

The deTekta Dirty Electricity Meter

The deTekta Dirty Electricity Meter provides a greatly improved way of assessing RF interference on your electricity supply.

This pollution comes from a variety of items inside and outside your home and other buildings and it is getting to be more of a problem every year due to the modern electronic switching power supplies that are now used instead of transformers. This polluted electricity is also known as dirty electricity (DE).

The deTekta can be used to measure DE noise in millivolts from 10 kHz to over 1 MHz. It has an audio function which demodulates the dirty electricity and allows you to hear it.

It shows:

- The average level of high-frequency noise of DE before installing any filters.
- The new level after the installation of each DE2 filter.
- The percentage reduction each time you plug in a filter.

The display on the deTekta above shows an average level of 209 mV before and 11 mV after one DE2 filter is plugged in. That is a 99% reduction in D.E. You can hear the difference! The readings are in millivolts and not Stetzer G/S units.

The electromagnetic noise on our electricity supplies is increasing year on year. Recent 'innovations' that greatly increase the levels in our houses include CFL low energy fluorescent lights, induction cooking hobs and especially most solar panel renewable energy systems.

The first step in assessing the DE within your house is to measure how much dirty electricity is currently in your house. We believe that a sensible, achievable goal is to try to keep readings under 100 mV.

Specification:

The deTekta runs on 200-250 volt supplies. It comes with a detachable lead and UK mains plug. Measures line noise 0-1999 mV from 10 kHz to over 1 MHz with an accuracy of +/-10%

Please note: dLAN network adapters also put RF signals on your mains wiring and it is good to switch them off at night. The levels are vanishingly tiny when compared with wLAN / WiFi signals, however they may affect electrosensitive people. dLANs use frequencies above 150 kHz that can extend up to hundreds of MHz and these "common mode" signals are not detected by our meters or by Stetzer DE meters.



Note: the label may vary from above

Instructions:

Plug in the deTekta DE meter and take note of the readings at several points around the house to give you a clear idea of what you currently have. If you have readings over 100 mV, you may choose to make some changes to get the readings lower.

The next **essential** step is to work out how much of the dirty electricity is created by devices within your home, and how much is coming in directly from your electricity supplier. This is because prevention, where possible, is much better than dealing with the resulting DE. The capacitor filters are effective at reducing the DE on your supply by "shorting out" the high frequencies. However, this does cause currents to flow on the wiring and, to use an analogy, it is better to stop a leaking water pipe than to place a bucket underneath to collect the drips.

To do this, unplug, or switch off at the plug, all of the electrical and electronic devices in your house, so that they can't put dirty electricity on to your wiring (many modern devices use power even when they appear to be "off"). This includes things such as chargers, alarm clocks, mains adapters, etc - basically, if you can unplug it, then do so. Fully switch off all "white goods" - including washing machines, cookers, etc. Also switch off all lights as CFLs and some LED lamps cause considerable DE.

Also switch off the input from any solar panel arrays that you may have installed - solar panel inverters are often the worst source of DE. Once this is done, take measurements in the same places as before, and you are now measuring just the electricity being supplied to you by the local suppliers. Any differences from the previous readings are due to devices in your own home.

If the differences are large, then some of the devices in your home are creating a lot of dirty electricity. Leave the DE meter plugged in, and try plugging in / switching on the devices one-by-one, to work out how much each device is creating. Devices which typically produce high DE levels include PCs, sound systems, TFT/Plasma TVs, and other power-hungry electronic devices. Switch lights on and off. Compact fluorescent bulbs (CFLs) and low-voltage halogen downlighters (with hidden switched-mode voltage converters) can be significant sources of DE.

If you find that a large proportion of the DE is being produced by a few internal devices, then the best solution for these (e.g. computer equipment, TV, video equipment, lights or dimmer switches) is to replace them or put them on a proper Mains Filter Socket Strip (that contains proper filters, not just surge protectors – available from EMFields), which prevents the DE from spreading on to the house wiring, confining it to a very small area. For devices creating a lot of DE, one of these will often be much more effective than a number of DE2 filters, especially if you can group many of the high-DE producing devices onto a few filtered mains socket strips.

For any background DE which is coming in from the electricity provider, one or more DE2 filters are more effective. They should be fitted as close as possible to your electricity meter or consumer unit.

For DE produced by the devices around your home, a DE2 filter should be fitted as close as possible to the device producing the DE. You should not need many of these for your entire house, especially if you have used mains filter strips thoughtfully.

Note: We also recommend checking power-frequency magnetic field levels (ideally they should be under 0.1 microtesla) with a MagneMeter, PF4 or other suitable meter as it is important that there is no wiring fault causing high magnetic fields as this will make any DE problems much worse.