



# NYC MESH

## MEMBER GUIDE



● ● ● Connecting the dots for your community-owned network



# My Device Information

The below form should be completed during your home install and will be helpful for operating or troubleshooting your connection.

**Node #** .....

Connected to (hub): .....

Hub slack channel: .....

## Home Wi-fi

SSID (WiFi name): .....

Password: .....

## Guest Wi-fi *(optional)*

SSID (WiFi name): .....

Password: .....

## Indoor Wi-fi router admin settings

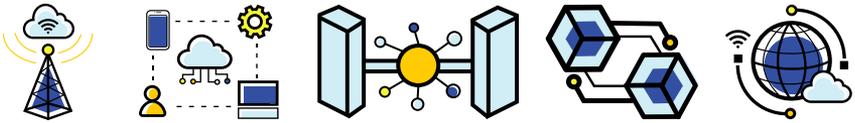
IP address is: *default: http://192.168.0.1/* .....

Username: *default: admin* .....

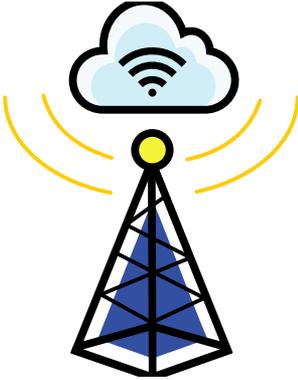
Password: *default: admin* .....



# Table of Contents



	<b>Welcome to NYC Mesh!</b>	3
	What it means to be a NYC Mesh node?	5
	What is NYC Mesh & how does it work?	7
	<b>Getting involved with NYC Mesh</b>	9
	Supporting NYC Mesh	15
	What to do if your connection goes down	17
	<b>Operating &amp; troubleshooting hardware</b>	19
	OmniTik (omni-directional antenna)	22
	LiteBeam (point-to-point antenna)	30
	TP-Link N300 router (indoor router)	36
	<b>NYC Mesh Privacy Policy</b>	40
	NYC Mesh Network Commons License	43
	Use of Network	44
	<b>Getting in touch</b>	45
	I'm moving! What should I do?	45

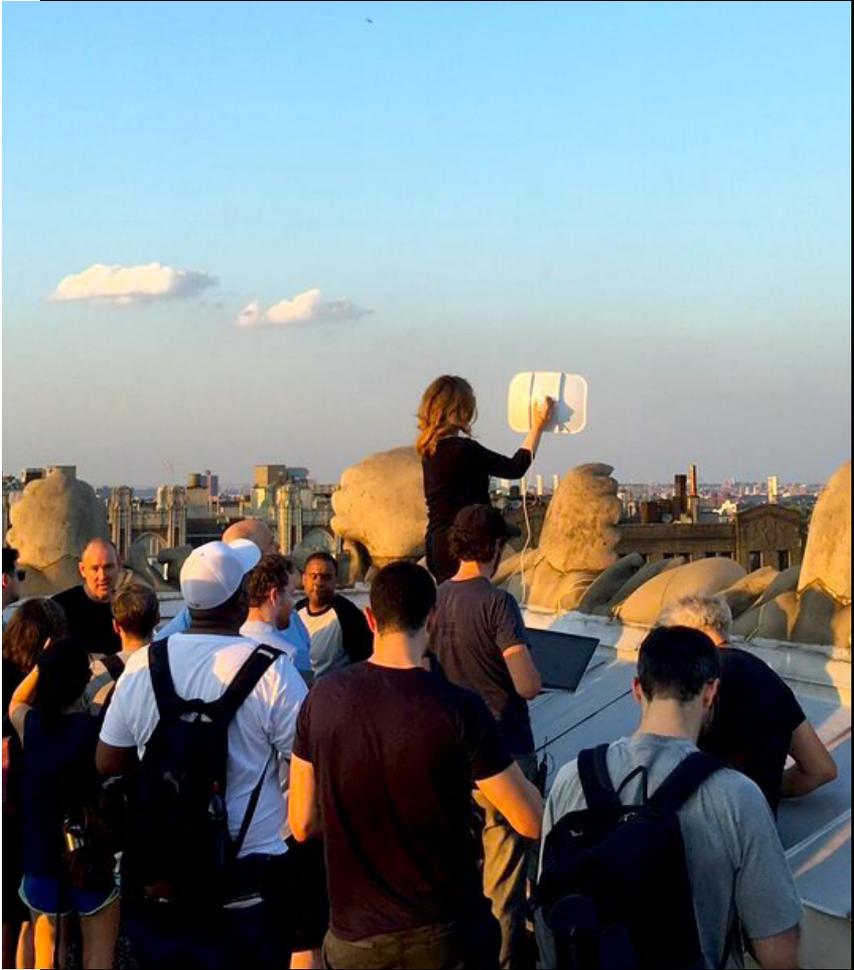


## ***Welcome to NYC Mesh!***

You are officially a member of NYC Mesh, the largest community network of its kind in North America! As a member, you are asked to help in maintaining your node/equipment, which ultimately helps everyone on the network (putting the “community” in “community network”). Your node is also your gateway to the internet so it is important that you understand how to maintain your equipment and what to do if you experience any issues with your connection.

This handbook is designed to provide an overview of NYC Mesh, to help you operate and troubleshoot your new hardware, and to share some ways to become more involved. Our community – online and offline – is stronger when we all participate in growing and maintaining our network.





NYC Mesh Member leads an install training workshop with a Litebeam router.



# ***What it means to be a NYC Mesh node***

You're now an official NYC Mesh member! Congrats! Now what does that actually mean?

First, by joining NYC Mesh, you are an active participant in making the internet landscape in New York more equitable, open, and fair to all. Great work!

Also, when you first signed up to become a node, you agreed to the NYC Mesh Network Commons License (see page 45), which primarily means that you agree to share the network with others in the same way that it is being shared with you. At a minimum, this means providing power to your rooftop router so that other members can connect online (all of your rooftop hardware uses less power in 24 hours than it takes to lightly toast a slice of bread). NYC Mesh volunteers may also request permission to access your rooftop after the initial installation in order to upgrade infrastructure to improve your and others' connection.

Additional information about the hardware and firmware that NYC Mesh uses is available online at [\*\*docs.nycmesh.net\*\*](https://docs.nycmesh.net).





If this handbook doesn't include the answer you're looking for or you simply want to learn more, the Docs page is a great next step.

While no one on the NYC Mesh network is obligated to pay a monthly fee for service, we suggest a recurring donation of \$20, \$30, or \$50 to help keep the network operating and to ensure it remains accessible to all New Yorkers.

As a node on the NYC Mesh network, you are also qualified to participate as a voting member in the management of the organization. This means that you can serve on the Board of Directors, vote in Board elections, or petition to amend our governing bylaws. You may receive very occasional emails with organizational updates or opportunities to get involved.

Finally, while not a requirement, you're invited to learn more about your new equipment and to become involved in the NYC Mesh community. Review the "Getting involved with NYC Mesh" section of the Handbook to learn about opportunities to meet and support the NYC Mesh community.





# ***What is NYC Mesh and how does it work?***

NYC Mesh is a non-profit community network run by volunteers (learn more about volunteering on page 10). We believe that all people should have the power to determine their digital future and the ability to connect online – no matter what their home may look like or how much they can afford. We also believe in strict privacy protections and in the principles of “net neutrality,” meaning no blocking content and no throttling speeds.

Our mission is simple: we aim to create an open, resilient, neutral network that puts people first and is accessible and affordable to all New Yorkers for both daily internet use and emergency use during power outages or internet disruptions. Unlike companies such as Verizon or Comcast, NYC Mesh is not an internet service provider. Instead, we are a grassroots community network, meaning that everyone (you, your neighbor, a node in the next borough over) is an active participant in making this effort possible.





A view of the growing NYC Mesh network as of 2021 - explore at [nycmesh.net/map](https://nycmesh.net/map)

To achieve our mission, NYC Mesh owns, leases, -and operates collective infrastructure throughout New York City. This includes things from fiber optic cable running under our streets to antennas on tall rooftops broadcasting Wi-Fi signals. In many cases, community members (like you if you have an OmniTik installed) also contribute to this collective infrastructure by broadcasting a signal to neighbors. Together this web of fiber and antennas form an interconnected network, or a mesh.

The NYC Mesh network peers (connects) with many other networks at an internet exchange point (IXP) located at 375 Pearl Street, providing direct access to the internet without the intermediary of a commercial internet service provider.



# ***Getting involved with NYC Mesh***

Maintaining and growing NYC Mesh wouldn't be possible without a dedicated community of volunteers.

NYC Mesh is more than antennas, ethernet cables, and internet access. NYC Mesh is people working hard to grow and to maintain the physical network as well as the partnerships and community that are essential to our success.

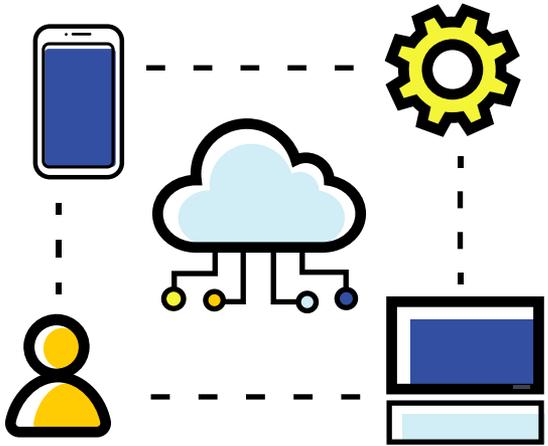
The hardware installed at your location is capable of providing multiple households with internet access without affecting available bandwidth. To begin, if your neighbors are not aware of NYC Mesh, please consider sharing your experience with them.

If you know someone who might be interested in NYC Mesh, spread the word or better yet bring your friend to a meeting.





Smiling volunteers celebrating a successful installation.





# Volunteer

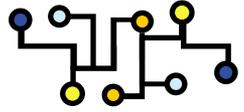
There are many ways to volunteer with NYC Mesh and we encourage you to get involved. The best place to get started is reaching out on Slack (explained below), sharing a little about yourself and your interests, and asking about where you can lend a hand.

From organizing meetings and volunteers to answering support requests and developing new tools, there's a place for you!

We are open to new ideas and initiatives, especially if you are ready, willing, and able to make them happen. We like people who are self-motivated and autonomous but who also like to collaborate and work with others.

**We welcome people with diverse skill sets from all backgrounds to help, contribute, and lead. We are open to new ideas and initiatives to help us build a resilient connected community.**





Volunteers successfully installing a Litebeam in Brooklyn.





## ***A few ways to get involved:***

**Installer:** Help connect new NYC Mesh members to the network (and help them reconnect when they have service issues). No technical experience required!

**Install team leader:** Organize and lead site surveys and installations. Teach new volunteers how to install hardware and configure firmware. Communicate with new NYC Mesh members and the install support team.

**Install planner:** We have hundreds of node applications. See if you can join the rooftops together on our map and communicate with a potential member to plan an install.

**Network administrator:** Do you know Grafana, Icinga or Nagios? Know how to write bash scripts? Help us by monitoring nodes and alerting users to problems.

**Hardware and software hacker:** Anything and everything to develop new tools that serve our community.

**Website developer:** Help us improve our website. Edit existing documentation and add new information. Help improve our message and outreach. We use markdown and GitHub to collaboratively develop the website – both are easy to learn.

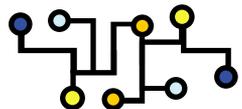


**Neighborhood organizer:** Coordinate an install for people in your building or for your neighbors, a community organization, or a local business.

**Community outreach leader:** Encourage people in your community to join NYC Mesh by distributing pamphlets and organizing informational events. Do you speak multiple languages? Help us reach out to people who don't speak English and provide translation assistance. We aim to be a service for all New Yorkers.

**Grant writer and sponsorship coordinator:** We need help identifying grants, writing applications and reaching out to sponsors.

**Project manager:** We have a lot of larger projects that require long-term planning, organizing and emailing.





## + Attend a Meeting

We hold community meetings and Meetups several times a month. Information about these events is available at [meetup.com/nycmesh](https://www.meetup.com/nycmesh) or in the **#meetings** channel on Slack.

## + Slack

Slack is an online messaging tool that serves as our day-to-day means for connecting and engaging as a community. We strongly encourage you to sign up. Our Slack contains topic-specific discussions on “channels” dedicated to nearly every facet of NYC Mesh.

Join a channel of interest to you, and get involved. No need to be shy about posting or sharing your thoughts; NYC Mesh channels are open to all levels of experience. Share your knowledge with us or learn new skills. Slack is also a great way to get in touch with members for support (explained further below). To join our Slack, simply visit [nycmesh.slack.com](https://nycmesh.slack.com).

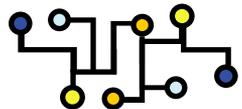


## + Github

For those who want to contribute to the technical underpinnings of NYC Mesh, another great way to get involved is with our GitHub ([github.com/nycmeshnet](https://github.com/nycmeshnet)) and its various code repositories. A majority of our production and open-source code is available in one or more of these publicly visible Git repositories.

Sometimes, the best place to look for an answer to a question you have is by reading the source code of the software we use, and this is where you can do that.

In addition to the source code itself, we also make use of GitHub's issue tracker to have conversations about our software and firmware builds. These issue boards are like forum postings that you can read to understand why certain decisions were made and how a given component of our network evolved. They are also a good place to ask questions and report bugs.





## ***Supporting NYC Mesh***

NYC Mesh is supported entirely through voluntary recurring contributions of members, generous gifts from donors, and countless hours of time from members like you.

Recurring member contributions go entirely to basic network maintenance, including leasing space for antennas, and improving and expanding the network.

If you agree with the mission of creating a sustainable community-owned and -managed network in New York City, please consider making a financial or in-kind contribution to NYC Mesh. Online contributions can be made at [www.nycmesh.net/donate](http://www.nycmesh.net/donate). You can also support NYC Mesh by contributing quality hardware such as switches, routers, or antennas or helping us to find long-term space to operate from.

Finally, NYC Mesh is always in need of well-positioned rooftops so please share this opportunity with your community and help grow the network. If you have any connections to a potential rooftop, reach out!



Get involved! Help the network grow!  
Spread the word!  
Share with your community!

In addition to contributing time, money, or connections, you can also help by spreading the word!

Let other people in your building or workplace know about NYC Mesh, print out flyers from our Docs page ([docs.nycmesh.net/organization/outreach](https://docs.nycmesh.net/organization/outreach)) and share with your community, or ask for help making a presentation on NYC Mesh to a block association, community board, or other organization you're involved with.



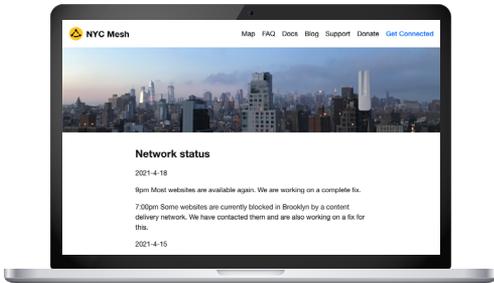
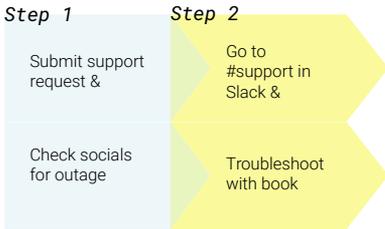


# What to do if your connection goes down?

If you have a smartphone with an internet connection handy, begin by checking [www.nycmesh.net/network-status](http://www.nycmesh.net/network-status) to see if any network issues have been reported. Please also submit a support request by visiting [www.nycmesh.net/support](http://www.nycmesh.net/support).

If you have Slack available, we also recommend checking the **#support** channel or the channel associated with your hub (e.g. #hub-saratoga-1340) to see if there are any network issues specific to your area.

### If you have connection issues:



When filling out a support request and posting in the Slack **#support** channel, please be sure to include your name and node number so volunteers can identify you and your equipment. Another NYC Mesh member will try to help you resolve the issue as quickly as possible but please remember that everyone in our community is a volunteer and can't always immediately respond. Thanks in advance for your patience!

If you are just signing up for Slack, refer to the "**Getting involved with NYC Mesh**" section (page 9) of this handbook to learn how to join and the "**My device information**" section (page 1) to confirm which hub you are connected to. Hub channels in Slack are named with the following standard format: #hub-hubname-nodenummer (e.g. #hub-saratoga-1340).

If there are no network issues reported on the NYC Mesh website, Twitter, or Slack, try checking your equipment as described in the "**Operating and troubleshooting your new hardware**" section below. In many cases, connections go down because a power cable was accidentally unplugged or an ethernet cable came loose.





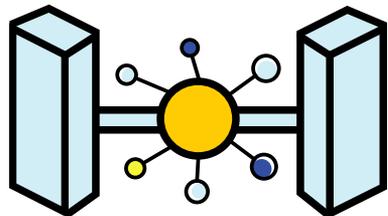
# ***Operating and troubleshooting your new hardware***

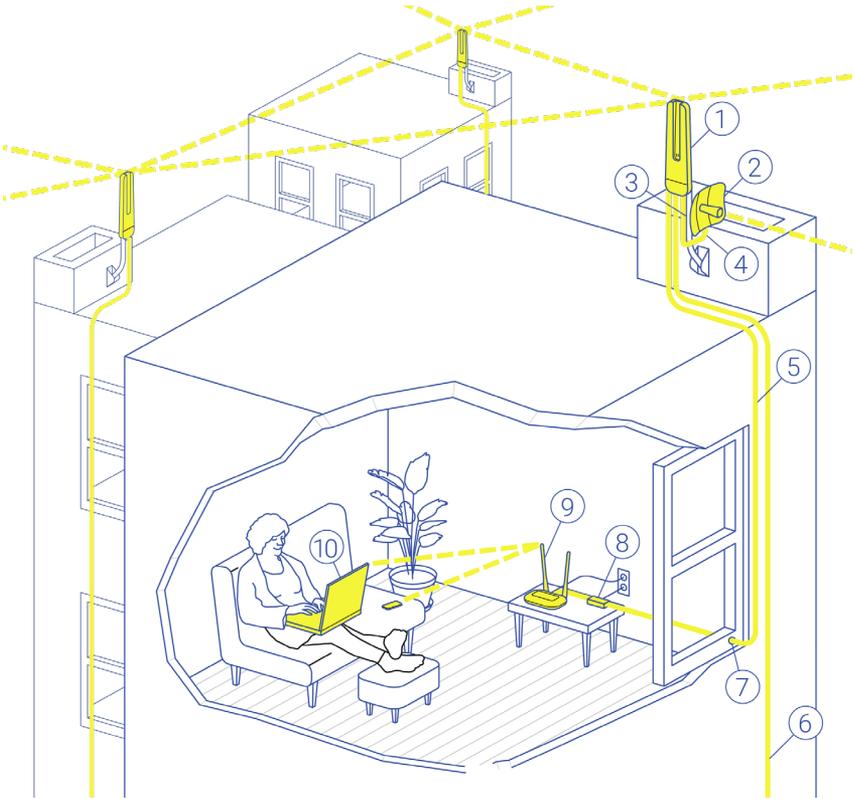
This section will help you troubleshoot your own network connection and equipment.

If you have any questions, please reach out on Slack or visit [www.nycmesh.net/support](http://www.nycmesh.net/support). We also encourage you to participate in our educational programming or to volunteer to gain hands-on experience alongside other NYC Mesh community members (page 10).

Additional information about the hardware and firmware that NYC Mesh uses is available on the Docs page of the website at [docs.nycmesh.net](http://docs.nycmesh.net). If this handbook doesn't include the answer you're looking for or you simply want to learn more, the Docs page is a great next step.

On the next page is a helpful infographic about the equipment used in a standard NYC Mesh install. Your setup may vary somewhat but the basic principles are the same.





- |          |                                   |           |  |
|----------|-----------------------------------|-----------|--|
| <b>1</b> | Omnidirectional router            | <b>6</b>  | Ethernet cable to additional apartment |
| <b>2</b> | Point-to-point router             | <b>7</b>  | Ethernet cable pass                    |
| <b>3</b> | Router mount                      | <b>8</b>  | Power over Ethernet injector*          |
| <b>4</b> | Ethernet cable connecting routers | <b>9</b>  | Indoor router                          |
| <b>5</b> | Ethernet cable to main apartment  | <b>10</b> | Device                                 |

*\* may not be installed in some installs*





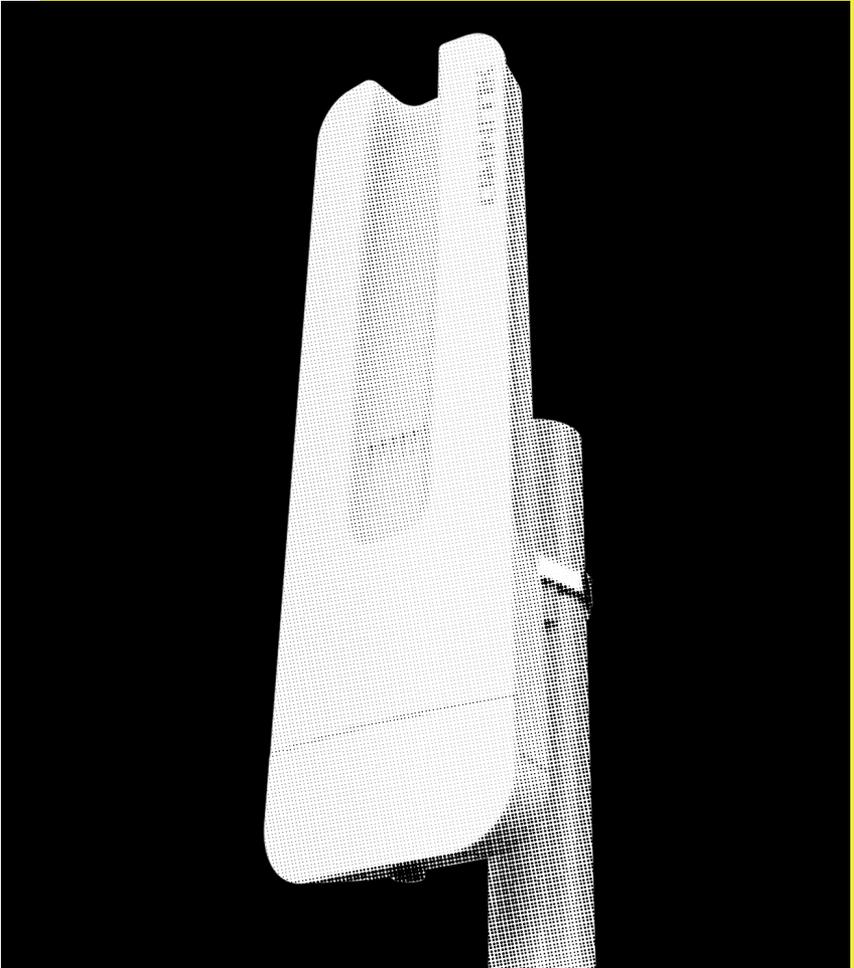
# ***OmniTik*** ***(omni-directional router)***

The OmniTik (“Omni” for short) is a versatile omni/all-directional antenna that serves a number of purposes in the NYC Mesh network.

Most importantly, our OmniTiks are configured with firmware to automatically connect with other OmniTiks within a 2 to 3 block radius. That means that they both allow for a home internet connection vis-a-vis your neighbor and extend the NYC Mesh network so that others can connect to the internet. OmniTiks also broadcast an open Wi-Fi network so that you can stream video on your rooftop and share your connection with members of your community (sharing is caring!). The open network, often called -NYC Mesh Community WiFi-, may not have a strong signal in your apartment so we don’t recommend using it in place of your home router.

OmniTiks also improve the resilience of the NYC Mesh network by creating more interconnections, meaning that your data may have multiple available pathways to reach the internet exchange point where NYC Mesh peers/connects with other networks and the global internet.





Omnitik omnidirection router

- [docs.nycmesh.net/hardware/mikrotikspecifics](https://docs.nycmesh.net/hardware/mikrotikspecifics)

The interconnectedness of the NYC Mesh network in the Lower East Side pictured below is a good example of a more resilient or “meshed” area.

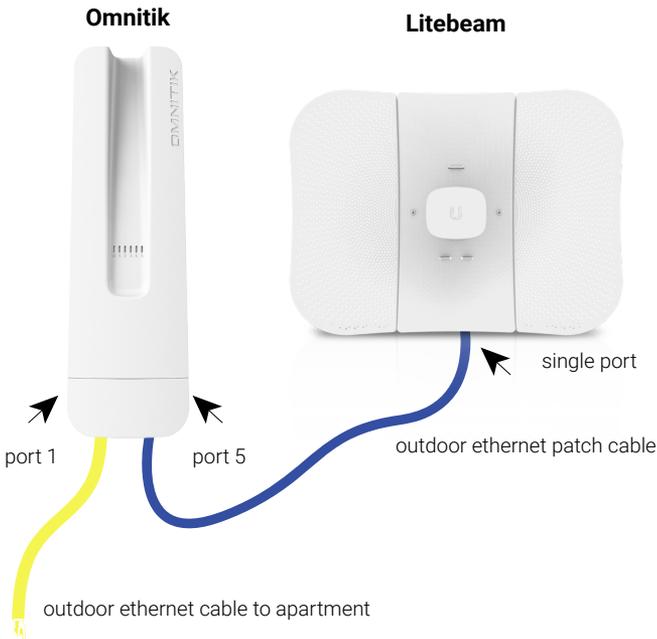
Your OmniTik may be connected by an ethernet cable to other antennas such as a LiteBeam. In some cases this is to provide a stronger connection (your OmniTik may not have many other OmniTiks friends to connect with) or to enhance resiliency by creating more connections. If your OmniTik is connected to a LiteBeam by an ethernet cable, it is very likely that the LiteBeam is connected to a nearby hub and then using your OmniTik to share that connection with neighbors (a “hub” is simply a more advanced node on the network able to connect many individual smaller nodes like yours).

Map of the Manhattan network



If there are other OmniTiks in your area and your LiteBeam connection goes down for some reason, your internet traffic will be automatically re-routed to the secondary OmniTik-to-OmniTik connections. In the case of having both an OmniTik and a LiteBeam on your roof, your OmniTik will be powering the LiteBeam via Power over Ethernet (PoE) and your indoor router will be connected to the OmniTik.

Omnitik-to-Litebeam connection





That brings us to another important aspect of OmniTiks: they can be used to connect to other devices. The image to the right shows the five ethernet ports on an OmniTik. The port farthest to the left carries power and data from your apartment to the OmniTik. The other ports can either be used to connect to another Mesh-connected device, usually a LiteBeam, or to connect to other apartments in your building, so let your neighbors know that they can join NYC Mesh today!

Every OmniTik includes the following components:

1. OmniTik antenna, located on the roof of your building.
2. Power over Ethernet (PoE) injector that allows the power from your wall socket to be carried through the ethernet cable to the OmniTik. It's likely a small white device with arrows indicating which cable is carrying power and data and which is just carrying data.
3. A lengthy black ethernet cable designed for outdoor use, which carries both data from your indoor router as well as power from the PoE injector.

If you are encountering issues with your OmniTik, the first thing to check is that it is powered on. There are six small lights on the face of the antenna:



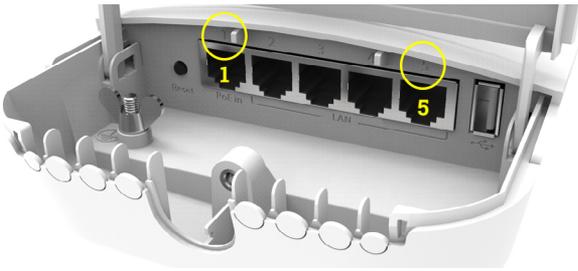


Image of Omnitik ports

Example of a power-over-ethernet injector



Numbers 1-5 indicate connections over the corresponding ethernet ports. The various LEDs will flash when data is actively passing through that port.

If the power light is off, check the PoE injector, which should be plugged into a wall socket in your apartment. Also check that the power cord is correctly inserted into the PoE injector.

If the PoE injector is on (indicated with a green or blue light) and there is still no power at the Omnitik, check that the power supply leading to the PoE injector is properly plugged into the PoE injector (try unplugging and plugging back in, both from the wall and at the connector).



**Be careful: one ethernet socket on the PoE injector is to connect to the indoor router (or directly into a computer) and only carries data, the other ethernet socket, marked “PoE” or “PoE Out” carries both data and power. Do not plug your home router, laptop or any other equipment that does not support PoE into the PoE ethernet socket. The equipment will likely be damaged.**

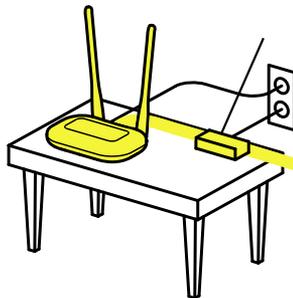
Once you've checked the ethernet connection indoors, head to your rooftop to check that the ethernet cable is correctly plugged into the OmniTik. This can be done by unscrewing the metal plug on the underside of the OmniTik. Again, the ethernet cable carrying power to the OmniTik will be located farthest to the left in Port 1. Before plugging the ethernet cable on the far left back in, try brushing off the head of the cable with fabric as humidity can sometimes corrode the points of connection and prevent good contact.

If you have a LiteBeam in addition to an OmniTik, take a look to ensure that your LiteBeam is also powered on (remember that your LiteBeam is receiving power through Port 5 on your OmniTik). There is more information about your LiteBeam available in the following section.



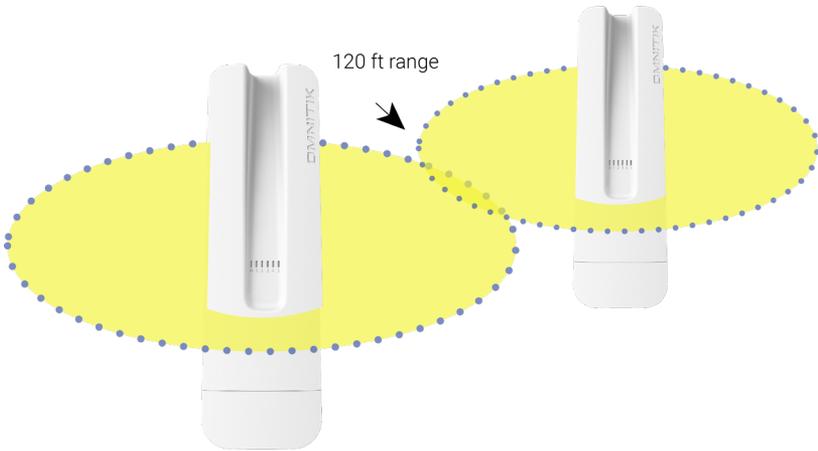
If the devices on your roof are powered on but there is no internet, check your indoor router. Is it on and functioning properly? A standard NYC Mesh install includes a TP-Link router, which is discussed in greater detail in the TP-Link section below.

If you've checked to (1) ensure that there are no network outages on the NYC Mesh network, (2) that your hub is functioning properly (see the Slack channel named #hub-hubname-nodenum), and (3) that everything is powered normally and you still don't have internet, please reach out!



Omnitik-to-litebeam connection





Omnitik-to-Omnitik connection

Support requests can be posted on Slack in the **#support** channel or sent to volunteers by visiting [www.nycmesh.net/support](http://www.nycmesh.net/support). Be sure to include your name and node number in order for the NYC Mesh volunteers to identify you and your equipment.

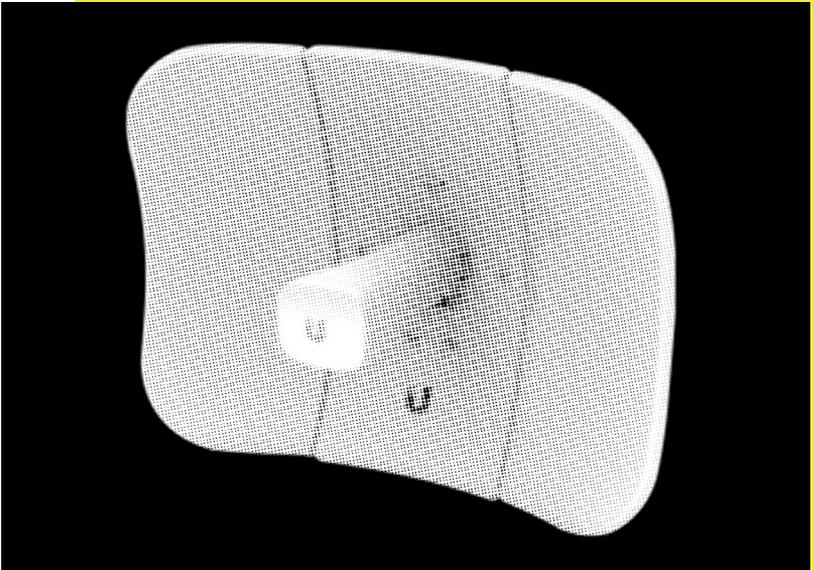
Unlike LiteBeams, Omnitiks can be somewhat complex devices to configure and learn to use properly. However, we absolutely encourage you to learn more and NYC Mesh members are ready to help you on that journey! Additional information about Omnitiks and the NYC Mesh firmware configuration is available online at [docs.nycmesh.net/hardware](http://docs.nycmesh.net/hardware). If you have questions or would like to learn more, reach out on Slack or speak with other community members at the next community meeting.



# ***LiteBeam (point-to-multipoint antenna)***

The LiteBeam AC (“LBE” for short) is a very good, relatively inexpensive directional antenna that’s used on many rooftop installs.

It operates best when connecting to a hub less than two miles away and includes an alignment tool that can help to ensure you’re pointing in exactly the right direction to establish the best possible connection.

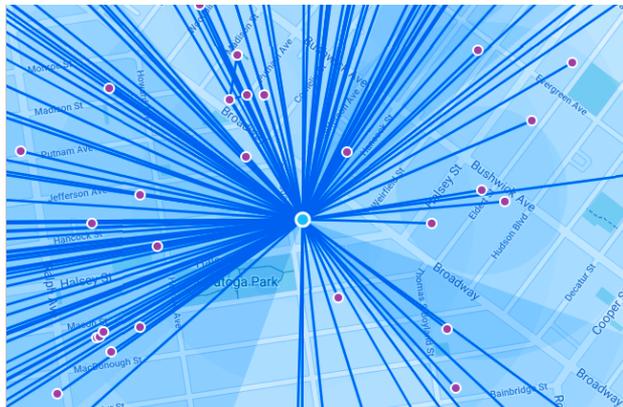


LiteBeam outdoor router

- [docs.nycmesh.net/hardware/litebeamac](https://docs.nycmesh.net/hardware/litebeamac)

While the LiteBeam is great for connecting with local hubs for personal internet use, it does not broadcast a wireless signal to neighbors so can't share an internet connection. Installation of many LiteBeams results in a "hub and spoke" topology to the NYC Mesh network, like the image below.

This arrangement makes the NYC Mesh network less resilient and increases dependency on regional hubs (rather than your neighbors!). Our network is stronger, more accessible, and more resilient when all members both receive and broadcast an internet connection. For this reason, the NYC Mesh install team (see above to volunteer!) began installing OmniTiks on most rooftops in 2019.



Many Litebeams pulling from the Saratoga hub in Brooklyn



A properly installed LiteBeam includes the following components:

1. Antenna and small dish, which is likely located on the roof of your building.
2. PoE (Power over Ethernet) injector that allows the power from your wall socket to be carried through the ethernet cable to your rooftop antenna.
3. A lengthy black ethernet cable designed for outdoor use, which carries both data to and from your indoor router and power from the PoE injector (or your OmniTik) to the LiteBeam.

If you are encountering issues with your LiteBeam, the first thing to check is that the device is powered on. There are two blue lights on the underside of the antenna:



Indicates power. The LED will light blue when the device is connected to a power source.

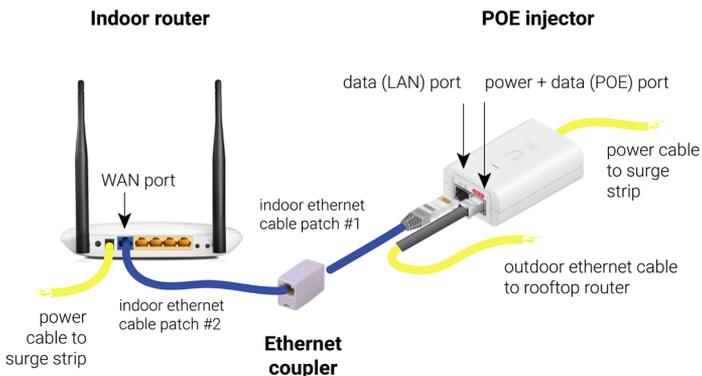


Indicates connection. The LED will light steady blue when there is a wireless connection and flash when there is data actively passing over the connection.

If the power light is off and you also have an OmniTik, check that the OmniTik is powered on. There are six small lights on the face of the OmniTik, and if the blue power light is off, see the above OmniTik section for troubleshooting.

If the power light is off and you do not have an OmniTik, check the PoE injector, which should be plugged into a wall socket in your apartment. Also check that the power cord is correctly inserted into the PoE injector.

PoE injector and indoor router connections.



If the PoE injector is on (indicated with a green light) and there is still no power at the LiteBeam, check that the ethernet cable leading to the rooftop antenna is properly plugged into the PoE injector (try unplugging and plugging back in, it should click into place).

Once you've checked the ethernet connection indoors, head to your rooftop to check that the ethernet cable is correctly plugged into the antenna.

Before plugging the ethernet cable back into the antenna, try brushing off the head of the cable with fabric as humidity can sometimes corrode the points of connection and prevent good contact.

**Note: on newer TP-Link routers, there is a toggle push button switch for power of your router. If you don't see your usual Wi-Fi networks showing in your devices settings, check to make sure this button is pushed in, and the green power light on the front is on.**

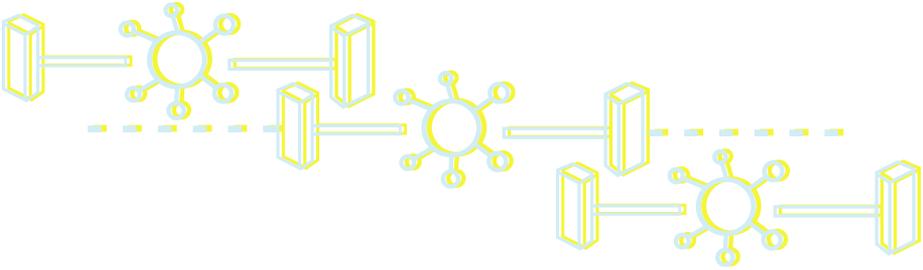


While on the roof, it may be a good opportunity to check that the LiteBeam is securely attached to its mount. Sometimes the hose clamp connecting the LiteBeam to the mount can become loose over time. If this is the case, a screwdriver can be used to tighten the hose clamp. The LiteBeam may also need to be realigned if the wind or snow has moved it. Realigning the antenna is relatively simple and can be a lot of fun. Reach out on the **#support** channel on Slack or visit **[www.nycmesh.net/support](http://www.nycmesh.net/support)** to request help from an NYC Mesh volunteer.

If the LiteBeam is powered on and it appears to be pointing to your local hub but there is no internet, check your indoor router. Is it on and functioning properly? A standard NYC Mesh install includes a TP-Link router. See below to learn about your TP-Link router.

Finally, if you've checked to (1) ensure that there are no network outages on the NYC Mesh network, (2) that your hub is functioning properly (see the Slack channel named #hub-hubname-nodenum), and (3) that everything is powered normally and you still don't have internet, please reach out!





Support requests can be posted on Slack in the **#support** channel or sent to a volunteer by visiting [www.nycmesh.net/support](http://www.nycmesh.net/support). Be sure to include your name and node number in order for the NYC Mesh volunteers to identify you and your equipment.

LiteBeams are very user-friendly devices and with a little practice you can become an expert. If you're interested, NYC Mesh is ready to help you on that journey! Begin by reviewing the Docs page at [docs.nycmesh.net/hardware](http://docs.nycmesh.net/hardware). If you have questions or would like to learn more, reach out on Slack or speak with other members at the next community meeting.





## ***TP-Link router (indoor antenna)***

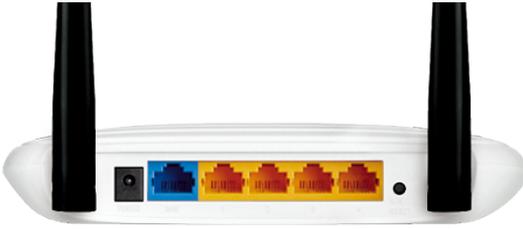
An indoor router, connected by ethernet cable to the rooftop antenna, is generally required for you to connect your personal devices (laptop, phone, etc.) to the internet. The TP-Link is often sufficient for Wi-Fi coverage in an apartment. If you are interested, you can purchase a faster home router online. If you need help setting up a new router or if you would like advice on selecting a suitable upgrade, then ask a NYC Mesh member for advice or assistance and to ensure your old TP-Link is put to good use.

The indoor router, when installed by a NYC Mesh volunteer, may broadcast two Wi-Fi networks (SSIDs).

TP-Link indoor router

- [docs.nycmesh.net/hardware/tplink](https://docs.nycmesh.net/hardware/tplink)





TP-Link indoor router ports:  
TL-WR841N V14 (white) and Archer A6 (black)

- [docs.nycmesh.net/hardware/tplink](https://docs.nycmesh.net/hardware/tplink)

If you see your network name along with another network with the same name with a “\_5G” appended to it, your router has a dual-band function which allows newer devices to take advantage of a faster, lower-latency connection at the expense of range. Both networks have the same password and are equally secure. See the “My Device Information” section if you’ve forgotten your password (page 1).

If you don’t see two networks with the same name, that does not mean your router is not dual-band capable! Some routers will have “Smart Connect” enabled which allows your devices to automatically select what works best for it, depending on distance from the router. Ask your install leader or reach out on Slack or by email if you want to double-check.

You might see a network pop up named -NYC Mesh Community WiFi-. This second network is



configured to be open and accessible to your neighbors, which is at the heart of NYC Mesh's mission. This signal comes from the OmniTik installed on your roof rather than your home router. These networks are isolated from one another and do not present any security risk to your home connection. Make sure you do not accidentally connect to this network from inside your home as the signal from the roof is not as reliable as that from your router.

When troubleshooting, check that the router is powered on. Also check that you can connect to your personal WiFi network and the -NYC Mesh Community WiFi- network.

Be careful: if you press the reset button on the back of the router, the TP-Link will lose its configuration and will return to factory default. In this event, the factory SSID and password is on the label under the router. You should be able to log into the factory default Wi-Fi network using that information to access the internet.

See the following page for a chart from the TP-Link website that describes what the lights on the router signify. More information about the TP-Link configuration used by NYC Mesh can be found online at [docs.nycmesh.net/hardware](https://docs.nycmesh.net/hardware).



# + LED Explanations

<u>Button</u>	<u>Status</u>	<u>Meaning</u>
 (Power)	On	Successful system start up
	Flashing	The system is starting up or firmware is being upgraded*
	Off	Power is off
.....		
 (Internet)	Solid Green	Internet service available
	Blinking Green	The system is starting up or firmware is being upgraded*
	Solid Orange	Router's internet port unplugged
	Blinking Orange	In Router Mode: WAN port is connected, internet not available
.....		
 (Wifi)	Solid Green	Wireless function is enabled
	Blinking Green	WPS connection in progress – could take up to 2min
.....		
 (LAN)	Solid Green	At least one LAN port is connected to a powered-on device
	Off	No powered-on device is connected to the router's ethernet ports

*\* Do not disconnect while upgrading*



# ***NYC Mesh Privacy Policy***

The NYC Mesh network is unencrypted, easy to join, and depends on donated resources such as internet, telecom links, and other networking components from individuals and third-party entities which are beyond the control of NYC Mesh.

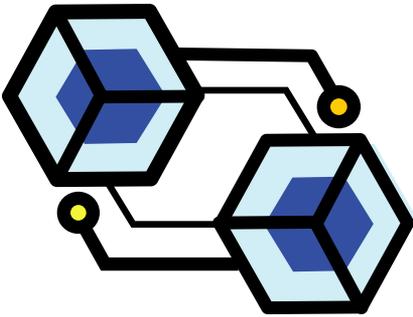
Therefore, traffic which exits on the NYC Mesh network may be subject to external monitoring or recording at or beyond those network access points.

## **+ Our Collection & Use of Anonymized Data**

NYC Mesh does not collect, store, or log any user data content that passes through our network. During required network maintenance and troubleshooting, network packets, including content, may be monitored to ensure successful network functionality.

NYC Mesh may process network packet headers for traffic passing through the NYC Mesh network for the following purposes:





- To troubleshoot and ensure successful network functionality
- To collect aggregate statistics for planning and dashboarding purposes
- To provide general anonymized reports about network operations to advance NYC Mesh's non-profit mission

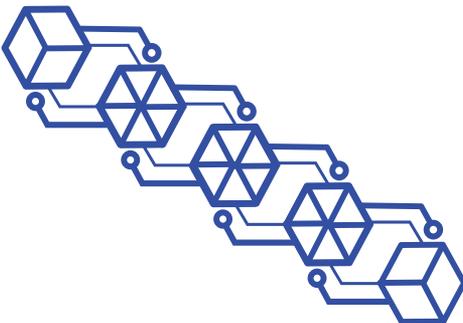
Non-anonymized data is never stored or logged for any longer than necessary to process the data for a purpose listed above.



## + Voluntarily Submitted Data & Data Transmission

NYC Mesh stores basic contact information voluntarily provided by members, which may include individuals' names, addresses, phone numbers, and emails. This information may be shared with volunteers for the purpose of completing a requested install, network maintenance, or communications about NYC Mesh. Portions of the data may be de-identified and shared publicly as NYC Mesh node locations.

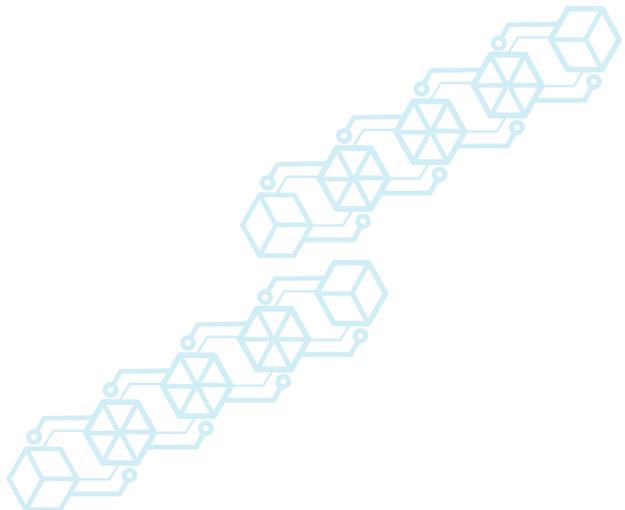
No identifiable information is shared with any third-party entities though it may be stored or processed on third-party systems such as online documents, email systems, and/or cloud-hosted systems.



## + Sharing Data with Third Parties

NYC Mesh does not partner with third parties to collect any data or information, nor do we have any data or information sharing agreements with any third-party entities.

NYC Mesh will comply with all laws in the jurisdictions where it operates. However, because NYC Mesh collects only the limited, aforementioned data, it is unable to provide non-anonymized, historical data to any entity that may request it.





# ***NYC Mesh Network Commons License***

By using the NYC Mesh network you agree to the NYC Mesh Network Commons License (NCL). The NCL describes the terms and conditions associated with the use of free and open networks.

The NCL is rooted in the following four tenets:

- Participants are free to use the network for any purpose that does not limit the freedom of others to do the same.
- Participants are free to know how the network and its components function.
- Participants are free to offer and accept services on the network on their own terms.
- By joining the free network, you agree to extend the network to others under the same conditions.

The full NYC Mesh Network Commons License is available online at [www.nycmesh.net/ncl.pdf](http://www.nycmesh.net/ncl.pdf).

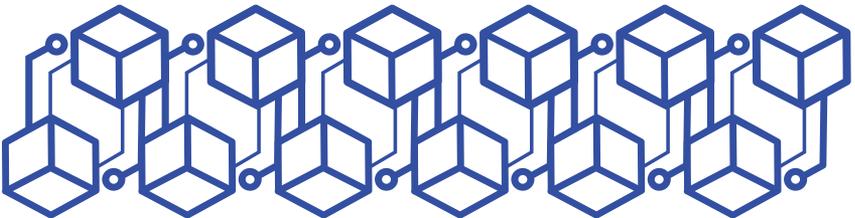


# ***Use of Network***

NYC Mesh values your privacy and does not monitor traffic. However, NYC Mesh does receive notices from third-parties (mostly copyright enforcement law firms and companies) reporting when members download copyrighted material.

Not only is torrenting copyrighted material illegal and prohibited by the NYC Mesh Network Commons Licence that you've agreed to, but it also significantly degrades bandwidth which negatively impacts the experience of everyone on our community network.

So, please don't torrent on the NYC Mesh network!





## *Getting in touch*

### **+ I'm moving! What should I do?**

As soon as you have plans to move, please write us a note at [www.nycmesh.net/support](http://www.nycmesh.net/support) or post to the **#support** channel on Slack. Your rooftop router may be critical to a neighbor's ability to connect online and the sooner we know about your plans, the better we'll be prepared for the sad fact that you may be leaving the NYC Mesh network.

Don't forget to check if your new abode can access NYC Mesh! If you cannot, consider stopping by a meeting so that you can help us grow the network so that it reaches you again. In the unfortunate circumstance that you will no longer be using the NYC Mesh network to get online, we'd still love your participation in the NYC Mesh community! Community networks are just as much about human connections as they are about network connections, so don't be a stranger.

If you don't intend to use your equipment in the future, consider donating it to NYC Mesh so that we can help another member get online.



# Connect with us

There are lots of ways to connect with NYC Mesh volunteers and our broader community!

Web: [www.nycmesh.net](http://www.nycmesh.net)

Support: [www.nycmesh.net/support](http://www.nycmesh.net/support)

Email: [info@nycmesh.net](mailto:info@nycmesh.net)

Slack: [nycmesh.slack.net](https://nycmesh.slack.net)

Facebook: [NYC Mesh](https://www.facebook.com/NYCMesh)

Twitter: [@NYCMesh](https://twitter.com/NYCMesh)

Instagram: [@NYCMesh](https://www.instagram.com/NYCMesh)

Medium: [NYC Mesh](https://www.medium.com/NYCMesh)



*Cover illustration by Joel Beeby  
Diagrams by Abe Poultridge and Willem Boning  
Diagrams and editorial design by Shea Molloy  
Zine template by Shira Inbar  
Copy by Alex Rickard and Scott Rasmuseen*



*Printed on recycled paper*



**nycmesh**

**support**

**docs**

