

INFORMATION ONLY – DOES NOT COMMUNICATE  
A MODIFICATION OR SAFETY CONDITION

**83630L-11**

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

Supersedes:  
None

## Agilent 83630L, 8360 Series Synthesized Sweeper

**Serial Numbers:** [0000A00000 / 9999Z99999]

**Testing the A24 Low Band ALC bandwidth switch.**

**Parts Required:**

| P/N  | Description | Qty. |
|------|-------------|------|
| None |             |      |

## ADMINISTRATIVE INFORMATION

|                                     |
|-------------------------------------|
| SERVICE NOTE CLASSIFICATION:        |
| <b>INFORMATION ONLY</b>             |
| AUTHOR: DMc      PRODUCT LINE: PL15 |
| ADDITIONAL INFORMATION:             |

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PRINTED IN U.S.A.

July 7, 2003



**Situation:**

In the A24 Low Band Output assembly, the ALC bandwidth can be switched to a narrower ALC bandwidth at lower frequencies and during AM and pulse modulation. A failure in the ALC bandwidth switch can result in lower output power or loss of output power.

**Solution/Action:**

To test for a failed A24 Low Band ALC bandwidth switch:

Set up:

1. Connect the source RF output to a signal analyzer input.
2. If source has option 002 installed, go to step 4, otherwise go to step 3.
3. Setup when testing an 836x without option 002:
  - a. 8360: Std  
CW: 500MHz  
Select: Mod, AM, Ext.\*  
Select: ALC, more/more, ALC BW MENU, High\*
  - b. Connect the 3325 or function generator output to the AM input on the 836x
  - c. 3325 or other function generator:  
Waveform: sine  
Frequency: 50kHz  
Amplitude: 212mv RMS  
DC Offset: 0V
4. Setup when testing an 836x with option 002:  
CW: 500MHz  
Select: Mod, AM, Int \*.  
Rate: 50 KHz  
Select: ALC,more/more, ALC BW MENU, High\*
5. Analyzer:  
Center Frequency: 100 MHz  
Span: 200kHz  
Marker: Center on 1<sup>st</sup> side band  
Marker: Delta
6. Toggle from High (default auto position) to Low on the 8360 Bandwidth selection. If the side band amplitude drops slightly, (<1.5 dB) the FET is ok. If the power drops >.8 dB the low band BW switch FET has failed and the low band circuit needs to be replaced.

Alternate method:

Perform the standard AM Accuracy test from the service manual.

Change the function generator frequency to a frequency of 5 kHz or greater. If the bandwidth selector switch is stuck in low, the accuracy of the modulation depth rolls off quickly above 3 kHz. At 5 kHz with a failed FET the depth will be less than 10%.

Action: If the 836x fails the test, replace the A24 low band assembly.