

# 3458A-15D

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

Supersedes:  
3458A-15C

### 3458A 8 ½ digit Digital Multimeter

Serial Numbers: ALL

#### CAL RAM Battery Preventative Maintenance for the Outguard Controller (A5) Assembly

**Parts Required:**

P/N	Description	Qty.
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**A5 Through Hole boards require:**

1818-4336	256K RAM, DS1230Y	2
1818-4335	16K RAM, DS1220Y	1

**OR**

*1818-4441	256K RAM, DS1230Y	2
*1818-4333	16K RAM, DS1220Y	1

**A5 SMT boards require:**

1420-0885	BATTERY ASSEMBLY SNAPHAT FOR SRM	2
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#### ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:	
<b>INFORMATION ONLY</b>	
AUTHOR: LH	PRODUCT LINE: SP
ADDITIONAL INFORMATION:	

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\*1818-4441 is an approved, drop in replacement for 1818-4336

\*1818-4333 is an approved, drop in replacement for 1818-4335

**Situation:**

The following error messages can be caused by a faulty CAL RAM integrated circuit and/or battery. The number of CAL RAM ICs depends on the A5 assembly (SMT or Through Hole). 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. (The replacement every 10 years does NOT DEPEND on whether the 3458A is turned on or off during that time.)

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 battery or integrated circuits and complete adjustment/calibration of the 3458A including SCAL.

**Solution/Action:**

The CAL RAM batteries or ICs on the A5 assembly should be periodically replaced just prior to the expiration of the expected minimum life of the battery. The through-hole A5 assembly uses the CAL RAM ICs (U121, U122, and U132) and have the manufacture’s part number and date code printed on the ICs. These parts are through hole and are soldered on the A5 assembly.

The SMT A5 assembly uses CAL RAM batteries (XU132 and XU133) that snap on top of the CAL RAMs (U132 and U133).

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)

**DS1220Y and DS1230Y** (Refer to the date code on these parts and replace if the date code plus 10 years yields a date that occurs prior to the next calibration event)

The date code for the DS12XXY parts has a **YYWW** format. The **YY** is the last 2 digits of the date code year, and the **WW** is the week number in the code year (01-52). For example: A DS1230Y part has a date code of 9815. The expected minimum life for the battery in this part is 10 years plus the part date code – which is week 15 of the year 2008.

**XU132 and XU133** (These batteries snap onto the top of the IC, and may have a code like: **606** – Manufactured 2006 in the 6<sup>th</sup> month) OR **CXXXXX527 week- 27 year- 2005**

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

