INFORMATION ONLY – DOES NOT COMMUNICATE
A MODIFICATION OR SAFETY CONDITION

83640L-12

S E R V I C E N O T E

Supersedes:
None

Agilent 83640L, 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:
INFORMATION ONLY
AUTHOR: DMc PRODUCT LINE: PL15
ADDITIONAL INFORMATION:

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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 1st 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.