

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

SUPERSEDES: NONE

**8591E Spectrum Analyzer**

Serial Numbers: 0000A00000 / 9999Z99999

**Increasing flatness data values improves performance****To Be Performed By:** Agilent-Qualified Personnel

A4 First Converter, part number 08590-60214

**Duplicate Service Notes:** 8590D-01, 85910E-01**Situation 1:**

The response has a small but abrupt resonance at about 60 MHz which cannot be completely removed by the flatness correction values at 41 MHz and 68 MHz. A 0.5 dB offset minimizes the positive and negative errors relative to the 300 MHz reference point.

**Situation 2:**

Older firmware used in the 8591E does not properly compensate for flatness correction values which are more negative than -1.3 dB in linear mode. Some clipping of the top of the signal will occur in linear mode at frequencies below 41 MHz. Analyzers with a firmware datecode newer than 27.10.92 are not affected.

*Continued*

DATE: December 1994

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

**INFORMATION ONLY**

AUTHOR:

PGS

ENTITY:

5300

ADDITIONAL INFORMATION:

**Solution:**

The Frequency Response (Flatness) correction value at 78 MHz should be increased by 0.5 dB. During the Frequency Response Adjustment Procedure found in the Service Manual, add 0.5 dB to the "Error Relative to 300 MHz" at 78 MHz only. (Column 2 of the Correction Table without Option 001. Column 5 of the Correction Table with Option 001).

Example:                      Error at 78 MHz relative to 300 MHz = -1.2 dB  
                                    Add 0.5 dB offset +0.5 dB

                                    Optimum correction value at 78 MHz = -0.7dB

**NOTE:**

If you request and reinstall the original factory calibration values, it is not necessary to add this additional 0.5 dB offset. The original factory calibration numbers always include this offset.