

Field Service Kits

Operation, Installation and Maintenance

Description

Desco 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. Featuring a common point ground system for grounding static control devices, these field service kits are manufactured from antistatic materials that prevent charge generation. When properly grounded, the Field Service Kit mat will remove the charge from conductive objects when they are placed on the surface.

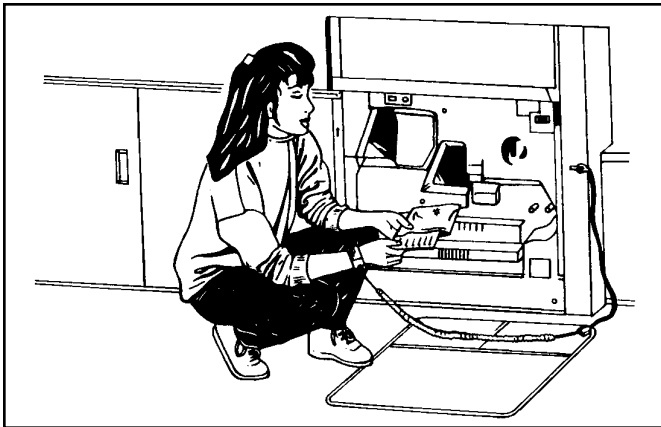


Figure 1. Proper field service ESD control.

General Guidelines

The discharge of static electricity can damage many of the electronic components used in a variety 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. To ensure safe and proper operation from ESD control devices, pay attention to the following guidelines:

1. For proper and safe grounding, the ESD ground must be tied directly to and at the same potential as the "equipment" or "green wire" ground.
2. If power is to be used at an ESD protected area, ground fault circuit interrupters (GFCIs) are recommended.

3. All electrical circuits at an ESD protected area, especially those used as the tie-in point to the utility ground, should be verified for proper wiring configuration.

Specifications

BRIEFCASE KIT - ITEM NO. 07710

Heat sealed from tough 16 mil blue vinyl with a permanently attached ground cord. A heavy-duty clip terminates the grounding cord for positive connection to ground. The entire kit folds into a neat 8" x 10" size and features a hook and loop closure to form a package that will fit neatly into any tool case. For detailed specifications ask for drawing 07710.

Surface Resisitivity = 10^{11} Ohms

- 1 22.5" x 22" vinyl mat - with two pockets
- 1 Permanently attached grounding cord with clip
- 1 Adjustable wrist strap with 6 ft. cord

STANDARD SERVICE KIT - ITEM NO. 16475

This kit features a canvas carrying pouch and a red 18 mil dissipative mat. The mat has one female grounding snap and a stitched seam around the edge. A common-point ground cord is supplied to ground the work mat and offers two directly grounded banana jack receptacles for wrist strap connections as well as a combination banana plug/alligator clip termination. For detailed specifications ask for drawing 16475.

RTT = $10^6 - 10^7$ Ohms

- 1 18" x 22" vinyl mat - with one snap
- 1 Common point grounding cord with clip
- 1 Adjustable wrist strap with 6 ft. cord

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 2.

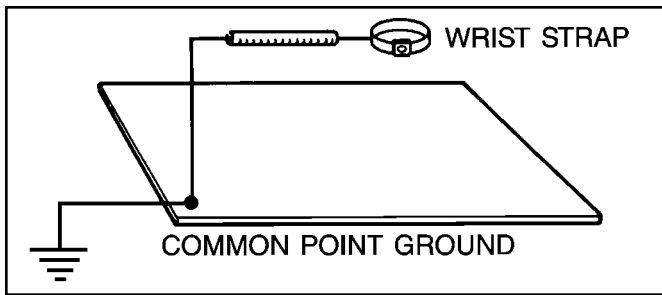


Figure 2. Common point ground connection

4. Place the wrist strap over your wrist and adjust so that it is snug.
5. If using a standard electrical outlet, verify proper wiring of electrical outlet with the #98130 Polarity Ground Checker and Ground Point or equivalent. Unscrew threaded banana plug from insulated clip and plug it into "green wire" ground. If an outlet is not available, attach the grounding clip to a reliable ground point. See Figure 3.
6. You are now safely grounded and may begin work. When handling ESD sensitive devices, be sure that all grounding connections are maintained. Additionally, be sure to use static shielding packaging for transporting ESD sensitive boards.

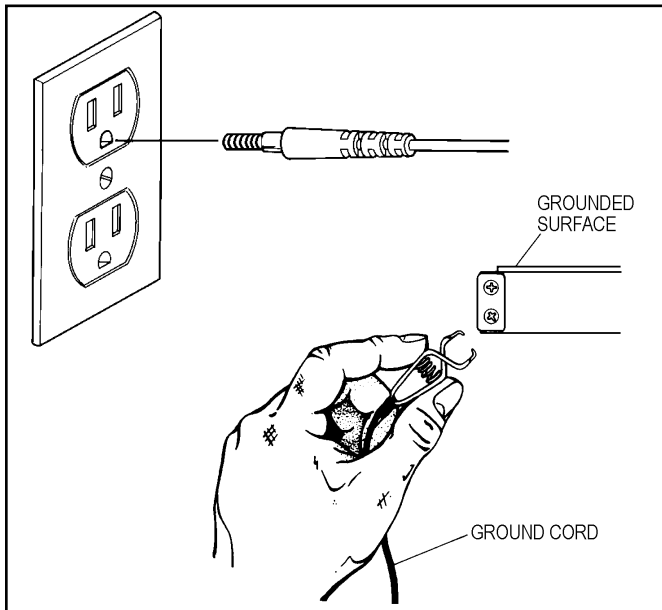


Figure 3. Connecting ground point

Maintenance

For optimum electrical performance, surfaces should be cleaned regularly with a mild detergent and water solution or an antistatic cleaner. Desco recommends Reztore™ Surface and Mat Cleaner, item no. 10435. **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.

The following information is available from Desco:

- TB-2005 Wrist Straps, Grounding, Testing, and Maintenance
- TB-2007 Safe Grounding of Static Controlled Workstations

Limited Warranty

Desco expressly warrants that for a period of one (1) year from the date of purchase, Desco field service kits will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a component will be repaired or replaced at Desco's option, free of charge. Call Customer Service at 909-627-8178 (Walnut, CA) or (781) 821-8370 (Canton, MA) for Return Material Authorization (RMA) and proper shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of date of purchase. Any unit under warranty should be shipped prepaid to the Desco factory. Warranty replacements will take approximately two weeks.

If your unit is out of warranty, Desco will quote repair charges necessary to bring your unit up to factory standards. Call Customer Service at 909-627-8178 (Walnut, CA) or (781) 821-8370 (Canton, MA) for RMA and proper shipping instructions and address. Ship your unit freight prepaid.

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 Desco 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.