8757D-01

S E R V I C E N O T E

Supersedes:
None

8757D Scalar Network Analyzer

Serial Numbers: AA00000000 - MY46060400 (see "Additional Information" below)

The 8757D logger boards (A7-A10; P/N 08757-60146) have a reference diode that has excessive temperature drift. This drift may cause the dynamic accuracy test (as measured by the 11613A/B) to fail.

Parts Required:

Part Number	Description	Qty.
1902-3512	6.2v Zener Diode (through-hole type)	1 diode per logger board (3 or 4 per instrument)
--	Wire 26-30 AWG	~20 inches (50cm) - any insulated wire will work
0470-0634	Quick setting epoxy	--

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

MODIFICATION RECOMMENDED

ACTION CATEGORY: X ON SPECIFIED FAILURE; X AGREEABLE TIME	STANDARDS LABOR: 1.0 Hours	
LOCATION CATEGORY: CUSTOMER INSTALLABLE; X ON-SITE; X SERVICE CENTER; X CHANNEL PARTNER	SERVICE INVENTORY: X RETURN; X SCRAP; X SEE TEXT	USED PARTS: RETURN; X SCRAP; SEE TEXT
AVAILABILITY: PRODUCT'S SUPPORT LIFE	NO CHARGE AVAILABLE UNTIL: ALWAYS	
AUTHOR: JVV	PRODUCT LINE: PLWN	

ADDITIONAL INFORMATION: This service note (written 3/14/08; published 8/18/08) applies to all 8757D units using Logger assembly 08757-60146. The beginning 8757D serial number is unknown; the ending serial number is MY46060400. This is roughly all units made from 2003 through 2007.

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Agilent Technologies

Situation:

When the 8757D logger board was changed to use surface mount parts (sometime around 2003), a 6.2 V reference Zener diode (VR3) was used that did not meet the required temperature drift specification. This diode may cause the 8757D to fail its dynamic accuracy test as measured with the 11613A/B. Typically it may fail if the temperature drifts by more than 2 degrees from that used on its original calibration. While this may cause the dynamic accuracy test to fail, the customer's end result measurement will most likely not be affected significantly. This is because the added error due to the temperature drift is typically under 0.1 dB while the detector specification is 0.4 dB or more. In addition, other scalar uncertainties, such as mismatch errors, will push the total measurement uncertainty to about +/- 1-2 dB. As a result, the 0.1 dB increase in error is probably negligible

Solution/Action:

Each logger board (08757-60146) containing surface mount parts should have its reference Zener diode (VR3) replaced. The replacement Zener diode is a through-hole part (1902-3512).

If an unmodified logger board is found, the Zener diode VR3 should be removed (see figure 1.) The new Zener diode should be connected to the same location via two wires. Once properly soldered, it should be glued in place using quick-setting (5 minute) epoxy. Make sure that polarity is observed. See figure 2 for placement. Allow time to cure. Once the instrument has been reassembled and warmed up, perform the logger calibration using the 11613A/B calibrator.

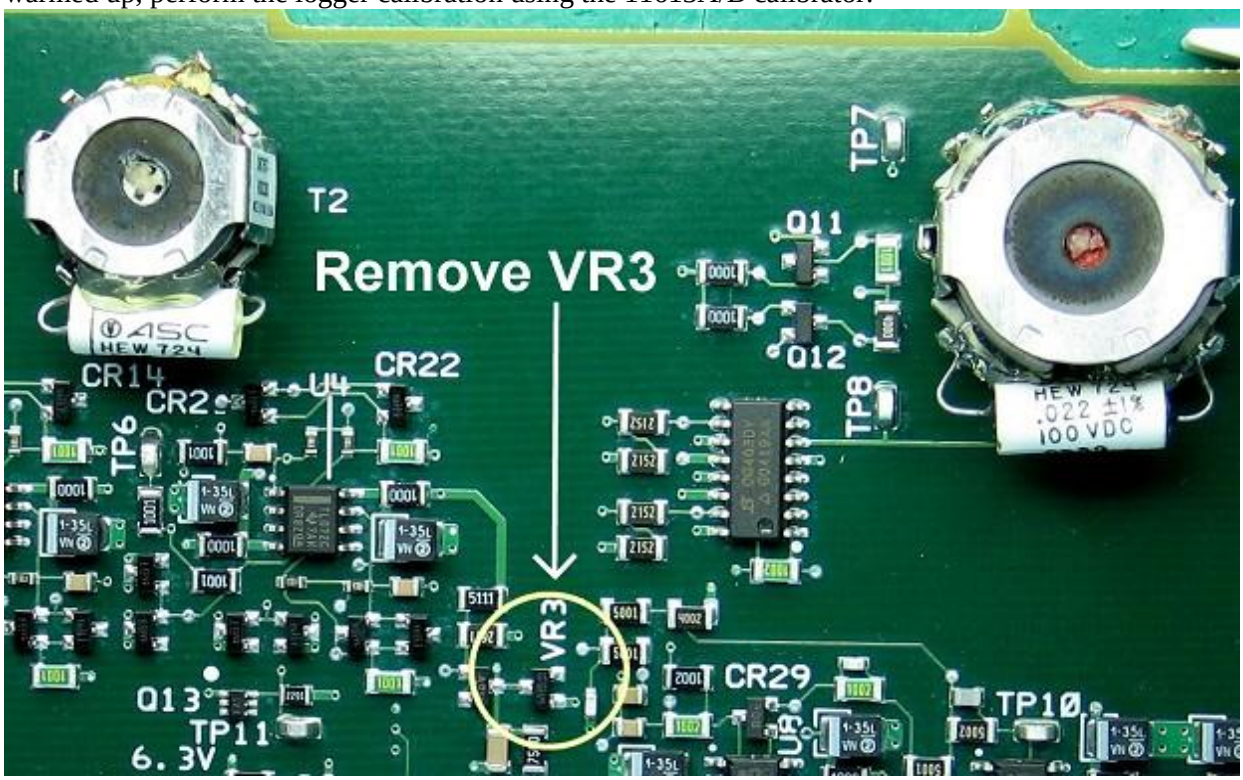

Figure 1. Locate and remove VR3

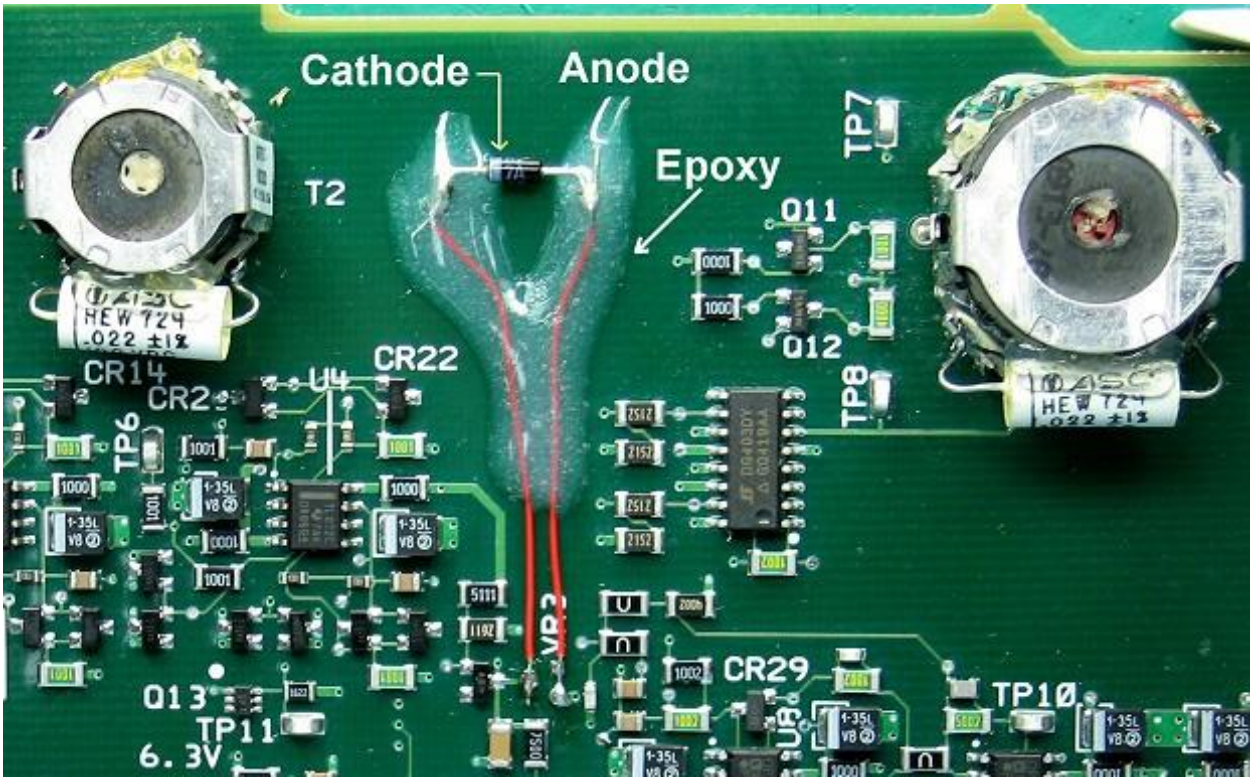

Figure 2. Solder the new diode where VR3 was located using two short lengths of wire. Note that the two board contacts on the **right** side of VR3 (Anode-side) are electrically connected, so you can solder to either one or both. Epoxy leads to board as shown. Allow to cure.

The logger board has been redesigned for best use with this new diode, but it is NOT necessary for you to install the redesigned board. The new logger board will have a different part number. All 8757D instruments made since December 2007 have either been modified at the factory, or have the newer logger assembly installed.

Note: For best results, update the software used to test and adjust the 8757 to revision 4.11 or later. This software update is available at: **http://na.tm.agilent.com/8757**