



What You Can Do

First you need to fit some requirements

- Hold a FCC Amateur Technician Radio License or better.
- Have access to a roof or other high site that gives you a good view.
- Get some compatible equipment.*
- Load your radio with AREDN firmware.
- Ideally have a line-of-sight to an existing node.

Who Should Be Involved

- Individuals & Families
- Disaster Relief Organizations
- Nonprofits & NGOs
- Government Emergency Response (Police, Fire, EMS, EM)

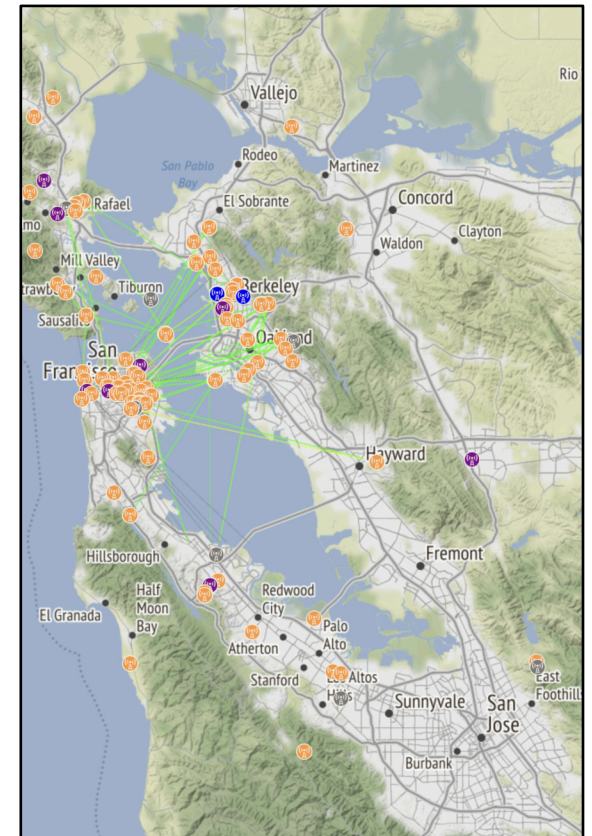
* SFWEM might be able to help you get started.

For More Information



For more information on the San Francisco Emergency Mesh (SFWEM), please visit www.sfwem.net, email sfwem@undef.net, or checkout #sfwem at sfarc.slack.com where over 600 amateur radio operators share their knowledge everyday.

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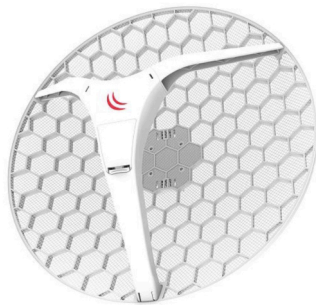


Disaster Internet

The San Francisco Wireless Emergency Mesh (SFWEM.net), a 501(c)(3) non-profit, is a volunteer-led project to install resilient high-speed wireless connectivity throughout the San Francisco Bay Area for use during disasters and emergencies that's not reliant on the Internet as we know it.

Daily, we use high-speed networks to read the latest news and communicate with family & friends. This does not change during a disaster or emergency; we need to know when the danger is gone, and we need to let our friends & family know that we're safe and well. Recent wildfires, hurricanes and public-safety outages have reiterated this need.

Using common inexpensive Commercial Off the Shelf (COTS) consumer WiFi equipment, running special software, you too can connect to this network. We need volunteers with rooftop or other high elevation site access to extend the network.



This effort is important to everyone, especially our public safety agencies. As Chief Ari Delay (KM6EBE) of the San Bruno Fire Department put it, "*One of the biggest threats we face is someone taking down the Internet*". Chief Delay went on to say that the mesh network brings a layer of redundancy that is always welcome.



A SFWEM solar powered hub node atop Evans Hall on the UC Berkeley campus

How Does it Work

The mesh is a system of radios connected together by Line of Sight (LOS) using software that conforms to FCC Part 97 Amateur regulations instead of the manufacturer's Part 15 firmware. The software has been developed by AREDN which stands for Amateur Radio Emergency Data Network (ardenmesh.org).

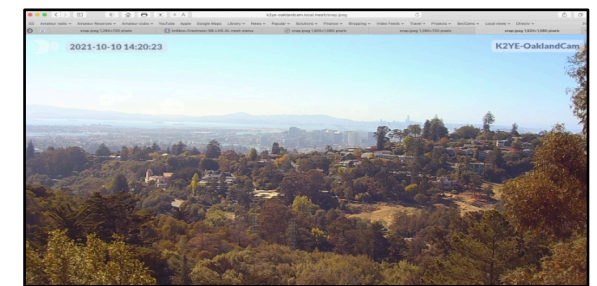
The transformed radios connect using radio frequencies(RF) that amateur operators are authorized to use. The microwave frequencies that are used include the 2.4 GHz, 3.4 GHz and 5.8 GHz bands. Today, the most popular band for mesh installations is 5.8 GHz .

SFWEM currently has over 200 nodes connected throughout Northern California. Most are connected by RF-LOS, but some nodes are considered "islands" because the mesh network hasn't fully filled out to allow operators to directly connect by RF to a neighboring node. In this situation, the nodes are "tunneled" through the internet until such time as a LOS connection becomes available and the dependency on the internet can be dropped.

What Can it Do

It can share information at high speed. If there is a disaster operators can make photos of their surroundings and transmit them to local EOCs to inform what is happening around them.

EOCs can likewise use PBX phones to stay in touch with other EOCs in the event that other ways to communicate fail.



Other widely used forms of emergency communications such as Incident Reporting, Winlink, Mattermost, Meshchat, view cameras, file sharing and other tools are available to keep users informed and safe. Exercises will train node operators what they can do to make the mesh network work.