

Bear Technologies

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Section 1: Introduction

1. Product Feature

1.1. Test Mini PCI 32 Bit

2. Accessories

2.1. MINI-PCI 32 Test Card * 1

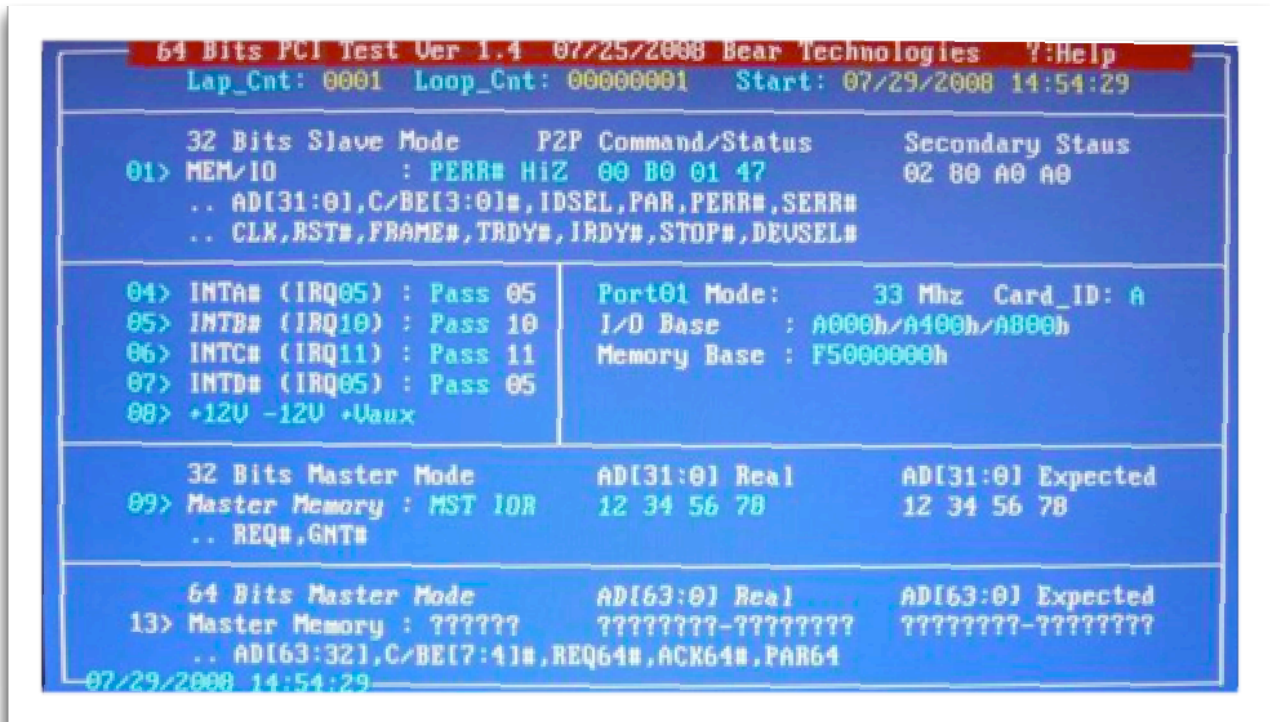


Section 2: Common Program Syntax

1-1> Filename: PCI64.COM

```
PCI64 [/1234][\6][\MS][\VS][\N][\P][\I][\IA][\IB][\IC][\ID]
[P2 .. P16][S][\PA][\SE][\PE][\K]
/1234 : Lap Count = 1234
\6 : 64 Bit MASTER SKIP
\MS : 32 Bit MASTER SKIP
\VS : 3.3V STB SKIP
\N : -12V SKIP
\P : +12V SKIP
\I : INTA/INTB/INTC/INTD SKIP
\IA : INTA TEST SKIP
\IB : INTB TEST SKIP
\IC : INTC TEST SKIP
\ID : INTD TEST SKIP
P2 : FOR PORT 2 TEST
P16 : FOR PORT 16 TEST
\K : ERROR LEVEL
A05 : SET INTA = IRQ5
B09 : SET INTB = IRQ9
C10 : SET INTC = IRQ10
D11 : SET INTD = IRQ11
\PA : PAR TEST SKIP
\SE : SERR TEST SKIP
\PE : PERR TEST SKIP
```

1-2> PCI64.COM Test ScreenShot



Section 3: Testing Principle

1. Functions

1.1. PCI 32 Bit Functional Test

1.1.1. Use PCI 32 Bit signal to conduct Read/Write tests to the PCI 32 Bit Chip designed by Bear Technologies.

1.2. Testing signals are as follows:

3.3V , 3.3V STB , AD[31:0] , CBE[4:0] , INTA# , INTB# , PCICLK , RST# ,FRAME# , IRDY# , TRDY# , STOP# , IDSEL# , DEVSEL# , PAR , REQ# , GNT# , PERR# , SERR#

2. Compatibility

2.1. Motherboards, IPC and server using MINI PCI 32 Bit.

3. Efficiency

3.1. The testing procedure only requires one program PCI64.COM to complete the full functional test from 1 to 16 PCI 32 Bits slots within "1 second".

4. Operating Procedure

- 4.1. Connect MINI-PCI32 Card to MINI PCI 32 Bit Slot
- 4.2. Boot up the system to DOS platform
- 4.3. Execute PCI64.com

Section 4: Test Results

1. Chipsets which have been tested

INTEL: ICH2
ICH4
ICH5
ICH6
ICH7
ICH8
ICH9
ICH9R (Server)
ICH10

NVIDIA: nForce2
nForce3
nForce4
CK804
MCP78

ATI: ULI M1575
SB600
SB700

SIS: 962
964
965

VIA: 8235
8237
8237R

2. Disconnection Test

a. INTA# Disconnection Scenario

```
64 Bits PCI Test Ver 1.3 07/03/2008 Bear Technologies ? : Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 03/01/2007 00:19:17

32 Bits Slave Mode AD[31:0] Real AD[31:0] Expected
01> MEM/IO : STOP# 76 54 32 10 76 54 32 10
.. AD[31:0],C/BE[3:0]#,IDSEL,PAR,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEUSEL#

04> INTA# (IRQ??) : ??? 05
05> INTB# (IRQ10) : Pass 10
06> INTC# (IRQ11) : Pass 11
07> INTD# (IRQ11) : Pass 11
08> +12V -12V +Uaux

Port01 Mode: 66 Mhz Card_ID: 0
I/O Base : 2800h/2400h/2000h
Memory Base : DE200000h

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST IOR 12 34 56 78 12 34 56 78
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : MST MEMR 01234567-89ABCDEF 01234567-89ABCDEF
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
03/01/2007 00:19:17 Error! ("Q" : Quit)
```

b. INTB# Disconnection Scenario

```
64 Bits PCI Test Ver 1.3 07/03/2008 Bear Technologies ? : Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 03/01/2007 00:22:46

32 Bits Slave Mode AD[31:0] Real AD[31:0] Expected
01> MEM/IO : STOP# 76 54 32 10 76 54 32 10
.. AD[31:0],C/BE[3:0]#,IDSEL,PAR,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEUSEL#

04> INTA# (IRQ05) : Pass 05
05> INTB# (IRQ??) : ??? 10
06> INTC# (IRQ11) : Pass 11
07> INTD# (IRQ11) : Pass 11
08> +12V -12V +Uaux

Port01 Mode: 66 Mhz Card_ID: 0
I/O Base : 2800h/2400h/2000h
Memory Base : DE200000h

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST IOR 12 34 56 78 12 34 56 78
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : MST MEMR 01234567-89ABCDEF 01234567-89ABCDEF
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
03/01/2007 00:22:46
```

c. REQ#, GNT Disconnection Scenario

```

64 Bits PCI Test Ver 1.3 07/03/2008 Bear Technologies ? : Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 03/01/2007 00:25:19

32 Bits Slave Mode AD[31:0] Real AD[31:0] Expected
01> MEM/IO : STOP# 76 54 32 10 76 54 32 10
.. AD[31:0],C/BE[3:0]#,IDSEL,PAR,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEVSEL#

04> INTA# (IRQ05) : Pass 05
05> INTB# (IRQ10) : Pass 10
06> INTC# (IRQ11) : Pass 11
07> INTD# (IRQ11) : Pass 11
08> +12V -12V +Vaux
Port01 Mode: 66 Mhz Card_ID: 0
I/O Base : 2800h/2400h/2000h
Memory Base : DE200000h

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST MEMR 00 00 00 00 78 9A BC DE
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : AD[63:32] 00000000-00000000 00000001-00000000
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
03/01/2007 00:25:19 Error! ("Q" : Quit)

```

d. RST#, IDSEL, DEVSEL#, IRDY#, TRDY#, PCICLK Disconnection Scenario

```

64 Bits PCI Test Ver 1.1 06/30/2008 Bear Technologies ? : Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 03/01/2007 04:08:37

32 Bits Slave Mode AD[31:0] Real AD[31:0] Expected
01> MEM/IO ????? : ??? ? ? ? ? ? ? ? ? ?
.. AD[31:0],C/BE[3:0]#,IDSEL,PAR,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEVSEL#

04> INTA# (IRQ??) : ??? ? ? ?
05> INTB# (IRQ??) : ??? ? ? ?
06> INTC# (IRQ??) : ??? ? ? ?
07> INTD# (IRQ??) : ??? ? ? ?
08> +12V -12V +Vaux
Port01 Mode: ???/??? Mhz Card_ID: ?
I/O Base : ???h/???h/???h
Memory Base : ???????h

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : ??? ? ? ? ? ? ? ? ? ?
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : ????? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
Error! ("0" : Quit)

```


e. STOP# Disconnection Scenario

```

64 Bits PCI Test Ver 1.3 07/03/2008 Bear Technologies ? : Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 03/01/2007 00:11:11

32 Bits Slave Mode AD[31:0] Real AD[31:0] Expected
01> MEM/IO STOP# 55 AA 55 AA 76 54 32 10
.. AD[31:0],C/BE[3:0]#,IDSEL,PAR,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEUSEL#

04> INTA# (IRQ05) : Pass 05 Port01 Mode: 33 Mhz Card_ID: 0
05> INTB# (IRQ10) : Pass 10 I/O Base : 2000h/2400h/2000h
06> INTC# (IRQ11) : Pass 11 Memory Base : DE200000h
07> INTD# (IRQ11) : Pass 11
08> +12V -12V +Vaux

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST IOR 12 34 56 78 12 34 56 78
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : MST MEMR 01234567-89ABCDEF 01234567-89ABCDEF
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
03/01/2007 00:11:11 Error! ("Q" : Quit)

```

f. PAR Disconnection Scenario

```

64 Bits PCI Test Ver 1.4 07/25/2008 Bear Technologies ? : Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 07/29/2008 14:52:54

32 Bits Slave Mode PAR Command/Status Secondary Staus
01> MEM/IO : PAR 00 B0 01 47 03 B0 A0 A0
.. AD[31:0],C/BE[3:0]#,IDSEL,PAR,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEUSEL#

04> INTA# (IRQ05) : Pass 05 Port01 Mode: 33 Mhz Card_ID: A
05> INTB# (IRQ10) : Pass 10 I/O Base : A000h/A400h/A800h
06> INTC# (IRQ11) : Pass 11 Memory Base : F5000000h
07> INTD# (IRQ05) : Pass 05
08> +12V -12V +Vaux

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST IOR 12 34 56 78 12 34 56 78
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : ?????? ?????????-????????? ?????????-?????????
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
07/29/2008 14:52:54 Error! ("Q" : Quit)

```

g. PERR# Disconnection Scenario

```

64 Bits PCI Test Ver 1.4 07/25/2008 Bear Technologies ? :Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 07/29/2008 14:56:11

32 Bits Slave Mode P2P Command/Status Secondary Staus
01> MEM/IO : PERR# LOW 00 B0 01 47 02 B0 A0 A0
.. AD[31:0],C/BE[3:0]#,IDSEL#,PAR#,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEUSEL#

04> INTA# (IRQ05) : Pass 05
05> INTB# (IRQ10) : Pass 10
06> INTC# (IRQ11) : Pass 11
07> INTD# (IRQ05) : Pass 05
08> +12V -12V +Vaux

Port01 Mode: 33 Mhz Card_ID: A
I/O Base : A000h/A400h/A800h
Memory Base : F5000000h

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST IOR 12 34 56 78 12 34 56 78
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : ?????? ?????????-????????? ?????????-?????????
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
07/29/2008 14:56:11 Error! ("0" : Quit)

```

h. SERR# Disconnection Scenario

```

64 Bits PCI Test Ver 1.4 07/25/2008 Bear Technologies ? :Help
Lap_Cnt: 0001 Loop_Cnt: 00000001 Start: 07/29/2008 14:57:33

32 Bits Slave Mode P2P Command/Status Secondary Staus
01> MEM/IO : SERR# LOW 00 B0 01 47 02 B0 A0 A0
.. AD[31:0],C/BE[3:0]#,IDSEL#,PAR#,PERR#,SERR#
.. CLK,RST#,FRAME#,TRDY#,IRDY#,STOP#,DEUSEL#

04> INTA# (IRQ05) : Pass 05
05> INTB# (IRQ10) : Pass 10
06> INTC# (IRQ11) : Pass 11
07> INTD# (IRQ05) : Pass 05
08> +12V -12V +Vaux

Port01 Mode: 33 Mhz Card_ID: A
I/O Base : A000h/A400h/A800h
Memory Base : F5000000h

32 Bits Master Mode AD[31:0] Real AD[31:0] Expected
09> Master Memory : MST IOR 12 34 56 78 12 34 56 78
.. REQ#,GNT#

64 Bits Master Mode AD[63:0] Real AD[63:0] Expected
13> Master Memory : ?????? ?????????-????????? ?????????-?????????
.. AD[63:32],C/BE[7:4]#,REQ64#,ACK64#,PAR64
07/29/2008 14:57:33 Error! ("0" : Quit)

```

Section 5: Support



Program updates and product related information can be viewed and downloaded at:

<http://www.beartech.com.tw>

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