

E6198A-04A

S E R V I C E N O T E

Supersedes:
E6198A-04

E6198A Switch Load Unit (SLU)
- used in E8780A/B/BZ, E8781A, E8786A/B/BZ,
E2240A/AZ, N9380A, and Z2410A

Serial Numbers: ALL

Enhancement solution is available to SLU backplane discoloration issue by removing the preload resistors from backplane.

Parts Required:

P/N	Description	Qty.
NONE		

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:	
MODIFICATION AVAILABLE	
ACTION CATEGORY::	AGREEABLE TIME
	[X] PERFORMANCE ENHANCEMENT [] SERVICE / RELIABILITY ENHANCEMENT
LOCATION CATEGORY:	[X] CUSTOMER INSTALLABLE [X] ON-SITE [] SERVICE CENTER [] CHANNEL PARTNERS
	AVAILABILITY: January 31, 2017
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ADDITIONAL INFORMATION:	

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Agilent Technologies

Situation:

Agilent has recently received some feedbacks regarding the discoloration marks seen on the SLU backplane (E6170-66502) near the area of preload resistors (see Figure 1). As proactive response to the feedbacks, we have done the root cause analysis and safety evaluation on the backplane. The result shows that this discoloration mark was due to heating from the resistors and it will NOT cause any safety concerns.

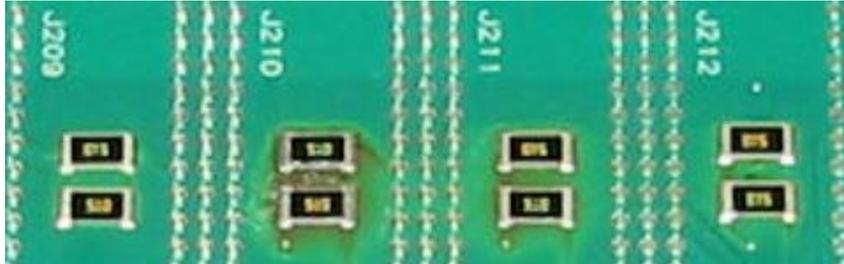


Figure 1. Discoloration mark on the SLU backplane near the area of preload resistors.

Despite the SLU backplane is still safe to be used, Agilent would like to offer an enhancement solution to the matter by removing the preload resistors from the backplane. The removal will bring the following benefits to the users (1) prevent the discoloration from further deteriorating, (2) extend the life span of the backplane, and (3) increase the current consumption bandwidth of internal power supply.

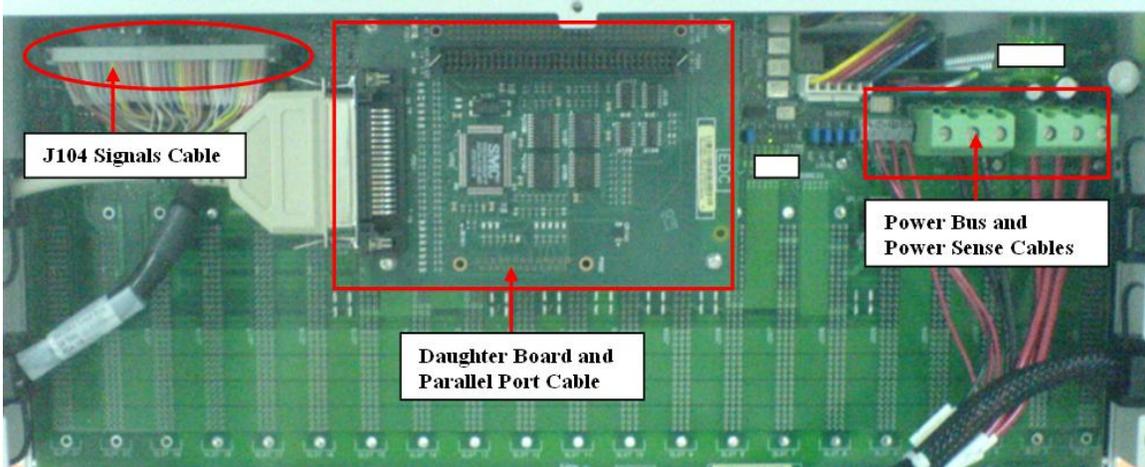
Solution/Action:**Switch/Load Unit (SLU) Backplane Preload Resistors Removal Procedures:**

Note: Remember to pick a DUT and run the testplan before shutting down the test system for removing preload resistors. Save the test results for comparison after preload resistors removal.

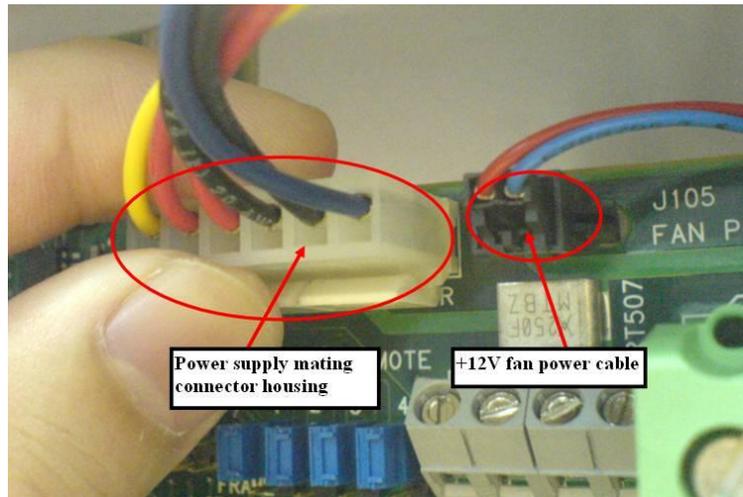
1. Switch off the SLU power supply via power switch on the front side and then unplug the power cord.
2. Unscrew the two screws at the bottom of either left or right side of the test system rack, whichever convenient, and then remove the side panel by lifting it up with two hands then place it at a safe place.
3. Unplug all the plug-in cards from the SLU so that they are not attached to the backplane. Removal from the SLU is not necessary.
4. Unscrew the screw on the rear side (circled in red) of the SLU and then remove the rear cover.



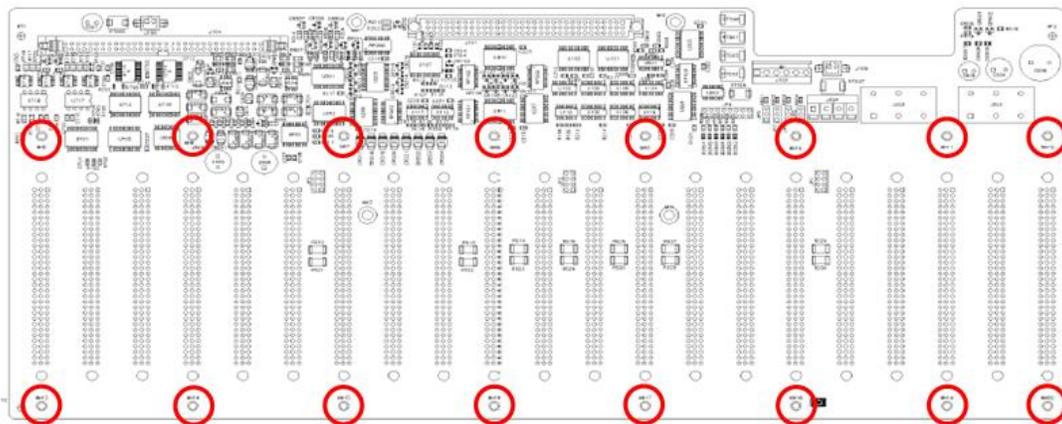
5. Remove cables (shown in figure below) and daughter board attached to the backplane.



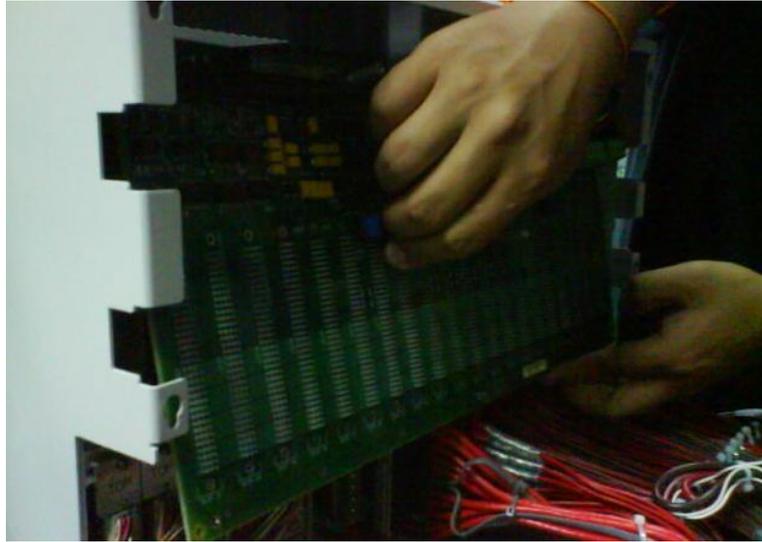
6. Unplug the power supply mating connector housing and +12V fan power cable from the SLU backplane as shown in the figure below.



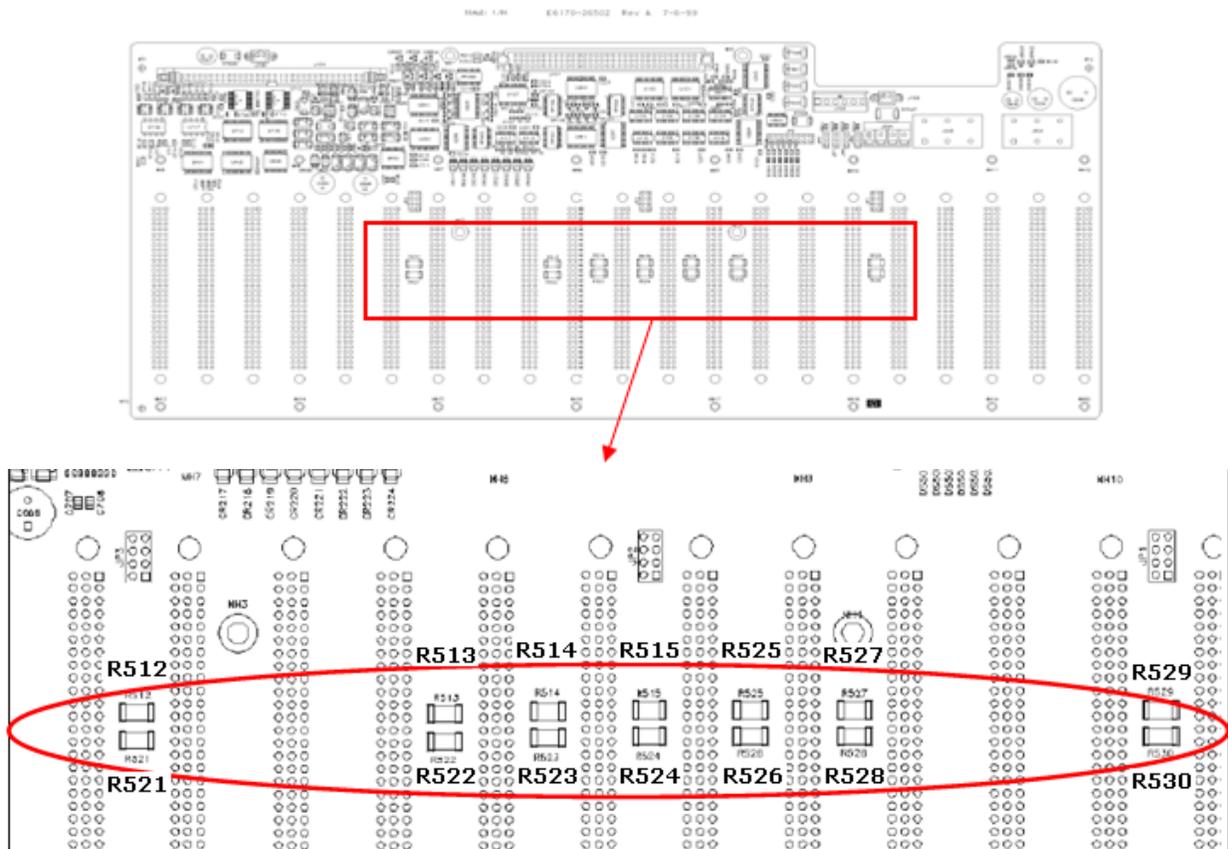
7. Unscrew all the 16 screws (circled in red) from backplane so that it can be removed from the SLU frame.



- Remove the backplane slowly from the SLU.



- Remove the 14 preload resistors (circled in red) from the backplane using Agilent recommended Chip Component Removal method stated in the IPC-7711A/7721A (or equivalent). Make sure the de-soldering work is clean to avoid short circuits.



- Put and align the backplane back to the SLU frame and then fasten back all the 16 screws at their original locations.
- Connect back the cables and daughter board to the SLU backplane.

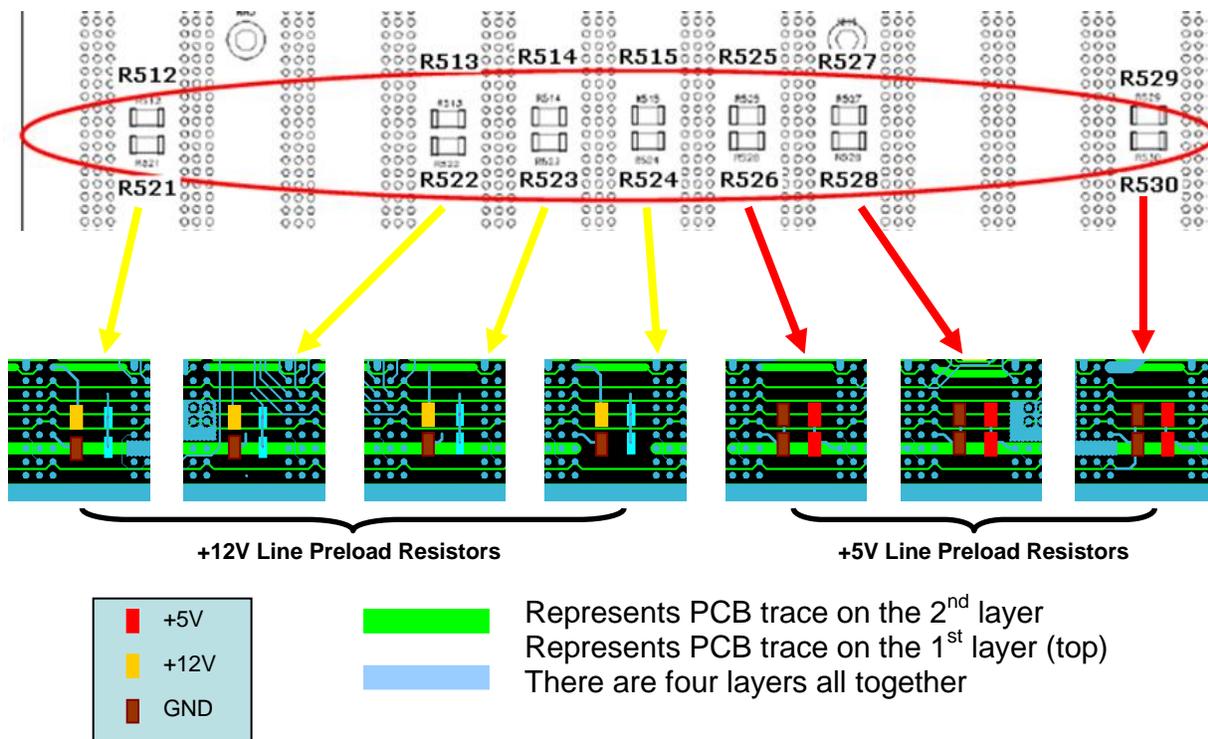
12. Carefully take out the other end of the power supply cable and +12V fan power cable, and then plug in the two connectors to the SLU backplane.
13. Put and align the SLU rear cover back and then fasten it with the screw.
14. Connect and tighten all the plug-in cards back to the backplane.
15. Put and align the side panel back to the test rack and then fasten with the two screws.
16. Connect the power cord back to SLU and switch on the power.

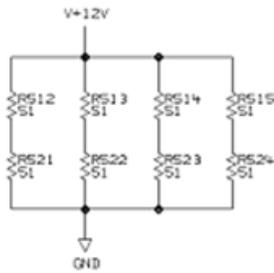
Switch/Load Unit (SLU) Backplane Preload Resistors After-Removal Test Procedures:

After remove the preload resistors from the SLU backplane, the following tests are required for verification:

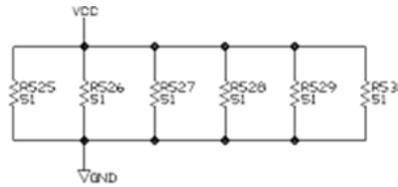
1. Perform visual inspection to ensure:
 - No excess solder leftover on the soldering pads after removing the preload resistors.
 - No discernible flux residue on, around, or bridging between non-common lands, component leads and conductors, resulting from the desoldering process.
 - Insulation is not melted, cracked or otherwise damaged from the desoldering process.
 - Slight discoloration of insulation resulting from thermal processing is permissible.
2. Perform electrical tests:
 - Measure resistance across the each pair of preload resistor soldering pads on SLU backplane (refer figure below). The result should show an open circuit (high impedance). This is to ensure that the two soldering pads are not shorted after removing the preload resistors.
 - Measure resistance between any pair of 5V and 12V pads on the SLU backplane (refer figure below). The result should show no continuity (high impedance). This is to ensure that there is no continuity between 5V and 12V lines.

Note: When performing the electrical tests described above, make sure that the power supply cable is unplugged from SLU backplane.





12V line preload resistors circuitry



5V line preload resistors circuitry

After the visual inspection and electrical tests, a complete functional test is required. The SLU backplane needs to be installed back to the SLU mainframe.

1. Perform DGN and/or CEDGN tests to ensure that the test system is working properly.
2. Perform complete testplan for customer DUT and make sure that the results are meeting the customer specification. Please arrange with customer on which DUT to be tested.

Frequently Asked Questions (FAQ)

1. What actions should the customers take as a result of this notification?

They should verify that their E6198A SLU(s) corresponds to the above serial number(s). If they decided to take the enhancement option, they can contact the nearest Agilent Service Center, listed at <http://www.agilent.com/find/contactus> or the Sales Account FE.

2. Who is liable to bear the cost of removing the preload resistors?

Since this is an enhancement solution available to customers, Agilent will not be liable to bear the expenses incurred. Customers who decided to perform the enhancement option will have to pay for the services according to Service Notes guidelines.

3. Who does the customer contact if they have further questions?

Contact the nearest Agilent Service Center, listed at <http://www.agilent.com/find/contactus>