Condensed Smart Meter Testing Analysis June 1, 2017

Cratus Canada Ltd. effectively removes transients in our power systems by utilizing SineTamer® suppression technology which mitigates transients at the panel before they can erode other circuits, damaging electrical equipment and sensitive electronics within our buildings and houses.

Cratus travels thru out Canada and the U.S. giving seminars, speaking with major companies and Government Departments, about the dangers of transients and the causes and effects that they have on major equipment that they incorporate within their business's and buildings. The seminars educate the customers about dirty power and explain the cost savings they will receive when utilizing our product within their electrical infrastructures. For companies, it is about a major reduction in costly down time, reduction in repair or replacement of their electronic systems, or generally, to enable their sensitive equipment to be able to function properly like it was intended to without the dirty power and transients effecting their operation.

Our special circuitry within our SineTamer® products, enables us to remove virtually all the transients to a near zero level from the sine wave form. The SineTamer is not like all competitors products on the market today as it is an engineered transient disturbance filter that monitors 360° of the sine wave form, unlike fixed clamping 20th century protection that all other suppression units utilize, and fall far short from protecting the electronics of today.

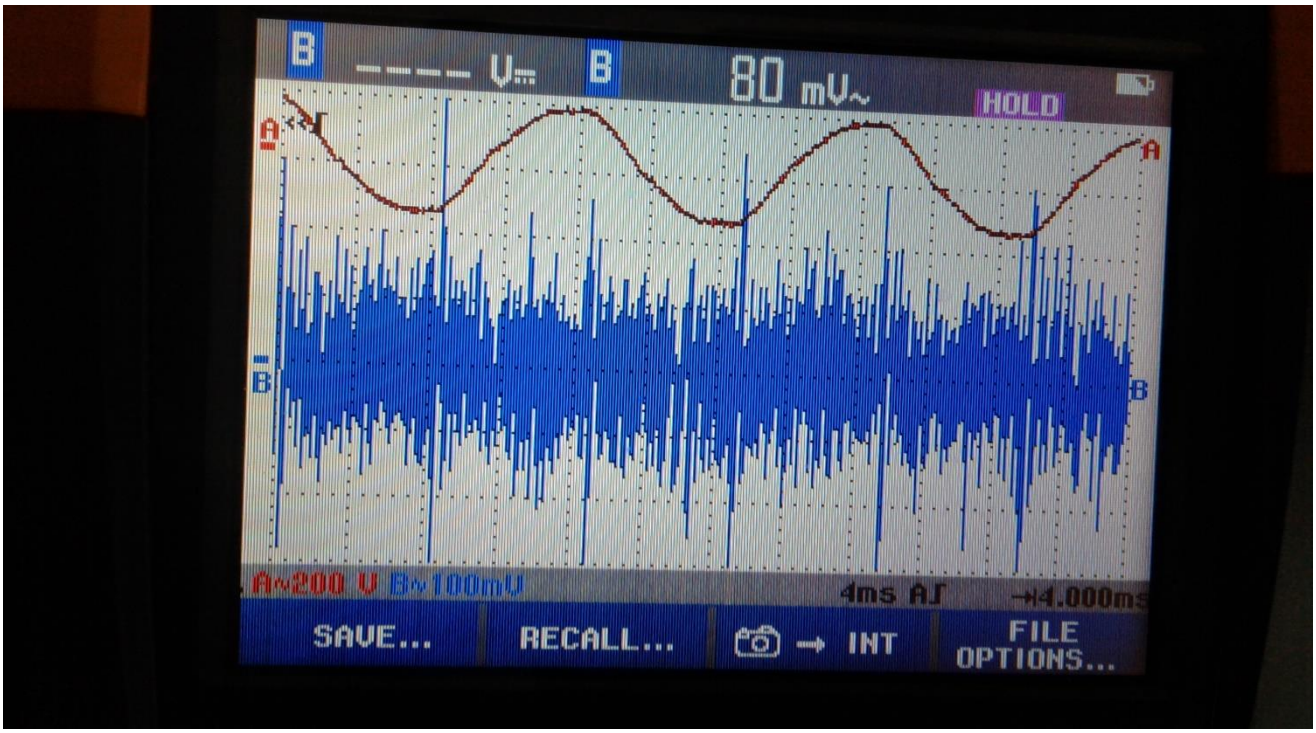
The SineTamer® suppressor incorporates RF (Radio Frequency) and EMI (Electro Magnetic Interference) filtration in the 1kHz to 10Mhz range as part of the circuitry to combat the transients, making it effective in mitigating the higher frequency kHz range of frequency that Dr. Samuel Milham speaks about in his book Dirty Electricity about harmful frequencies to humans. This kHz frequency range travels on top of the 60 Hz power in our buildings and is induced from the switch mode power supply on the Smart Meters. The kHz frequency range is a known carcinogen and detrimental to our human cell structure and our health and has been documented in many reports over the years from various sources.

Cratus has done extensive research in the past few months regarding this issue as it was brought to our attention some time ago from a group of doctors concerned with the human exposure to the kHz frequency in our power systems. Since then, our testing procedures have centered around some possible solutions which are currently being marketed to alleviate the RF frequencies that are inherent with the Smart Meter technology, (Stetzer and Green Wave filters), as well as testing our own suppressor, and to log the results of what we have found. It was a very interesting research project for our company as we have never considered the health issues associated with RF frequencies, as our approach has always been centered around corporations looking to increase their profits from less downtime and equipment failure. The testing results have shown us that our suppressors have a parallel usage which is extremely effective in mitigating the harmful side of dirty power and the Smart Technology.

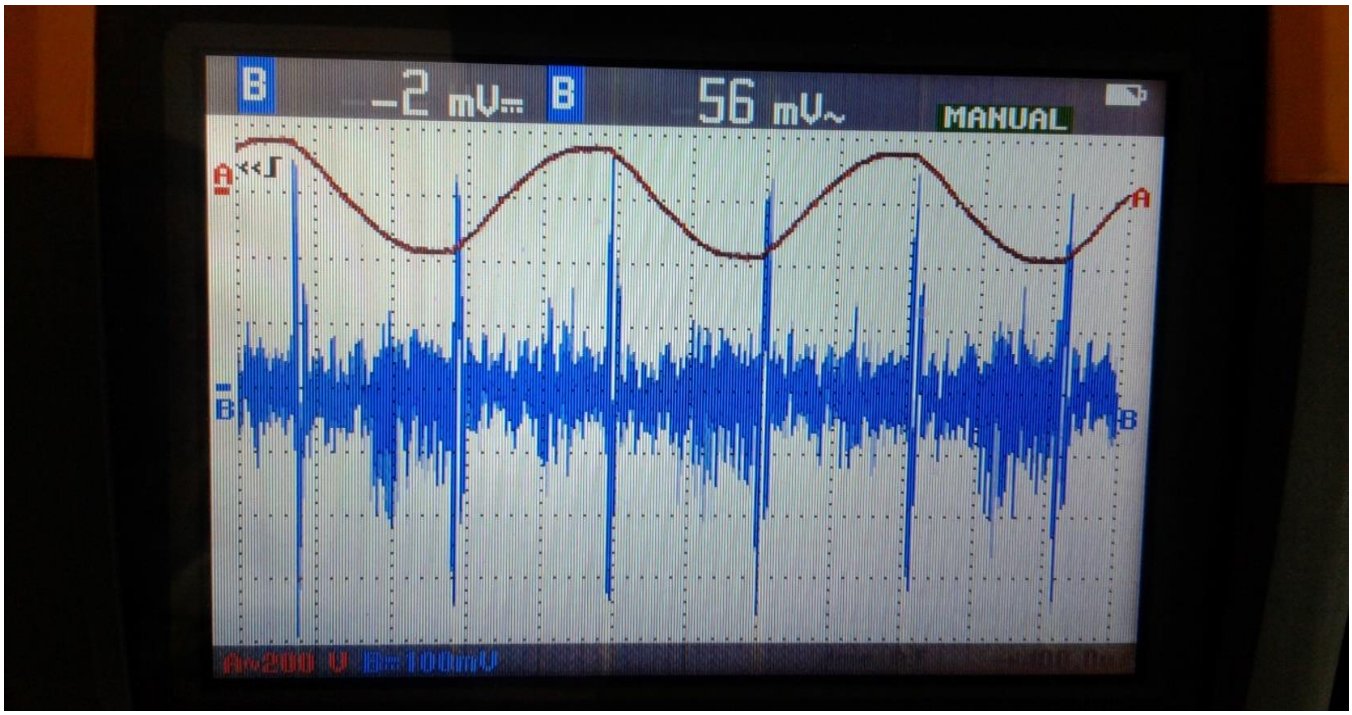
A quick synopsis of our findings is as follows. A power analysis was carried out at various home and business locations within the Vancouver Regional District, and we measured data on the effects of the Smart Meter Technology and how it induces different harmful elements into our electrical systems thru the meter itself. The Smart Meter is no longer just a power consumption reader like the old analog meters, but is now a microprocessor and transmitter of information for the utility companies.

Because the new Smart Meters have a microprocessor in them, they incorporate a switch mode power supply inherent in all units enabling them to operate in the DC voltage range for their electronic portion of their operation. These switch mode power supplies induce an RF frequency from 1 to 100 kHz range and it travels directly on top of the 60 Hz power which is fed into our homes and buildings. The magnitude of this frequency can vary from 3 – 5 volts peak to peak with no electrical load energized in a building but with power present, right up to about 24 – 30 volts peak to peak when the building or home is busy with electrical activity. This magnitude of voltage on the kHz range looks like a dense series of transients when viewed with an oscilloscope, and will constantly fluctuate thru out the day depending on load and electrical usage. This load variance can also be induced from neighboring properties providing they are of the same transformer circuit.

RF Frequency (B Line in Blue)
A Line or Red, is the Hz Sine Wave line removed with a filter for better picture definition



Or

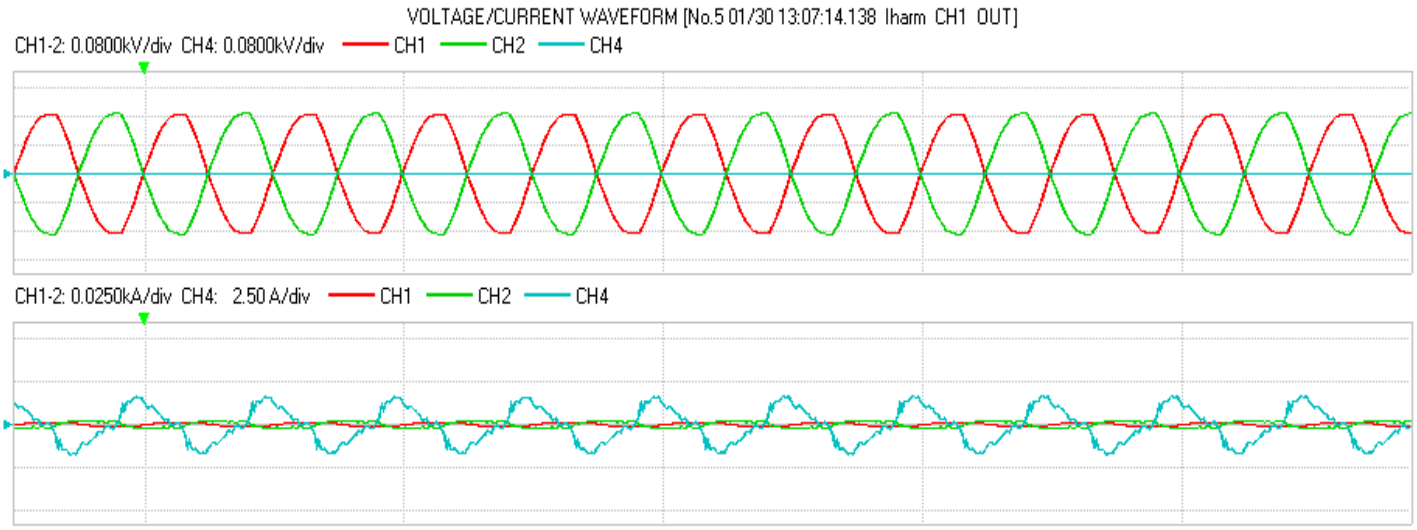


An interesting side note is that the consumer pays at the power rate which is equivalent to the highest level of spiking or voltage rise that is inherent within the flow of the sinewave form. The Smart Meters ability to read these levels of voltages and usage, was non-existent in the older analog meters. These spikes are responsible for the increased billing rates of all power providers utilizing the Smart Meter technology. A quick glance at the pictures enables you to view the cyclical pulsing of the smart meter switch mode power supply, approximately 2 pulses every 1/60th of a second.

The Stetzer and Green Wave filters seem very effective in removing the RF from the power lines (usually from about 2.5 to 4 volts peak to peak), when you are utilizing their specially designed meter to monitor the results of their filters. When proper power testing equipment is applied, you see a very different story and outcome. What becomes transparent is that both the Stetzer and Green Wave units shunt or short the excessive energy in the form of kHz Frequency to the neutral wire within their plug-in unit. The Stetzer and Green Wave units are a plug-in variety, and are not a suppression unit, as they do not have the necessary circuitry and internal protection to properly mitigate this energy and absorb it into their unit thru proper modes of protection.

This higher frequency energy needs to be removed and properly disposed of within the unit, not just shorted or shunted onto the neutral line like they achieve. Deflecting this energy onto the neutral line corrupts the neutral wire with a form of harmonics that travel throughout the house or building wiring, causing excessive heat in your electrical components and circuit boards, as well as cause early malfunction or failure of electronic components. This energy is eventually routed onto the ground wire which should be grounded to earth outside causing more voltage and current to flow thru the ground. Not an ideal solution by any means and both units require power to run which the consumer or building owner is paying for, not to mention that all occupants are still exposed to the RF on the Neutral wires within in the building.

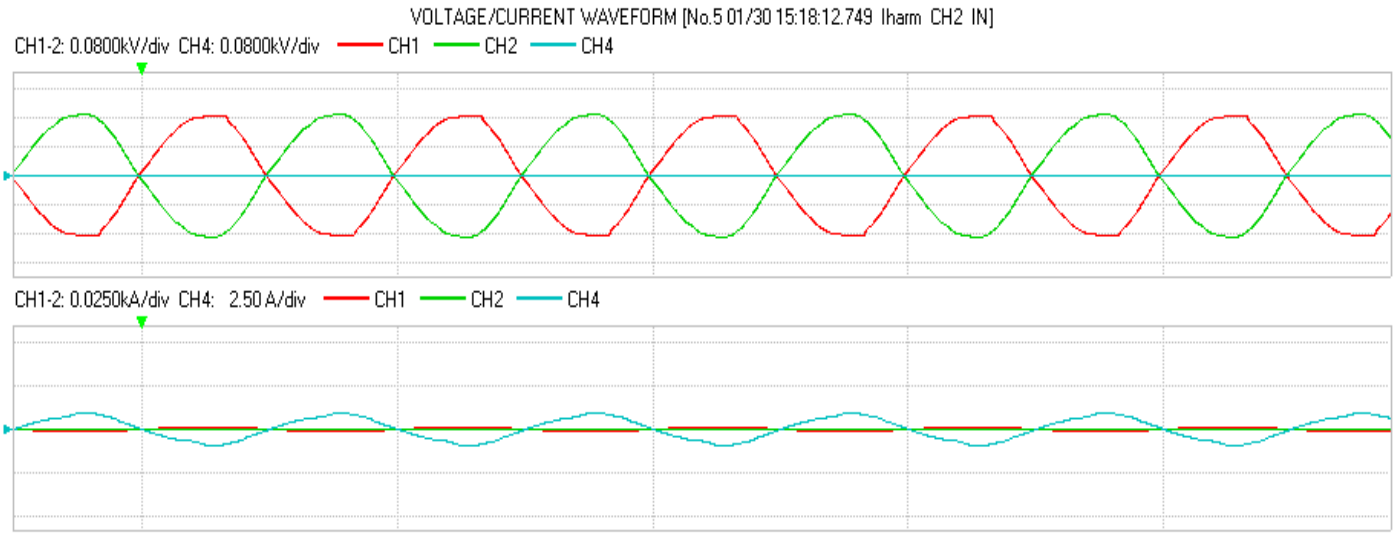
Stetzer Filter installed



The picture above shows the two voltage sine waves (Green and Red) as well as the blue neutral wire in the upper portion. The bottom portion shows the amperage of both lines (Green and Red) as well as the neutral leg in blue. See the harmonic wave distortion on the blue neutral line in the power panel. This line should be flat and look the same as the Green and Red amperage lines of the two power lines. This pic denotes a Stetzer filter plugged in to a wall plug. There is very little electrical activity in the home.

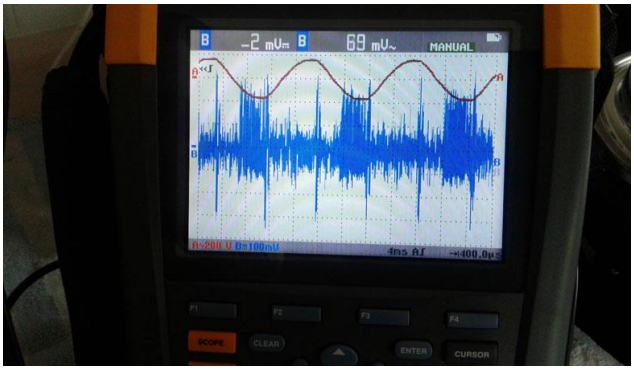
Our SineTamer® unit is effective in mitigating any severe transient whether it is from a direct lightning hit to the common transients generated from electrical switching of loads within our building. Our circuitry very effectively removes the energy thru our all mode protection modules inside the unit and is distributed evenly between the L-L, L-N, L-G, and N-G Modes. There is no residual energy left to dump onto a neutral or ground wire, effectively wiping out the transient form to a near 0 level. Our units drop the RF frequency down to approximately a single volt or 2 volts peak to peak. The SineTamer® protection drastically out performs the Stetzer or GreenWave filters, as there is no residual harmonics or voltage on either the neutral leg or the ground to damage the electrical or electronic equipment and no corruption of the neutral or ground legs.

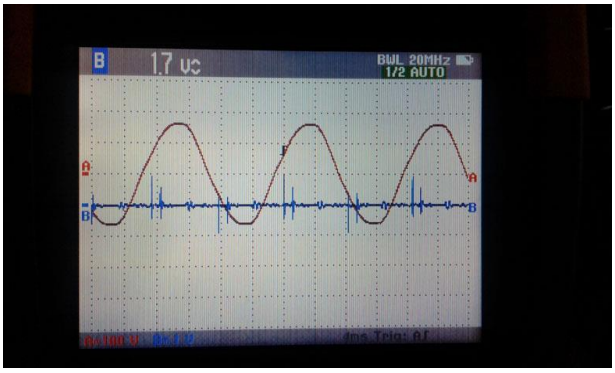
SineTamer® installed

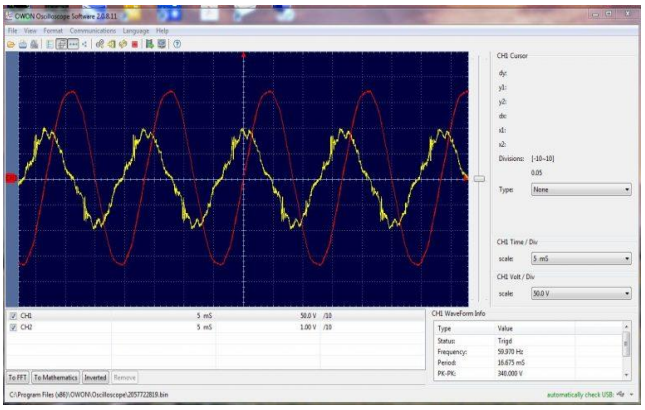


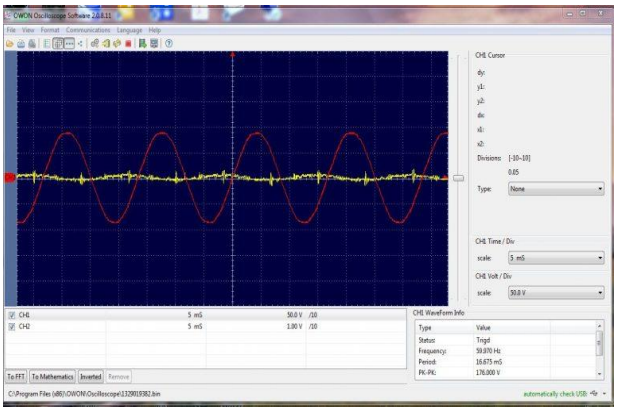
So, after a lengthy explanation, the SineTamer® unit is very effective in removing the transients from the smart meters. SineTamer® units are truly the only unit available on the market which can effectively combat the issues of dirty power. I am careful to caution people in knowing the difference in mitigating transients, whether they are in the 60 Hz range, or the kHz range versus the higher frequencies in the Mhz or Ghz range of microwave forms. We do not mitigate airborne microwave forms of energy which are also generated by the Smart Meter technology to communicate with Smart Appliances, and make no claims to dealing with those forms. SineTamer® units effectively remove transients' down to a healthy non-threatening level and is the most effective suppressor on the market to do so.

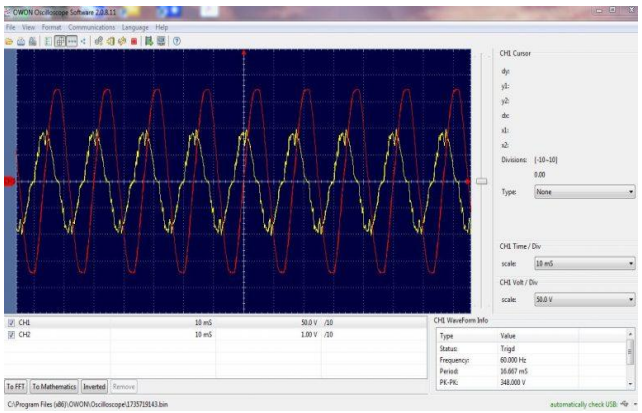
An example of SIneTamer's® effectiveness in dealing with the kHz frequency range from the Smart Meter

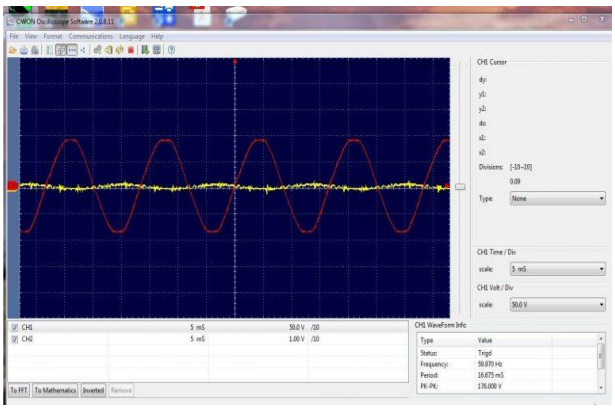












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