

# 724 Plus Monitor Verification Tester

## Operation Instructions



Made in the  
United States of America



Figure 1. SCS 770734 724 Plus Monitor Verification Tester

### Description

The SCS [770734](#) 724 Plus Monitor Verification Tester is used to perform periodic test limit verification of the SCS [770724](#) 724 Plus Workstation Monitor. Verification may be accomplished without removing the monitor from its workstation. The Verification Tester is National Institute of Standards and Technology ([NIST](#)) traceable. Frequency of verification is based on the critical nature of the ESD susceptible items handled. SCS recommends annual calibration of workstation monitors and the 724 Plus Monitor Verification Tester. The SCS 724 Plus Monitor Verification Tester meets ANSI/ESD S20.20 and Compliance Verification ESD TR53.

### Packaging

- 1 724 Plus Monitor Verification Tester
- 1 Alligator Clip
- 1 10mm Stacking Snap
- 1 Ground Plug Adapter
- 1 Ground Extension Cord, 5'
- 1 9V Alkaline Battery

### Features and Components

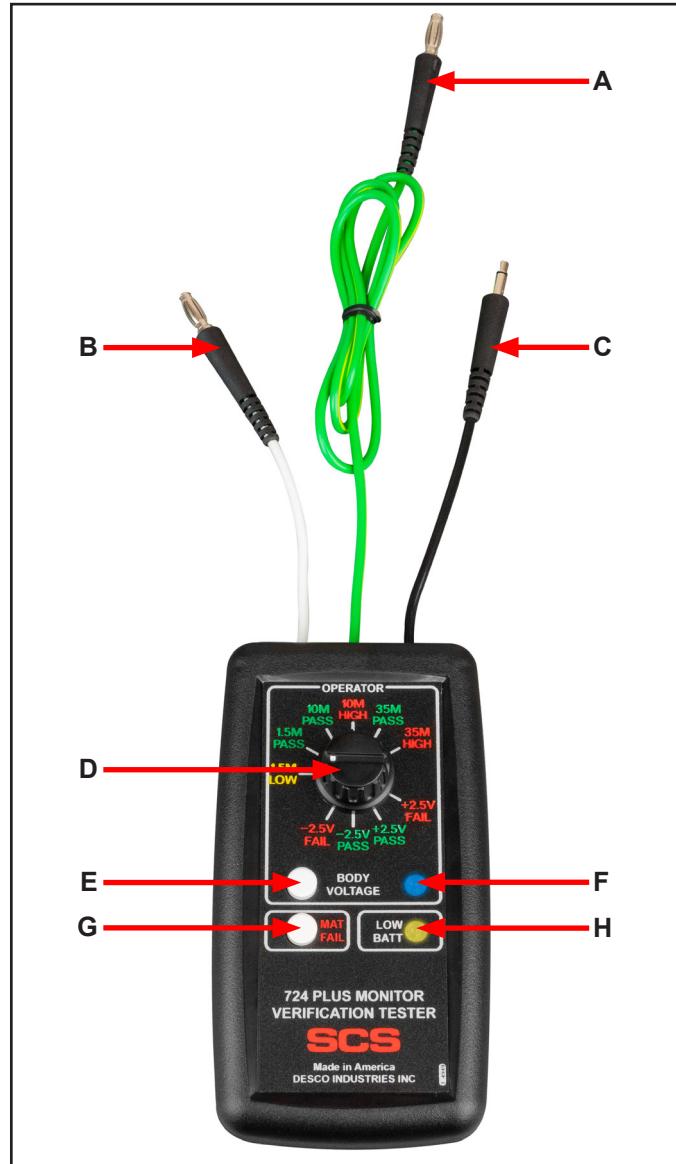


Figure 2. 724 Plus Monitor Verification Tester features and components

**A. Ground Lead:** Connect to equipment ground to provide a ground reference for the 724 Plus Monitor Verification Tester.

**A. Mat Test Lead:** Connect to the monitor's mat terminal to verify its mat test circuit.

**C. Operator Test Lead:** Insert into the monitor's operator jack to verify its operator test circuit.

**D. Rotary Switch:** Selects the various pass and fail load values needed to verify the monitor's operator test circuit.

**E. Body Voltage Pushbutton:** Loads the selected body voltage stimulus onto the Operator Test Lead when pressed.

**F. Body Voltage LED:** Illuminates blue when the Body Voltage Pushbutton is pressed and voltage stimulus is applied onto the Operator Test Lead.

**G. Mat Fail Pushbutton:** Simulates a MAT FAIL condition on the 724 Plus Workstation Monitor when pressed.

**H. Low Battery LED:** Illuminates yellow when the battery power for the body voltage test circuit is low and needs to be replaced.

## Operation

### Verifying the Operator Resistance Circuit

1. Connect the 724 Plus Monitor Verification Tester's green ground lead to equipment ground. This may be done using the included Ground Plug Adapter or alligator clip.

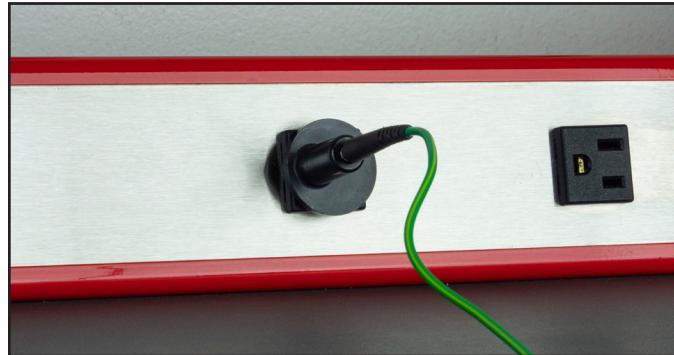


Figure 3. Using the Ground Plug Adapter to ground the 724 Plus Monitor Verification Tester

2. Insert the verification tester's black operator test lead into the 724 Plus Workstation Monitor's operator 1 jack.
3. Set the rotary switch to 1.5M LOW. The monitor's operator 1 LED should blink yellow, and its audible alarm should sound.
4. Set the rotary switch to 1.5M PASS. The monitor's operator 1 LED should illuminate green, and its audible alarm should not sound.
5. Set the rotary switch to either 10M PASS or 35M PASS, whichever one is appropriate. The monitor's operator 1 LED should illuminate green, and its audible alarm should not sound.
6. Set the rotary switch to either 10M HIGH or 35M HIGH, whichever one is appropriate. The monitor's operator 1 LED should illuminate red, and its audible alarm should sound.

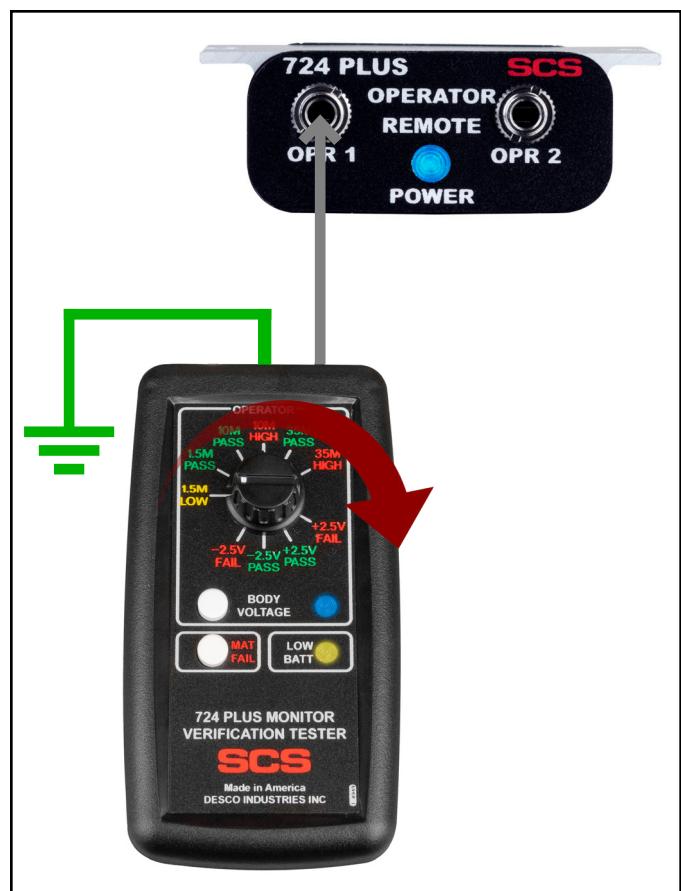


Figure 4. Connecting the 724 Plus Monitor Verification Tester to the 724 Plus Workstation Monitor's operator 1 jack

### Verifying the Operator Body Voltage Circuit

7. Set the rotary switch to +2.5V FAIL, and press the Body Voltage Pushbutton. The monitor's operator 1 LED should blink red, and its audible alarm should sound.
8. Set the rotary switch to +2.5V PASS, and press the Body Voltage Pushbutton. The monitor's operator 1 LED should illuminate green, and its audible alarm should not sound.
9. Set the rotary switch to -2.5V PASS, and press the Body Voltage Pushbutton. The monitor's operator 1 LED should illuminate green, and its audible alarm should not sound.
10. Set the rotary switch to -2.5V FAIL, and press the Body Voltage Pushbutton. The monitor's operator 1 LED should blink red, and its audible alarm should sound.
11. Disconnect the operator test lead from the monitor's operator jack.
12. Connect the operator test lead to the monitor's operator 2 jack. Repeat steps 1-11 to verify the monitor's operator 2 resistance and body voltage circuitry.

## Verifying the Mat Circuit

13. Connect the included stacking snap to the verification tester's white mat test lead.
14. Disconnect the monitor's white mat monitor cord from its worksurface mat and turn it over to expose its 10mm snap.
15. Connect the verification tester's white mat test lead to the mat monitor cord's 10mm snap. The monitor's mat LED should illuminate green, and its audible alarm should not sound.
16. Press the Mat Fail Pushbutton. The monitor's mat LED should illuminate red, and its audible alarm should sound.



Figure 5. Connecting the 724 Plus Monitor Verification Tester to the 724 Plus Workstation Monitor's mat monitor cord

## Maintenance

### Battery Replacement

Replace the battery once the Low Battery LED illuminates yellow. Open the compartment located on the back of the tester to replace the battery. The tester uses one 9V alkaline battery. Ensure that the battery's polarities are oriented correctly to avoid possible circuit damage.



Figure 6. Removing the battery cover located on the back of the 724 Plus Monitor Verification Tester

## Calibration

Frequency of recalibration should be based on the critical nature of those ESD sensitive items handled and the risk of failure for the ESD protective equipment and materials. In general, SCS recommends that calibration be performed annually.

### Resistance Values

Use the information below to verify if the 724 Plus Monitor Verification Tester operates within its resistance specifications. The values may be verified using a digital multimeter. Connect the multimeter's test leads across the 724 Plus Monitor Verification Tester's mono plug. If any value is out of specification, the Verification Tester must be returned to the manufacturer for repair.

Setting	Nominal Resistance	% Tolerance of Nominal Resistance
1.5M LOW	1.33 megohms	±2%
1.5M PASS	1.69 megohms	±2%
10M PASS	8.45 megohms	±2%
10M HIGH	11.5 megohms	±2%
35M PASS	29.4 megohms	±2%
35M HIGH	40.2 megohms	±2%
MAT FAIL	4.1 megohms	±2%

### Body Voltage Values

Use the information below to verify if the 724 Plus Monitor Verification Tester operates within its body voltage specifications. The values may be verified using a digital multimeter. Connect the multimeter's test leads across the tip of the 724 Plus Monitor Verification Tester's mono plug and its ground lead. Press the body voltage button at each setting indicated in the table below to have the tester emit voltage. If any value is out of specification, the Verification Tester must be returned to the manufacturer for repair.

Setting	Nominal Voltage	% Tolerance of Nominal Voltage
-2.5V FAIL	-1.38 V	±2%
-2.5V PASS	-1.13 V	±2%
+2.5V PASS	+1.13 V	±2%
+2.5V FAIL	+1.38 V	±2%

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

See the SCS Warranty -  
[StaticControl.com/Limited-Warranty.aspx](http://StaticControl.com/Limited-Warranty.aspx)

## Specifications

Operating Temperature	50 to 95°F (10 to 35°C)
Environmental Requirements	Indoor use only at altitudes less than 6500 ft. (2 km) Maximum relative humidity of 80% up to 85°F (30°C) decreasing linearly to 50% @ 85°F (30°C)
Dimensions	4.9" L x 2.8" W x 1.3" H (124 mm x 71 mm x 33 mm)
Weight	0.2 lbs. (0.1 kg)
Country of Origin	United States of America