

# PROXIMITY ESD FIELD GENERATOR



The PEG-1 simulates forms of ESD in the environment that are not covered by current standards. The electromagnetic fields from these types of ESD events have been shown to cause problems in electronic equipment. Characteristics of these “unusual forms of ESD” include fast risetimes and multiple events over a few seconds. Examples include internal chair discharges and “jingling change”. Descriptions of these events can be obtained from the published papers in the “Technical Information and Downloads” section of <http://emcesd.com>.

The PEG-1 induces voltage in nearby circuits with risetimes of about 200 picoseconds, much faster than present ESD standards. The ringing frequency of the PEG-1 ranges from hundreds of MHz to greater than 1 GHz. In addition, about 3-7 events/second are generated by the PEG-1. All of these PEG-1 characteristics simulate real world events of this type.

Electronic equipment can be checked simply by holding the PEG-1 near the equipment and looking for equipment upset. This procedure should be repeated over the entire surface of the equipment to be tested. The PEG-1 is equipped with a momentary push-button switch wherein the PEG-1 is pulsing only while the switch is held down.

The PEG-1 is provided with removable antennas. The antennas provide a stronger radiated Electric field, and should be used for most checks on electronic equipment. When the antennas are removed the electromagnetic fields are concentrated at the tip of the PEG-1, and in this mode can be used to localize a problem. If equipment does not react to the electromagnetic fields of the PEG-1 when the PEG-1 is placed 10-15cm from the equipment, it is likely that that the equipment will not respond to many types of “unusual” ESD in the field.

## SPECIFICATIONS

- Output Waveform: Damped Sinusoid (Ringing)
- Damped Sinusoid Frequency: hundreds of MHz to > 1GHz
- Typical pulse risetime: 200 picoseconds
- Pulse repetition rate: 3 to 7 pulses/second (random variability pulse to pulse)
- Typical Electric field level at 10-15cm (with antennas): 100 Volts/meter
- Power: 9 volt (such as 6LR61) battery
- Battery Life (total on-time): approximately 2.5 hours

Contact the applications engineers at Fischer Custom Communications, Inc. to discuss your requirements for commercial and military EMC testing by phone, fax or e-mail.

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