

MODIFICATION RECOMMENDED

34401A-15

# S E R V I C E N O T E

Supersedes:  
NONE

## 34401A Multimeter

Serial Numbers: MY47029713 / MY47039343  
SG47001093 / SG47001437

10 megohm and 100 megohm ranges drift out of specification

### Parts Required:

P/N	Description	Qty.
0699-3404	Resistor 400K-Ohms (A1R201)	1

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
<b>MODIFICATION RECOMMENDED</b>			
ACTION CATEGORY:	<input type="checkbox"/> ON SPECIFIED FAILURE <input checked="" type="checkbox"/> AGREEABLE TIME	STANDARDS LABOR: 1.0 Hours	
LOCATION CATEGORY:	<input checked="" type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> SERVICE CENTER <input type="checkbox"/> CHANNEL PARTNER	SERVICE INVENTORY: <input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input checked="" type="checkbox"/> SEE TEXT	USED PARTS: <input type="checkbox"/> RETURN <input checked="" type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE NO CHARGE AVAILABLE UNTIL: June 1, 2012		
AUTHOR: TC	PRODUCT LINE: SP		
ADDITIONAL INFORMATION:			

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**Situation:**

The above listed Ohm's current source reference resistor in the 34401A Multimeter may exhibit sufficient change in value with time to cause the 10 megohm and/or the 100 megohm resistance ranges to be out of specifications at the first "scheduled calibration event" (either 90 days or 1 year).

**Solution/Action:**

Replace A1R201 if appropriate based on the performance of the 10 Megohm and/or the 100 Megohm Ranges (Ohms Function). Refer to the table below for test limits.

<b>34401A Range</b>	<b>Value of Test Resistor</b>	<b>-----Test Limits*-----</b>	
		<b>90 Day Specifications</b>	<b>1 Year Specifications</b>
10 M-Ohms	10 M-Ohms	±2.1 K-Ohms	±4.1 K-Ohms
100 M-Ohms	100 M-Ohms	±810 K-Ohms	±810 K-Ohms

\*Specifications are for 4-Wire Ohms Function, Autozero "on", Operating Temperature between 18 and 28 degrees Centigrade.

**Customers World-Wide:** Customers with technical ability to replace this resistor may replace the resistor themselves. (Note: A1R201 is a through-hole resistor located between A1U101 and A1U150 on the 34401A main PC assembly.) This approach will provide the minimum instrument downtime and inconvenience.

**Alternative for US and Canadian Customers:** Customers may ship their 34401A to an Agilent Service Center where the resistor will be replaced and the 10 Megohm and 100 Megohm ranges adjusted and operation verified. A "return authorization" is arranged by calling the following toll free number:

1-(800) 403-0801

Note: The following information will be requested:

Instrument model number and serial number

A "ship-to" address (for sending the product)

An e-mail address and phone numbers for any needed communications

**Agilent Repair/Calibration Centers:** If a 34401A is being serviced or calibrated at an Agilent Repair/Calibration Center and exhibits this drift, repair the instrument by replacing A1R201. Adjust the 10 MOhm range and verify operation of the 10 MOhm and 100 MOhm ranges.

**Alternative for all Other Customers:** Customers may ship their 34401A to their Agilent Repair Center. At the repair center the resistor will be replaced and the 10 Megohm and 100 Megohm ranges adjusted and operation verified. Customers arrange for this option by calling their Agilent Service Provider and arrange for a "return authorization":

Note: The following information will be requested:

Instrument model number and serial number

A "ship-to" address (for sending the product)

An e-mail address and phone numbers for any needed communications

**Installation Instructions:**

Turn off the 34401A and remove power. Refer to the Service Guide for the following instructions.

Remove the handle (MP5) from the unit by turning it to the top and pulling the sides out (away) from the product. Remove the rear bezel (MP1) and bumper (MP12) by unscrewing the two screws using a T-15 screwdriver. Remove the screw from the instrument cover (CVR1) and slide off the cover. Remove the screw holding the shields in place (SHD1 and SHD2) and remove the shields.

Locate and remove A1R201. Replace A1R201 and solder into position. Trim leads. Reassemble the 34401A and connect power. Power on the 34401A and allow it to warm up for 4 hours. Perform the Gain Adjustment Procedure found in Chapter 4 of the 34401A Service Manual for the 10 MOhm Range. Perform the Gain Verification Test for the 10 MOhm and 100 MOhm ranges.



