Q. What is Card ID?

A.users can set Card ID to recognize sequence of card when users use two or more same model I/O cards.

Q. What the ICP DAS products support the Card ID function?

A. The support products are listed as the table below:

| Model name |
| --- |
| PIO-D24U/D56U<br>PEX-D24/D56 |
| PIO-D48U/PEX-D48 |
| PIO-D64U |
| PIO-D96U |
| PIO-D144U/D168U |
| PISO-C64U/P64U |
| PISO-<br>P32C32U/P32A32U/P32S32WU |
| PISO-730U/730AU |
| PISO-P16R16U<br>PEX-P8R8i/P16R16i |
| PISO-P8R8U |
| PIO-DA4U/DA8U/DA16U<br>PISO-DA4U/DA8U/DA16U |
| PEX-1002L/1002H |
| PCI-1202LU/1202HU |
| PCI-1602U/1602FU |
| PCI-1802LU/1802HU<br>PCI-1800LU/1800HU |
| PCI-822LU/826LU |

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Q. How to use CardID to access ICP DAS I/O Board on UniDAQ Driver/SDK?

A. The function Ixud_GetBoardNoByCardID (WORD *wBoardNo,DWORD dwModelNumber,WORD wCardID) in UniDAQ is provided for getting the configuration of a board through its CardID setting on SW1.

Ixud_GetBoardNoByCardID(WORD *wBoardNo, DWORD dwModelNumber, WORD wCardID)

wBoardNo: the parameter for storing the configuration of a board
dwModelNumber: the model number
wCardID: the CardID setting on SW1

For example, if you install 16 pcs of PISO-P32C32U board on a PC and each board is set with a unique CardID from 0 to 15 on SW1, the following code may help you to get the configuration of a board through its CardID:

```
Ixud_GetboardNoByCardID(&wCard0, PISOP32C32, 0);
Ixud_GetboardNoByCardID(&wCard1, PISOP32C32, 1);
Ixud_GetboardNoByCardID(&wCard2, PISOP32C32, 2);
…
Ixud_GetboardNoByCardID(&wCard15, PISOP32C32, 15);
```

Accessing the I/O board with the variable wCardx (wCard0, wCard1 and so on).

```
Ixud_ReadDI(wCard0, ... ); //Read the DI from SW1=0
Ixud_ReadDI(wCard1, ... ); //Read the DI from SW1=1
Ixud_ReadDI(wCard2, ... ); //Read the DI from SW1=2
…
Ixud_ReadDI(wCard15, ... ); //Read the DI from SW1=15
```

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Q. How to use CardID to access ICP DAS I/O Board on old Classic Driver/SDK?

A. You can call _Inp function to get CardID directly from hardware register on classic driver, or use the function for a specified model listed as below to get the Card ID:

| Model Name | Register offset |
|---|---|
| PIO-D24U/D56U<br>PEX-D24/D56 | wCardID = (PIODIO_InputByte(wBase+0xcc)>>3)&0xF; |
| PIO-D48U/PEX-D48 | wCardID = PIODIO_InputByte(wBase+0xF4)&0xF; |
| PIO-D64U | wCardID = PIODIO_InputByte(wBase+0xF4)&0xF; |
| PIO-D96U | wCardID = PIODIO_InputByte(wBase+0xFC)&0xF; |
| PIO-D144U/D168U | wCardID = PIODIO_InputByte (wBase+0xF0)&0xF; |
| PISO-C64U/P64U | wCardID = PISODIO_InputByte(wBase+0xF0)&0xF; |
| PISO-<br>P32C32U/P32A32U/P32S32WU | wCardID = PISODIO_InputByte(wBase+0xD0)&0xF; |
| PISO-730U/730AU | wCardID = PIODIO_InputByte (wBase+0xF0)&0xF; |
| PISO-P16R16U<br>PEX-P8R8i/P16R16i | wCardID = (PISODIO_InputByte(wBase+0x07)>>2)&0xF; |
| PISO-P8R8U | wCardID = (PISODIO_InputByte (wBase+0xF0)>>4)&0xF ; |
| PIO-DA4U/DA8U/DA16U<br>PISO-DA4U/DA8U/DA16U | wCardID = PIODA_InputByte(wBase+0xD4)&0xF; |
| PEX-1002L/1002H | wCardID = _inp(wBar2+0x2c)&0xF; |
| PCI-1202LU/1202HU | wCardID = _inp(wBar3+0x04)&0xF; |
| PCI-1602U/1602FU | wCardID = _inp(wBar3+0x04)&0xF; |
| PCI-1802LU/1802HU<br>PCI-1800LU/1800HU | wCardID = _inp(wBar3+0x04)&0xF; |
| PCI-822LU/826LU | Use the UniDAQ Driver/SDK to get Card ID |

For example, if 16 pieces of PISO-P32C32U board are installed on computer, and each board is set with a unique CardID from 0 to 15 on switch SW1, the following code will help you to get the necessary configuration like base address and CardID. You can store the base address in an array with CardID as the index, and then you may access the board easily as below:

```
Dim wCardID(0 to 15) as interger

'//Driver Init
 wRtn = PISODIO_DriverInit()

'//Search Card
PISODIO_SearchCard(wTotalBoards, PISO_P32C32)

'//Get Card ID
'Get board's Configuration Space
for i = 0 to wTotalBoards -1
```

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```
'//Get the Base Address
wRetVal = PISODIO_GetConfigAddressSpace( i, wBaseAddr, wIrq,  wSubVendor, wSubDevice,
SubAux,  wSlotBus, wSlotDevice)

'//Enable the DIO
PISODIO_OutputByte wBaseAddr, 1

'//Get Card ID
wCardIDIndex = PISODIO_InputByte(wBaseAddr + &HD0) And 0xF

'//Store the base address in the wCardID array with Card ID as the index
wCardID(wCardIDIndex) = wBaseAddr

Next


'//Write DO to SW1 = 0 (Card ID = 0)

PISODIO_OutputByte ( wCardID(0) + &HC0), i    '// Output channel  0- 7
PISODIO_OutputByte ( wCardID(0) + &HC4), i    '// Output channel  8-15
PISODIO_OutputByte ( wCardID(0) + &HC8), i    '// Output channel 16-23
PISODIO_OutputByte ( wCardID(0) + &HCC), i    '// Output channel 24-31


'//Write DO to SW1 = 15 (Card ID = 15)
PISODIO_OutputByte ( wCardID(15) + &HC0), i    '// Output channel  0- 7
PISODIO_OutputByte ( wCardID(15) + &HC4), i    '// Output channel  8-15
PISODIO_OutputByte ( wCardID(15) + &HC8), i    '// Output channel 16-23
PISODIO_OutputByte ( wCardID(15) + &HCC), i    '// Output channel 24-31
```

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