How to Install Fiber Optic Internet in Your Home

Those on the leading edge of society now want internet that is not only fast, secure and stable, but also healthy. Unfortunately, most people still use WiFi, which is the worst option on all accounts. However, many families are now moving toward complete wired connectivity. In this article, I explain how and why to set up low-EMF internet system using wired fiber optics. This is the lowest-EMF internet connection I have found and builds upon my earlier articles on installing wired internet and grounding your Ethernet system.

What's the Problem with Fiber Optic Internet Service?

I have been contacted by dozens of electrically sensitive people who have seen increased symptoms when new high-speed fiber optic internet systems were installed in their communities. As I discuss in this article, the likely reason for this is the EMI (electromagnetic interference) created by the high-speed fiber optic converters at the street. This EMI is conducting along the copper cable and phone lines into the home where it conducts to everything connected to this network. This EMI from your internet provider's fiber optic converters, along with the EMI created by your modem, is then transmitted to your computer where it can cause electrical sensitivity symptoms.

Why Install Fiber Optics in Your Home?

I noticed the same thing last year when my internet service provider installed high-speed fiber in my neighborhood. My electrical sensitivity symptoms increased when I connected to the internet. This continued until I figured out how to create a physical barrier between my computer and the high-speed network of my service provider. The solution I chose was to install my own lower speed fiber optic network within the home. This simple fiber optic system stopped the EMI from my internet service provider and my modem from traveling to my laptop once it was converted to light.

How to Install Low-EMF Fiber Optic Internet

The following process will help in any situation where you need to create an EMI barrier between your modem/router and your computer. This could be because you have a high-speed modem that produces
a lot of EMI or because you live in a community that now solely provides ultra-fast fiber optic internet data packages.

There are two basic steps to setting up your low-EMF fiber optic internet connection:

1 - You will purchase and install two lower speed fiber converters (10/100 mbps) and one fiber optic cable to create an EMI break between your modem/router and your computer.

2 – You will then ground the Ethernet connection between the second fiber converter and your laptop so that the electric fields and EMI created by the converter are minimal at your workstation.

This is what the two fiber converters and fiber optic cable look like:

![Image of fiber converters and cable](image)

In the picture above, your modem/router is connected to the Ethernet cable coming from the right. This cable connects to the first fiber converter and the data is converted to light to be transmitted via the fiber optic cable to the second converter at left. From the second fiber converter, which is ideally placed in a different room and plugged into a different electrical circuit, you will run an Ethernet cable toward your laptop.

You want to ground that Ethernet cable before it gets to your computer with the equipment seen in the following picture. I almost always ground to the outside because there is typically EMI on the safety ground of your home electrical system, which I demonstrate in this video.
To do this, you will need two Cat-7 Shielded Ethernet cables, an Ethernet Ground Adapter, Gator-to-Gator connector, 50’ extension cord and an 18” copper stake that you can get here or at your local hardware store.

The following video demonstrates how I ground my Ethernet connection to the outside. In the video you will also see the primary way I test the EMI coming to my laptop with an older Radio Shack AM radio.

https://www.youtube.com/watch?v=oUdEYBIVz1Q
The second EMF test I perform is for low frequency AC electric fields. If you don’t ground the Ethernet cable between the fiber converter and your laptop, these electric fields, as seen below, can be very high. The electric fields are generated primarily by the fiber converter’s power supply. **Note:** If you have an electronics background, you could also build your own linear power supply that will reduce the low frequency AC electric fields and some EMI at your computer.

Once the Ethernet system is properly grounded, the electric fields at my laptop decrease from 500 V/m to a very healthy 0.2 V/m. I discuss the AM radio and electric field meter on my recommended EMF meter page.

Using a basic fiber optic network in your home may become an important strategy for electrically sensitive people as we move toward high-speed internet systems that bring large amounts of EMI into our homes. Hopefully, installing this simple EMI barrier between your computer and your internet service provider will make your computing healthier for years to come.