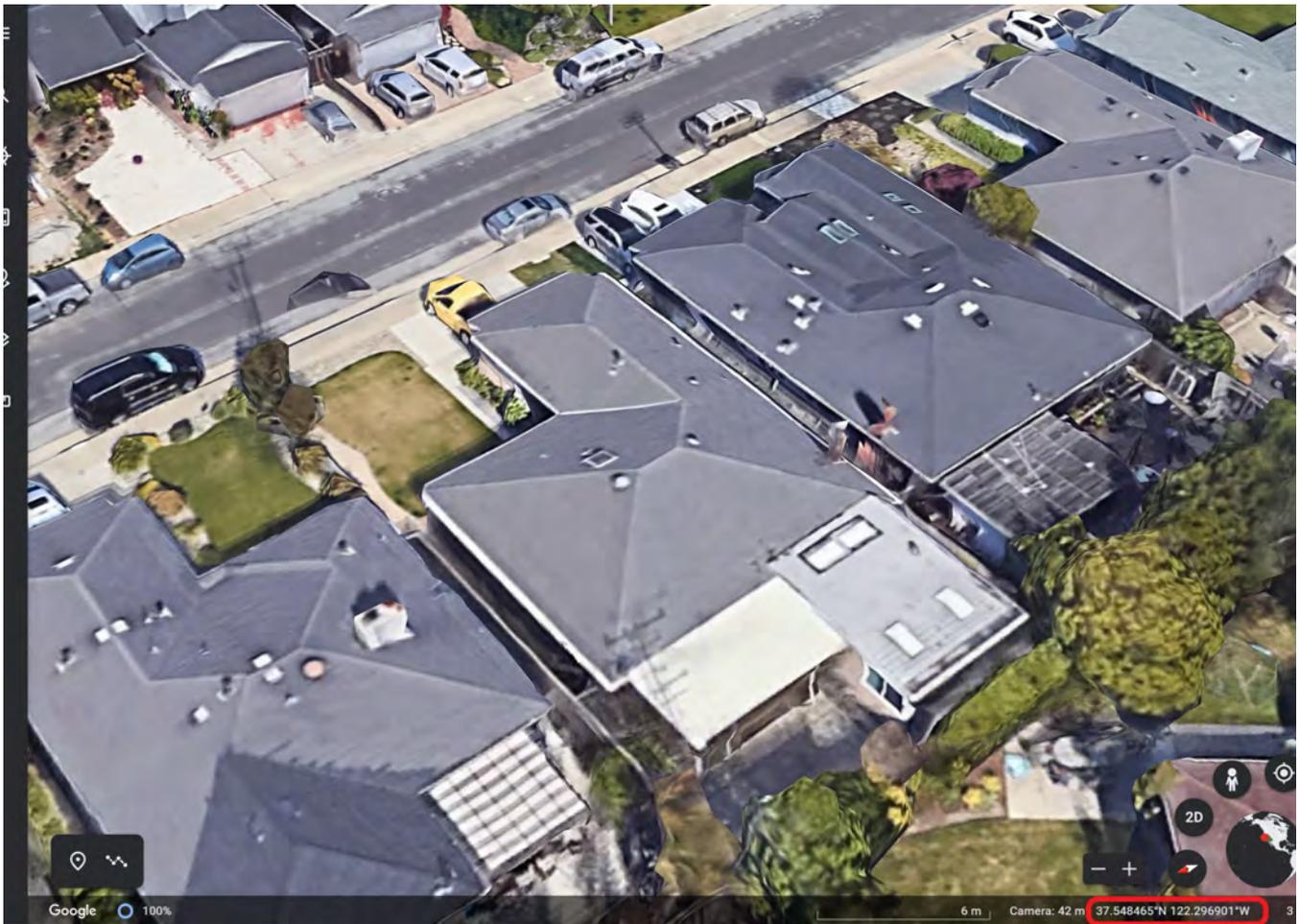
## 2. Collect GPS location and height data from Google Earth

- a. Go to <https://earth.google.com>
- b. Before we collect information, we need to change how GPS is displayed in Google Earth. Click on the settings button in the top right corner (hamburger button). Then locate Latitude/Longitude formatting, and pull down on the menu to select "Decimal". Then click "Save" at the bottom.

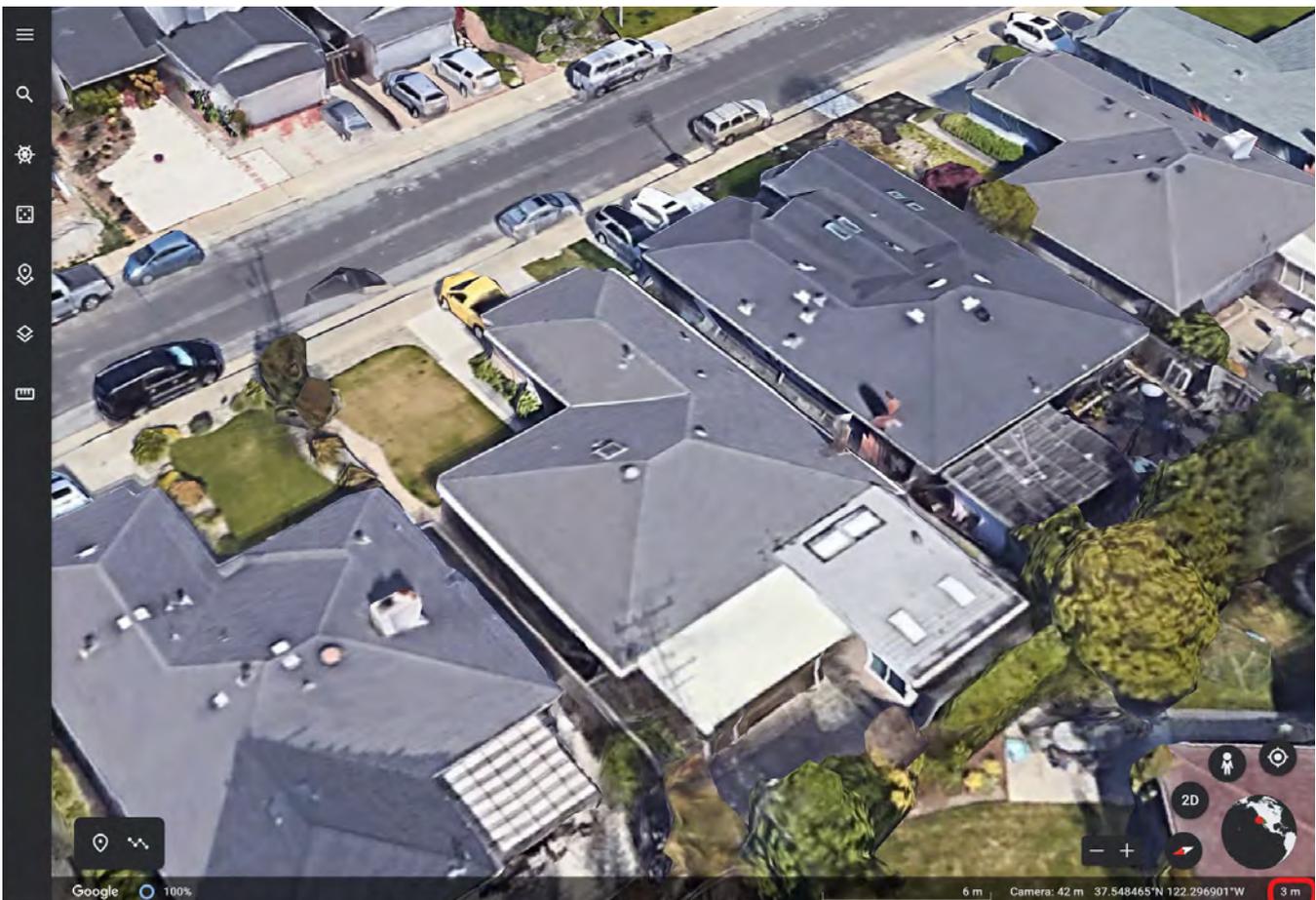


- c. Back at the main screen, click the spyglass icon, in the top right corner, to start a search
- d. Enter the closest street address of your installation
- e. Now zoom and scroll until your installation location is centered in the screen
- f. Place your mouse cursor exactly over the location of your installation.
- g. Without moving your mouse cursor, take a screenshot of Google Earth ("PrtSc" button in Windows, "Shift+Cmd+3" for MacOS)

h. GPS location example from Google Earth:



i. Height for location from Google Earth:



**Note in the bottom right corner the location and height. Where you place your cursor on the Google Earth screen you will get the GPS coordinate (note units in decimal form) and height of location in meters. Go to setting if units not in decimal degrees or meters.**

1. Upload all the installation data in the web form using login and password provided via email.
  - a. **<https://www.xnet.company/activate>**
2. **Device:** Select Lucius Serial Number from pull down menu (eg: 1202343265417RB0263).
3. **xNode name:** Select matching xNode name from pull down menu name1-name2-name3-1234 (eg: strong-fast-smart-2763)
4. **Location:** Input GPS coordinate of antenna (37.722315, -122.392791) you found in Google Maps during Step 2.
5. **Antenna Height:** Select the screenshot from Google Earth that you made during Step 2
6. **Antenna Azimuth Angle:** Select the photos you took of the compass during Step 2.
7. **Antenna Elevation Angle:** Select the photos you took of the angle finder / inclinometer during Step 2.
8. **Metamask Polygon Wallet Address:** Please visit the [MetaMask Setup Guide](#).
9. Finally, click the "Submit" button to finish.
10. **Grow your Tokens** - Track your performance, increase your earnings. Community tools will help enhance network coverage options, opening up opportunities to earn more tokens.