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# Counter SPI Operation, Installation and Maintenance



Figure 1. Counter SPI Item [94000](#)

## Introduction

The COUNTER SPI is designed to effectively eliminate localized static charges which exist in the work area. The Counter SPI is available in two models: Item [94000](#) is 120 Volt, and item [94001](#) is 220 Volt. Also available is item [94002](#), replacement emitters for the unit.

## HOW TO USE THE COUNTER SPI:

Your COUNTER SPI comes completely balanced and ready to use.

1. Place your table top unit on a flat, level surface.
2. Plug the COUNTER SPI/WESTTEK into any 120V AC (220V optional) electrical outlet.
3. Turn on/off switch to ON position.

## FOR BEST RESULTS:

1. Keep effective area clear and free from obstructions of ion flow.
2. Effective ionization range: 12" (305mm)
3. Position unit so that emitter points are directed towards area to be ionized.

## REMEMBER:

1. Keep work area clear of all static generative materials.
2. Use only approved static control grounding methods and material handling equipment.
3. By properly using ionized air, all static potentials in the work area are greatly reduced, even when humidity levels decrease.

**CAUTION:** Care should be exercised during handling to prevent the unit from falling face down. The delicate emitter pins will be damaged or broken if this happens.

## CLEANING INSTRUCTIONS:

Your Ionizer was designed to be virtually maintenance free. The emitter points can be cleaned when there is a visible accumulation of dirt. Generally this would be twice a year, depending on the cleanliness level of the working environment.

1. Check the emitter points for dirt accumulation.
2. Be sure the unit is unplugged.
3. Wipe emitter point with a swab dampened in isopropyl alcohol.
4. The outside case may be wiped down with a soft damp cloth.

## CALIBRATION AND BALANCE VERIFICATION:

The COUNTER SPI is factory set to achieve a maximum balanced ion output in standard, non-air assisted applications. To certify calibration, we recommend EOS/ESD association standard "EOS/ESD-3.1-1991."

**Objective:** To observe, test and record performance levels of ionization units, utilizing readily available equipment, thereby verifying or certifying calibration.

## Equipment Used:

Charged Plate Analyzer (Item [94052](#))

## Procedure:

1. Position the COUNTER SPI 12 inches (305mm) away from the [94052](#) directly facing the unit.
2. With the COUNTER SPI and the [94052](#) on, adjust the balance trim pot, located on the lower left side of the [94000](#). Balance the [94000](#) to zero on the [94052](#). **NOTE:** there are 3 LEDs located on the front panel. The one on the left is the on light, the

other two LEDs are the indicators of the positive and negative. Note the rate in which the lights switch. Your unit should be set at a slow rate. Also note when balancing, the indicator lights, as you offset the positive and the negative (balance), the on and off times changes on the lights.

3. Charge the [94052](#) to 1KV of either polarity  $\pm$  and push the decay button. The timer will automatically time the decay rate. The typical decay is 1,000 to 100 volts in under 60 seconds of both polarities.

There are two adjustments that can be made on the COUNTER SPI: the BALANCE and the RATE. The BALANCE of positive and negative ion output can be adjusted to increase polarity bias by inserting a small screwdriver through the BALANCE port and slowly turning the trimpot CLOCKWISE to increase positive and decrease negative ON time pulses OR COUNTER CLOCKWISE to increase negative and decrease positive ON time pulses. The RATE or pulse frequency can be adjusted down to one pulse per second or up to 5 pulses per second by inserting a small screwdriver through the RATE port and slowly turning the trimpot clockwise to increase and counterclockwise to decrease the frequency.

**DIMENSIONS:**

5.5" (140mm) high x 5" (127mm) wide x 2.5" (63.5mm) deep

**REMEMBER:**

It is important to verify calibration after any adjustments and before using your COUNTER SPI around sensitive electronics. Merely repeat above Balance Verification steps after all adjustments.

Field repairs are not normally encouraged during the warranty period. Repair attempts by unqualified personnel may invalidate the warranty.

**IMPORTANT:**

Your COUNTER SPI ionizer has been designed to minimize effects of localized charges. If your processing involves generation of considerable static charges you may need more aggressive equipment. SPI has available a complete line of Ionizing Blowers, Air Guns, Bars and Overhead Room systems to meet all ionizing requirements.

**Limited Warranty**

ESD Systems.com expressly warrants that for a period of one (1) year from the date of purchase, ESD Systems.com Counter SPI Ionizers will be free of defects in material (parts) and workmanship (labor). Within the warranty period, the product will be tested, repaired, or replaced at our option, free of charge. Call our Customer Service Department at 508-485-7390 for a Return Material Authorization (RMA) and proper shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of purchase date. Any unit under warranty should be shipped prepaid to the ESD Systems.com factory. Warranty repairs will take approximately two weeks.

If your unit is out of warranty, call Customer Service at 508-485-7390 for a Return Material Authorization (RMA) and proper shipping instructions and address. ESD Systems.com will quote repair charges necessary to bring your unit up to factory standards.

**Warranty Exclusions**

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

**Limit of Liability**

In no event will ESD Systems.com or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.