PCCtest 450 Application Note: Reducing Test Time with TESTCB

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There have been numerous requests from our customers to reduce the test time of the TESTCB application. The current application takes approximately 11 seconds per socket to test. The test program incorporates many software delays to insure that the software will work with a wide variety of host socket controllers and host systems. However, in most cases many of these delays are unnecessary. Beginning with version 2.07 of the TESTCB application the user will be given the option to reduce many of these delays through command line switches.

`Options Switch:`

Beginning with release 2.07 of the TESTCB software, a new command line switch allows the user to modify certain internal parameters. Future versions of software may have additional options to control certain parameters. The syntax of the new switch is as follows:

```
-mX:Y
```

With "-m" as the command, followed by a one or two-digit parameter number "XX" and an integer parameter "Y." The -mX:Y parameter can be placed anywhere on the command line after the TESTCB command. Several -mX:Y parameters may appear on the same command line.

`Parameter Description:`

`-m0:1` Enables test timer. Will printout the number of seconds that the TESTCB program takes to test a socket.

`-m1:1` Reduced data/address test enable. Data/Address pattern test reduced to a walking 1 and walking 0 pattern. (default is disabled)

`-m2:x` Specifies the settling delay for the VPP power supplies. When the Vpp tests are enabled (-tx option) the TESTCB will delay approximately 440ms after the Vpp levels are switched to allow the voltages to settle. In most case this settling time is much shorter. The user can specify the settling time in DOS timer ticks (55ms/tick). In most cases a setting of 2 (110ms) is acceptable.

`-m3:x` Specifies the delay between when the CardBus chip is initialized and the when the command to apply power is sent to the CardBus chip. The default value is 550ms. However, in most cases this can be reduced to 0.

`-m4:x` Specifies the delay between the power-on command to the chip and when the CardBus controller registers are initialized for testing. The default delay is approximately 2 seconds for TI and Ricoh controllers and 2.55 seconds for O2 controllers. In most cases this can be reduced to less than 1 second.

`-m5:x` Specifies the delay between the initialization of the controller registers to the beginning of the test. The default is 2 seconds. However, in most cases this can be reduced to 55ms (1).

Example:

The following examples show the possible test time improvement for a TI PCI1131 chip with the specified delay times:

Test 1: Normal operation with time display - 10.6 seconds
```
TESTCB -b61 -v -0 -m0:1
```

Test 2: Reducing the Address/Data pattern test - 9.8 seconds
```
TESTCB -b61 -v -0 -m0:1 -m1:1
```

Test 3: Reducing the power-on delays - 7.69 seconds
```
TESTCB -b61 -v -0 -m0:1 -m3:2 -M4:18 -M5:1
```

Test 4: Reducing the Address/Data pattern and power-on delays - 5.88 seconds
```
TESTCB -b61 -v -0 -m0:1 -m1:1 -m3:2 -M4:18 -M5:1
```