

Verification Tester Operation Instructions



Figure 1. SCS [770065](#) Verification Tester

Description

The SCS [770065](#) Verification Tester is used to perform periodic test limit verification of the SCS [724](#) Workstation Monitor, [724 Plus](#) Workstation Monitor, and [725](#) Portable Wrist Strap 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 Verification Tester. The SCS [770065](#) Verification Tester meets ANSI/ESD S20.20 and Compliance Verification ESD TR53.

The SCS [770065](#) Verification Tester can be used with the following items:

Item	Description
724	Workstation Monitor
724MO	Workstation Monitor, No Power Adapter
725	Portable Wrist Strap Monitor
770724	724 Plus Workstation Monitor

Packaging

- 1 Verification Tester
- 1 Certificate of Calibration

Operation

724 Workstation Monitor

Testing the Operator Circuits

The operator high test limit and test voltage may be configured using the switches located on the right-side of the 724 Workstation Monitor. The test limit may be set to either 10 megohms or 35 megohms, and the test voltage may be set to either 9V or 16V. Take note of the test limit setting before following the instructions listed below. The test voltage may be set to any position.

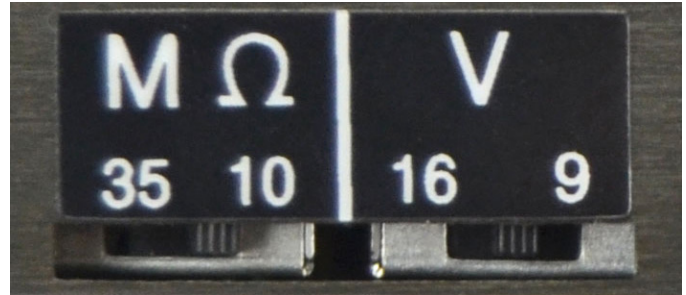


Figure 2. Operator test limit and test voltage switches located on the right-side of the 724 Workstation Monitor

The Verification Tester's ground clip toggle switch is not used in the verification of the 724 Workstation Monitor. It may be set to any position.

1. Insert the Verification Tester's stereo plug into the monitor's operator remote jack #1.



Figure 3. Using the Verification Tester with the 724 Workstation Monitor

2. Select "1.5M LOW" with the operator rotary switch. The monitor's green OK 1 LED should illuminate, and the yellow L LED should blink. The audible alarm should not sound.
3. Select "1.5M PASS" with the operator rotary switch. The monitor's green OK 1 LED should illuminate, and its audible alarm should not sound.
4. Select either "10M PASS" or "35M PASS", whichever one is appropriate, with the operator rotary switch. The monitor's green OK 1 LED should illuminate, and its audible alarm should not sound.
5. Select either "10M HIGH" or "35M HIGH", whichever one is appropriate, with the operator rotary switch. The monitor's red H LED should illuminate, and its audible alarm should sound continuously.
6. Repeat steps 1-5 for jack #2 on the operator remote. The audible alarm will chirp when jack #2 fails high.

Testing the Mat Circuit

Equipment Needed

- Resistance Decade Box (1 megohm to 5 megohm range, ±1% tolerance)
- 2 Test Leads for the Resistance Decade Box
- 1 Alligator Clip

1. Connect the two test leads to the resistance decade box.
2. Connect one of the test leads to equipment ground.
3. Disconnect the 724 Workstation Monitor's mat monitor cord from its worksurface mat. The mat LED should illuminate red, and the audible alarm should sound.
4. Use an alligator clip to connect the second test lead from the resistance decade box to the metal snap on the mat monitor cord.
5. Set the resistance decade box to the values shown in the table below. The 724 Workstation Monitor's Mat LED and audible alarm should behave as described in the table.

Load Resistance	Mat LED	Audible Alarm
3.1 megohms	Off	Off
4.3 megohms	On	On

725 Portable Wrist Strap Monitor

1. Select "SHORT" with the Verification Tester's ground clip toggle switch.
2. Connect the monitor's ground clip to the pins located at the top of the Verification Tester. Each conductor on the ground clip should only touch one pin.
3. Insert the Verification Tester's stereo plug into the monitor's operator jack.



Figure 4. Using the Verification Tester with the 725 Portable Wrist Strap Monitor

4. Select "35M PASS" with the operator rotary switch. The monitor's LED should not illuminate, and its audible alarm should not sound.
5. Select "35M HIGH" with the operator rotary switch. The monitor's LED should blink, and its audible alarm should sound.
6. Select "35M PASS" with the operator rotary switch, and select "10M PASS" with the ground clip toggle switch. The monitor's LED should not illuminate, and its audible alarm should not sound.
7. Select "10M HIGH" with the ground clip toggle switch. The monitor's LED should illuminate, and its audible alarm should sound continuously.

724 Plus Workstation Monitor

Testing the Operator Circuits

The operator high test limit may be configured using the Set switch located on the back of the 724 Plus Workstation Monitor. The test limit may be set to either 10 megohms or 35 megohms. Take note of the test limit setting before following the instructions listed below.

The Verification Tester's ground clip toggle switch is not used in the verification of the 724 Plus Workstation Monitor. It may be set to any position.

1. Insert the Verification Tester's stereo plug into the monitor's OPERATOR 1 jack.
2. Select "1.5M LOW" with the operator rotary switch. The OPERATOR 1 LED should blink yellow, and the audible alarm should sound.
3. Select "1.5M PASS" with the operator rotary switch. The OPERATOR 1 LED should illuminate green, and its audible alarm should not sound.
4. Select either "10M PASS" or "35M PASS", whichever one is appropriate, with the operator rotary switch. The monitor's OPERATOR 1 LED should illuminate green, and its audible alarm should not sound.
5. Select either "10M HIGH" or "35M HIGH", whichever one is appropriate, with the operator rotary switch. The monitor's OPERATOR 1 LED should illuminate red, and its audible alarm should sound.
6. Repeat steps 1-5 for the OPERATOR 2 jack on the operator remote.

Testing the Mat Circuit

Equipment Needed

- Resistance Decade Box (1 megohm to 5 megohm range, $\pm 1\%$ tolerance)
 - 2 Test Leads for the Resistance Decade Box
 - 1 Alligator Clip
1. Connect the two test leads to the resistance decade box.
 2. Connect one of the test leads to equipment ground.
 3. Disconnect the 724 Plus Workstation Monitor's mat monitor cord from its worksurface mat. The mat LED should illuminate red, and the audible alarm should sound.
 4. Use an alligator clip to connect the second test lead from the resistance decade box to the metal snap on the mat monitor cord.
 5. Set the resistance decade box to the values shown in the following table. The 724 Plus Workstation Monitor's MAT LED and audible alarm should behave as described in the table.

Load Resistance	Mat LED	Audible Alarm
3.1 megohms	Green	Off
4.3 megohms	Red	On

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	3.8" L x 2.4" W x .9" H (97 mm x 61 mm x 23 mm)
Weight	0.2 lbs. (0.1 kg)
Country of Origin	United States of America

Operator Resistance Values:

Setting	Nominal Resistance	% Tolerance of Nominal Resistance
1.5M LOW	1.33 Megohms	$\pm 2\%$
1.5M PASS	1.69 Megohms	$\pm 2\%$
10M PASS	8.45 Megohms	$\pm 2\%$
10M HIGH	11.5 Megohms	$\pm 2\%$
35M PASS	29.4 Megohms	$\pm 2\%$
35M HIGH	40.2 Megohms	$\pm 2\%$

Ground Clip Resistance Values:

Setting	Nominal Resistance	% Tolerance of Nominal Resistance
SHORT	< 1 Ohm	$\pm 2\%$
10M PASS	4.99 Megohms	$\pm 2\%$
10M HIGH	11.5 Megohms	$\pm 2\%$

These resistance values may be verified using a digital ohmmeter. Connect the ohmmeter's test leads across the Verification Tester's stereo plug. If any value is out of specification, the Verification Tester must be returned to the manufacturer for repair.

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

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