

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.

Change #1

On page 8-9, replace Table 8-4 with the following:

Table 8-4. Time Marker Specifications

Time Marker into 50 Ω	5 s to 50 ms	20 ms to 100 ns	50 ns to 20 ns	10 ns	5 ns to 2 ns
1-Year Absolute Uncertainty at Cardinal Points, tcal $\pm 5^\circ\text{C}$ [3]	$\pm(25 + t * 1000)$ ppm [1]	± 2.5 ppm	± 2.5 ppm	± 2.5 ppm	± 2.5 ppm
Wave Shape	spike or square	spike, square, or 20%-pulse	spike or square	square or sine	sine
Typical Output Level	> 1 V p-p [2]	> 1 V p-p [2]	> 1 V p-p [2]	> 1 V p-p [2]	> 1 V p-p
Typical Jitter (rms)	<10 ppm	< 1 ppm	< 1 ppm	< 1 ppm	< 1 ppm
Sequence (cardinal points)	5-2-1 from 5 s to 2 ns (e.g., 500 ms, 200 ms, 100 ms)				
Adjustment Range	At least $\pm 10\%$ around each cardinal point.				
Amplitude Resolution	4 digits				
[1] t is the time in seconds. Examples: At 5 s the uncertainty is 5,025 ppm; At 50 ms the uncertainty is 75 ppm. [2] Typical rise time of square wave and 20%-pulse (20% duty cycle pulse) is < 1.5 ns. [3] Away from the cardinal points, add ± 50 ppm to uncertainty.					

On page 8-55, replace Table 8-30 with the following:

Table 8-30. Marker Generator Verification

Period (s)	Measured Value (s)	Deviation (s)	1-Year Spec. (s)
4.979 s			24.91E-3 s
2.002 s			4.06E-3 s
50.0 ms			3.75E-6 s
20.0 ms			50E-9 s
10.0 ms			25E-09 s
50.0 us			125E-12 s
20.0 us			50E-15 s
10.0 ns			25E-15 s
50.0 ns			125E-15 s
20.0 ns			50E-15 s
10.0 ns			25E-15 s
5.00 ns			12.5E-15 s
2.00 ns			5E-15 s

On page 8-63, replace the table in section 8-81, with the following:

Time Marker into 50 Ω	5 s to 100 μ s	50 μ s to 2 μ s	1 μ s to 20 ns	10 ns to 2 ns
1-Year Absolute Uncertainty, tcal \pm 5° C [3]	$\pm(25 + t*1000)$ ppm [1]	$\pm(25 + t*15,000)$ ppm [1]	± 25 ppm	± 25 ppm
Wave Shape	pulsed sawtooth	pulsed sawtooth	pulsed sawtooth	sine
Typical Output level	> 1 V pk	> 1 V pk	> 1 V pk	> 2 V p-p [2]
Sequence (cardinal points)	5-2-1 from 5 s to 2 ns (e.g., 500 ms, 200 ms, 100 ms)			
Adjustment Range	At least $\pm 10\%$ around each cardinal point.			
Resolution	4 digits			
[1] t is the time in seconds. Examples: At 5 s the uncertainty is 5,025 ppm; At 50 μ s the uncertainty is 25.75 ppm.				
[2] The 2 ns time marker is typically > 0.5 V p-p.				
[3] Away from the cardinal points, add ± 50 ppm to uncertainty.				

Change #2

On page 6-6, Table 6-1, under **Setup and Utility Commands**, add the following after ONTIME?:

PR_RPT	Prints the Storerd, Active, or CAL-Constant CAL_Report through either the HOST or UUT Serial Port.
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On page 6-30, add the following between **POWER?** and ***PUD**:

PR-PRT X IEEE X RS-232

Description: Prints a self-calibration report out the selection serial port.

- Parameters:
1. Type of report to print: **STORED, ACTIVE, OR CONSTS**
 2. Format of report: **PRINT** (designed to be read), **SPREAD** (designed to be loaded into a spreadsheet)
 3. Calibration interval to be used for instrument specification in the report: **I90D** (90 day spec), **I1Y** (1 year spec)
 4. Serial port through which to print: **HOST,UUT**

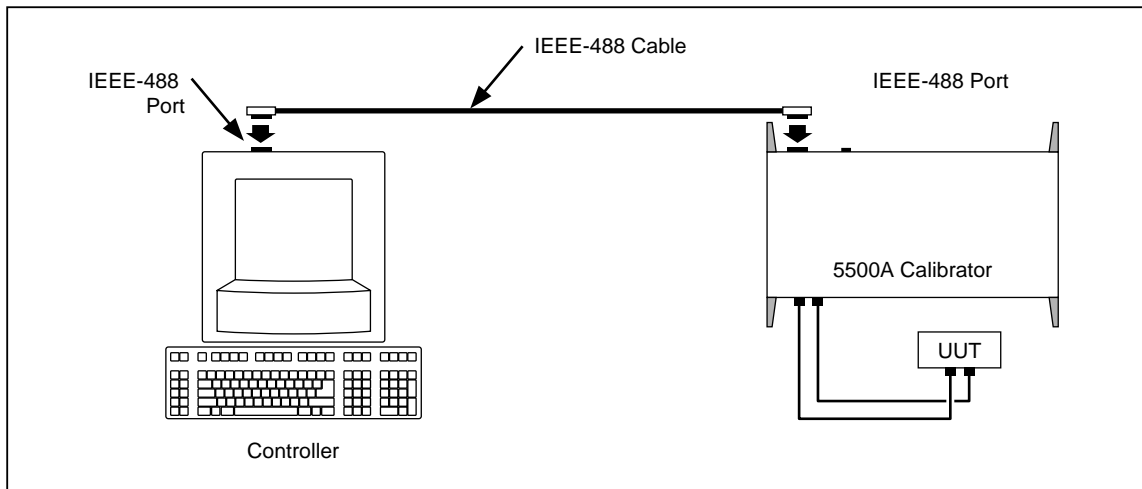
Example: **PR_PRT STORED, PRINT, I90D, HOST**

Change #3

On page's 5-8, 5-9, and 5-10, replace the entire **Testing the IEEE-488 Port** procedure with the following:

Testing the IEEE-488 Port

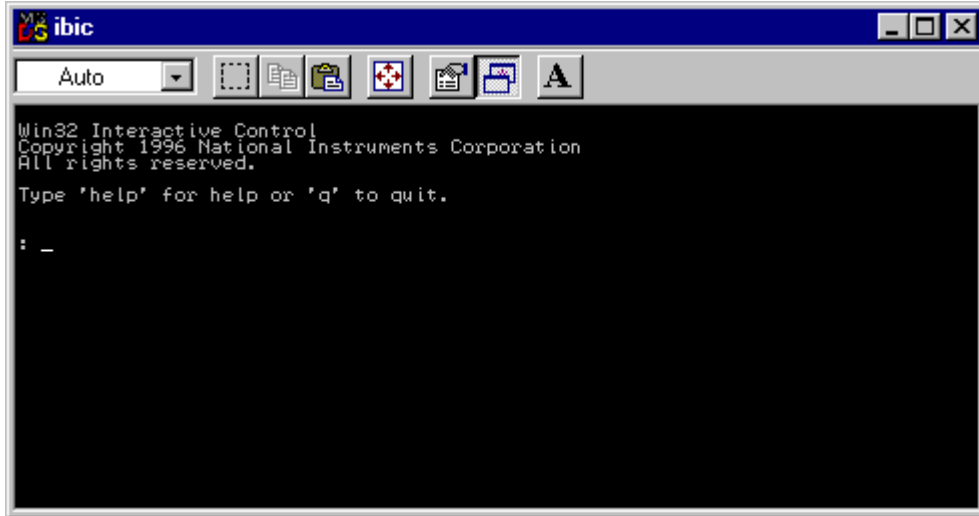
The procedure below tests IEEE-488 communications between the PC and the Calibrator using the Win32 Interactive Control utility. This utility is supplied with National Instruments interface cards for the PC, which are the recommended interfaces. (See Chapter 9, "Accessories.") A typical connection is shown in below:



F5-Oa.eps

Complete the following procedure to test IEEE-488 operation using Win32 Interactive Control:

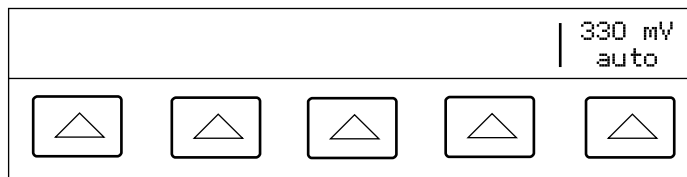
1. Complete the "IEEE-488 Port Setup Procedure" earlier in this chapter to set up the 5500A for GPIB operation. Note the GPIB Address Port (default is 4).
2. Connect the PC and 5500A IEEE-488 ports using a standard IEEE-488 cable. (See Chapter 9, "Accessories," for IEEE-488 cables available from Fluke.)
3. From the programs menu, select "NI-488.2M software for...(your operating system)".
4. From the NI488.2M software menu, select "Win32 interactive control".
5. A DOS window opens with a prompt as shown here:



6. At the prompt, type the following line to activate the IEEE interface card:


```
<ibdev 0 4 0 10 1 0>
```

 The second number in this line is the primary address of the calibrator. If the address has been changed from the factory default, change this line accordingly.
7. The prompt reads <ud0:>. From this prompt type <ibwrt "remote"> then press the ENTER (or RETURN) key.
8. Verify that the calibrator is now in remote control.
9. Select the Local command from the Control menu, then click OK in the Parameter Input Window. Observe the Calibrator Control Display changes back to the reset condition (below).



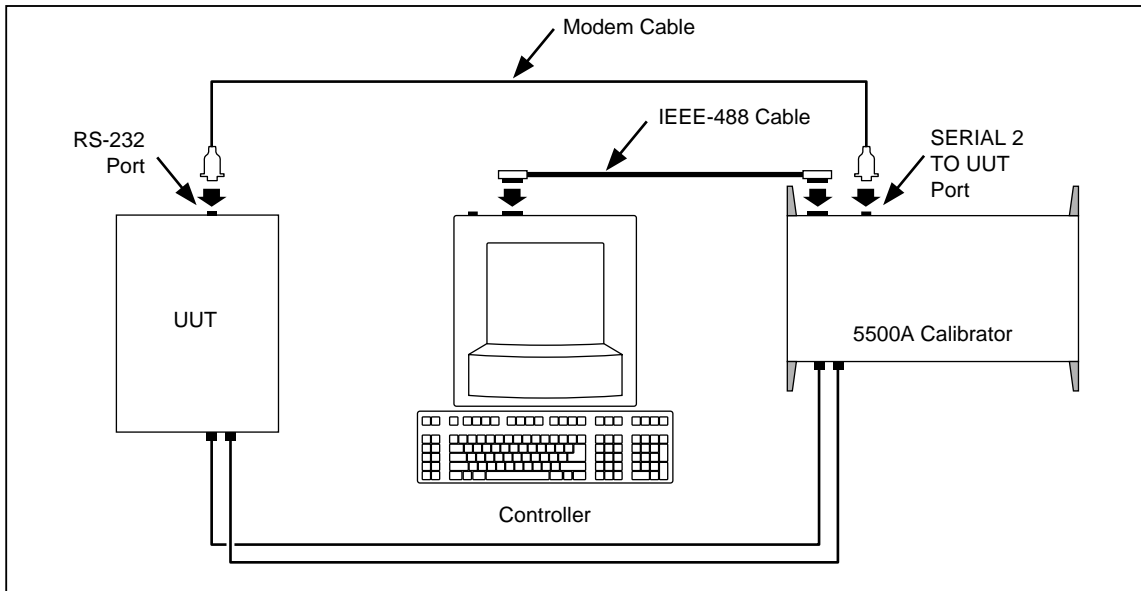
nn323f.eps

10. From the ud0: prompt, type <q> and then press the ENTER (or RETURN) key.

On page's 5-20, and 5-21, replace the entire **Testing the RS-232 UUT Port via IEEE-488 Port** procedure with the following:

Testing the RS-232 UUT Port via IEEE-488 Port

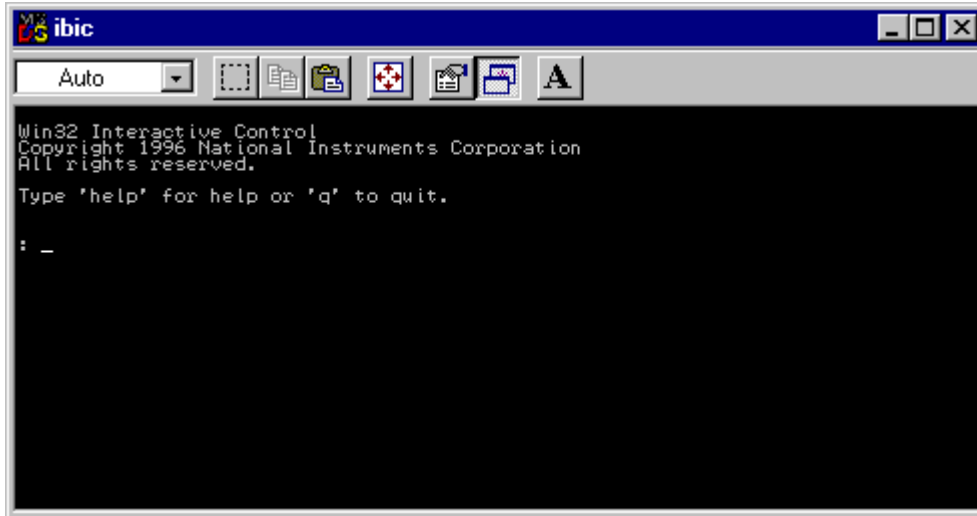
This procedure uses the Win32 Interactive Control utility supplied by National Instruments with the recommended interface cards. Connect the UUT, Calibrator, and PC as shown in the figure below. Note the use of a modem cable (NOT null modem) for the UUT connection.



F5-Oe.eps

Complete the following procedure to test RS-232 UUT port operation via the IEEE-488 port using the Win32 Interactive Control utility.

1. Complete the "IEEE-488 Port Setup Procedure" earlier in this chapter to set up the 5500A for GPIB operation.
2. Complete "Testing the IEEE-488 Port" to prepare the Calibrator IEEE-488 port for testing. Before the final step, return to this procedure and continue to Step 3 below.
3. Go to Start then to the Programs menu.
4. Select "NI-488.2M software for... (your operating system)".
5. From the NI488.2M software menu, select "Win32 interactive control".
6. A DOS window opens with a prompt as shown here:



7. At the prompt, type the following line to activate the IEEE interface card:

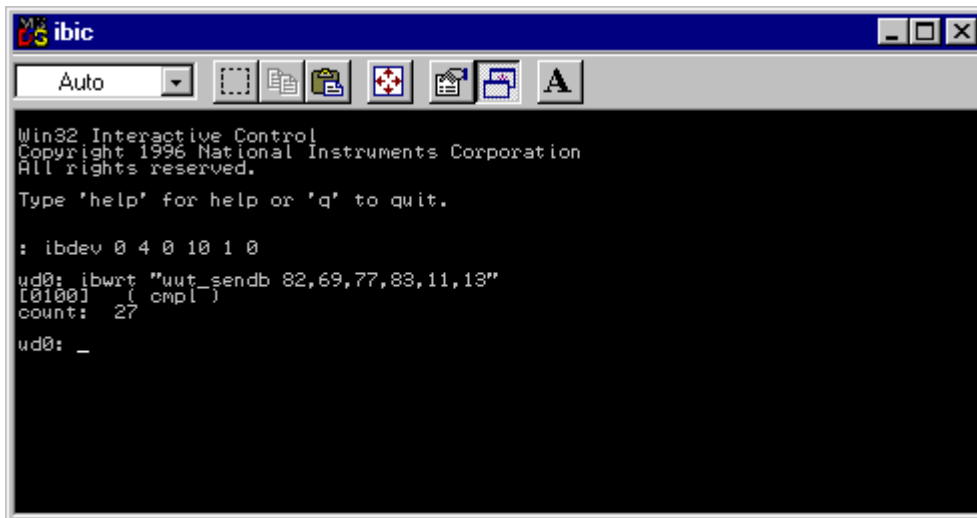
```
<ibdev 0 4 0 10 1 0>
```

The second number in this line is the primary address of the calibrator. If the address has been changed from the factory default, change this line accordingly.

8. The prompt reads <ud0:>. From this prompt, type

```
<ibwrt "uut_sendb 82,69,77,83,11,13">
```

9. Press the ENTER (or RETURN) key. This command will send REMS<CR><LF> to the UUT serial port. After the command is entered, the Win32 Interactive Control shows the status of the command. If an error is encountered, check the typing or consult the National Instruments manual regarding Win32 Interactive control. The count message is the amount of characters sent over the bus.



10. Verify that the UUT is in remote.

11. From the ud0: prompt type <q> then press the ENTER (or RETURN) key.

On page 9-3, Table 9-1, change the following entry,

From: 875609 IEEE-488 interface for PCEA (Ziatech ZT-1444A)
 To: 666339 MET/CAL-IEEE PCI
 664828 MET/CAL-IEEE NT

Delete the entire Appendix C.

Change #4

On page 1-6, under **Instruction Manuals 1-7**, delete the first bullet and delete the heading and text titled **5500 15-Minute Demo Guide 1-8**.

On page 1-13, under **AC Voltage (Sinewave) Specifications 1-19**, change the 1 year specification for the 33 to 329.999V and 330 to 1020V Ranges,

From:	6.6 mV	To:	6.6 mV
	15 μ V		15 mV
	33 μ V		33 mV
From:	80 mV	To:	80 mV
	100 μ V		100 mV
	500 μ V		500 mV

On page 2-3, Table 2-1, delete the following:

5500A Getting Started Guide 105780

On page 4-63, Table 4-6, change the following,

From:

K	-80.0°C	-89.0 \pm (0.8)	-128.2 \pm (1.4)
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To:

K	-80.0°C	-80.0 \pm (0.8)	-112.0 \pm (1.4)
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Change #5

On page 8-61, under **8-79. Other Edge Characteristics**, change the Rise Time specification,

From: ≤ 1 ns
 To: < 400 ps

Change the Leading Edge Aberrations specifications,

From: $< (2\% \text{ of output} + 2 \text{ mV})$
 To: $< (3\% \text{ of output} + 2 \text{ mV})$

On page 8-90, under **8-116. Edge Function Verifications**, make the following changes:

Change: **1-Year Spec. (ns)**
 To: **1-Year Spec. (ps)**

Change the entire column of **1-Year Spec. (ps)**,

From: 1.00
 To: 400