

8590D-02

S E R V I C E N O T E

SUPERSEDES: None

HP 8590D Option R13 Spectrum Analyzer

Serial Numbers:

3308A00000 / 3310A99999
3313U00000 / 3313U99999

Counter-Lock Assembly modification to improve marker count stability under certain conditions.

Duplicate Service notes:

8591E-02
8593E-02
8594E-02
8595E-02
8596E-02

To Be Performed By: HP-Qualified Personnel only.

Parts Required:

HP Part No.	Qty.	Description
0160-4812	1	220 pf capacitor, C321
0698-7229	1	511 ohm Resistor, R313 Label
08591-60073	2	Label (Provided by the division)

Continued

DATE: 09 August 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	<input checked="" type="checkbox"/> IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS:	LABOR:2.0 Hours
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> HP LOCATION	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: PGS	ENTITY: 5300	RESPONSIBLE UNTIL :	01 July 1996
		ADDITIONAL INFORMATION:	



Situation:

Instruments which have the A25 Counter Lock Assembly with HP P/N 08591-60053 or 08591-60061 may experience non-stable marker count readings. These non-stable counts are a problem while using marker count on AM modulated signals in wide Resolution BW's. When counting AM modulated signals (like the visual carrier of a TV signal) we have un-wanted modulation (15.7KHz sync rate) on the VIDEO_IF signal being combined with the COUNTER 21.4MHz input signal.

Solution:

Add a high-pass filter circuit (corner freq of 1.4MHz) to the COUNT IF1 (Block M) circuit which blocks the unwanted low frequency modulation signal and allows the 21.4MHz to pass through with very little loss.

Removing the Instrument Cover

1. Unplug the spectrum analyzer from ac power source.
2. To prevent damage to the front panel, place a soft cloth or towel between the work surface and the front panel.
3. Carefully place the spectrum analyzer on the work surface with the front panel facing down.
4. Remove the four screws and washers attaching the instrument cover to the rear frame.
5. Unscrew, but do not remove, the four rear-feet screws using a 4-mm hex wrench.
6. Pull the instrument cover off toward the rear of the instrument.

Modification Procedure**WARNING**

Before disassembling the instrument, turn the power switch OFF and unplug the spectrum analyzer. Failure to unplug the spectrum analyzer can result in personal injury.

CAUTION

Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static-safe workstation.

Removal of the Counter-Lock Assembly

1. Reference the A25 Counter-Lock Assembly Removal procedure. The procedure is located in the section of Service Guide labeled "Replacing Major Assemblies" on pages 7-41 and 7-42.
2. Remove the screw securing the two halves of the casting. Separate the casting halves and place the assembly bottom side up on the work surface.
3. Refer to Figure 1. for the location of R103 and remove R103. Install C321 in place of R103 but do not solder at this time. Install R313 as shown in Figure 1. One lead will share a hole with C321 (just installed). The other lead will share a hole with C104 as shown.
4. Apply the label (08591-60073) over the old board number.
5. Apply a label (08591-60073) onto the rear panel for future reference.

Replacement of the A25 Counter-Lock Assembly

Reference the A25 Counter-Lock Assembly Replacement procedure. The procedure is located in the section of Service Guide labeled "Replacing Major Assemblies" on pages 7-41 and 7-42.

Adjustments

Adjustments to be performed after the modification of the Counter-lock assembly. After the spectrum analyzer has been turned on for 30 minutes, run the CAL FREQ and CAL AMPTD self-calibration routines.

10 MHz Reference (Standard)

Reference Section 2, test number 3. 10 MHz Reference in the HP 8590 D Series and E Series Service Guide, page 2-13.

10 MHz Reference (Precision)

No adjustment of the precision reference is required.

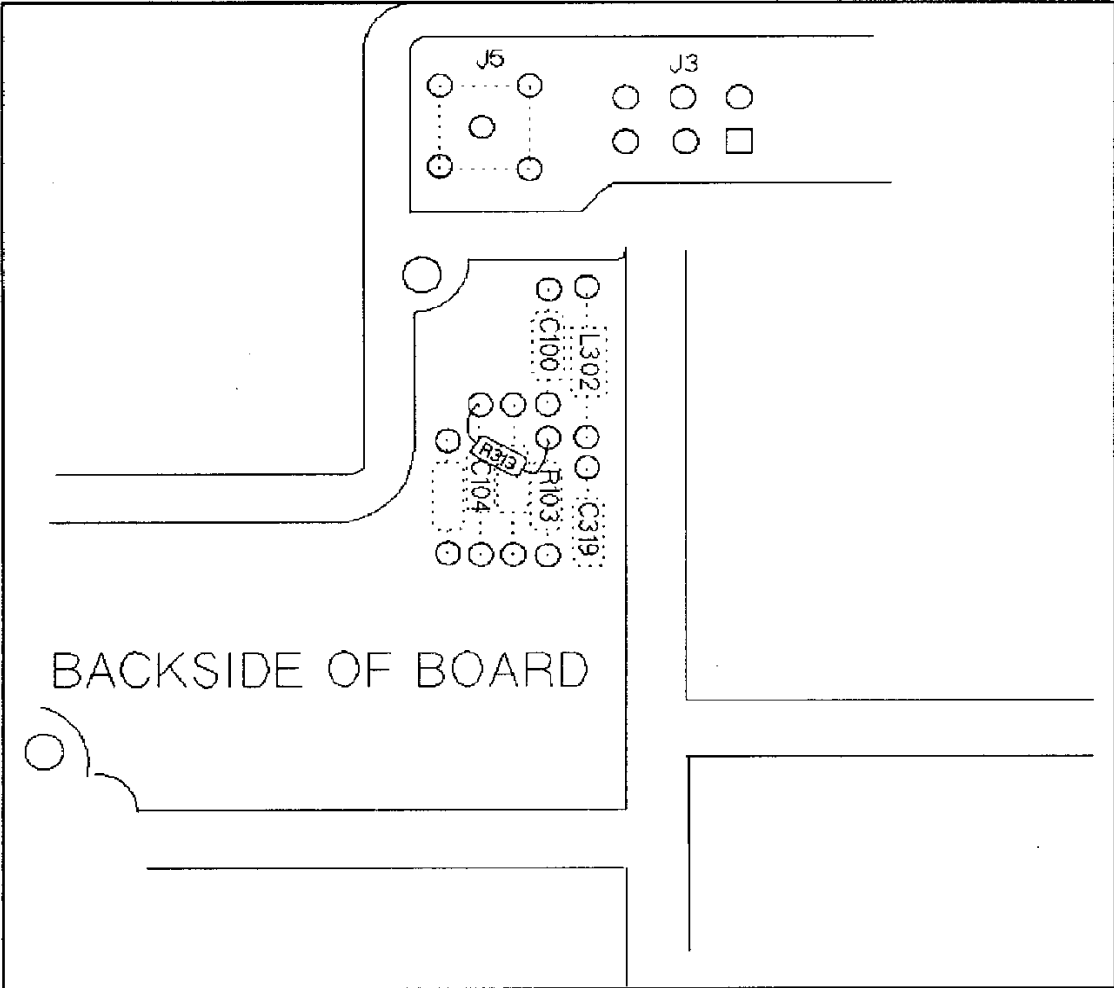


Figure 1. A25 Counter-Lock Assembly