

3458A-15B

S E R V I C E N O T E

Supersedes:
3458A-15A

3458A Multimeter

Serial Numbers: 0000A00000 / 9999A99999
US00000000 / US99999999

CAL RAM Preventive Maintenance

Parts Required:

P/N	Description	Qty.
1818-4336	256K RAM,DS1230Y	2
1818-4335	16K RAM, DS1220Y	1

Situation:

The following error messages can be caused by a faulty CAL RAM integrated circuit. There are three of these CAL RAM integrated circuits on the A5 Assembly (U121, U122 and U132). These parts contain a long life battery that will eventually discharge and cause a loss of the calibration data in the CAL RAMS. Batteries in these integrated circuits allow each CAL RAM to retain data in memory when the 3458A Multimeter is in the "Power Off" state.

Error 101, "CALIBRATION ERROR"
Error 109, "OUT OF CALIBRATION"
Error 110, "CALIBRATION REQUIRED"
"RAM TEST-----"

Recovery from a failure requires replacement of the CAL RAM integrated circuits and complete adjustment/calibration of the 3458A including SCAL.

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

AUTHOR: DLL PRODUCT LINE: 09E

ADDITIONAL INFORMATION:

Solution/Action:

The CAL RAM integrated circuits are on the A5 assembly should be periodically replaced just prior to the expiration of the expected minimum life of the battery. If your 3458A has a serial number below 2823A06000 and contains the original CAL RAM integrated circuits the minimum life of the battery has already been exceeded. The CAL RAM integrated circuits are through-hole parts and are soldered on the A5 assembly. Both the manufacture's part number and date code are printed on the CAL RAM integrated circuits (U121, U122 and U132 on the A5 assembly).

CAUTION: Follow appropriate ESD precautions when internal circuits of the 3458A are accessible (such as grounded work station, grounded wrist straps and etc.)

The recommendation for CAL RAM replacement follows:

DS1225Y and DS1235Y (these parts should be replaced; they have all exceeded the expected minimum life of the battery)

DS 1235 and DS1230Y (on these parts refer to the date code and replace the parts if the date code plus 10 years yields a date that occurs prior to next scheduled calibration event)

NOTE: The date code has a **YYWW** format. The **YY** is the last two digits of the date code year and the **WW** is the week number in the code year (01 to 52).

Example: A DS1230Y part has a date code 9815. The part date code week is 15 and the date code year is 1998. The expected minimum life for the battery in this part is 10 years plus the part date code. The end date for the expected minimum life for this part is week 15 of the year 2008.

Rather than examine the CAL RAM integrated circuits at each calibration event it is recommended that this date be recorded where it is easy to access. The "CALSTR" command could be used for this purpose or a label can be attached to the 3458A rear panel.

A complete calibration/adjustment including "SCAL" is required after the replacement of U121, U122 and U132.

If replacement of U121, U122 and U132 does not eliminate the generation of any of the error messages listed previously then replacement of the A5 Assembly is recommended.