

# Field Service Kits

## Installation, Operation and Maintenance



### Description

SCS offers a complete line of field service kits for the electronics field service technician as a simple and effective means of creating an ESD protected area in the field. Per ANSI/ESD S20.20, a protected area may be a single workstation (fixed or portable), laboratory, room, building, or any other area with pre-designated boundaries that contains materials and equipment designed to limit electrostatic potentials.

Utilizing Equipotential Bonding per ANSI/ESD S20.20 and a common point ground system for connecting static control elements including operator, worksurface, and equipment, these field service kits are manufactured from low charging materials that limit charge generation. When properly connected, the Field Service Kit mat will share the charge from conductive objects when they are placed on the surface.

“When neither AC equipment [Equipment Grounding Conductor] or auxiliary grounds are available, an equipotential bonding system may need to be used. In this situation, all of the items in the system are bonded together so that the charge that resides on the elements will be shared equally and therefore there will be no potential difference between the items. Once this step has been completed it is safe to handle ESD sensitive parts without inducing damage. A real life example of this is often observed in office equipment field service operations. For safety reasons the service technician will often disconnect the AC power cord which detaches the equipment from ground. In order to safely install ESD sensitive products into the equipment, it is necessary to electrically connect or bond together the service technician, the equipment frame and the ESD sensitive product. Once bonded together an ESD event will NOT occur when the technician handles the product or installs it in the office equipment.” [ESD Handbook ESD TR20.20 section 5.1.3 Basic Grounding Requirements]



Figure 1. Proper field service ESD control.

### General Guidelines

The discharge of static electricity can damage many of the electronic components used in many types of equipment. Electrostatic discharge (ESD) has been a frequent source of field service failures. Many firms are aware of the threat of ESD in the manufacturing environment and have adopted ESD control programs to control static electricity. When working in field service environments similar precautions must be taken since sensitive components can be damaged by ESD at any time - particularly when boards are being handled.

### Specifications



Figure 2. 8501 Field Service Kit.

#### **8501 PORTABLE FIELD SERVICE KIT**

Designed to quickly and reliably share static charge on the technician and worksurface upon which to lay parts. The kit includes one Adjustable Wristband and a static-dissipative worksurface. Both connect to ground or each other by the Ground Cord Assembly. For detailed specifications ask for Drawing [8501](#). Made in China.

#### Surface Resistance

(Rtg):  $1 \times 10^6$  to  $<1 \times 10^9$  ohms per ANSI/ESD S4.1  
(Rtt):  $1 \times 10^6$  to  $<1 \times 10^9$  ohms per ANSI/ESD S4.1

- 1 - 22" x 24" dissipative mat - with two pockets
- 1 - [3051](#) Ground cord assembly
- 1 - [2204](#) Adjustable wristband
- 1 - Alligator clip



Figure 3. 8507 Field Service Kit.

### 8507 PORTABLE FIELD SERVICE KIT

The 8507 Portable Field Service Kit with a 725 Wrist Strap Monitor bundles together two static control products to give a field technician the same continuous monitoring and static protected working environment enjoyed by workers in a manufacturing facility. For detailed specifications ask for Drawing [8507](#). Made in China.

#### Surface Resistance

(Rtg):  $1 \times 10^6$  to  $<1 \times 10^9$  ohms per ANSI/ESD S4.1  
 (Rtt):  $1 \times 10^6$  to  $<1 \times 10^9$  ohms per ANSI/ESD S4.1

- 1 - 22" x 24" dissipative mat - with two pockets
- 1 - [725](#) Wrist Strap Monitor
- 1 - [2368](#) Dual Conductor Fabric Wrist Strap
- 1 - [2370](#) Dual Conductor Coil Cord, 10 ft.



Figure 4. FSKL3RD Field Service Kit.

### FSKL3RD PORTABLE FIELD SERVICE KIT

This Field Service Kit provides a complete portable static-safe workstation for personnel working with electronics in the field. To stop static electricity from damaging electronic and telecommunications cards, a static safe work area is essential for field service technicians performing in-field repair or installation of cards. For detailed specifications ask for Drawing [FSKL3RD](#). Made in USA.

#### Surface Resistance

(Rtg):  $1 \times 10^6$  to  $<1 \times 10^9$  ohms per ANSI/ESD S4.1  
 (Rtt):  $1 \times 10^6$  to  $<1 \times 10^9$  ohms per ANSI/ESD S4.1

- 1 - 24" x 24" dissipative mat - with two pockets
- 1 - [ECWS61M-1](#) Adjustable Fabric Wristband with 6 ft. Coil Cord
- 1 - [CGC151M](#) Dual Conductor Coil Cord, 10 ft.

## Operation (all models)

1. Remove all unnecessary items from work area. Paper, tape, styrofoam cups and clothing can tribocharge, creating potentially damaging static electricity. Being insulators, static charges on these items will NOT be drained away even when placed on grounded field service surface.
2. Unfold the field service kit in a convenient location and verify that the ground cord is firmly connected to the worksurface groundable point snap.
3. If using a wrist strap, first attach the wrist strap cord to the groundable point snap on the worksurface. If the worksurface has more than one groundable point snap be sure to make contact to the same point used in Step 2. Connections should be made as shown in Figure 5.

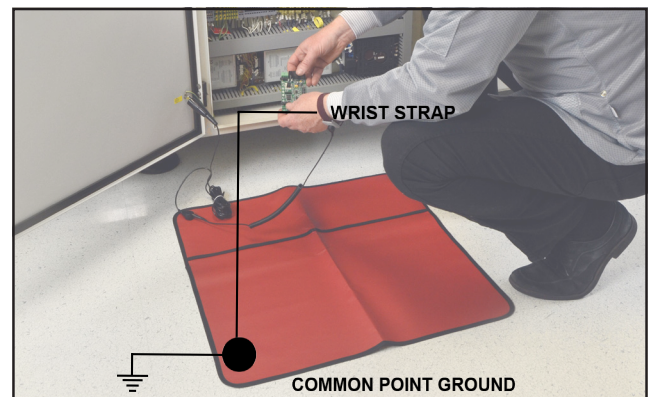


Figure 5. Common Point Ground Connection.

4. Place the wrist strap over your wrist and adjust so that it is snug.
5. If using a standard AC electrical outlet, use the SCS [CTM051](#) Ground Pro Ground Integrity Meter. It measures ground impedance in accordance with ANSI/ESD S6.1 and ANSI/ESDA S20.20 standards. It can be used to verify that there is no voltage leakage between ground and hot. If an outlet is not available, attach the grounding clip to a reliable ground point. See Figure 6.

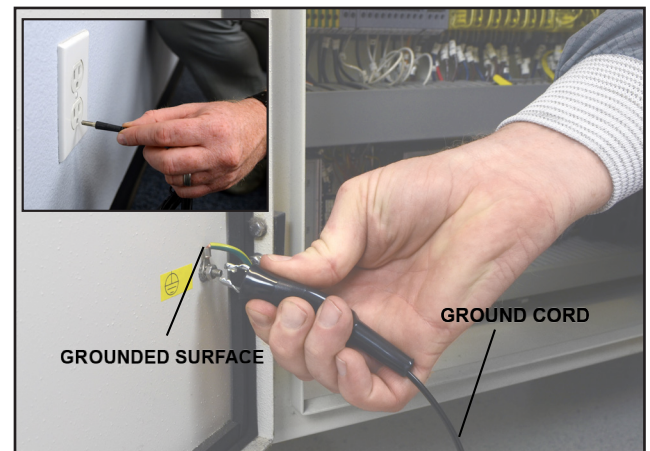


Figure 6. Connecting Ground Point.

6. If no ground is available, use equipotential bonding by attaching ground cord to conductive portion of item being worked on, such as equipment or computer circuit board chassis. See Figure 1.

## **Maintenance**

For optimum electrical performance, surfaces should be cleaned regularly with a mild detergent and water solution or an antistatic cleaner. SCS recommends Charge-Guard™ Surface and Mat Cleaner, Item No. [8002](#). DO NOT USE CLEANERS WITH SILICONE – they will build up a coating on the surface which will insulate the static control properties of the material.