ULTIMET PCI: Technical notes

From EDI 3.00A and ComET 2.00A, the user can communicate with a ULTIMET PCI board

1. ULTIMET PCI driver version

Along the time, ULTIMET PCI driver has been upgraded. It's recommended to work with the latest version of the driver. Here is the history of the ULTIMET PCI drivers:

EDI version	ComET version	ULTIMET PCI driver version
3.00A	2.00A	9.10
3.11A	2.06A	10.21
3.16A, 4.00A	2.11A	11.10

2. Upgrading UltimET driver

Before upgrading the driver, No application must be connected to UltimET. It is advised to upgrade the driver on a fresh booted PC!

Upgrading on Windows 7 32 bits:

1. Right-click on the file "wdreg.exe" present of the ComET cd rom under the folder: «/driver/ultimet/pci/ Win2000-XP-Vista-Win7-32bits/Version <old version>» Choose Property->Compatibility and check the box "Execute this program as administrator"
2. Run the «uninstall_ultimet_pci.bat» file present of the ComET cd rom under the folder: «/driver/ultimet/pci/ Win2000-XP-Vista-Win7-32bits/Version <old version>». 4 times, Windows will display a message asking if you want to execute a program of an unknown provider. Click yes.
3. Right-click on the file "wdreg.exe" present of the ComET cd rom under the folder: «/driver/ultimet/pci/Win2000-XP-Win7-32bits/Version<new version>». Choose Property->Compatibility and check the box "Execute this program as administrator"
4. Run the «install_ultimet_pci.bat» file present of the ComET cd rom under the folder: «/driver/ultimet/pci/Win2000-XP-Win7-32bits/Version<new version>». Twice, Windows will display a message asking if you want to execute a program of an unknown provider. Click yes.

5. Windows then display a security message indicating that the provider of the driver is unknown.. Choose second option "Install this driver"

Upgrading on Windows 7 64 bits:

1. Right-click on the file "wdreg.exe" present of the ComET cd rom under the folder: «/driver/ultimet/pci/ Win7-64bits/Version <old version>» Choose Property->Compatibility and check the box "Execute this program as administrator"
2. Run the «uninstall_ultimet_pci.bat» file present of the ComET cd rom under the folder: «/driver/ultimet/pci/ WinWin7-64bits/Version <old version>». 4 times, Windows will display a message asking if you want to execute a program of an unknown provider. Click yes.
3. Right-click on the file "wdreg.exe" present of the ComET cd rom under the folder: «/driver/ultimet/pci/Win7-64bits/Version<new version>». Choose Property->Compatibility and check the box "Execute this program as administrator"
4. Run the «install_ultimet_pci.bat» file present of the ComET cd rom under the folder: «/driver/ultimet/pci/Win7-64bits/Version<new version>». Twice, Windows will display a message asking if you want to execute a program of an unknown provider. Click yes.
5. Windows then display a security message indicating that the provider of the driver is unknown.. Choose second option "Install this driver"

Upgrading on Windows 2000,XP and VISTA:

1. Uninstall the old driver :
   Run the "**uninstall_ultimet_pci.bat**" file of the ComET cd rom under the folder: «/Driver/UltimET/PCI/ Win2000-XP-Vista-Win7-32bits/Version<old version>».
2. Install the new version by running the «install_ultimet_pci.bat» file of the ComET cd rom under the folder: «/Driver/UltimET/PCI/ Win2000-XP-Vista-Win7-32bits/Version<new version> ». This script installs the needed files in the windows drivers architecture allowing the automatic detection of the UltimET light PCI hardware

3.   Installing UltimET PCI on Windows

ULTIMET PCI can be installed on Windows 2000, XP, VISTA and Windows 7, **32 bits operating systems**.
From EDI 3.10A and ComET 2.05A, UltimET is also available for Windows 7 64 bits

Installation on Windows 7:

1. Right-click on the file "wdreg.exe" present of the ComET cd rom under the folder: «/driver/ultimet/pci/Win2000-XP-Win7-32bits/Version<version>» or «/driver/ultimet/pci/Win7-64bits/Version<version>». Choose Property->Compatibility and check the box "Execute this program as administrator"
2. Run the «install_ultimet_pci.bat» file present of the ComET cd rom under the folder: «/driver/ultimet/pci/Win2000-XP-Win7-32bits/Version<version>» or

«/driver/ultimet/pci/Win7-64bits/Version<version>». Twice, Windows will display a message asking if you want to execute a program of an unknown provider. Click yes.
3. Windows then display a security message indicating that the provider of the driver is unknown.. Choose second option "Install this driver"
4. Shut the PC down
5. Insert the UltimET light PCI into a free PCI slot
6. Restart the PC
7. Windows will detect the new hardware

Installation on Windows 2000,XP and VISTA:

1. Run the «install_ultimet_pci.bat» file present of the ComET cd rom under the folder: «/Driver/UltimET/PCI/Win2000-XP-Win7-32bits/Version<version> ». This script installs the needed files in the windows drivers architecture allowing the automatic detection of the UltimET light PCI hardware
2. Shut the PC down
3. Insert the UltimET light PCI into a free PCI slot
4. Restart the PC
5. Windows will detect the new hardware
6. In the opening window, choose the automatic installation of the driver and click on next
7. Let Windows find the drivers and install them

4. Installing UltimET PCI on Windows RTX

(From EDI 3.03A)

If the UltimET is not installed in your PC, install it first as if you will use it for windows (See Step 1)
If the UltimET is already installed and run on your PC, you only need to upgrade the driver with the RTX driver:

1. Go to the control panel
2. Choose the 'System' folder
1. Choose the 'Hardware' tab
2. Select the 'Device Manager' button
3. Choose the JUNGO boards in the list
4. Click with right button on the UltimET-light PCI board and choose the 'Properties' menu
5. Choose the 'Driver' tab and select the 'Update Driver' button
6. When the assistant starts, press 'Next' and choose the 'Display the list of available drivers…' option
7. After that, choose to install from a 'provided disk'
8. Put your EDI CD (version 3.07A or greater), or your ComET CD (version 2.03B or greater) and select the directory: driver\ultimet\pci\RTX…
9. Press twice on 'Next'.
10. Windows will install the needed driver. In some cases, Windows will give a message indicating that your PC must be restarted.

RTX cannot share the interrupts between PCI boards driven by Windows and PCI boards driven by RTX. You must also choose an interrupt that is exclusively used by the RTX board.

To use EDI, RTX TCP/IP stack must be started, even you do not use TCP/IP connection.
To avoid error message, you have to specify a configuration file without any Ethernet board configured.

> Example of RTX configuration file without any TCP/IP board :

```
[TCP/IP]
MemoryInK=256
TickInterval=200
MaxSockets=30
TimerPriority=66
NumStartupEvents=50
NumOfInterfaces=0
```

5.   Opening UltimET PCI

By opening the UltimET PCI, it is possible to specify some opening-flags.
The general syntax, when opening an EDI driver is:

> dsa_open_u(DSA_DEVICE *dev, char_cp url);

The parameter « url » specifies the type of driver to be used and has the following general syntax:

> **etb :** <driver> **:**<axis>

For an UltimET, the driver has the following syntax:

> **ULTIMET** [,r]

> optional flags :
> > r   specify that the ULTIMET itself will be reset

Examples :

> Opening drive 0 connected to an UltimET :

> > ```
> > DSA_DRIVE *drv = NULL;
> > int err;
> >
> > if (err = dsa_create_drive(&drv))
> >   goto _error;
> > if (err = dsa_open(drv, "etb:ULTIMET:0");
> >   goto _error;
> > ```

> Opening UltimET PCI itself and resetting it:

```
DSA_DSMAX *dsm = NULL;
int err;

if (err = dsa_create_dsmax(&dsm))
        goto _error;
if (err = dsa_open(dsm, "etb:ULTIMET,r:*");
        goto _error;
```