

|                   |  |                                   |  |                                      |                                  |
|-------------------|--|-----------------------------------|--|--------------------------------------|----------------------------------|
| 分類/Classification | <input type="checkbox"/> tDS                 | <input type="checkbox"/> tGW      | <input type="checkbox"/> PETL/tET/tPET | <input type="checkbox"/> DS/PDS/PPDS | <input type="checkbox"/> tM-752N |
|                   | <input checked="" type="checkbox"/> I/O Card | <input type="checkbox"/> VXC Card | <input type="checkbox"/> VxComm        | <input type="checkbox"/> Other       |                                  |
| 作者/Author         | Albert                                       | 日期/Date                           | 2015-09-04                             | 編號/No.                               | FAQ-010                          |

## Q: What is the DIO response time for PIO/-PEX-DIO Series cards?

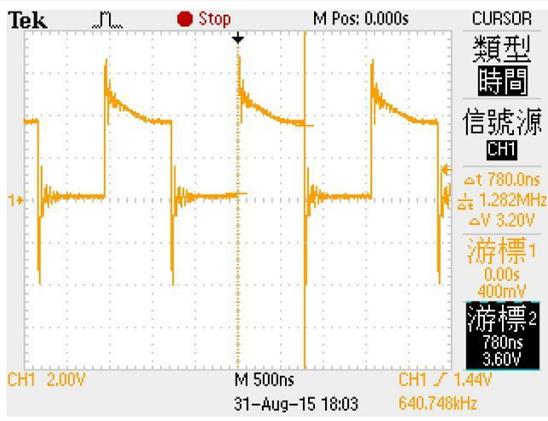
A: The I/O response time for PIO-DIO Series cards is about 1 microsecond when the frequency is around 1 MHz. The I/O response for PEX-DIO Series cards is about 2 microseconds when the frequency is around 500 kHz.

The test results depend on the system environments, such as the CPU speed and the operating system being used. A better response time may be achieved by using a faster CPU. The response time for the Digital Input is the same as for the Digital Output.

### Testing Environment Details:

|   |                        |                          |
|---|------------------------|--------------------------|
| Motherboard                             | CPU                    | RAM                      |
| SIMATIC IPC547eco                       | Core2Duo E5300 @2.6GHz | 1GB                      |
| Operating System                        | Oscilloscope           | Cards                    |
| Windows XP(SP3), DOS 6.2<br>VB6.0/BC3.1 | Tektronix TDS 2014B    | PIO/PEX-DIO Series Cards |

Testing the D/O response time for the PIO-D48U, no loop used.

|  |   |
|--|---|
| Program Code   | Test Results for the PIO-D48U   |
| OutputByte(Address, 0xFF)<br>OutputByte(Address, 0)<br><br>... x10 times           | DOS + BC3.1:<br>The TDS 2014B displays 1.28MHz.<br><br>Windows XP(SP3) + VB 6.0:<br>The TDS 2014B displays 1.11MHz. |
|  | Response time: The interval between the two Digital Output signals.   |

Testing the D/O response time for the PIO-D48U D/O, use loops.

| Program Code   | Test Results for the PIO-D48U  |
|--|--|
| <pre>For-Loop {   OutputByte(Address, 0xFF)   OutputByte(Address, 0) }</pre> | <p>DOS + BC3.1:<br/>The TDS 2014B displays 1.13MHz.</p> <p>Windows XP(SP3) + VB 6.0:<br/>The TDS 2014B displays 1.04MHz.</p> |

Testing the D/O response time for the PEX-D4, no loop used.

| Program Code  | Test Results for the PEX-D48   |
|---|--|
| <pre>OutputByte(Address, 0xFF) OutputByte(Address, 0) ... x10 times</pre> | <p>DOS + BC3.1:<br/>The TDS 2014B displays 555kHz.</p> <p>Windows XP(SP3) + VB 6.0:<br/>The TDS 2014B displays 510kHz.</p> |

Testing the D/O response time for the PEX-D4, use loops.

| Program Code   | Test Results for the PEX-D48   |
|--|--|
| <pre>For-Loop {   OutputByte(Address, 0xFF)   OutputByte(Address, 0) }</pre> | <p>DOS + BC3.1:<br/>The TDS 2014B displays 526kHz.</p> <p>Windows XP(SP3) + VB 6.0:<br/>The TDS 2014B displays 500kHz.</p> |

| PIO-DIO series cards | PEX-DIO series cards |
|----------------------|----------------------|
| PIO-D24U             | PEX-D24              |
| PIO-D56U             | PEX-D48              |
| PIO-D48U             | PEX-D56              |
| PIO-D48SU            | PEX-D96S             |
| PIO-D64U             | PEX-D144LS           |
| PIO-D96U             |                      |
| PIO-D96SU            |                      |
| PIO-D144U            |                      |
| PIO-D144LU           |                      |
| PIO-D168U            |                      |
| PIO-D64HU            |                      |