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## In House Calibration Instructions for Static Solutions Constant Monitors

In House Calibration Instructions for: Guardian Constant Monitor Series using the CB-9500 or CB-9900 Decade Boxes or standard resistors. Please note: In lieu of a CB-9500, CB-9900 or other similar decade boxes, standard high quality resistors may be used.

### Step 1 (for use with the CB-9500 test box).

- Using the supplied cords with the CB-9500 calibration box
  - Quantity: 2 Banana to Banana Cords
  - Disregard the black and red banana to banana with split 2.5mm Cord (this is used for wrist/heel strap testers only)
- Connect the supplied alligator clip to one end of the banana to banana cord. Clip this to the wing nut located on the back of the monitor and insert the other end into the calibration box in the terminal marked "to push"
- Using the other banana to banana cord, plug one end into the wrist strap jack on the monitor and insert the banana jack into the corresponding value desired (e.g. 31.5M)

### Step 2

- Turn on the constant monitor. Depending on the selected value on the calibration box you should observe the monitor alarming. Taking a very small screwdriver you will adjust the trim pot in the front of the unit very slowly clockwise until the monitor stops alarming and turns green. You will then remove the cord from the 31.5M jack and plug into the 38.5M in which case you should receive a fail. You may do this for multiple values if you choose to verify the unit is in specification. \*If the monitor is not alarming when plugged into a certain value on the calibration box that means the monitor is already calibrated to that value in which case either move the trim pot to bring it out of spec or choose another value to test.

Repeat these steps for the Work surface/Mat Connection.

Please see page 3 of this document if using the CB-9900 decade resistance test box



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**Notes from Tech support:** The main purpose of the Guardian ESD Constant Monitors is to monitor the path to ground of the user and the work station. So, there aren't necessarily set high/low values within the tester, but it will generally respond accordingly to achieve some pass/fails to show they are working and satisfy most Compliance programs.

The best way to start your verification is to plug into a value and see if it's passing/failing and start adjusting the trim pot until you get the desired result for that value, then connect in to the next highest corresponding value on the cal box (or resistors) and you should observe a fail (this isn't quite an exact science though so if it doesn't respond accordingly I wouldn't be too concerned, the monitor might just need the trim pot adjusted further). This will be repeated for both the wrist strap and work surface.

Once you have completed the testing you might need to re-adjust the trim pot once connected to your work surface and user again. This does not void your calibration as the unit is designed to be adjusted for the individual mat/user.

Generally for the wrist strap value, connect in either the 9M or 11M resistors (values in both the green and red can be used on the CB-9500) and the next highest corresponding value is either the 18M/22M or 31.5M/38.5.

Once you achieve a correct pass/fail that satisfies your requirements for the wrist strap value: Repeat the calibration procedure for the work surface, you can use those same values again to satisfy the calibration or chose a different set (e.g. 31.5M/38.5M and 90M/110M and then re-adjust as needed once connected to your mat again.

**Note:** in lieu of a Static Solutions CB-9500 decade box (or similar) standard high quality resistors may be used.

Please see page 3 of this document if using the CB-9900 decade resistance test box

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#### Calibration Instructions using the Static Solutions CB-9900 Test Box



- Using the CB-9900 calibration box insert one end of a banana-banana plug cord (with no resistor) into the front of the constant monitor where the wrist strap is inserted.
- Insert the other end into the common point jack located on the CB-9900.
- Insert the other banana-banana cord into the 10E6 ohms banana jack, this will test at the 1.0E06 ohms range. Touch the other end of this cord to the ground on the back of the constant monitor.

Turn on the constant monitor, when plugged in to 10E06 you should have a green light, if not slowly adjust the wrist strap trim pot located in the front of the unit until the light turns green. The upper limit of wrist straps is 100 Meg or 10E8 ohms, test the 1.0E08 ohms jack and you should still receive a green light, then insert the cord into 1.0E09 and it should fail.

Repeat the same procedure for the work surface.

End of Document  
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