

EMF Meters – Vital Tool or Optional Gadget?

If you have watched any of the latest paranormal TV shows du jour you have likely seen the use of an EMF meter during the investigation. Using the loudest, brightest, and “coolest” looking devices, the paranormal investigators sweep the room – pointing out the EMF spikes which, they claim, are surely of paranormal origin.

Attempting to emulate the investigative methodology of their favorite celebrities, many paranormal research groups purchase their own EMF meters – falsely believing that since they saw it being used on TV, it must surely be the most efficacious ghost-hunting tool.

But...is it really? Is an EMF meter truly invaluable in a ghost hunter's tool arsenal, or is it simply another instrument used to validate environmental changes.

Since we hear the term EMF bandied about so freely, let's take a moment to understand the two key pieces of electromagnetic fields – "electrical" and "magnetic." According to the WHO (World Health Organization), "Electric fields are created by differences in voltage: the higher the voltage, the stronger will be the resultant field. Magnetic fields are created when electric current flows: the greater the current, the stronger the magnetic field. An electric field will exist even when there is no current flowing. If current does flow, the strength of the magnetic field will vary with power consumption but the electric field strength will be constant."

EMF's are a type of energy – however, there are some differences between electric and magnetic fields. The WHO describes the differences as:

Electric fields

Plugging a wire into an outlet creates electric fields in the air surrounding the appliance. The higher the voltage the stronger the field produced. Since the voltage can exist even when no current is flowing, the appliance does not have to be turned on for an electric field to exist in the room surrounding it.

Magnetic fields

Magnetic fields are created only when the electric current flows. Magnetic fields and electric fields then exist together in the room environment. The greater the current, the stronger the magnetic field. High voltages are used for the transmission and distribution of electricity whereas relatively low voltages are used in the home. The voltages used by power transmission equipment vary little from day to day; currents through a transmission line vary with power consumption.

Electric fields around the wire to an appliance only cease to exist when the appliance is

unplugged or switched off at the wall. They will still exist around the cable behind the wall.

How do static fields differ from time-varying fields?

A static field does not vary over time. A direct current (DC) is an electric current flowing in one direction only. In any battery-powered appliance the current flows from the battery to the appliance and then back to the battery. It will create a static magnetic field. The earth's magnetic field is also a static field.

In contrast, time-varying electromagnetic fields are produced by alternating currents (AC). Alternating currents reverse their direction at regular intervals. In most European countries electricity changes direction with a frequency of 50 cycles per second or 50 Hertz. Equally, the associated electromagnetic field changes its orientation 50 times every second. North American electricity has a frequency of 60 Hertz.

Is an EMF meter useful on a paranormal investigation?

Let's start with some facts. Studies have been conducted which have shown that environmental EMF's are linked to anomalous personal experiences. In one experiment a group of test volunteers reported increased sensations of being watched or feeling "weird" in particular locations where the EMF levels were elevated, than they did in areas where no "paranormal" activity had been reported. Lab experiments have validated that that the critical frequencies that affect the mind are in the 0.5hz – 30hz range.

Most "consumer grade" EMF meters available to the average paranormal investigator are designed to measure either 50 or 60hz AC devices – such as microwaves, refrigerators, air conditioners, etc. The first problem becomes evident – most of these meters simply measure too high a frequency to be considered "vital" in paranormal investigation.

Because walking or movement with any EMF meter can cause the unit to register simply because the human body itself produces electricity, this produces additional problems. Movement can also cause a false positive due to needle deflection on analog meters such as the excellent TriField Natural EM. Furthermore, static electricity build-up from walking on carpet, or the investigators clothing rubbing together, may cause a small build-up of static electrical energy which will also register on the meter. This voltage can be as high as 10,000 volts!

So, is an EMF Meter useful during an investigation? As a supplementary environmental data point – YES. As a "ghost detector" – NO. If we keep in mind the parameters of the tool, it can be useful. Just remember that the vast majority of "hits" on the EMF meter can be explained by natural or man-made sources.

As I mentioned in my training article last month, one of the biggest problems we face is that many organizations have no formalized training or education programs, and likely utilize their EMF meters based upon how they see them being used on television (usually

by people with little or no training themselves!). Proper training and furtherance of knowledge should be an intrinsic priority of your organization's mission.

About the author:

Larry Flaxman is the founder and President of **ARPAST** – the Arkansas Paranormal and Anomalous Studies Team, which is a member of the **TAPS** (The Atlantic Paranormal Society) family. He has been actively involved in paranormal research and investigation for over ten years, and melds his technical, scientific, and investigatory backgrounds together for no-nonsense, scientifically objective explanations regarding a variety of anomalous phenomena. Larry has appeared in numerous newspaper, magazine, radio, and television interviews, and has authored several published articles regarding science and the paranormal. In addition to involvement with **ARPAST**, he serves as technical advisor to several paranormal investigation groups throughout the country.