



How to Install Fiber Optic Internet in Your Home

The leading edge of society now realizes we 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 completely toward wired connectivity. In this article, I explain how and why to set up low-EMF internet system using 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](#).

Why Install Fiber Optics in Your Home?

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. The likely reason for this is the increased EMI (electromagnetic interference) on the copper system between the street connection and their home network. The faster internet speeds (up to 10 gigabits/second) require high amounts of EMI that overwhelm older copper systems that were not designed to handle such high bandwidths. I discuss this phenomenon in more detail in this article (will link to other fiber article).

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 connected to the internet until I figured out how to create a physical break between my computer and the high speed network of my service provider. The solution I chose was to install my own fiber optic network. This fiber optic system stopped the EMI 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 only provides ultra-fast fiber optic internet data packages.

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

1 - You will purchase and install two [lower speed fiber converters](#) (10/100 mbps) and one [fiber optic cable](#) to create the 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.

This is what the [two fiber converters](#) and [fiber optic cable](#) look like:



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, you will run an Ethernet cable toward your laptop. However, you want to ground that cable to the outside before it gets to your computer, as seen in the following picture:



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.

If you don't ground the Ethernet cable between the fiber converter and your laptop, you will have high electric fields as seen in the following image. The electric fields are coming from the converter's power supply. *Note:* If you have an electronics background, you can build your own linear power supply that will also reduce the electric field.



Once the Ethernet system is properly grounded, the electric fields at my laptop decreases from 500 V/m to a very healthy 0.2 V/m:



The other test I do with any Ethernet connection is the AM radio EMI test. With an older Radio Shack AM radio tuned to 530 KHz and then to 2 MHz, you can test the EMI on your Ethernet system. I discuss the AM radio on my [recommended EMF meter page](#). The following video demonstrates how grounding your Ethernet system can decrease the EMI coming to your computer:



<https://www.youtube.com/watch?v=oUdEYBIVz1Q&t=2s>

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 this simple EMI barrier between your computer and your internet service provider is a technique that will make your computing safer for years to come.