

S E R V I C E N O T E

SUPERSEDES: None

87510A Gain-Phase Analyzer

Serial Numbers: 0000J00000 / 3240J00152

Duplicate Service Notes: None

Modification to fix unexpected spurious problem.

To Be Performed By: Agilent-Qualified Personnel

Parts Required:

Part No.	Qty	Description
1901-0050	1	Diode
0757-0280	1	Resistor 1K
0698-3444	1	Resistor 316
9100-3548	1	Inductor 470 NH
1854-1073	1	Transistor
0160-4832	1	Capacitor 0.01 UF
0698-3441	1	Resistor 215

Continued

DATE: 15 April 1995

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	<input type="checkbox"/> IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input checked="" type="checkbox"/> AGREEABLE TIME	STANDARDS:	Labor 2.0 hrs
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> SERVICE CENTER	SERVICE INVENTORY:	<input type="checkbox"/> RETURN <input type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	USED PARTS:	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AUTHOR: MT	ENTITY: 3355	AGILENT RESPONSIBLE UNTIL: 15 April 1995	
		ADDITIONAL INFORMATION:	

Situation:

The 87510A may show the unexpected spurious response due to the parasitic oscillation of the source signal.

Solution:

This is caused by the breakdown of A3Q2 transistor. This symptom can be confirmed using the following procedures:

1. Set the 87510A as follows:
 CENTER --> 300 MHz
 SPAN --> 0 Hz
2. Connect the Spectrum Analyzer to the 87510A's "RF OUT", and observe the signal with 1 MHz frequency span.
3. Connect the Signal Generator to "EXT REF INPUT" on the rear panel. Set the Signal Generator to 10 MHz.
4. Change the frequency of Signal Generator from 9.9998 MHz to 10.0002 MHz. Observe the 87510A's output signal using the Spectrum Analyzer. If a spurious is observed, the A3Q2 transistor is broken.

Action:

Modify the A3 board with referring the following procedures:

1. Turn the 87510A off. Remove the top cover and the shield plate.
2. Remove the A3 board.
3. Modify the A3 board with referring Figure 1:
 - a. Replace the A3Q2 transistor (P/N 1854-1073) with the new one.
 - b. Replace the R3 resistor. 464 ohm --> 1 kohm (P/N 0757-0280)
 - c. Replace the R6 resistor. 464 ohm --> 316 ohm (P/N 0698-3444)
 - d. Replace the L2 inductor. 680 nH --> 470 nH (P/N 9100-3548)
 - e. Replace the location of C5 (0.01 uF, P/N 0160-4832) and R19 (215 ohm, P/N 0698-3441).
4. Perform the following adjustments:
 - 100 MHz VCXO Frequency
 - 1st IF Offset Osc Frequency
 - Fractional N Pretune CC
5. Reinstall the A3 board.

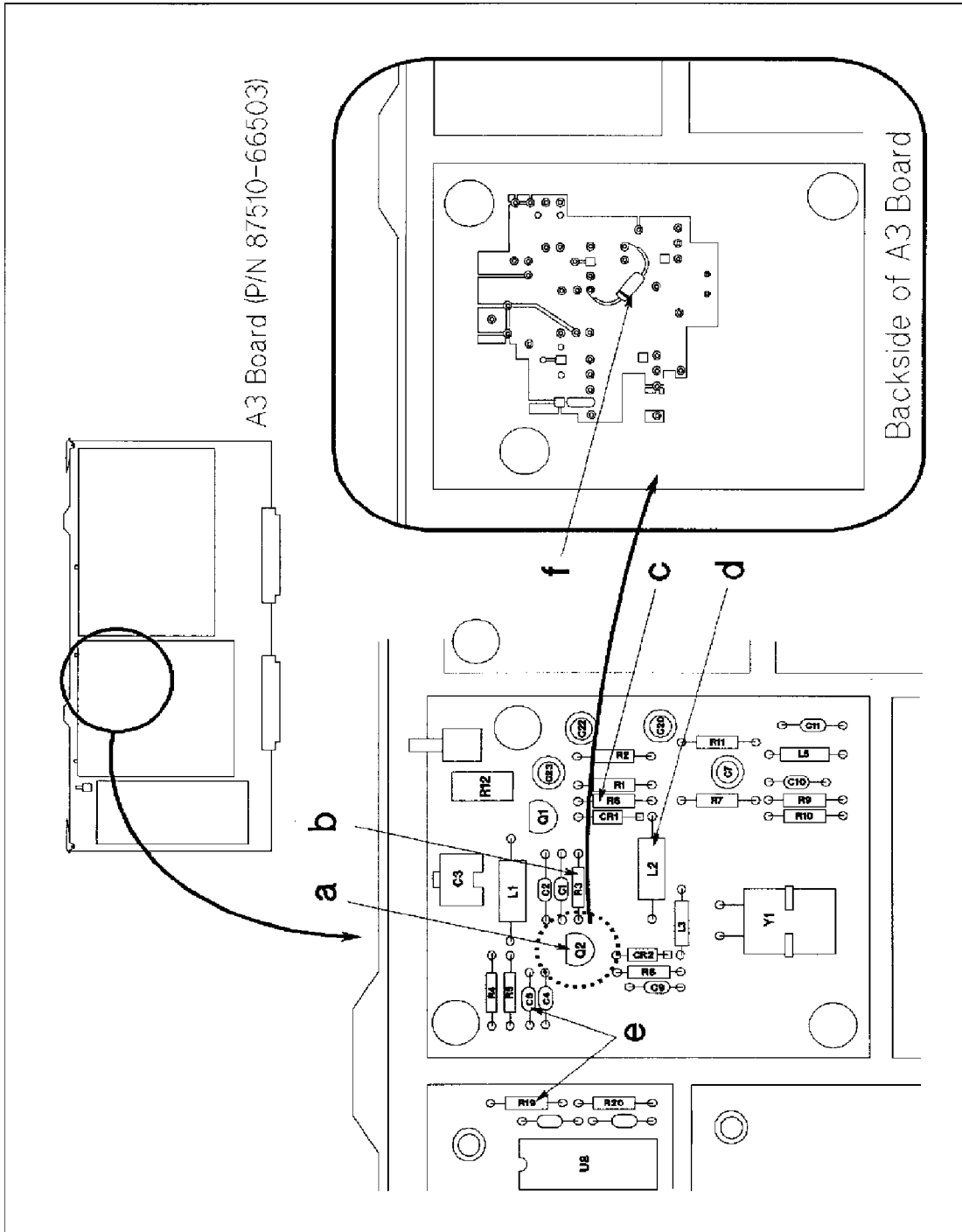


Figure 1. A3 Board Modification