Manual Supplement

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This supplement contains information necessary to ensure the accuracy of the above manual. Enter the corrections in the manual if either one of the following conditions exist:

1. The revision letter stamped on the indicated PCA is equal to or higher than that given with each change.
2. No revision letter is indicated at the beginning of the change.

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Change #1

On page 3-49, under table 3-23, replace the entire table with the following:

Period (s)	Measured Value (s)	Deviation (s)	1-Year Spec. (s)
5			1.4×10^{-4}
2			2.5×10^{-5}
0.05			1.4×10^{-7}
0.02			6.6E-9
0.01			3.3E-9
1.0×10^{-7}			33E-15
5.0×10^{-8}			16.5-15
50×10^{-8}			16.5E-9
2.0 x 1-$^{-8}$			6.6E-15
1.0×10^{-8}			3.3E-15
5.0×10^{-9}			1.65E-15
2.0×10^{-9}			660E-18

Change #2

On page 5-3, Table 5-1, replace the Rise Time with the following:

Edge Characteristics into 50 Ω		1-Year Absolute Uncertainty, tcal ± 5 °C
Rise Time	< 150 ps	+0/-50 ps

Change #3

On page 1-10, Table 1-5, replace the Frequency Characteristics with the following and add note 4:

Resolution	10 kHZ
1-Year Absolute Uncertainty, tcal ± 5 °C	± 0.33 ppm ± 0.4 Hz [4]
Note [4] As measured with a 1-second gate on a Fluke 6680B or equivalent.	

Change #4

On page 4-6, under Service Information, add the following:

4-6. Periodic Tests

Cables

Test the provided 5820A/5800A cables every 100 uses and replace cables after 5000 uses. Cables should be inspected for lose boots over cable and lose or weak crimps on the cable braiding outer shell. The test should verify that a gentle tug does not pull the cable apart. Resistance between shell and center should be greater than 100 MΩ. Resistance should be less than 0.3 Ω for either the center pin to center pin or BNC inner shell to N inner shell.

Channel Select Switches

Test the 5-channel select switches before every oscilloscope calibration. The test involves multiplexing all of the channels into the AUX channel and using a DMM to measure a short at the end of each cable (BNC female connector with wire solder between center pin and barrel works well). Check each channel five times (cycle through all five channels each cycle) for stable ohms measurement +/- 200 mΩ. Successive readings in a channel that vary by more than 200 mΩ indicate a bad channel. If the bad reading is occurring on all five channels, the SPDT AUX switch may be bad. If channel-1 or channel-5 is bad, the SPDT TRIGGER switches may be bad or the 5-channel select switch may be bad. If channel 2, 3 or 4 is bad, the 5-channel select switch is suspect. Replacing any switch will likely require 58XXA recalibration for the channels involved.

Clock Frequency

Check the clock frequency at every calibration. The 5820A should be set to Leveled Sine function at 10 MHz and adjustment should be made so that a Fluke 6680A or equivalent frequency counter measures 10 MHz +/- 1.0 Hz. Adjustment is made on R189 on the A55 board or on U60 on the A50 board. If adjustment is needed, the 5820A top cover can be removed to expose an adjustment hole located on the analog cover and adjacent to the A55 circuit board tab (top-center-right as you look from the front panel). Adjustment of U60 on the 5800 should be returned to the factory since the procedure requires placing the PCB on an extender card.

50 Ω Resistance Measurement

Check the 50-Ω resistance measurement once every two months. This can be done by measuring a 50-Ω +/- 1% resistor using a calibrated DMM like the Fluke 8840A or equivalent just prior to testing it with the 5820A. If the measurement is made within minutes of the DMM measurement, the measurements should agree within 0.1%. Only one channel needs to be measured.

Change #5

On page 5-3, Table 5-1,

Change:	Range (p-p)	250 mV
To:	Range (p-p)	250 – 300 mV

On page 5-6, add the following note under the heading ***Fast Edge Adjustment for the GHz Model***:

Note

All 5820A Calibrators shipped after serial number 8750001, and Calibrators sent in for installation or repair of the fast edge after October 1, 2004 have a new fast edge circuit that is factory set and requires no adjustment. The new fast edge has slightly larger amplitude (~300 mVpp) but the rise time meets all specifications. Unlike the previous fast edge, the product has no porch as was shown in Figure 5-2. Adjustment holes for the older product have been blocked.

Change #6

On page 3-29, Table 3-13, add the following to the bottom of the table:

50.00 mA @ 1Ω	45						0.125500
-50.00 mA @ 1Ω	45						0.125500
50.00 mA @ 1Ω	500						0.125500
-50.00 mA @ 1Ω	500						0.125500
50.00 mA @ 1Ω	1000						0.125500
-50.00 mA @ 1Ω	1000						0.125500
100 mA @ 1Ω	45						0.250500
-100 mA @ 1Ω	45						0.250500
100 mA @ 1Ω	500						0.250500
-100 mA @ 1Ω	500						0.250500
100 mA @ 1Ω	1000						0.250500
-100 mA @ 1Ω	1000						0.250500