

STETZERiZER® Filter Installation

STETZERiZER® Filters are very easy to install on your own. Follow the instructions below to maximize filter effectiveness.

The average home – 2 televisions and 1 computer – needs about 20 **STETZERiZER®** Filters to effectively clean up the electrical environment – but remember, this is just an *average*. The number of **STETZERiZER®** Filters needed to effectively clean up the electrical environment in any particular home will vary based on ***the number of electronic devices*** used in the home, and is ***NOT based on the square footage of or the number of rooms in a home***. If you use an above, or below, average number of electronic devices in your home, you may need to install more, or fewer, filters to reduce dirty electricity to acceptable levels (<50 GS Units on the Microsurge Meter).

The number of filters needed for any particular home will also depend on the location of the home to some extent. Homes in more densely populated areas or those with commercial or industrial areas nearby may need to use more filters in order to compensate for increased electronic device usage at neighboring properties. The best approach to installing **STETZERiZER®** Filters though is to start by purchasing 20 filters and a Microsurge Meter and begin installing the filters according to the following instructions. Unneeded filters can be easily returned for a refund, or additional filters can be purchased as necessary.

Note: Some homes may not have enough open outlets to install the number of filters needed to clean up the home. If this is the case, we recommend purchasing several tees and/or power strips – any standard equipment from your local hardware store should do the trick. Then plug your electronic devices and the recommended number of filters into the tees or power strips.

Tip: Reducing the number of dirty electricity generating devices in your home can result in the need for fewer filters. We highly recommend removal or proactive avoidance of the following devices whenever possible:

- CFL light bulbs (replace with incandescent)
- Light dimmer switches and any type of dimmable light bulbs (including dimmable LEDs)
- Any LED light bulbs (dimmable or not) should be tested with the Microsurge Meter prior to continued use.
- Solar/wind power systems – the inverters on these systems generate **very high** levels of 20 kiloHertz high frequency transients (dirty electricity) that propagate on all electrical

wiring in the home, and even in neighboring homes. Those homes using grid-tied solar/wind systems can still use **STETZERiZER®** filters, but will likely need more than 20 filters. Use of **STETZERiZER®** filters is not recommended for homes using off-grid solar/wind systems.

- SMART meters (electric, gas, water, etc.) – opt out if you can, shield if you cannot.

Installing **STETZERiZER®** Filters

1. For best results, turn your electronic devices ON during filter installation – particularly computers and televisions.
2. Start by installing two (2) **STETZERiZER®** filters where each computer and television in the home is located. These devices may already be plugged into power strips with adequate space to install the necessary filters; if not, we recommend using power strips and/or tri-tap adapters (electrical tees) as necessary to accommodate **STETZERiZER®** filters. Installing filters at these locations first will serve to lower Microsurge Meter readings throughout the home and should result in using fewer filters overall.

Note: Plasma TVs may need up to three (3) **STETZERiZER®** filters to adequately reduce dirty electricity – use Microsurge Meter to determine whether to use 2 or 3 filters.

3. After Step 2 has been completed the remainder of your filter installation involves testing with the Microsurge Meter and installing filters where needed. Pick an outlet to start testing with the Microsurge Meter – we usually start in a bedroom. Plug in the Microsurge Meter into the top or bottom outlet of your chosen wall receptacle and note the number on the LCD display (expressed in GS Units). Plug in one (1) **STETZERiZER®** filter in the other half of the same receptacle and note the number on the Microsurge Meter again.
4. If you see a **reduction in GS Unit readings of 20% or more**, leave the filter in that outlet and unplug the Microsurge Meter. Move on to the next receptacle in the room and repeat the same process.

Even though the Microsurge Meter reading may not drop below 50 GS Units at this time, install only one (1) filter at the outlet. DO NOT add additional filters at this time in an attempt to reduce readings below 50.

5. If you **did not** see a reduction of 20% or more after installing a **STETZERiZER®** filter, you do not need a filter at that particular receptacle. Remove the filter and the meter, move on to the next receptacle and repeat the measurement process.

6. Repeat the measurement process (Steps 3-5) until you have **tested every receptacle in your home** – including the basement, garage, and any outbuildings with electrical power – only leaving filters installed where you see a 20% or greater reduction in Microsurge Meter readings.
7. **Note:** We recommend testing and installing filters in the kitchen as the last step in the process. Kitchen receptacles are typically high-use areas where people plug in and unplug a variety of small appliances as necessary. Installing filters in the kitchen early in the process can make normal small appliance use less convenient. However, saving the kitchen for last typically allows the use of fewer filters in this area. Another reason to save the kitchen for last is due to the common use of shared neutrals for receptacles. It is a common misconception that shared neutrals are “wiring errors” – a view typically espoused by Building/Bio/Bau-Biologists. Shared neutrals are common-practice and fully allowed in accordance with the National Electrical Code (NEC). Installing **STETZER:ZER**® filters in shared neutral receptacles requires an alternate method, outlined below:
 1. Identifying whether you have any shared neutral receptacles in your kitchen (or other rooms) is a simple process. If when testing an outlet as described above and the Microsurge Meter reading increases upon installing a **STETZER:ZER**® filter in the other half of the receptacle, this generally indicates the presence of a shared neutral.
 2. To properly test and filter this receptacle you will need two power strips or electrical tees. Plug one power strip (or tee) into the top half of the receptacle, and the other power strip (or tee) in the bottom half of the receptacle.
 3. Plug the Microsurge Meter into one power strip (or tee) and note the GS Unit reading. Then plug a filter into the same power strip (or tee) – the Microsurge Meter reading should now decrease. If the decrease is 20% or more, leave the filter plugged in.
 4. Repeat this same process for the other power strip (or tee). If the Microsurge Meter reading again decreases by 20%, you’ll end up with one filter plugged into each half of the receptacle – whether you need to use a power strip or tee in both halves of the receptacle is a decision you must make based on what other devices, if any, will need to use those outlets.
8. Another type of outlet configuration that can present issues when installing **STETZER:ZER**® filters is light switch-controlled receptacles. If you have any switched outlets be sure to install filters only in the unswitched (always live) portion of the receptacle, otherwise turning off the wall switch would effectively remove the **STETZER:ZER**® filter from the circuit.

9. Once these installation instructions have been followed and all outlets in the home have been tested and filters installed as necessary, you may wish to go back through the house and check with the Microsurge Meter to ensure that all outlets are now reading less than 50 GS Units. Research has shown additional benefit to reducing readings at all outlets to less than 35 GS Units. However, this does not mean that you should install additional filters at already filtered outlets just for the sake of further reducing Microsurge Meter readings. If installing one additional filter at any outlet already outfitted with a filter reduces Microsurge Meter readings by an additional 20%, you may leave the second filter installed. If the additional filter only serves to reduce GS Unit readings slightly, we do not recommend leaving the additional filter installed.

Special Application Note:

If after following the above instructions Microsurge Meter readings cannot be reduced to less than 50 GS Units throughout the home there are a couple of things that could be happening in your home.

1. You may live in an area where neighbors are contributing higher levels of dirty electricity to the grid. Consequently, dirty electricity from external sources may be entering your home and not being filtered adequately near the main breaker panel. To remedy this situation, we recommend you hire a local electrician to install an extra outlet near the main breaker panel. Typically, one service outlet is already installed near the main panel, and it will be powered from a breaker on either A Phase or B Phase of the utility-supplied power to your home. The new outlet should be installed on a breaker on the opposite phase as the existing outlet. Once this is done you may install 1 or 2 filters in each of these outlets, effectively filtering dirty electricity entering your home on both A and B phases.
2. If following the above suggestion does not reduce GS Unit readings to less than 50, the cause of the higher readings is likely a function of the amplitude of the voltage waveform on your home's electrical wiring. Because the Microsurge Meter measures the amount of high frequency energy on electrical wiring, it necessarily takes into account the amplitude. However, upon closer inspection – through voltage readings conducted with an oscilloscope – we will typically find that the high frequencies of concern (above 2 kiloHertz) have in fact been sufficiently attenuated, and it is only amplitude causing increased GS Unit readings. This is perfectly acceptable.