

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

SUPERSEDES: NONE

**8360 Series Synthesized Sweeper****Serial numbers:**

This service note effects instruments with serial numbers below the serial numbers listed.

83620A - 0000A00000 / 3420A02333  
 83620B - 0000A00000 / 3614A00258  
 83622A - 0000A00000 / 3420A00368  
 83622B - 0000A00000 / 3614A00118  
 83623A - 0000A00000 / 3420A01381  
 83623B - 0000A00000 / 3614A00209  
 83623L - 0000A00000 / 3614A00127  
 83624A - 0000A00000 / 3420A00382  
 83624B - 0000A00000 / 3614A00122  
 83630A - 0000A00000 / 3420A00872  
 83630B - 0000A00000 / 3614A00178  
 83630L - 0000A00000 / 3614A00136  
 83640A - 0000A00000 / 3420A01198  
 83640B - 0000A00000 / 3614A00185  
 83640L - 0000A00000 / 3614A00151  
 83650A - 0000A00000 / 3420A00715  
 83650B - 0000A00000 / 3614A00159  
 83650L - 0000A00000 / 3614A00128

*Continued*

DATE: January 1997

## ADMINISTRATIVE INFORMATION

|                                 |                                                                                                                                             |                                                                                                                                      |                                                                                                                               |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| SERVICE NOTE CLASSIFICATION:    |                                                                                                                                             |                                                                                                                                      |                                                                                                                               |
| <b>MODIFICATION RECOMMENDED</b> |                                                                                                                                             |                                                                                                                                      |                                                                                                                               |
| ACTION CATEGORY:                | <input type="checkbox"/> IMMEDIATELY<br><input checked="" type="checkbox"/> ON SPECIFIED FAILURE<br><input type="checkbox"/> AGREEABLE TIME | STANDARDS:<br>LABOR 1.0 Hours                                                                                                        |                                                                                                                               |
| LOCATION CATEGORY:              | <input type="checkbox"/> CUSTOMER INSTALLABLE<br><input type="checkbox"/> ON-SITE<br><input checked="" type="checkbox"/> SERVICE CENTER     | SERVICE INVENTORY: <input type="checkbox"/> RETURN<br><input type="checkbox"/> SCRAP<br><input checked="" type="checkbox"/> SEE TEXT | USED PARTS: <input checked="" type="checkbox"/> RETURN<br><input type="checkbox"/> SCRAP<br><input type="checkbox"/> SEE TEXT |
| AVAILABILITY:                   | PRODUCT'S SUPPORT LIFE                                                                                                                      |                                                                                                                                      | AGILENT RESPONSIBLE UNTIL: January 1999                                                                                       |
| AUTHOR: DM                      | ENTITY: 5320                                                                                                                                | ADDITIONAL INFORMATION:                                                                                                              |                                                                                                                               |



**Duplicated Service Notes:**

83620A-02  
83620B-02  
83622A-02  
83622B-02  
83623A-02  
83623B-02  
83623L-02  
83624A-02  
83624B-02  
83630A-03  
83630B-02  
83630L-02  
83640A-02  
83640B-02  
83640L-02  
83650A-03  
83650B-02  
83650L-02

**Situation:**

An oscillation has been discovered on a few A38 Dual Modulators (5086-7602). The oscillations appear as a crossing spur between 16 GHz and 19 GHz above the specified spur level. The spur is a single sideband spur that moves in the opposite direction as the carrier. The spur is offset from the carrier between 0 to 200 MHz. The amount of offset changes the same amount the carrier frequency is tuned.

A small number of dual modulators have this problem. When the problem first occurred is not know. When the oscillation is present it occurs between 0 and 15 degrees C. In a very few cases the oscillation have occurred at room temperature. Our analysis indicates this is not a reliability problem and the oscillation will not get worse with time. Dual modulators are used in standalone models only.

**Solution/Action:**

This problem is difficult to verify. When the oscillation occurs at room temperature there is a chance to observe the spur. When the oscillation occurs below room temperature, it is next to impossible to observe the spur unless the instrument's temperature can be lowered to 0 degrees C. When the symptoms match those described and the problem occurs below room temperature, the recommendation is to spend up to 1 hour troubleshooting the problem at room temperature if the temperature can not be lowered, and if the problem can not be verified, replace the A38 Dual Modulator.

To verify the problem, set the source and analyzer to the following settings.

**Source:**

Frequency: 16 GHz CW  
Power Level: -10 dBm, attenuator uncoupled so  
ALC is at -10 dBm  
Frequency step size: 10 MHz

**Analyzer:**

Span : 200 MHz  
Resolution Bandwidth: 300 KHz  
Video Bandwidth: 30 KHz  
Center Frequency: 16 GHz  
Sweep Time: 2 sec.

Step the source's frequency up in 10 MHz steps, observing the noise floor for spurs. Periodically the signal analyzer center frequency will need to be changed to keep the waveform centered.