

# Bumps in the Night!!!!

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## Tools of the Trade

### Nerd Gun

#### Aka Oscilloscope Device

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As you're reading the title of this article, you are probably thinking to yourself, 'Nerd gun'??? It's a term that we affectionately call one of the team's new tech gadgets originally described by David Rountree. It's essentially a KII/Trifield on steroids, or technically speaking, a realtime EMF monitor that not only shows you the 'intensity' of the EMF, but also it's frequency and it is this key element that makes it unique as a paranormal investigation tool. It allows you to visually see the waveform of the detected EMF and numerically will show you its frequency. If you get a strong hit and it's a nice sinusoidal wave at 60Hz, it's almost definitely standard electrical related.

The 'Nerd Gun' is essentially 2 main components:

**EMF Sensor** – We chose to use the MC95 passive sensor from <http://www.magneticosciences.com>. This \$150 sensor has a Frequency Range of 25 Hz - 3 kHz (Extremely Low Frequency (ELF) and Voice Frequency (VF)) with a flat response and needs no external power.

**Portable Oscilloscope** – We used a single channel Tenma 72-8400 8MHz portable Oscilloscope with a monochrome LCD display. The Tenma cost is around \$275 but can be unmounted and used for many other things when not investigating.

The sensor is connected to the oscilloscope via a standard 3' RF cable with BNC connectors. The oscilloscope uses banana plug connectors, so a \$10 adapter was needed. The oscilloscope is mounted to a section of PVC pipe (painted black of course ;) ) with a handle attached and a lateral support for attaching the oscilloscope, and the sensor is attached to the end of the PVC pipe with the cable running inside. PVC pipe is used since it is non-magnetic and keeps the sensor away from the oscilloscope and your body to prevent false readings. The weight is reasonable, but you may want to attach some sort of strap if using or carrying around for long periods.

This unit can be customized in many ways with alternate sensors (with different frequency ranges) and/or oscilloscopes that can be used based on budget and availability.

Links:

<http://www.spinvestigations.org>

<http://www.magneticosciences.com/MAGCHECK95.html>

<http://www.magneticosciences.com/magnetic-field-sensors/>

<http://www.newark.com/pdfs/datasheets/Temna/72-8400.pdf>

<http://www.newark.com/tenma/72-8400/oscilloscope-8mhz-1-channel-40msps/dp/13N3778>

