

## **Windows NT to Windows XP migration, and installation of Vdaq 2.4 under XP**

**Applies to:** Imager 3001 systems on Windows NT, running Vdaq 2.1 or older.  
**Does NOT apply to:** Imager 3001 systems already running under Windows XP  
Imager 2001 systems.

### **Why Windows XP?**

Windows XP, apart from being more “user friendly”, offers generic support for new devices, such as USB and FireWire ports. These ports are useful for connecting external storage devices and make it easier to backup and transfer data.

XP is supported from Vdaq version 2.4 and up.

### **Should I Migrate?**

In short, no.

Migrating to a new Windows operating system is a major change. All aspects should be considered before undertaking this task. It is not a simple process, and should be performed by advanced Windows users.

- **Risk:**

Although the process should run smoothly, something can always go wrong, and it usually does (Murphy’s law). Take this into account and make sure you have a backup you can go back to if disaster strikes. Even with a backup, it takes time to get the system back to a working state. Plan accordingly.

### **Should I upgrade my motherboard?**

Your current imager 3001 PC should work with XP, minding the performance issues mentioned above.

The motherboard currently in your system was tested and proved to be working with the camera grabbers used in your system. Many other motherboards have failed the test.

Upgrading your motherboard is therefore not recommended and not supported by OI

If you experience any performance issues after upgrading, please contact optical imaging support (kaare Christian) for updated information about supported platforms.

**Should I upgrade my memory?**

Now would be a good time to do so. We suggest at least 1GB of RAM for imaging computers. If you have less, or would like to assign more than 256MB to XP, get more RAM.

Before you buy more RAM, make sure you know how much ram you have, how many slots it occupies and how much more you can add. Use Intel's support site to get this information. Notice: The D845WNL motherboard used in most Imager 3001 NT systems uses PC133 SDRAM.

**Upgrade Windows NT or install a clean Windows XP?**

The decision to upgrade or use a clean install should be taken after careful consideration:

- Upgrading is a simpler process, but a potentially dangerous one: if something goes wrong, it is not always possible to go back to the old version. Make sure you back up everything before you begin the upgrade process.
- A clean install is a bit more complicated, but if a new disk or partition is used to install XP, you can keep your old NT installation as a backup.

**Down Time:**

Assuming you choose to get a new disk and install XP from scratch, if everything goes as planned, you should be up and running in one day. If not... it might take longer.

It is recommended to back up the raid drive to make sure you do not loose important information in case something goes wrong. This process can take some time and lead to more down time, depending on the size of the data that needs to be backed up and the media you use for backup.

**Support:**

Optical imaging will not be responsible for any change made to the system's computer or operating system. Migrating to XP is your decision and your responsibility.

However, our support personnel will be glad to help using this guide and if necessary, by phone (contact Kaare Christian), to make the process easier.

**Avoiding risks and long downtime:**

Optical imaging recommends the following steps to assure a safe migration and short downtime:

- Get a new IDE disk for the new XP installation.
- Back up your raid drive and all other volumes.
- Take the NT boot disk out of the PC and keep it in a safe place. If something goes wrong you can always take the new disk out, put the old one back in and boot to your old NT installation.
- DO NOT under any circumstance leave the NT boot disk in the PC as a secondary disk! It might not boot later if you do.
- Disconnect the RAID drive by pulling the raid controller itself out of its slot.
- After you install XP, re-install the raid drive
- When XP and the raid drive are working – follow the instructions to install Vdaq and all necessary drivers.

**Installation process:****You will need:**

- “Windows XP professional” installation CD
- An IDE CD-ROM (if your Imager does not have one installed).
- All drivers in the “[NT to XP](#)” [table on OI’s download page](#).
  - MIL 7.5 ([get a CD from OI](#) or [download](#))
  - NIdaq drivers. (use the CD supplied with the system or [download](#))
  - Promise raid drivers. Usually TX2000. [Download](#)
  - If you are using a Hasp (hardware key), you will need a driver. [Download](#), or [contact Kaare Christian](#) for a software key.
  - It is optional, but recommended, to install the latest drivers for your hardware: ATI VGA board and motherboard drivers. [Download](#).
- [Download Vdaq 2.4](#).

**Pre-install:**

- Make sure the current system is working well.
- Run Vdaq reg, and if possible save all settings into a file. If that's not possible (older Vdaq reg) then write down all settings.
- Run National Instrument NI-max utility and write down your NI board model and serial number.
- Call OI support and get a software key number from Kaare Christian.
- Make a note of the DMA setup - how many MB for the operating system, how many for MIL, and how many total. XP will need 256MB, so they will have to change accordingly.
- Save the file Vdaqreg.new, if you have one.
- Preserve the stim protocols.ini file, if you have any custom protocols.
- Save the cameras.ccf file, if you have created any custom cameras.
- Save adaq.ini, if you are using adaq. Put all these on a floppy or cdrom.
- Make sure you have Nidaq 6.9 or later, MIL 7.5 and Vdaq 2.3 available.
- To be on the safe side, backup all data files, including files on the RAID drives. Although Windows XP will work well with your raid, connecting and disconnecting the drives and raid controller as required during the setup is potentially hazardous

**Clean XP Install: (Recommended).**

*If you prefer to upgrade, skip to “Upgrade”*

1. Get a new IDE drive (40GB and up).
2. Turn off your PC and open the cover.
3. Identify the Boot disk: The boot disk is the one connected to the motherboard.  
In case there are several disks connected to the motherboard, the boot drive is usually the one connected to the primary IDE channel, as the master.
4. Take the boot disk out. (make sure it's the boot disk by trying to boot the pc)
5. Disconnect the raid controller. (the card with two drives cables connected to it)
6. Install the new IDE drive.
7. Install a CD drive for the installation. (You can remove it later)
8. Insert the Windows XP professional CD in the drive and follow the installation instructions.

**Upgrade:**

*If you chose to do the clean installation, skip this stage.*

1. Back up your NT installation.
2. Uninstall Vdaq, MIL = Matrox Imaging Library (and GNL = Genesis native library), WinMix and NIdaq (National Instruments drivers)
3. Check the size of your boot partition. If its 4GB or smaller, or you have less then 2GB free, do not try to upgrade! Get a new disk and clean-install.
4. Insert the Windows XP professional CD to the drive, and from within Windows NT run the upgrade program. Follow the upgrade instructions.

**After XP is installed:**

1. When XP finishes its main installation process, it might boot into a black screen. It can happen if you system is 3001 /V or /D. These systems use a “Matrox Genesis” board that has onboard VGA. When XP boots for the first time, it thinks it is the main display board.

*If you experience a reboot into a black screen, follow the following steps:*

- Do not switch the PC off!
  - Disconnect the VGA monitor cable from the ATI AGP VGA board (your default VGA out) and connect it to the genesis VGA.
  - At this point you should see the XP “lets configure your computer” welcome screen. Finish this step.
  - Right click your mouse anywhere on the desktop, and click properties.
  - Select the “settings” tab.
  - Click on “advanced”
  - Select the “adapter” tab.
  - Click on “properties”
  - Change device usage to “do not use this device” from the dropdown menu.
  - Press OK to accept the changes.
  - Your PC will ask you to boot. Click OK, and move the VGA cable back to the original ATI AGP VGA board.
  - Windows should now boot normally.
2. Make sure you have all the drivers ready. (you can find them on the OI download page)
  3. Optional: Install the motherboard drivers.
  4. Go to [Windowsupdate.microsoft.com](http://Windowsupdate.microsoft.com) and install all the latest patches.
  5. Turn off the PC and re-install the raid controller – write down the raid controller’s model number.
  6. Install the updated raid drivers from “promise” web site.
  7. Optional (recommended): Install updated ATI (VGA board) drivers.
  8. Install National instruments drivers: (NIdaq 6.9 and up)
  9. Run the NI-max utility and make sure you can see the NI board under the devices tab. If you don’t have your software key number yet, Write down the board's type and serial number, it will be required later to get a software key based on that serial. Sometimes you have to refresh to see the board; sometimes you have to reboot.
  10. If you need to add memory, install it now.
  11. Install Matrox imaging libraries & drivers:  
*This step is tricky. Follow the instructions carefully. Use the default setting unless instructed to do otherwise.*

- Extract the MIL 7.5 (31MB) file you downloaded from the OI download page to a folder of your choice.
  - Run setup.
  - From the main setup window, in the “Redistribution” frame, select to Install MIL, and press “continue”.
  - When requested to select the boards, select both Genesis-Ic and Meteor II Digital.
  - You will get an error message about MGI setup, press OK.
  - Press OK when asked to Install GNL. (genesis native libraries).
  - Installed devices: select “genesis LC” and “meteor II dig”.
  - When it asked about DMA memory, select “custom” setting, and enter the following calculated memory amount: Total computer memory (usually 1024MB) – 256MB required for XP = 768MB.
  - If you have more memory, you can assign more to XP or MIL, and calculate accordingly.
  - Finish the installation and reboot as required.
12. Install Vdaq
13. Run Vdaqreg and set the fields to match the info you backed up from the old installation.
- In Vdaq reg, select the 'general' item on the left hand tree, and carefully type the 4 letters 'h a s p'.
  - Go to the Lab Interface page and select 'PRN-WinIO'. Press the 'Test WinIO' button make sure the initialization is successful.
  - Go to the Vdaq page.
  - you have a /F or a /D system, select 'NI Serial' as the Type of key, select 'PCI-6601 as the NI Board ID, and then enter the serial number you got from the NI Measurement and Automation (NI-MAX) utility, and enter the software key you got from Kaare Christian.
  - If you have a /V system, select Motherboard Serial for the key type, let Vdaq Reg fill in the Motherboard serial field (you may have to restart vdaq reg for this to happen) and then enter the Motherboard Key for this serial that was supplied by Kaare Christian.
14. Run Vdaq and test it.
15. Install the latest WinMix and WinMix utils.
16. Restore all your backed-up files: stimprotocosl.cfg, adaq.ini, cameras.ccf and merge them into the newly installed files, as necessary.