



Made in the United States of America

# SPI Counter Workstation Ionizer Operation, Installation and Maintenance



Figure 1. SPI Counter Workstation Ionizer

## Description

The SPI Counter Workstation Ionizer is designed to effectively eliminate localized static charges which exist in the work area.

Item	Description
<a href="#">94000</a>	Counter Workstation Ionizer, 100-120VAC
<a href="#">94001</a>	Counter Workstation Ionizer, 220VAC
<a href="#">94003</a>	Replacement Emitters, Pack of 2

NOTE: If your ionizer was manufactured prior to 2009, use item [94002](#) as your replacement emitter pins. Contact customer service should you need assistance with determining your ionizer's year of manufacture.

## Operation

The Counter Workstation Ionizer comes completely balanced and ready to use.

1. Place the ionizer on a flat, level surface.
2. Plug the ionizer into an appropriate electrical outlet.
3. Power the ionizer using the power switch located at the back.

## FOR BEST RESULTS

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

## REMEMBER

1. Keep the 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.

## Maintenance

The Counter Workstation Ionizer is 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

The Counter Workstation Ionizer is factory set to achieve a maximum balanced ion output in standard, non-air assisted applications. To certify calibration, we recommend ANSI/ESD association standard ANSI/ESD STM3.1.

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

## EQUIPMENT USED

EMIT [50571](#) Charged Plate Analyzer

## PROCEDURE

1. Position the Counter Workstation Ionizer 12 inches (305 mm) away from the face of the Charged Plate Analyzer.

2. With the Counter SPI and the Charged Plate Analyzer on, adjust the balance trimpot, located on the lower left side of the ionizer. Balance the ionizer to 0 volts on the Charged Plate Analyzer.

**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 Charged Plate Analyzer 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 Workstation Ionizer: 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. Turn the trimpot counter-clockwise to increase negative output 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 the frequency and counter-clockwise to decrease the frequency.

## Specifications

### Dimensions

5.0" W x 2.5" L x 5.5" H  
(127 mm W x 63.5 mm L x 140 mm H)

**Balance (offset voltage) at 12" in front of ionizer\***  
 $\pm 35$  V RMS

**Neutralization (Discharge) Times at 12" in front of ionizer\***

<15 seconds (positive and negative voltage)

### Power Consumption

94000 - 120 VAC, .04 A, 4.8 W  
94001 - 220 VAC, .14 A, 30 W

\*Factory default settings

### REMEMBER

It is important to verify calibration after any adjustments and before using the Counter Workstation Ionizer 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

The Counter Workstation 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. ESD Systems offers a complete line of Ionizing Blowers, Air Guns, Bars and Overhead Room systems to meet all ionizing requirements.

### Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See the ESD Systems Warranty -  
[ESDSystems.com/Limited-Warranty.aspx](http://ESDSystems.com/Limited-Warranty.aspx)