

# STATICO

Global Supplier of Static Control & Cleanroom Products

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## **Model No. MTB2**

### **Test Box for S2556 Monitoring System**

### **Product Information & Calibration Procedure**



#### **Description**

The Model MTB2 is a test device designed for periodical performance check of the S2555 Monitoring System. The Test Box Size is 4" X 2.4" X 1" (100X60X25mm), with following buttons and connecting cables:

- "OPERATOR 1" round green button on the left side of the Top Panel
  - 21" long Operator cord, with Banana Plug end termination, on the back panel.
- "BENCH" square red button in the middle of Top Panel
  - 21" long Bench Cord, with Mono Plug end termination, on the back panel.
- "OPERATOR 2" round green button on the right side of the Top Panel
  - 21" long Operator cord, with Banana Plug end termination, on the back panel.
- "GROUND" in the center of the Front Panel
  - 21" long Ground cord, with Banana Plug and Alligator clip termination, on the front panel.

#### **Operation**

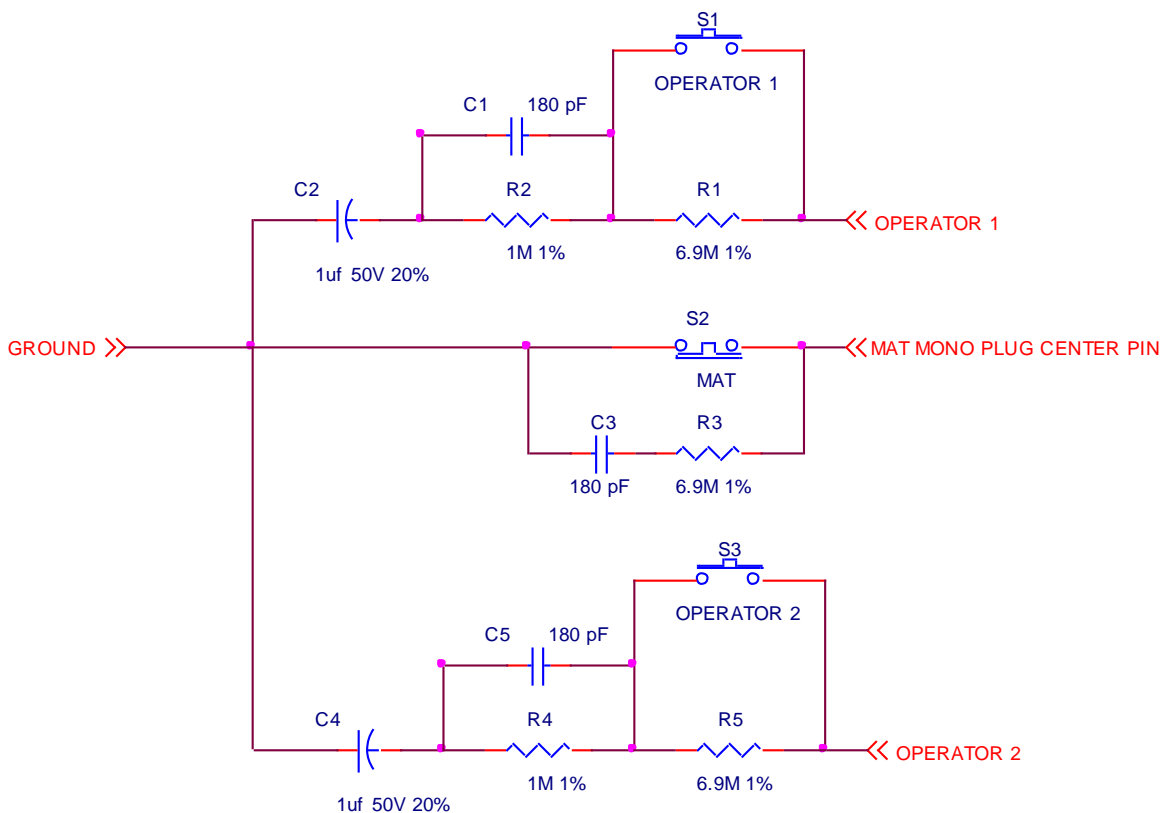
1. Connect the GROUND cable of the MTB2 Tester, to the Common Point Ground (CPG) on the Mat/Bench.
2. Unplug "bench system GND" mono plug connector from the back of S2556 monitor.
3. Plug in MTB2 mono plug connector to "bench system GND" on the back of S2556 monitor.
4. Plug in "OPERATOR 1" cord from MTB2 into "OPERATOR 1" remote.
5. Plug in "OPERATOR 2" cord from MTB2 into "OPERATOR 2" remote.
6. Power up the S2555 Monitor, using Power Adapter.
7. All 3 LEDs on the front panel of the Monitor shall be lit.
8. "OPERATOR 1" & "OPERATOR 2" LEDs shall be blinking RED. "BENCH" LED shall be GREEN.
9. Press "OPERATOR 1" button on MTB2 and "OPERATOR 1" LED shall change from Blinking Red to Green.
10. Release "OPERATOR 1" button on MTB2 and "OPERATOR 1" LED shall change from Green to Blinking Red with audible beeps up to 7 to 12 max.
11. Press "Bench" Red button on MTB2 and "Bench" LED on S2556 shall turn to Red with constant audible beeps.

12. Release “Bench” Red button on MTB2 and “Bench” LED on S2556 shall turn to Green with no beeps.
13. Press “OPERATOR 2” button on MTB2 and “OPERATOR 2” LED shall change from Blinking Red to Green.
14. Release “OPERATOR 2” button on MTB2 and “OPERATOR 2” LED shall change from Green to Blinking Red with audible beeps up to 7 to 12 max.
15. Unplug MTB2 mono plug connector from “bench system GND” on the back of S2556 monitor.
16. Plug in “bench system GND” mono plug connector to the back of S2556 monitor.
17. Unplug MTB2 operator 1 and 2 wires from S2556 remotes.

## **Verification of MTB2 Test Box**

### **Required Equipment**

1. Calibrated multi-meter with resistance measurement range of 10Mohm and accuracy of 1% or better. Recommended type Fluke 87 or better.
2. Calibrated capacitance meter with measurement range of 300-1000 pF and accuracy of 2% or better. Schematic of the MTB2 Test Box is given below for reference.



### **Verification Procedure**

1. Connect one lead of the ohm meter to the “GROUND” plug and another to the “BENCH” mono plug tip on the MTB1 Test Box. Ohm meter shall read <5 Ohm resistance.
 

Pass	Fail
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2. Press “MAT” button on the MTB1 Test Box. Ohm meter shall read “open”
 

Pass	Fail
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3. Disconnect ohm meter from the MTB1 Test Box.

4. Remove two screws at the bottom of the MTB1 Test Box and carefully remove bottom cover. Measure resistance across each resistor shown on schematic and verify it is within specified value. Resistors silkscreen is corresponding to schematic.

5. $6.7M < R1 < 7.1M$	Pass	Fail
6. $6.7M < R3 < 7.1M$	Pass	Fail
7. $6.7M < R5 < 7.1M$	Pass	Fail
8. $0.9M < R2 < 1.1M$	Pass	Fail
9. $0.9M < R3 < 1.1M$	Pass	Fail
10. $0.9M < R4 < 1.1M$	Pass	Fail

Measure Capacitance across each capacitor shown on schematic and verify it is within specified value. Capacitors silkscreen is corresponding to schematic.

11. $0.7\mu F < C2 < 1.3\mu F$	Pass	Fail
12. $0.7\mu F < C4 < 1.3\mu F$	Pass	Fail
13. $150pF < C1 < 240pF$	Pass	Fail
14. $150pF < C5 < 240pF$	Pass	Fail
15. Connect DVM between Operator 1 banana plug and R1-R2-C1 common point. Measure $6.7M < R1 < 7.1M$	Pass	Fail
16. Press "OPERATOR 1" button on the MTB2 Test Box. Ohm meter shall read resistance $< 5 \text{ Ohm}$ .	Pass	Fail
17. Connect DVM between Operator 2 banana plug and R4-R5-C5 common point. Measure $6.7M < R5 < 7.1M$	Pass	Fail
18. Press "OPERATOR 2" button on the MTB2 Test Box. Ohm meter shall read resistance $< 5 \text{ Ohm}$ .	Pass	Fail

19. Disconnect DVM meter from MTB1 Test Box. Install back cover and tighten two screws that hold it.

If any steps above have "failed" send MTB2 Test Box to the factory.

If all steps above have "passed" MTB2 is ready for testing the S2556 Monitoring System.