

Greenwave® Dirty Electricity Filters

Greenwave filters remove dirty electricity from the wiring in homes and other buildings.



What Is Dirty Electricity?

Dirty electricity is erratic spikes and surges of electrical energy traveling along power lines and building wiring, where only standard AC electricity should be. This type of electro-pollution is also known as electrical noise, line noise, and power line EMI (electromagnetic interference).

Dirty electricity is created by modern electronics, appliances, energy-efficient lights, and other devices that run on electricity. Why? Because many of these devices no longer use standard AC electricity “as is.” Instead, they must change or “manipulate” electrical current in one way or another in order to operate.

For example, many electrical devices today must convert standard 50/60-Hertz AC electricity (alternating current) into other forms of electricity [such as low voltage direct current (DC) or higher frequency AC] in order to operate. And, many devices now draw power from wiring intermittently, in short bursts, rather continuously, by turning the flow of power to a device “on” and “off” repeatedly, sometimes thousands of times per second.

These processes interrupt the smooth flow of standard AC electricity, creating harmonics and erratic surges/spikes of electrical energy known as voltage transients. Once created, this unusable “dirty electricity” spreads throughout a building and even to other buildings via wiring and power lines. As it travels, it radiates potentially harmful electromagnetic fields (EMF) into environments where we live, learn, work, and more.

Dirty electricity can interfere with the proper functioning of appliances and electronic equipment, and more importantly, with natural electrical processes within the human body. Exposure to this type of electro-pollution has been associated with a wide variety of health problems such as cancer, asthma, sleep disturbances, fatigue, skin rashes and tingling sensations, allergy symptoms, headaches, muscle and joint pain, brain fog, memory loss, ADHD symptoms, depression, and more.

How Greenwave Filters Reduce Dirty Electricity

Greenwave filters utilize state-of-the-art electromagnetic interference (EMI) filtering technology to significantly reduce the harmonics and voltage transients present on the wiring in buildings. This is the most direct, effective, and practical way to target this particular type of electro-pollution. The less dirty electricity there is flowing along building wires, the less that will radiate into your environment.

The filters plug directly into electrical outlets and power strips. They “short out” (shunt) erratic surges/spikes of electrical energy (i.e., dirty electricity), while allowing standard 50/60-Hertz AC electricity to pass through unimpeded.

Key Features of Greenwave Filters

- **Easy to use!**
Simply plug the filters into electrical outlets and power strips for immediate results.
- **Built-in outlet for plug-through convenience**
Most Greenwave filter models include a built-in outlet at their base. You can plug electronics and other devices into the filters when you need an outlet.
- **Safety certified and environmentally friendly**
Greenwave filters meet rigorous safety standards (e.g., UL, CE, SEMKO) and are RoHS compliant. RoHS certification ensures that the filters are free of toxic substances such as lead, mercury, cadmium, and more.

Getting the Most from Greenwave Filters

To achieve the full benefit of Greenwave filters, it is best to install them throughout your environment.

The number of filters needed will depend on the size of the building or space where you want to install them (e.g., # of rooms) and, more importantly, on the concentration of electronics, appliances, energy-efficient lights, and other electrical devices in each room. It will also be influenced by the amount of dirty electricity entering your building's electrical system from outside power lines and wiring.

Homes:

Two Greenwave filters are typically needed to reduce dirty electricity to reasonable levels in an average-sized room. Rooms with heavy concentrations of electronics, appliances, energy-efficient lights, and other electrical devices often require more than two filters (usually 3 or 4). Small rooms, such as bathrooms, usually need only one. On average, 16 to 20 filters are typically needed to reduce dirty electricity to reasonable levels throughout an average 3- to 4-bedroom home.

You can use the table below to help calculate the number of filters you may need for your home.

Type of Room	Approximate Number of Filters
Kitchen Family Room Living Room Media Room Home Office	3 – 4 filters (each)
Bedroom Dining Room Laundry Room	2 filters (each)
Bathroom Walk-in Closet	1 filter (each)
Basement Garage Tool Shed/Workshop	1 – 2 filters for every 150 square feet

Business/Workplace Settings:

2 to 3 filters for every 100 square feet

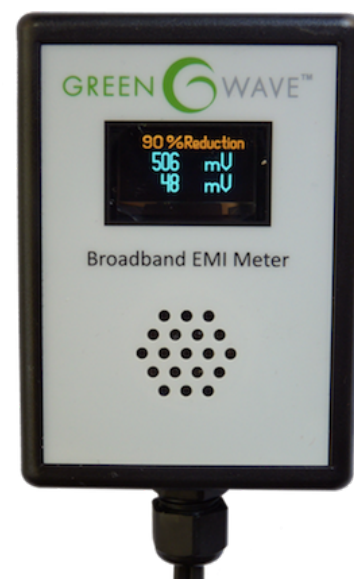
Schools:

5 filters per classroom

Please keep in mind that these are estimates and meant to provide a good starting place for thinking about the number of filters you will need. If you would like additional help determining your filter needs, please contact us at info@greenwavefilters.com or 1-800-506-6098.

Measuring the Effectiveness of Greenwave Filters

Many people want to know just how much dirty electricity Greenwave filters remove from the wiring in their homes and other places. This is easy to measure with a plug-in dirty electricity meter, such as the *Greenwave Broadband EMI Meter* shown here.



Greenwave's meter is easy to use. Simply plug it into electrical outlets to find out how much dirty electricity is present on nearby wiring. The meter can show "BEFORE filter" and "AFTER filter" measurements on the same screen simultaneously, making comparisons easy.

The meter is also an excellent tool for guiding the installation of Greenwave filters. It can help you identify significant sources of dirty electricity in your environment and determine the best number of filters to install in each room for optimal results.

More detailed information about Greenwave's Broadband EMI Meter is provided later in this document.

IMPORTANT NOTE:

AC electric field meters, gauss meters, and radio frequency (RF) meters are NOT suitable for accurately measuring dirty electricity or for gauging the effectiveness of dirty electricity filters.

Greenwave® Filter Options

For United States, Canada, and Other Countries with Type A or Type B Electrical Outlets
(AC 100V – 120V)

Greenwave offers two filter models for use in the United States, Canada, and other countries with Type A or Type B electrical outlets (AC 100V – 120V). Our Spectrum 2500i model comes with a 3-prong, grounded Type B plug. The Broadband 1500 is designed for customers who need filters with 2-prong Type A plugs. Both filter models include a built-in outlet at their base for plug-through convenience. They can be purchased individually at \$30/filter (for 1 to 7 filters) or \$28/filter (for 8 or more filters). They are also available in the standard kits described below.

2 Room Starter Kit (4 filters) \$120

Not quite ready to buy filters for your entire home? Try Greenwave's *2 Room Starter Kit* to clean up dirty electricity in two rooms where you spend significant time – for example, your bedroom and family room or office at work. Kit includes 4 Greenwave filters – two filters for two different rooms.

Home Kits \$224 – \$672

Greenwave's *Home Kits* are designed for individuals and families who want to clean up dirty electricity throughout their living space (e.g., house, apartment, condo). The chart below shows the number of filters included in each of our five home kits.

Home Kit	Number of Filters Included
1 Bedroom Home Kit \$224	8 filters Enough for approximately 4 rooms
2 Bedroom Home Kit \$336	12 filters Enough for approximately 5–6 rooms
3 Bedroom Home Kit \$448	16 filters Enough for approximately 7–8 rooms
4 Bedroom Home Kit \$560	20 filters Enough for approximately 9–10 rooms
5 Bedroom Home Kit \$672	24 filters Enough for approximately 11–12 rooms

Classroom Kit (5 filters) \$150

Want to create a healthier learning environment for students at school? Greenwave's *Classroom Kit* includes 5 Greenwave filters, enough to clean up dirty electricity in a typical classroom. If you would like to install Greenwave filters in multiple classrooms or throughout an entire school or school district, contact Greenwave for a custom quote.



Workplace Kit

Want to clean up dirty electricity at work? Custom kits can be arranged for businesses and other workplace settings. The price charged per filter will depend on the total number of filters ordered, and ranges from \$30 (for 1 – 7 filters) down to \$28/filter (for 8 or more filters).



Greenwave® Filter Options

For Other Countries
(127V and 220V – 240V)

Greenwave currently offers one filter model for use in electrical outlets with voltage higher than 120V (e.g., 127V, 220V, 230V, 240V), and will be introducing three new European filter models this fall. Each filter model is described briefly below.

AVAILABLE NOW

Spectrum 2400G

Greenwave's Spectrum 2400G filter can be used in AC electrical outlets with voltage anywhere from 100V up to 240V. It comes with a Type B plug (shown in the photo below), but can be used with plug adapters (not included with purchase). It does NOT include a built-in outlet at its base.



COMING FALL 2016

Spectrum 2500-EF

Greenwave's Spectrum 2500-EF filter is designed for use in **France, Belgium, Poland, Germany, Spain, Austria, Scandinavia, and many Eastern European countries and other areas** with 16A Type E or Type F electrical outlets (AC 220V – 240V). It includes a built-in outlet at its base that is compatible with Type C, Type E, and Type F plugs.

Spectrum 2500-J

Greenwave's Spectrum 2500-J is designed for use in **Switzerland** and other countries with 10A Type J electrical outlets (AC 220V – 240V). It includes a built-in outlet at its base that is compatible with Type C and Type J plugs.

Spectrum 2500-L16

Greenwave's Spectrum 2500-L16 is designed for use in **Italy** and other countries with 16A Type L electrical outlets (AC 220V – 240V). It includes a built-in outlet at its base that is compatible with Type C, Type E, Type F, and both 10A and 16 A Type L plugs.

Greenwave® Broadband EMI Meter

The Greenwave® Broadband EMI Meter is a revolutionary device for accurately measuring the level of dirty electricity (a.k.a., electrical noise, line noise, power line EMI) present on the wiring in buildings.

The meter can be used to...

- Find out whether dirty electricity levels on your wiring are higher than desirable.
- See and hear the difference dirty electricity filters make in reducing the electrical noise on your wiring.
- Guide the installation of dirty electricity filters for optimal results.



The display screen on the meter above shows the average level of dirty electricity (EMI) at an electrical outlet before a Greenwave filter was installed in the outlet (506 mV), the new level of dirty electricity (EMI) after the filter was plugged in (48 mV), and the percent reduction in local “electrical noise density” that occurred as a result of installing the dirty electricity filter (90%).

Key Features

- **Easy to use!**

Simply plug the meter into electrical outlets to find out how much dirty electricity is present on nearby wiring. The electronic display shows readings in millivolts (mV), a standard electrical unit of measure.

- **Makes “BEFORE filter” and “AFTER filter” comparisons easy.**

The meter can display “BEFORE” filter and “AFTER” filter dirty electricity measurements on the same screen simultaneously (in millivolts).

The “AFTER filter” display screen also shows the percent reduction in local “electrical noise density” that occurs when a dirty electricity filter is plugged into an outlet.

- **Includes special audio feature that lets you LISTEN to dirty electricity and HEAR the difference filters make!**

The meter converts dirty electricity frequencies into representative audio so you can listen to the electrical noise on your wiring when the meter is plugged in. Hear the noise decrease as dirty electricity filters are installed in outlets.

- **Measures dirty electricity over a broader range of frequencies than similar plug-in meters.**

Measures dirty electricity frequencies from approximately 3 kilohertz up to 10,000 kilohertz (i.e., 10 megahertz), a range that extends approximately 5 times lower and 20 times higher than the range covered by other plug-in dirty electricity meters on the market. The meter is most sensitive starting at around 10 kilohertz.

- **Can be used in many countries around the world.**

The meter is compatible with 50/60Hz AC electrical circuits with single-phase voltage anywhere between 100V and 240V.



For more information about Greenwave products...

Visit our website at www.greenwavefilters.com

E-mail us at info@greenwavefilters.com

Call us at 1-800-506-6098