

MODIFICATION RECOMMENDED

N4960A-02

S E R V I C E N O T E

Supersedes:
NONE

N4960A Serial BERT 32 and 17 Gb/s

Serial Numbers: US53083004, US53083019, US53083032, US53083033, US53083034, US53083035, US53083036, US53083038, US53083043, US53083047, US53083048, US53083072, US53083123, MY54455001, MY54455002, MY54455003, MY54455004, MY54455005

Pattern Generator or Error Detector may have intermittent errors due to DC supply instability in the N4960A Controller.

Parts Required:

P/N	Description	Qty.
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N/A

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:		
MODIFICATION RECOMMENDED		
ACTION X ON SPECIFIED FAILURE CATEGORY: <input type="checkbox"/> AGREEABLE TIME	STANDARDS LABOR: 0.5 Hours (for SSU administration) 3.0 Hours (for RTF labor)	
LOCATION <input type="checkbox"/> CUSTOMER INSTALLABLE CATEGORY: <input type="checkbox"/> ON-SITE (active On-site contract required) X SERVICE CENTER <input type="checkbox"/> CHANNEL PARTNER	SERVICE <input type="checkbox"/> RETURN INVENTORY: <input type="checkbox"/> SCRAP X SEE TEXT	USED <input type="checkbox"/> RETURN PARTS: <input type="checkbox"/> SCRAP X SEE TEXT
AVAILABILITY: PRODUCT'S SUPPORT LIFE	NO CHARGE AVAILABLE UNTIL: END OF PRODUCT SUPPORT LIFE	
X Calibration Required <input type="checkbox"/> Calibration NOT Required	PRODUCT LINE: 24 AUTHOR: MM	
ADDITIONAL INFORMATION: This product is serviceable at the Factory only. Work must be performed at the Factory, not Service Center.		

Situation:

For a Pattern Generator, the failure symptom is that the Pattern Generator output may be incorrect. The output can be incorrect in a couple of different ways.

1. The pattern bits may be incorrect:



In the picture above, the set pattern is a divided clock (00001111). Each sequence of 0's and 1's should be the same length, and they are not. Incorrect bits are circled in red.

2. The output signal may be reduced to a very small or 0 V amplitude.

For an Error Detector, the failure symptom is that the Error Detector may falsely report bit errors. When its DC supply becomes unstable, the Error Detector will not run error free, therefore, it is not possible for this failure to cause a false 0 BER result.

This is a temperature dependent condition, and it is possible that the symptom will begin only after the instrument has warmed up, and it may be dependent on environmental conditions such as ambient room temperature and air circulation. The failure is worse at higher temperatures.

While it is possible for this condition to cause an incorrect failing test result, it is not possible for it to cause an incorrect passing test result. Therefore, any passing test results may be trusted with confidence.

Either the Jitter port (CH 0), the Delay port (CH 1), or both ports may be affected.

Solution/Action:

This failure is caused by a component used in the DC supply circuits of the N4960A Controller which draws excessive current and causes instability in the DC voltages supplied to the remote heads (either a Pattern Generator or an Error Detector). Production records indicate that this component has been used only in the serial numbers listed above.

An alternate component which fixes this problem has been identified. The solution is to replace the component in the DC supply circuits.

This is to be performed at the expense of the factory. Steps to be performed upon return to factory:

1. Perform full verification test. The customer may be charged for failures found on incoming test which are unrelated to this service note.
2. Perform rework as documented in N4960A P500 Modification #4 and note in Siebel that this modification has been completed for this instrument.
3. Perform any required calibrations.
4. Re-run full verification test. The customer should not be charged for any new failure found at re-test.

Revision History:

Service Note Revision	Date	Author	Reason For Change
01	5/06/15	MM	As published
02	5/19/15	MM	Situation statement clarified