

NOTE -- All information below is to be used to increase one's **personal awareness** and an aid to further investigation, but is not to be considered an endorsement for any product or for any personal action.

CAVEAT – some EMF-related web sites contain a significant number of **New Age** philosophies and practices.

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Vocabulary	
	<p>EMR -- electro-magnetic radiation ELF -- extreme low frequency EMF - electro-magnetic Frequencies EHS - Electromagnetic Hyper-Sensitive person</p>
	<p>The inverse square law is a fancy way of saying EMFs (or signal strength) falls off in proportion to the square of the distance to the source. So if you double the distance to the source, for instance you hold your cell phone 2cm from your head instead of 0cm, your potential exposure would be four times less, since two squared is four.</p> <p>web page -- electricsense.com</p>
	<p>Extremely low frequencies (VLF) are in the range 1-300 Hz though sometimes defined as being up to 3kHz. Your homes' electrical wiring (60Hz in US) is in this ELF range.</p> <p>web page -- electricsense.com</p>
	<p>In the US the FCC (Federal Communications Commission) defines "microwaves" as a subcategory of RF radiation operating at frequencies ranging from about 1 GHz upward</p> <p>web page -- electricsense.com</p>
	<p>Ionizing radiation has the ability to break molecular bonds, non-ionizing radiation was once considered safe because it cannot do this.</p> <p>web page -- electricsense.com</p>

	<p>Radio Frequency Radiation (RF) -- These are high frequency EMFs in the range 10 MHz-300 GHz. This category of EMFs is transferred through the air; the term “wireless” is often used. They relate essentially to telecommunication devices like cell phones, WiFi etc.</p> <p>web page -- electricsense.com</p>
	<p>radio frequency radiation. That is to say EMFs from things like</p> <ul style="list-style-type: none"> - cell phones and smart phones - smart meters - cell phone towers (base stations) - WiFi routers and modems - Cordless (DECT) phones - Wimax - Spy cameras - Digital baby monitors - Digital TV - A/V Sender Receivers - Wireless burglar alarms - Wireless video games (Playsation 3 and the like) <p>web page -- electricsense.com</p>
	<p>magnetic fields: That is to say EMFs from things like:</p> <ul style="list-style-type: none"> - electrical power lines - your house wiring - electrical substation EMFs <p>web page -- electricsense.com</p>
	<p>Dirty Electricity sources --</p> <p>computers, plasma tvs, compact fluorescent bulbs (curly lights), dimmer switch, wind turbines, inverter in a solar panel.</p> <p>web page -- MagdaHavas.com</p>

Contacts	
	http://www.antennasearch.com/default.asp a list of towers and antennas within a 4 mile radius of a street address
	http://www.sammilham.com/ Samuel Milham Author – Dirty Electricity – 2nd edition Papers on correlation between diseases and electrification
	http://microwavenews.com/ Information on all aspects of EMF
	http://www.magdahavas.com/ Magda Havas Awareness -- Smart Meters; emphasizing EMF and EHS Co-author of the book Public Health SOS
	http://www.dirtyelectricity.org/ Awareness -- Smart Meters; emphasizing EMF and EHS
	http://www.dirtyelectricity.ca/index.htm emphasizing EMF and EHS
	http://www.electricalpollution.com/ Awareness -- Smart Meters; emphasizing EMF and EHS
	www.electricsense.com Lloyd Burrell Awareness -- Smart Meters; emphasizing EMF and EHS Author of the eBook Beating Electrical Sensitivity - The Path to Tread
	http://emfsafetynetwork.org/ Awareness -- Smart Meters; emphasizing EMF and EHS
	http://www.emfwise.com/ Awareness -- Smart Meters; emphasizing EMF and EHS
	http://www.lessemf.com/ The EMF Safety Shop http://www.lessemf.com/fabric.html One of many Web sites for shielding fabric and microwave absorbing sheets. Other products include EMF meters and EMF filters.

	<p>http://www.stetzerizer-us.com/EMF-Meters_c_13.html GS micro-surge meter and room-specific capacitor-based filters</p> <p>Also accessed via www.ElectraHealth.com; www.stetzerelectric.com</p> <p>Also refer to another meter/filter -- GreenWaveFilter.com</p>
	<p>http://www.greenwavefilters.com/ Green Wave micro-surge meter and room-specific capacitor-based filters</p> <p>Also refer to another meter/filter -- StetzerElectric.com</p>
	<p>http://www.power-save.com/ Power Save Circuit breaker panel-specific capacitor-based filters</p> <p>Also refer to another meter/filter -- Grainger.com</p>
	<p>http://www.grainger.com/</p> <ul style="list-style-type: none"> • http://www.grainger.com/search?searchQuery=circuit+breaker+box+capacitor • http://www.grainger.com/search?searchQuery=circuit+breaker+box+surge+protector <p>Also refer to another meter/filter – Power-Save.com</p>

General Publications	
	<p>Prevention Magazine</p> <ul style="list-style-type: none"> • http://www.magdahavas.com/prevention-magazine-warns-public-about-compact-bulbs/ -- Avoid CLF (compact fluorescent lighting). Use incandescent or led lighting • http://www.prevention.com/health/healthy-living/electromagnetic-fields-and-your-health -- 2010 article - 19 pages
	<p>Popular Science</p> <ul style="list-style-type: none"> • http://www.popsci.com/science/article/2010-02/disconnected --The Man Who Was Allergic to Radio Waves – 2010 article - 5 pages • http://www.popsci.com/technology/article/2011-06/federal-study-save-electricity-might-disrupt-nations-clocks -- Federal Study of Power Grid Might Disrupt the Nation's Clocks – 1 page
	<p>NBC News</p> <ul style="list-style-type: none"> • http://www.nbcnews.com/id/34509513/ns/health-cancer/t/electrosmog-harming-our-health/ -- Is 'electrosmog' harming our health? – 2012 article
Overview - YouTube	
	<p>http://www.youtube.com/watch?v=FAgNHirQhxc – 16 min video – dirty electricity – measurement and mitigation – Dr. Sam Milham. (at times the audio is loud)</p>
	<p>http://www.magdahavas.com/diabetes-and-electrosensitivity/</p> <ul style="list-style-type: none"> • 7 min video -- http://www.youtube.com/watch?v=gJcM6RZwyfA -- Clean up your electromagnetic environment and that includes, not only dirty electricity but also, radiation from wireless technology. <ul style="list-style-type: none"> ○ 13 Page – 4 case studies -- http://www.magdahavas.com/wordpress/wp-content/uploads/2010/03/08_Havas_Diabetes_EBM.pdf <ul style="list-style-type: none"> ▪ 54 year old male – pre-diabetic – the higher the dirty electricity in his home, the higher the fasting Plasma Glucose levels. ▪ 57 year old female – type 2 diabetes controlled with exercise – Plasma Glucose level comparison: walking outside and using treadmill ▪ 80 year old female – type 1 diabetes – insulin twice a day ▪ 12 year male – high Plasma Glucose level ○ Mentions secondary web site -- http://www.electrosensitivesociety.com/

12 Ways to Avoid Excess Exposure to Electromagnetic Fields

- 1) Replace all the **dimmer switches** in your house with regular switches. Even when turned completely on full power a dimmer chops-off part of the electrical current, then it discards in the form of a strong electromagnetic field. Dimmer switches also create dirty electricity that can contaminate an entire home's electrical wiring with dangerous high frequency energy.
- 2) Avoid installing low-voltage halogen, **fluorescent tubes** and energy-efficient compact fluorescent lighting (**CLF**). Virtually all create of these technologies create dirty electricity and at the same time throw a nasty electromagnetic field.
- 3) When replacing your computer monitor or TV **buy a new LCD** they emit much less EM radiation.
- 4) Clean up the electrical power cords and transformers around your computer and desk and reroute them away from your feet and seating area, and never use a laptop PC on your lap.
- 5) Install 3-wire with a ground on any **metallic lamps** to reduce the antenna effects created by metal lamps.
- 6) Don't install a **wireless network** and check to see if you have a **DECT cordless phone**. Don't buy a DECT phone because they constantly transmit a strong RF signal, even when not in use just sitting in the cradle. If you have one, get rid of it, or unplug it at night. Buy a [Electro smog detector](#) at our [online store](#) to see if you have a DECT phone or wireless network nearby.
- 7) Move baby cribs and beds a few feet away from walls containing electrical wires and don't locate cribs or beds on walls opposite electronic equipment like computers, entertainment centre and clothes dryers and microwaves. Most walls do not block the magnetic field thrown by electronic devices.
- 8) Get rid of your **microwave oven**. If you must use a microwave stand at least five feet away from microwaves when in operation; better still leave the room, even a properly functioning microwave can throw a strong electromagnetic field. A leaky one is even more dangerous.
- 9) Avoid installing new "**energy efficient**" **devices or appliances that have variable speed** drives in them like some furnaces, fans, heaters, front loading washing machines, etc. They all chop the sine wave creating high frequencies dirty electricity on the building's electrical wiring. Even your trusty treadmill can be a big polluter.
- 10) Limit the time you spend talking on a **cordless phone** and **cell phone**, and only let children under 14 use cell phones for short periods of time when absolutely necessary.
- 11) The most important thing you can do is [Install Graham/Stetzer filters](#) in your home to reduce the harmful, high frequency radiation being emitted by your home's electrical wiring. You can do this yourself or hire an [expert](#).
- 12) If you or someone in your family is demonstrating symptoms of "[Electrical Hypersensitivity](#)", or feel sick when in your home, or other indoor location you may want to consider having a [dirty electricity home inspection and consultation](#)

web page -- dirtyelectricity.CA

	<p>Metal Roof keeps [external] radiation out, but reflects [external] radiation onto neighbors. [Metal roofs can reflect internal radiation within the structure.]</p> <p>web page -- MagdaHavas.com</p>
	<p>Dirty Electricity -- This quality of electricity can be measured by using something called a Graham Stetzer meter or GS [microsurge] meter. Using a GS meter and installing a collection of GS filters, is the means by which your electricity can be rendered of good quality and safe.</p> <p>web page -- electricsense.com</p>
	<p>Check the comprehensive Table of Precautions as a checklist to see how your house checks out with regards to 5 major categories of EMF's:</p> <ul style="list-style-type: none"> • microwave radiation – 9 suggestions • dirty electricity – 7 suggestions • electrical – 4 suggestions • magnetic – 13 suggestions • ionizing radiation – 4 suggestions <p>web page -- emfwise.com</p>

Dirty Electricity – Samuel Milham	
	<p><i>Stanislaw Szmiegelski, a researcher in Poland, reported that radar and radio-exposed military personnel had high rates of leukemia and lymphoma (Szmiegelski 1996).</i></p> <p>Page xii – Dirty Electricity – Samuel Milham</p>
	<p><i>In 1964, I published a medical hypothesis in The Lancet, stating that fraternal twinning was caused by multiple ovulation, which in turn was caused by excessive production of the pituitary gonadotrophic hormones FSH in LH (Milham 1964).</i></p> <p>Page 25 – Dirty Electricity – Samuel Milham</p>
	<p><i>(You can go to https://fortress.wa.gov/doh/occmort/ to look up your occupation and see its occupational mortality pattern.)</i></p> <p>Page 30 – Dirty Electricity – Samuel Milham</p>
	<p><i>Noting that secretaries and typists had a breast cancer increase in my occupational data, and remembering the old electric typewriters used in the pre-computer era, I found that many of them had very high magnetic fields at the chest level of the typist (Milham & Ossiander 2007). The one exception was the popular IBM Selectric, which had low [magnetic] fields.</i></p> <p>Page 39 – Dirty Electricity – Samuel Milham</p>
	<p><i>Electromagnetic fields can be generated by spinning magnets, which is what steel-belted radial rotating tires are.</i></p> <p>Page 40 – Dirty Electricity – Samuel Milham</p>
	<p><i>The [G/S] meter invented by Graham and Stetzer displays the average rate of change (dV/dT) of these high frequency voltage transients [“dirty electricity”] that exist everywhere on electric power wiring today. High frequency voltage transients found on electrical wiring, both inside and outside of buildings, are caused by an interruption of electrical current flow, essentially creating high-frequency voltage transients that should not be present on normal 60-Hz sine waves used in power distribution.</i></p> <p>Page 57 – Dirty Electricity – Samuel Milham</p>
	<p><i>A study sponsored by Hydro Quebec, a Canadian power utility, showed a fifteen-fold increased risk of lung cancer in workers exposed to pulsed high-frequency magnetic fields, with a rising incidence according to dose.</i></p> <p>Page 57 – Dirty Electricity – Samuel Milham</p>

	<p><i>[June 2006 in California] Thirteen of the fifty-one classrooms at the La Quinta [middle] school had dirty electricity levels above 2,000 units [using the G/S meter]. The levels averaged about 700 units.</i></p> <p>...</p> <p><i>Sixteen schoolteachers in a cohort of 137 teachers who had ever been employed from La Quinta's opening in 1988, through December 2005, had been diagnosed with eighteen cancers.</i></p> <p>...</p> <p><i>The observed-to-expected (O/E) risk ratio for allcancers was 2.78, while the O/E ratio for malignant melanoma was 9.8, Thyroid cancer had a risk ratio of 13.3, and the uterine cancer had a risk ratio of 9.2 All of these numbers represent greatly elevated risks. Most EMF-cancer studies measuring power-frequency magnetic fields almost never find risks above 4.</i></p> <p>Page 62-64 – Dirty Electricity – Samuel Milham</p>
	<p><i>[June 2006 in California] The Vista del Monte G/S readings averaged 1,300 compared to 750 at La Quinta. The cancers (twelve cancers, including six female breast cancers among seventy-five personnel employed at the school since 1990) were over-represented in the wing of the school closest to the cell tower, and the G/S reading were highest in the classrooms closest to the cell tower base.</i></p> <p>Page 80 – Dirty Electricity – Samuel Milham</p>
	<p><i>Magda Havas has shown that dirty electricity raises blood glucose levels and changes insulin requirement in diabetics.</i></p> <p>Page 81 – Dirty Electricity – Samuel Milham</p>
	<p><i>There have been several studies that found that cows give less milk with increased EMF exposures, and both cows and pigs have shown fertility problems in such environments.</i></p> <p>Page 92 – Dirty Electricity – Samuel Milham</p>
	<p><i>... Dr. Robert Davis, had co-authored a case report showing that police officers who held radar guns in their laps had about seven times the expected risk of testicular cancer.</i></p> <p>Page 93 – Dirty Electricity – Samuel Milham</p>
	<p><i>De-Kun Li (Li DK 2011, 2012) has published two important prospective studies showing that magnetic field exposure during pregnancy increases the risk of asthma and obesity in offspring.</i></p> <p>Page 94 – Dirty Electricity – Samuel Milham</p>
	<p><i>Tanning beds should be banned, because they cause malignant melanoma.</i></p> <p>...</p> <p><i>Radial tires can be made with non-magnetic wire. Tire balancing machines can be made to de-magnetize tires as they spin for dynamic balancing.</i></p> <p>Page 84 – Dirty Electricity – Samuel Milham</p>

	<p><i>Light emitting diode (LED) bulbs will probably be the best power saving light bulb alternative.</i></p> <p>Page 100 – Dirty Electricity – Samuel Milham</p>
	<p><i>Wind farms create two serious health problems; low frequency sound waves (infrasound) caused by the turbine blades and dirty electricity caused by their inverters.</i></p> <p>Page 101 – Dirty Electricity – Samuel Milham</p>
<p>EMF Meters</p>	
	<p>One quick and easy way you can get an idea at whether you have dirty electricity in your household wiring is to use an AM radio. Tune your radio [to the lower end of the dial - around 500 AM] to the white noise between the stations and move round your home holding it near your electrical sockets. If your radio gives extra hiss as you are doing this its an indication that there is dirty electricity.</p> <p>With this method, at best this can only detect if you have dirty electricity. You can't measure it. To be able to do anything meaningful you need to be able to measure your GS levels. And you need to be able to do it on a regular basis because they do fluctuate. With every new appliance you introduce into your home there is a risk that you are creating more dirty electricity.</p> <p>web page -- electricsense.com</p>
	<p>Feedback to blog comment -- The first thing is to get clear on what you want to measure around the house.</p> <p>If you want to measure mainly magnetic fields and electric fields then the Trifield 100 XE is a good starter meter.</p> <p>If you want to measure magnetic fields and RF radiation (EMFs from things like WiFi, cell phones and smart meters) then the Cornet ED78S is a better choice.</p> <p>LFs...low frequency fields...usually refers to magnetic fields...download my free EMF protection report to better understand the issues and terminology.</p> <p>web page -- electricsense.com</p>
	<p>single axis meter. This is not necessarily a disadvantage because in theory you can get more accurate readings by turning the meter round than with a 3-axis meter which just gives you a compound reading</p> <p>web page -- electricsense.com</p>
	<p>[in RF mode] for biological measurements, which is what we are interested in, V/m (volts per meter) is better.</p> <p>web page -- electricsense.com</p>

	<p>GigaHertz meter ME 3030B is hard to fault. This is particularly true on the electric field setting. Because of its earth cable you are assured of a far more accurate reading than meters that take none earthed readings – like the Trifield 100XE.</p> <p>web page -- electricsense.com</p>
	<p>Stetzerizer Microsurge Meter and Green Wave are two of the many meters available to home owners for measuring dirty electricity.</p>
	<p>The patented Stetzerizer Microsurge Meter is the ONLY meter of its kind on the market. It is the single most effective way to measure dirty electricity (also called dirty power, electrical pollution, harmonics, EMF, etc).</p> <p>The Microsurge Meter is far different from other types of meters. It connects directly to your home/office circuits by plugging into a standard outlet. It then gets an accurate reading of the signal quality on that line. The circuits/wires/lines in your home or office electrical wiring are the source of dirty power. Measuring at the source allows you to accurately see what you are exposed to.</p> <p>The meter, developed by Dr. Martin Graham, Professor Emeritus of Electrical Engineering at Berkeley, allows the user to measure the quality of the power without the need for super-expensive and more complicated equipment like oscilloscopes. The meter will display a reading from 0 to 2000.</p> <ul style="list-style-type: none"> • The lower the number, the cleaner or clearer the signal is. • The higher the number, the more dirty power, electrical pollution, noise, etc is present on the line. • In severe cases of dirty electricity, the meter could display only a 0 or a 1 or shut off. This means the reading is higher than 2000 and cannot be displayed. <p>The meter is a must for installation of the Stetzerizer Filter. Installing the filters without the meter is like flying blind. The proper method is: Plug in the meter at the site before installing any filters. The reading on the meter will climb, and after a few seconds it should stabilize around an average reading. It will continue to update and show new readings, but those readings should be around the same level.</p> <ol style="list-style-type: none"> 1. Install one filter or one power strip (dual filter) 2. See how much the first filter affects the circuit. Usually the first filter will considerably (often over 95%) reduce the reading on the meter. 3. Try installing a second filter and see if the reading drops at least another 20% <p>...for example if your initial reading is 850 and after 1 filter is installed it drops to 50 (still a little higher than optimal), you can try installing a second filter. If the second filter brings it down to 40 or below - 10 GS units reduction is 20% of 50 - then you should leave that second filter at that location. Move onto all of your 120 volt circuits with outlets and test each and every outlet.</p> <p>The Microsurge Meter use and Stetzerizer Filter installation is so easy that even a child could do it.</p> <p>web page -- Stetzerizer.com</p>

EMF Filters	
	<p>NOTE -- All information below is to be used to increase one's personal awareness and an aid to further investigation, but is <u>not to be considered an endorsement</u> for any product or for any personal action.</p>
	<p>NOTE – With no formal electrical training, it appears that the GS filter and the Green Wave filter are capacitor-based filters for room-specific use with 110 circuits.</p> <p>NOTE – With no formal electrical training, it appears that the Power-Save 1200 is a capacitor-based filter installed into the circuit breaker panel for residential use with 100 circuits and 220 circuits.</p> <p>NOTE – With no formal electrical training, it appears that a SURGE filter is for addressing large surges such as lighting strikes and a MICRO-SURGE filter is for addressing dirty electricity.</p>
	<p>http://www.stetzerelectric.com/stetzerizer-vs-greenwave-short-video-comparison/</p> <p>web page -- StetzerElectric.com</p>
	<p>http://www.greenwavefilters.com/stetzerizer-gs-filters/</p> <p>web page -- GreenWaveFilters.com</p>
	<p>GS (Graham-Stetzer) Units are a measure of the average magnitude of the voltage surge (i.e. the rate of change of the voltage with time, or dV/dt) at the electrical socket. One GS Unit is 24 Volts per second.</p> <p>web page -- StetzerElectric.com -- [Red Highlighted added for emphasis]</p>
	<p>These [G/S] filters are known to generate magnetic fields where the filters are plugged in.....but it is a small price to pay...at 30 cm from the filter the fields are negligible.... so as long as you are not sitting right next to the filters this is not an issue.</p> <p>web page -- electricssense.com</p>
	<p>[Is there a grounded version of the Stetzerizer filter?]</p> <p>No, we do not make a grounded (3-prong) version of the North American STETZERiZER filter. Why not? To put it simply, there is no need. STETZERiZER filters act as a short to high frequencies, and since current oscillates on the hot and neutral wires of the electrical system, it is appropriate to short the hot to the neutral with the filter in order to neutralize these high frequencies. The National Electrical Code (NEC) in the United States mandates that the neutral and grounding conductors be bonded at the main service panel; with the neutral and ground bonded, Stetzer filters will therefore short out high frequencies on the grounding conductor as well.</p> <p>web page -- StetzerElectric.com -- [Red Highlighted added for emphasis]</p>

	<p>The filters provide a low impedance path for high frequency currents from the hot wire(s) to the neutral wire path bypassing the customer loads (Hughes, Dr. Art B., What is Dirty Electricity? Stetzer Electric www.stetzelectric.com). Filter frequency ranges from 4 kHz to 100 kHz provide optimal results for cleaning the electricity. Any frequencies above 100 kHz or below 4 kHz are hard to detect by the filters.</p> <p>...</p> <p>The GS filters work best when the utility has an adequate neutral conductor. This means that the conductor can handle more than the standard utility practice to meet thermal or voltage regulation. This information would have to be attained from the utility company to understand if the filters could work properly in your home or office.</p> <p>...</p> <p>According to Stetzer Electric, the manufacturer of the filters and meters, there are three end cases when installing a filter does not decrease the filter reading.</p> <ul style="list-style-type: none"> • The first case would be if the meter were measuring distortion outside of the effective range of the filter. The range of the filter cannot read frequencies under 4 Hz or more than 100 Hz. This answers the question of why a non-zero meter reading would not be acceptable. • Second, if the electrical locations of the meters are on different circuits in a home or office, they may be too distant for the meters. • Last, local resonance can occur that affects the performance of the GS filters. Local resonance occurs when a filter enables local current oscillation between the filter and the circuit which is connected to a specific frequency. Local resonance can often be corrected simply by adding another filter. <p>web page – DirtyElectricity.org</p>
	<p>The high frequency current (trash) on the neutral wire in the electrical system is positioned to return directly to the power system via the feeder neutral to the substation, and possibly beyond. However, as is often the case, the utility feeder neutral is not adequately sized (as required by the Public Service Commission of Wisconsin). If this is the case, much of the return current will flow through the ground rather than the feeder neutral. Under these conditions, the STETZERiZER® Filters still provide benefits; this should be seen as local mitigation rather than part of a complete solution that requires an adequately sized neutral return.</p> <p>At 60 Hz the filters act as capacitors and normally marginally improve the power factor of the customer load, which are normally slightly inductive.</p> <p>web page -- StetzerElectric.com -- [Red Highlighted added for emphasis]</p>
	<p>FAQ -- You can also consider installing filters by your main circuit breaker.</p> <p>web page -- ElectraHealth.com</p>

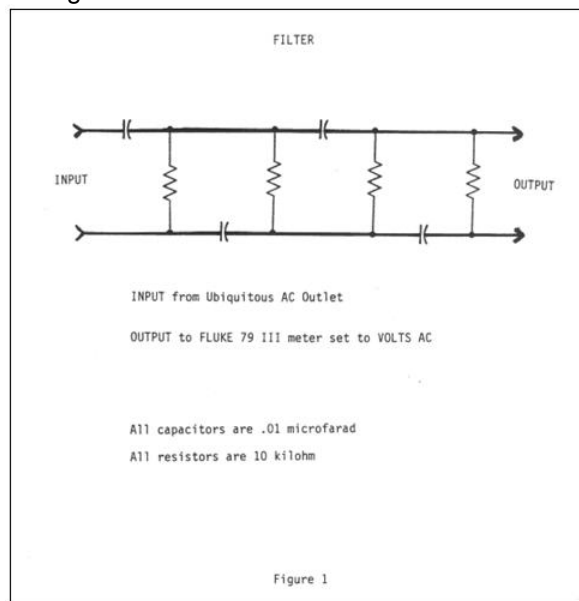
Installing Stetzerizer Filters at main circuit breaker panel included the following statements:

Installing filters as close to the main breaker panel as possible is a great way to reduce the dirty power coming in, as well as give your entire living space a centralized filter effect. You can begin by simply plugging 2 Stetzerizer single filters (or 1 powerstrip) into an outlet that is **right next to or very close (within 6 feet is great) the main circuit panel box**. By doing this, you have filtered one of the hot wires or lines coming in.

However, if you want to have the most ideal setup possible, you should install a second outlet (another standard 2 plug outlet) **near your breaker box**. If you are lucky to have at least 1 outlet (2 plugs) there already, it is only connected to one of those lines or phases. Even if you have more than 1 separate outlet there, there's a chance it's on the same phase or line as the other, in which case it won't provide the effect we would like.

web page -- ElectraHealth.com -- [Red Highlighted added for emphasis]

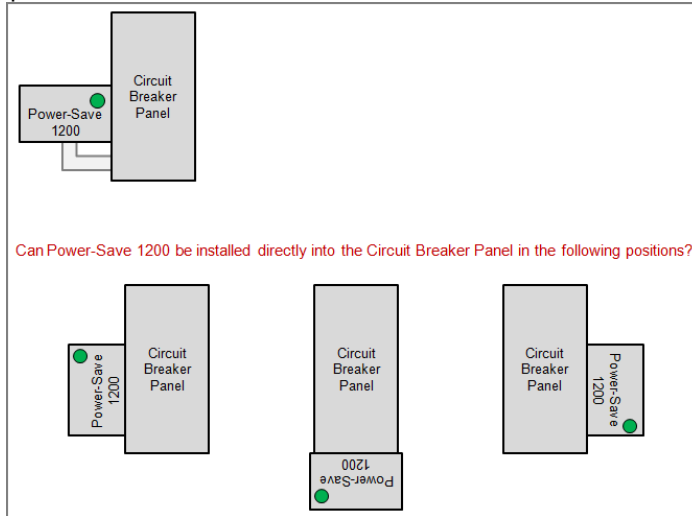
GS filter – diagram



web page – ElectricPollution.com

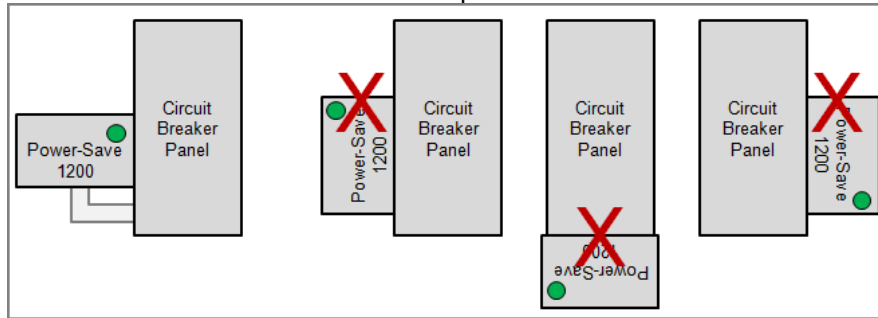
	<p>Can "dirty" power cause over-billing?</p> <p>Yes, "dirty" power can cause the utilities to over-bill you for the power you use. The standard disk-type electrical rate meters were designed for "clean" 60 Hz power. They are standardized for measuring "clean" 60 Hz power. With the dramatic increase in non-linear, time-varying loads the power that is delivered to your house or business is no longer "clean" power. The "dirty" power can cause the rate meters not designed for use with "dirty" power to read inaccurately.</p> <p>web page – ElectricPollution.com -- [Red Highlighted added for emphasis]</p>
	<p>The [Power-Save 1200] unit provides energy savings by reducing the amount of power drawn from your utility with the use of specialty designed harmonic resistant capacitors. Power-Save 1200 systems optimize your home's power factor thus reducing the amount of energy your homes motor loads use such as air conditioners, refrigerators, freezers, washers, dryers, dishwashers, pool pumps, vacuum cleaners, furnace blower motors, fans, etc. Motor loads require more energy to do their work compared to other electrical equipment in your home. The Power-Save 1200's "power factor optimization" significantly increases the efficiency of your motor load and stores waste energy resulting in decreased demand and usage of electricity from your utility company. This equates to significant cost savings [8% - 10%] for you the home owner.</p> <p>web page – Power-Save.com -- [Red Highlighted added for emphasis]</p>
	<p>Deteriorating power quality is becoming increasingly common in developed countries. Poor power quality, also known as dirty electricity, refers to a combination of harmonics and transients generated primarily by electronic devices and by non-linear loads.</p> <p>web page -- StetzerElectric.com -- [Red Highlighted added for emphasis]</p>
	<p>Power-Save 1200 technology provides Harmonic Filtration which has become more important since the 1980's and almost mandatory going into the 21st Century due to the proliferation of computers, fax and copy machines and variable frequency drives which are known as "nonlinear loads". "Nonlinear loads" ask for and use electrical current in "pulses" unlike traditional electrical equipment. This pulse use of electrical current creates damaging noise, interference and heat on today's electrical systems causing interference within sensitive electrical equipment or worse causing them to overheat and fail. The use of computerized electronics within the American home has been growing at exponential rates and the need for filtering out the interference, noise and heat created by nonlinear loads has never been greater.</p> <p>web page – Power-Save.com -- [Red Highlighted added for emphasis]</p>

Email Question -- Can Power-Save 1200 be installed directly into the Circuit Breaker Panel in the following positions?



Power-Save Email Response -- The [Power-Save 1200] unit must be mounted upright, it has vegetable oil filled capacitors that could potentially leak if the unit is not mounted upright.

Note -- Red X's added based on the Email Response.



Email response – Power-Save.com

Addition Action

7 Tips On How To Protect Your Home From RF Radiation
<http://www.electricsense.com/1299/cell-phone-tower-protection-tips-what-to-do-if-a-cell-phone-tower-is-erected-next-to-your-home/>

Counter-Point

Counter-Point – Havas’ Studies Flawed --

<http://www.emfandhealth.com/EMF&Health%20EHS%20Poor%20Studies%201.html>

<http://www.sciencebasedmedicine.org/> -- search "dirty electricity"

Counter-Point – Power-Save 1200 – insignificant savings --

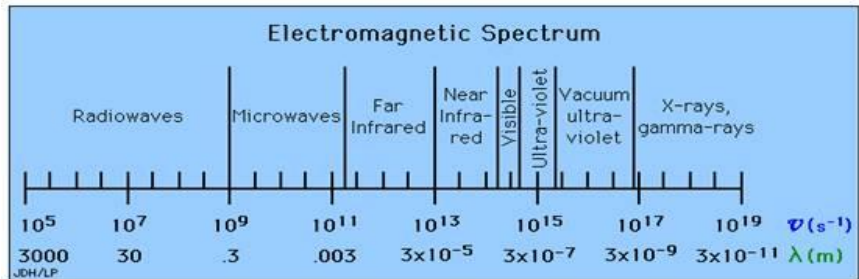
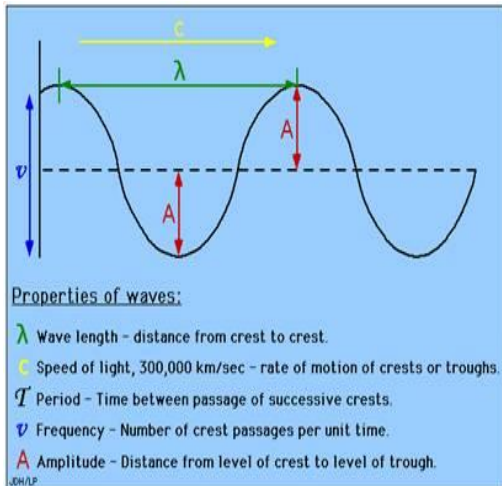
<http://askville.amazon.com/Power-Save-1200-lower-monthly-energy-bill/AnswerViewer.do?requestId=4574892>

It is just a variable capacitor to correct the power factor due to inductive loads.

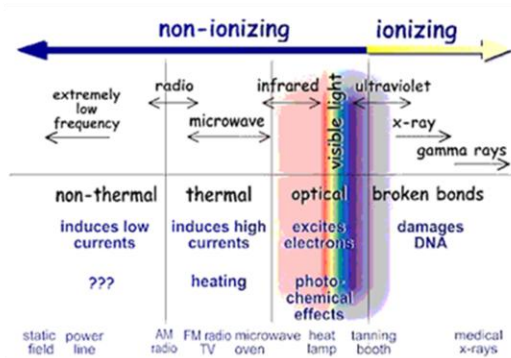
CLASS	FREQUENCY	WAVELENGTH	ENERGY
γ	300 EHz	1 pm	1.24 MeV
HX	30 EHz	10 pm	124 keV
SX	3 EHz	100 pm	12.4 keV
SX	300 PHz	1 nm	1.24 keV
EUV	30 PHz	10 nm	124 eV
NUV	3 PHz	100 nm	12.4 eV
NIR	300 THz	1 μm	1.24 eV
MIR	30 THz	10 μm	124 meV
FIR	3 THz	100 μm	12.4 meV
EHF	300 GHz	1 mm	1.24 meV
SHF	30 GHz	1 cm	124 μeV
UHF	3 GHz	1 dm	12.4 μeV
VHF	300 MHz	1 m	1.24 μeV
HF	30 MHz	10 m	124 neV
MF	3 MHz	100 m	12.4 neV
LF	300 kHz	1 km	1.24 neV
VLF	30 kHz	10 km	124 peV
VF/ULF	3 kHz	100 km	12.4 peV
SLF	300 Hz	1 Mm	1.24 peV
ELF	30 Hz	10 Mm	124 feV
ELF	3 Hz	100 Mm	12.4 feV

Legend

- γ- Gamma rays
- HX- Hard X-rays
- SX- Soft X-rays
- EUV- Extreme ultraviolet
- NUV- Near ultraviolet
- Visible light
- NIR- Near infrared
- MIR- Mid infrared
- FIR- Far infrared
- Radio waves
- EHF- Extremely high freq.
- SHF- Super high freq.
- UHF- Ultra high freq.
- VHF- Very high freq.
- HF- High freq.
- MF- Medium freq.
- LF- Low freq.
- VLF- Very low freq.
- VF/ULF- Voice freq.
- SLF- Super low freq.
- ELF- Extremely low freq.
- Freq=Frequency



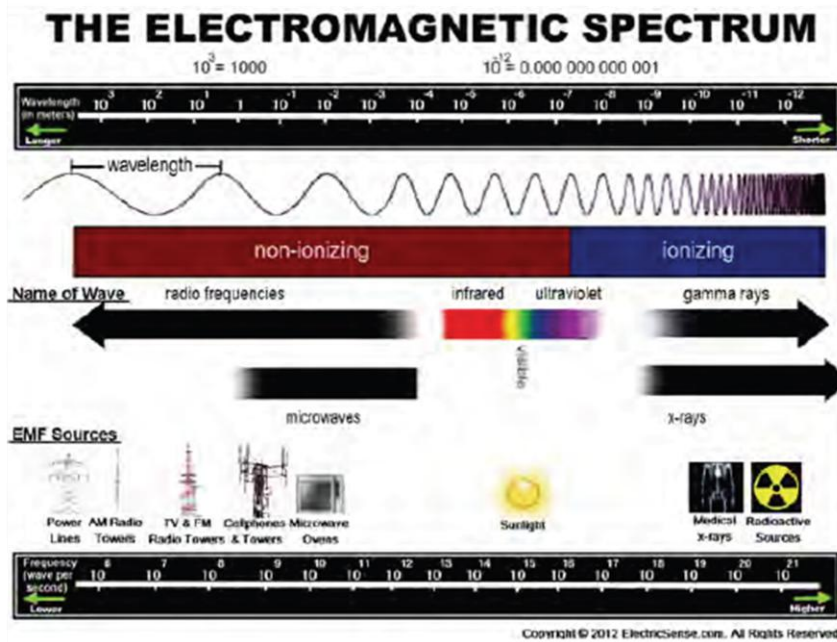
http://en.wikipedia.org/wiki/Non-ionizing_radiation



[4]	Source	Wavelength	Frequency	Biological effects
UVA	Black light, Sunlight	318–400 nm	750–950 THz	Eye – photochemical cataract; skin – erythema, inc. pigmentation
Visible light	Sunlight, fire, LEDs, light bulbs, Lasers	400–780 nm	385–750 THz	Skin photoaging; eye – photochemical & thermal retinal injury
IR-A	Sunlight, thermal radiation, incandescent light bulbs, Lasers, remote controls	780 nm – 1.4 μ m	215–385 THz	Eye – thermal retinal injury, thermal cataract; skin burn
IR-B	Sunlight, Thermal radiation, Incandescent light bulbs, Lasers	1.4–3 μ m	100–215 THz	Eye – corneal burn, cataract; skin burn
IR-C	Sunlight, Thermal radiation, Incandescent light bulbs, Far-infrared laser	3 μ m – 1 mm	300 GHz – 100 THz	Eye – corneal burn, cataract; heating of body surface
Microwave	PCS phones, some mobile/cell phones, microwave ovens, cordless phones, millimeter waves, airport millimeter scanners, motion detectors, long-distance telecommunications, radar, Wi-Fi	1 mm – 33 cm	1–300 GHz	Heating of body tissue and possible carcinogenic.
Radio-frequency radiation	Mobile/cell phones, television, FM, AM, shortwave, CB, cordless phones	33 cm – 3 km	100 kHz – 1 GHz	Heating of body tissue, raised body temperature
Low-frequency RF	Power lines	>3 km	<100 kHz	Cumulation of charge on body surface; disturbance of nerve & muscle responses [citation needed]
Static field[2]	Strong magnets, MRI	Infinite	0 Hz (technically static fields are not "radiation")	Magnetic – vertigo/nausea; electric – charge on body surface

Low Frequency range 1-300Hz

Radio Frequency range 10 MHz-300 Ghz



http://en.wikipedia.org/wiki/File:EM_Spectrum_Properties_edit.svg

