

8981A-03A

S E R V I C E N O T E

SUPERSEDES: 8981A-03

HP 8981A Vector Modulation Analyzer

Serial Numbers: 0000A00001/9999A99999

Duplicate Service Note: 8980A-03A

Delay Problems in Operator Check 3-40

Situation:

Figure 3-8 in the HP 8981A Operating Manual shows a typical waveform based on the setting of step 7 in Operator Check 3-40. Table 3-12 indicates that if your waveform does not begin on the negative edge then the possible defect is in the delay function. Step 7 incorrectly sets the HP 8981A. This will typically cause the waveform to be inverted and show the leading edge of the waveform to be off about 90 to 150 nS.

Continued

DATE: 15 August 1991

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

AUTHOR:	ENTITY:	ADDITIONAL INFORMATION:
FS	0400	

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Solution/Action

Correct step 7 as indicated here.

Below the line:

```
TRIG SOURCE,[INT I]
```

add the line:

```
TRIG LEVEL,[SLOPE], -
```

Correct Table 3-12 as indicated:

Change the line:

Waveform does not begin on the negative edge

to read:

Waveform does not begin within 0.25 major divisions of the negative edge.

The following is a partial explanation:

The delay of the I and Q channels is dependent on the variable timing generator circuit. The internal system calibrations optimize the timing ramp generator for operation of the entire instrument range. This optimization causes the measurement uncertainty in the first 90 to 250 nS of the baseline to increase. This increase in measurement uncertainty does not effect any of the published Specifications and is within the normal range of the Supplemental Timing Characteristics.

Details of this circuit can be found in section BD1, "Timing and Control Subsystems" and in BD3, "A9 TGEN" of the HP 8981A Service Manual.