

MODIFICATION RECOMMENDED –  
CORRECTS MANUFACTURING OR DESIGN DEFECTS

**34401A-12**

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

Supersedes:  
NONE

**34401A Multimeter**

**Serial Numbers: MY41008000 / MY41028000  
SG41007100 / SG41018800**

**10 megohm and 100 megohm ranges drift out of specification**

**Duplicate Service Notes: 34970A-13**

**To Be Performed By: Agilent-Qualified Personnel or Qualified Customer**

**Parts Required:**

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

**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 1year).

**ADMINISTRATIVE INFORMATION**

SERVICE NOTE CLASSIFICATION:			
<b>MODIFICATION RECOMMENDED</b>			
ACTION CATEGORY:	<input type="checkbox"/> IMMEDIATELY <input checked="" type="checkbox"/> ON SPECIFIED FAILURE <input 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	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	AGILENT RESPONSIBLE UNTIL: Unit out of Warranty	
AUTHOR: CD	PRODUCT LINE: 9E		
ADDITIONAL INFORMATION: Service Inventory should scrap red resistors, keep blue resistors			

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October 9, 2003

**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.

34401A Range	Value of Test Resistor	-----Test Limits*-----	
		90 Day Specifications	1 Year Specifications
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.

