



Leica Technical Guide

Application Solutions for
Image Analysis



Leica Technical Guide

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Leica
MICROSYSTEMS

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Chapter One: General Information

Chapter Overview

This chapter contains the following topics:

- ◆ Introduction
- ◆ Style Reference
- ◆ Delivery and Installation of the Leica Imaging Workstations

Introduction

The Leica Imaging Workstations are based around Leica software applications running on a high specification PC. Within this framework there are many different configurations and options which are available to tailor the systems to your specific needs. Therefore this guide will show other possible configurations besides your own.

Style Reference

The following conventions have been used to make this manual easier to read:

Menus	FILE (bold, capitals).
Menu Commands/ Buttons/ Dialogs	Open, OK (bold).
References	<i>Chapter 1</i> (italics).
Notes, Tips, Warnings, References and Instructions	Appear as follows and contain additional information



Note: Additional information that should be noted.



Refer to: References to other relevant material.



Tip: Tips to help you use to use the program more productively.



WARNING: Important information to which you should pay careful attention.



One Step instructions: Operations that can be performed in a single step.



Step-by-step instructions: numbered instructional steps.

Information that only applies in certain situations is enclosed in boxes.

Delivery and Installation of the Leica Imaging Workstations

Unpacking Your System

The first thing you should see when unpacking your system are the *Advice Notes*. These contain the details of the shipment.



Note: Please compare the items in this note with the individual items as you unpack them. We recommend that you keep a copy of this document with the manuals, so that you have full details of the date and scope of delivery, should you wish to contact the Leica Support Team. Make sure that no small parts, especially dongles or cables, are left in the packaging. To ensure you have all of the items required do not dispose of the packaging material until you are happy that the system is working correctly.

The system is fully configured and tested in the factory and should arrive in full working order. Carefully remove it from the packing material. Place it in a clean working environment suitable for a PC, away from vibration, direct sunlight and major temperature deviations.

Safety



WARNING: For your own safety and the correct operation of the system please note the following advice and warnings:

- ◆ Make sure that the mains plugs for the system and any accessories are only inserted into grounded outlets.
- ◆ Treat the system with care – do not drop, shock or otherwise mistreat it.
- ◆ When handling internal components of the Leica system-unit, with the permission of the Leica Support Team, the following handling procedures for static sensitive devices should be observed:
 - Always turn off the power and unplug the system.
 - Drain static electricity from your body by touching a metal part of the Leica Imaging Workstation before you remove or install any part of the system. Avoid letting your clothing come into contact with the components of the system.
- ◆ Make sure that all hard-disk activity has finished before turning power off. Exit Windows via the **Start Menu, Shut Down** command.
- ◆ **Never** attempt to move the system with the power switched on.



WARNING: The Leica Imaging Workstation has **no user serviceable parts** and should be opened only by the Leica Support Team representatives or by competent IT specialists with the permission of Leica.



To set up the system:

1. Read the *Safety* notes above.
2. Connect the following power cables:
 - ◆ Mains power cable to the PC.
 - ◆ Mains power cable to the monitor.
 - ◆ VGA cable from the monitor to the PC.
 - ◆ Cable for the mouse.
 - ◆ Cable for the keyboard.
3. If your software requires a dongle, plug it into one of the USB

ports of your PC.

4. Switch the system on. It should then boot up into the Windows environment.
5. Check that this is the case. Ignore any error messages at this stage.



Note: Do not at this point connect any other devices such as printers and scanners or connect the system to a network. Make sure the system is running as a standalone system before connecting to a network.

6. Once the system has booted up to Windows, shut it down again and turn off the system.
7. Connect other peripherals such as printers, scanners and cameras.
8. Then, once again turn the system on.
9. Check that it still boots correctly.

Your system will now be ready for you to run your application.

Recommendations

The following is a list of tips that may help you prevent system faults and prolong the life of the system.



Tip: Always keep backups of all software. Make a complete hard disk drive backup to DVD drive or a CD, so that you can restore a working system in the unlikely event of a hard disk drive failure.



Tip: Always back up important images and data to a secure medium and store in a safe place away from the system.



Tip: Perform periodic maintenance on the system:

- ◆ Run **virus-checking software** at regular intervals and on all new disks prior to use on the Leica Imaging Workstation.
- ◆ Perform Windows error checking for errors on the hard disk or in the file structure. See Windows help for details.
- ◆ **Defragment** the hard disk regularly to optimise memory usage.
- ◆ Run **Disk Cleanup** at regular intervals to remove unwanted temporary files, temporary internet files, downloaded program files and similar.



Refer to: Your *Virus-Checking Software Documentation* and the *Microsoft Windows Documentation* for more information on the suggested maintenance actions listed above.

Chapter Two:

Installing and checking a Leica DFC Camera.

Chapter Overview

This chapter contains the following topics:

- ◆ How to install Leica DFC cameras
- ◆ Checking the install and showing a live image



Ensure your PC is correctly configured according to the recommended specification as detailed in the 'System Requirements'. If you are using Windows Vista, check that the Windows Experience Index is 3.5 or greater.



Make a 'system restore point'. See Microsoft Windows help if you need further information on this.



Windows installs different languages for its user interface by means of the Multi-lingual pack. Check that the version of Windows you are using supports the multi-lingual pack for the language you require for Japanese and Chinese. Make sure you have installed the language you require before you install LAS. The language selected for Windows operation determines the user interface language used by LAS. If LAS supports the Windows selected language, LAS will use this. If LAS does not support this language, the user interface will be displayed in English.



Note that the Leica DFC (not supported with Windows Vista) and DFC Twain camera software is installed for the specific language you select; by default it will be the Windows language in use at the time of LAS installation. If you subsequently change the Windows language, the LAS language will change accordingly but not the camera software; this must be re-installed with the appropriate language selected.



You **must have** 'Administrator' privilege in order to install software on Windows 2000 or XP or Vista. This means that you must log-on with a user name with "Computer Administrator" privileges.

You must have 'Administrator' privileges to change the camera fitted.

How to install Leica DFC cameras



Note: This procedure only needs to be followed if your Leica DFC Camera has been supplied separately or is being added onto a system. If the camera was supplied with the system then it will have been installed and tested.



WARNING: At this point you should not have your Leica DFC camera plugged into your system. The correct procedure is to install all the necessary software and drivers first and then to plug in the camera.

1. Insert the Leica DFC Twain CD into the CD drive of your system. This will then Autorun.
2. Select the desired language, and then the camera. You should select DFC.

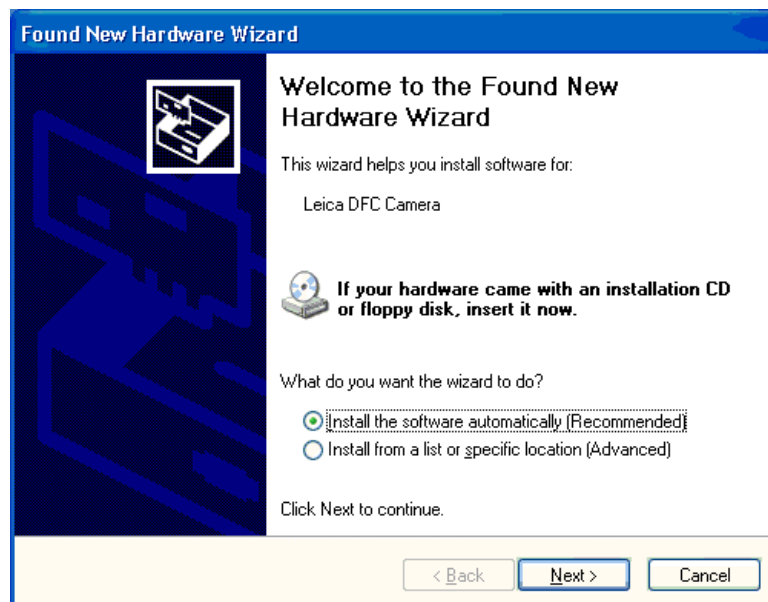




The drivers for the Leica DFC will then be installed. Once this is completed you must close the above screen (by clicking on the red X) to continue with the general Leica Servers install. At the end of this procedure the system will automatically reboot.

Once the system has rebooted you can plug in your camera. If using a DFC camera on a laptop via a 4 pin Firewire connection, make sure the power cable is correctly attached and then plug it in.

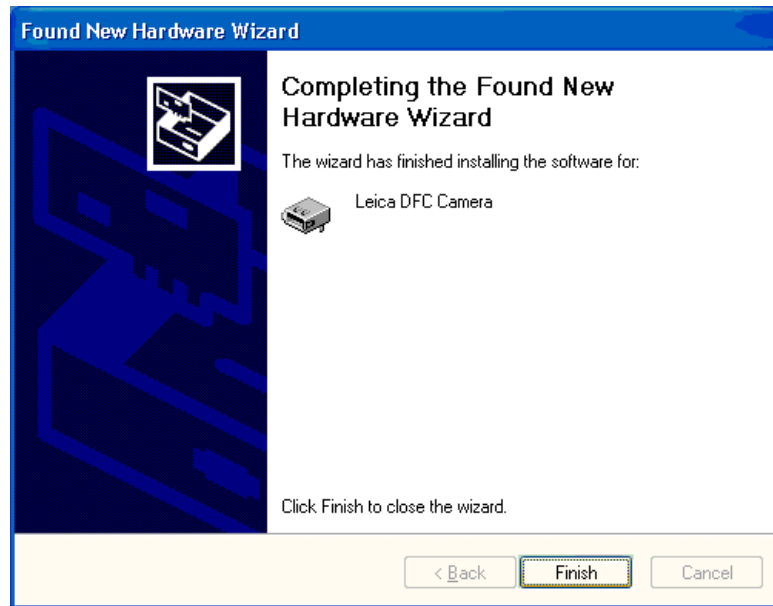
On plugging in your camera you will see the 'Found New Hardware' Wizard appear.



Use the default options in this dialog as the drivers for the Leica DFC camera will already have been installed on your hard drive and Windows will be able to find them automatically.

Click on Next and the Wizard will run.

At the end of the Wizard you will see the following dialog, which shows that the drivers have been correctly installed.



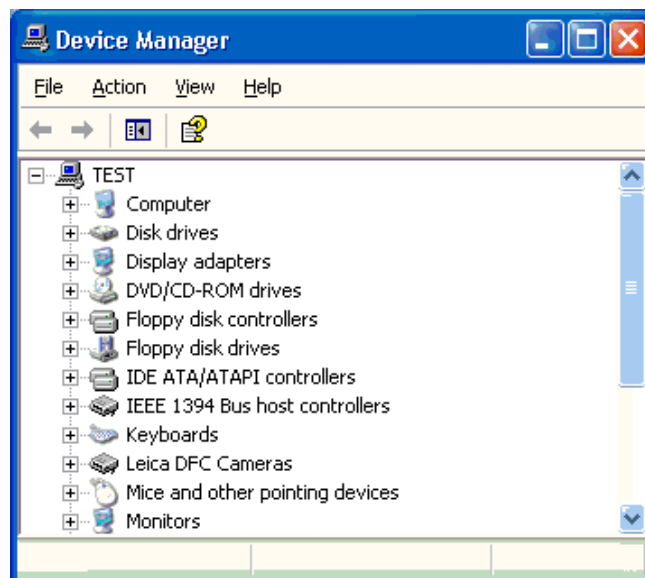
Checking the Install and showing a live Image

You can check that your camera is correctly installed in the following way.

Open the Windows Control Panel

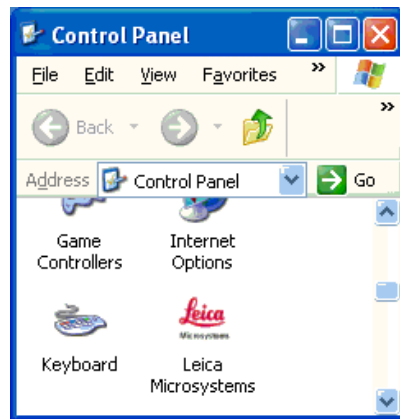
Click on the System Icon, select Device Manager and then Hardware.

In the dialog that then appears you should see the Leica DFC camera displayed as below.

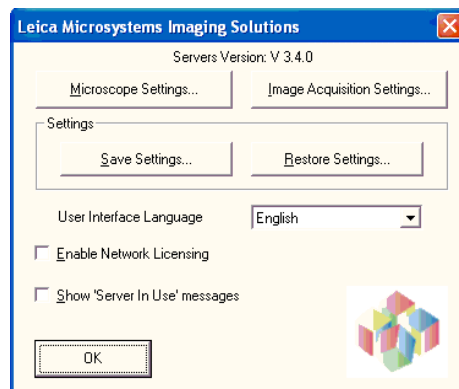


The next stage is to show the live image

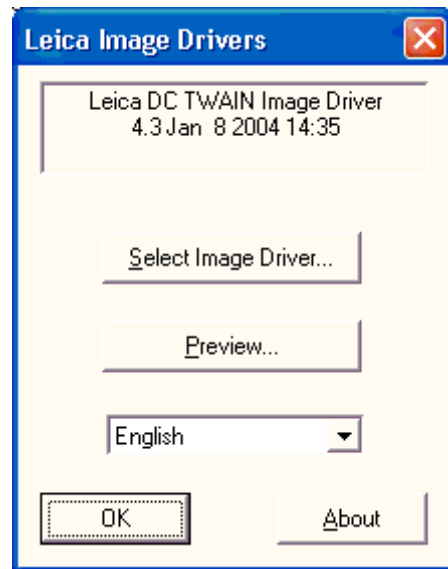
Still in Control Panel, click on the Leica Microsystems Icon.



6. Then select Image Acquisition Settings



7. You should see that the Leica DC Twain Image Driver is selected. Click on Preview.



Note: If Leica DFC Twain Image Driver is not selected, click on Select Image Driver and choose it from the list of available drivers.

8. You will then see the Leica DFC Preview Window and should have a live image visible. Refer to the Camera guide for details on camera operation and configuration.



Chapter Three: Installing and checking a Leica DM4000-6000, Leica MZ16FA/A Microscope.

Chapter Overview

This chapter contains the following topics:

- ◆ How to install the Leica Microscope
- ◆ Checking the connection
- ◆ Troubleshooting

How to Install the Microscope

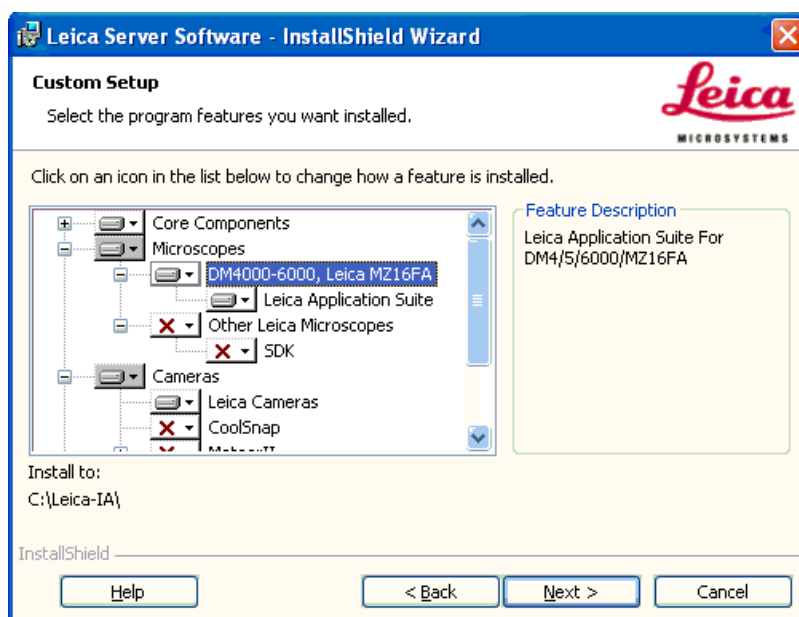


Note: This procedure should only need to be followed if your Leica Microscope has been supplied separately or is being added to a system. If it was supplied with the system then it will have been installed and tested.



WARNING: You must have Administrator rights to perform this installation procedure. You should uninstall previous versions of the Leica Application Suite before starting this procedure.

1. Insert the Leica Servers CD into the CD drive of your system. This will then Autorun. You will be asked to confirm Licensing and organisation details and then will enter the configuration dialog.
2. To install the files for the Leica DM4000, DM5000, DM6000, MZ16FA/A microscopes select the Leica DM4000-6000, Leica MZ16FA from the Microscopes section. This will install the Leica Application Suite.

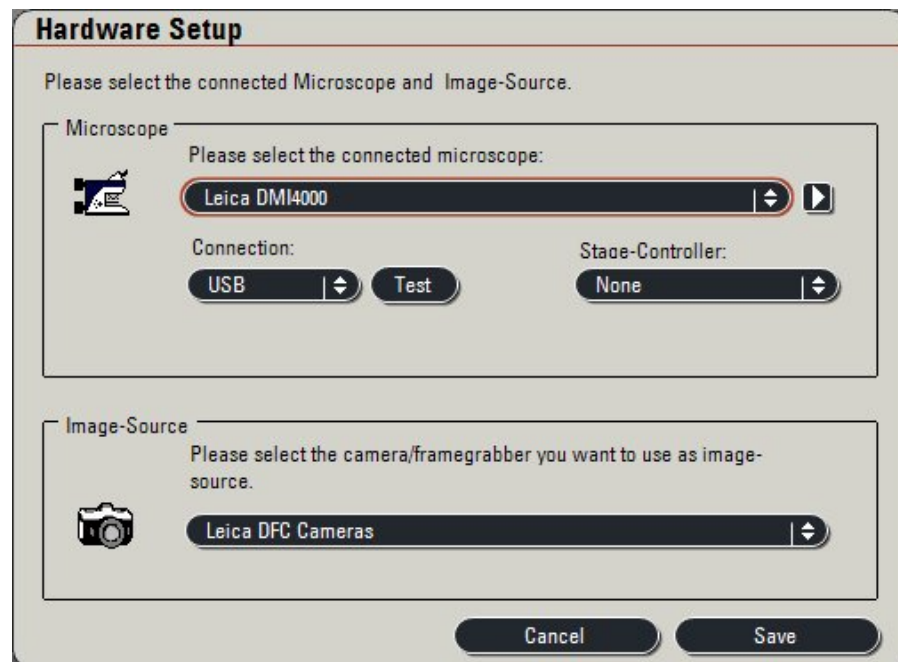


3. Click on Next and follow the procedure through. This install will automatically reboot your system and continue with the installation after the reboot. You must allow the installation to continue after the reboot or not all of the required components will be installed.

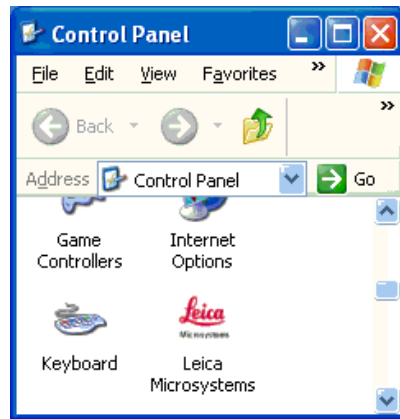
Configuring and Checking the Microscope Connection.

The following procedure details how to set and check the configuration of your microscope in the Leica Servers environment.

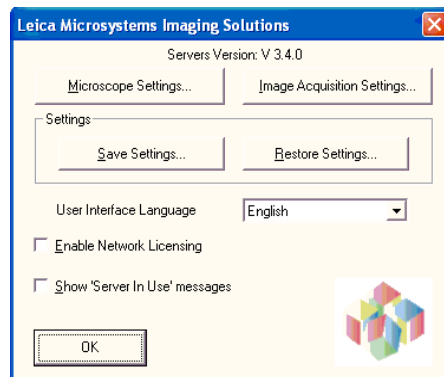
1. Make sure your microscope is correctly attached to one of the serial or USB ports of the PC, is turned on and has initialised correctly.
2. Run the Leica Application Suite either from the icon on the desktop or by going to the Windows 'Start' button, then 'Programs' and then selecting the 'Leica Application Suite' option and at the same time hold down the 'shift' key. This will start LAS framework only and not load the applications and modules.
3. You can now select Options -> Hardware so you can specify the exact hardware components that you have attached to your system. Input the microscope that you have attached and also the image source if you have one. You should also ensure that the microscope is indeed plugged into the COM-Port indicated in the dialog.



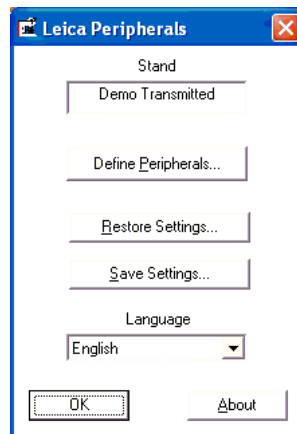
4. You will now see a screen detailing the configuration of your Leica Microscope. Check that this matches the actual configuration of your microscope and then Exit the Leica Application Suite. You will be asked to save the configuration and you should click on Yes.
5. You can now move on to configuring your microscope in the Leica Servers environment, which will allow you to use it in conjunction with Leica QWin, FW4000, CW4000 or MW4000.
6. Go to the Windows Control Panel and click on the Leica Microsystems Icon.



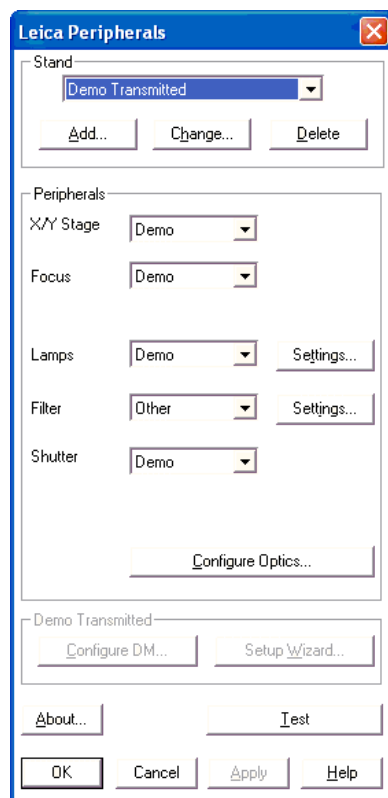
7. Next, click on Microscope Settings



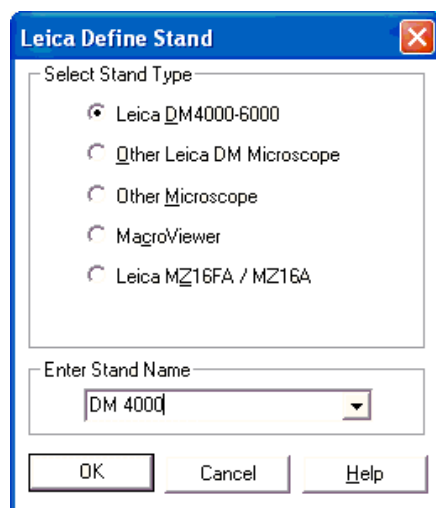
8. Then click on Define Peripherals...



9. This will bring up the Leica Peripherals dialog which is shown below.



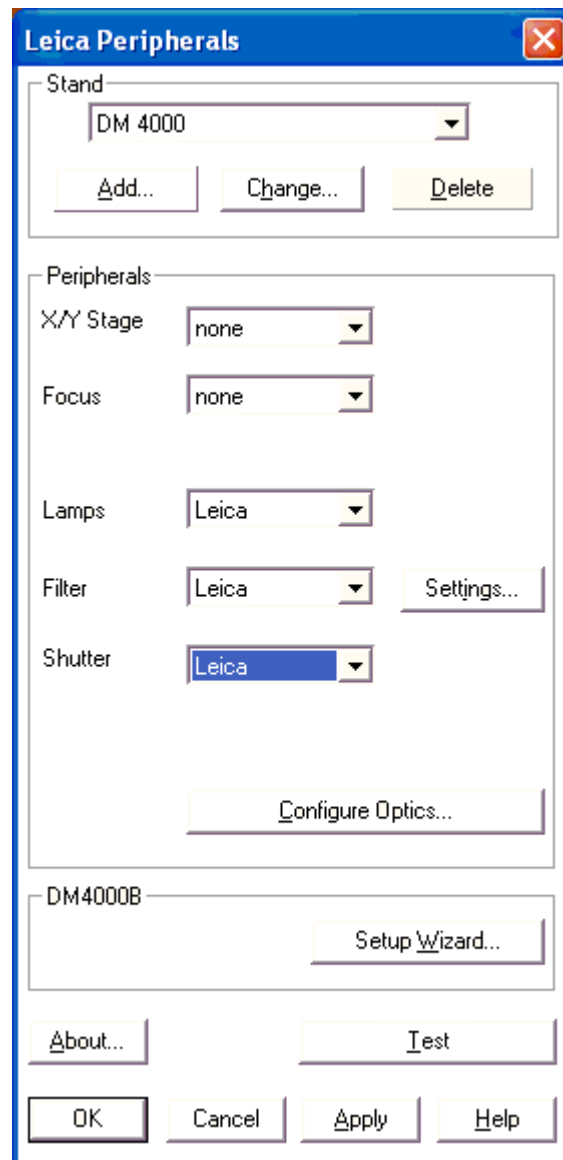
10. You now need to configure this dialog to recognise your microscope correctly. Click on Add... and then select Leica DM4000-6000. Choose a name for your microscope and then click on OK.



Note: You should select the bottom option in the dialog for the Leica MZ 16FA and MZ16A. Do not select 'Other Leica DM Microscope'.

11. You will now return to the Leica Peripherals dialog. You should now be able to select your Leica microscope, in this case DM4000, from the drop-down list at the top of the dialog. Once you have selected your microscope you should see that the dialog will modify slightly to appear correctly for the new configuration. Next select the components of the microscope

that can be controlled within the Servers environment. In the example shown below the Lamps, Filter and Shutter are set as Leica which means that they will be accessible within the Leica applications such as QWin and FW4000.





Chapter Four: Installing and checking a Leica DMR or DML Microscope.

Chapter Overview

This chapter contains the following topics:

- ◆ How to install the Leica Microscope
- ◆ Checking the connection
- ◆ Troubleshooting

How to install the Microscope

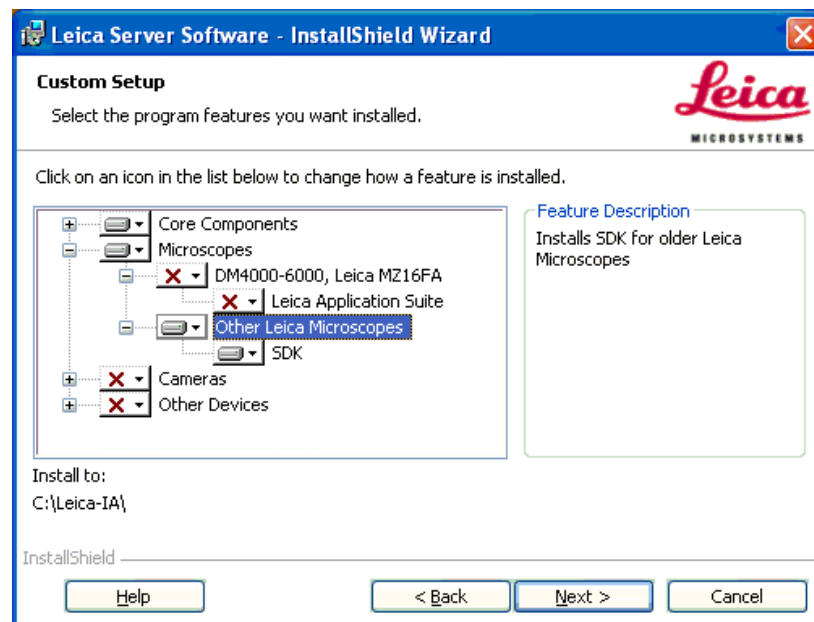


Note: This procedure should only need to be followed if your Leica Microscope has been supplied separately or is being added onto a system. If it was supplied with the system then it will already have been installed and tested.



WARNING: You must have Administrator rights to perform this installation procedure.

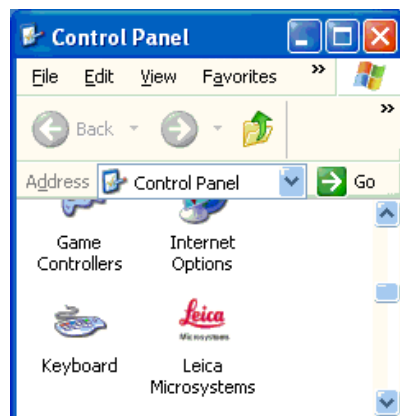
1. Insert the Leica Servers CD into the CD drive of your system. This will then Autorun. You will be asked to confirm Licensing and organisation details and then will enter the configuration dialog.
2. To install the files select Other Leica Microscope from the Microscopes section. This will install the SDK which is needed to operate these microscopes.



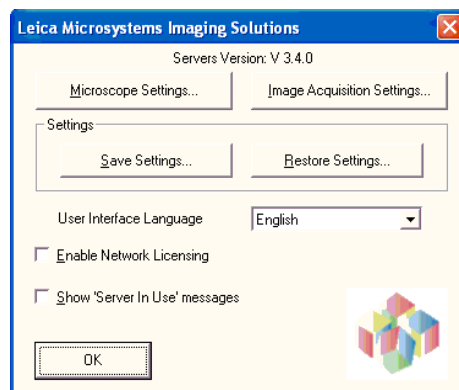
3. Click on Next and follow the procedure through. This install will automatically reboot your system at the end of the procedure.

Configuring and checking the Microscope Connection.

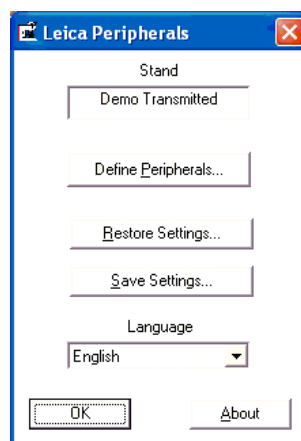
1. Goto the Windows Control Panel and click on the Leica Microsystems Icon.



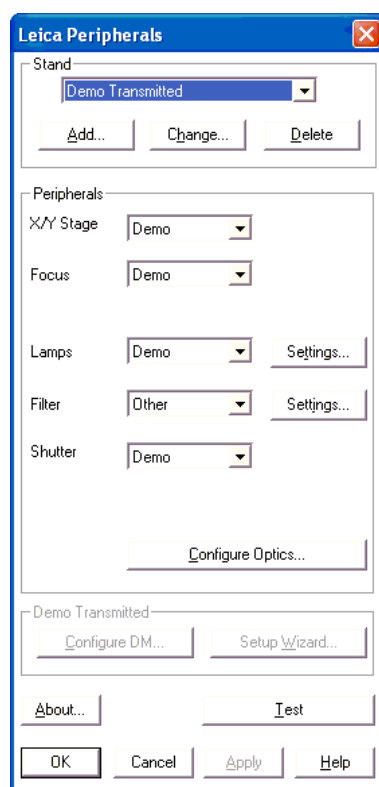
2. Next, click on Microscope Settings



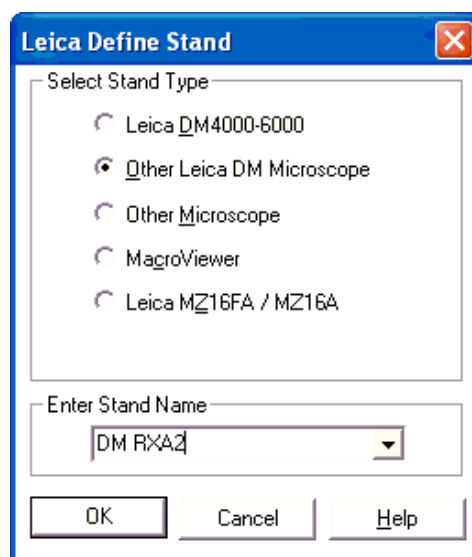
3. Then click on Define Peripherals...



4. This will bring up the Leica Peripherals dialog which is shown below.

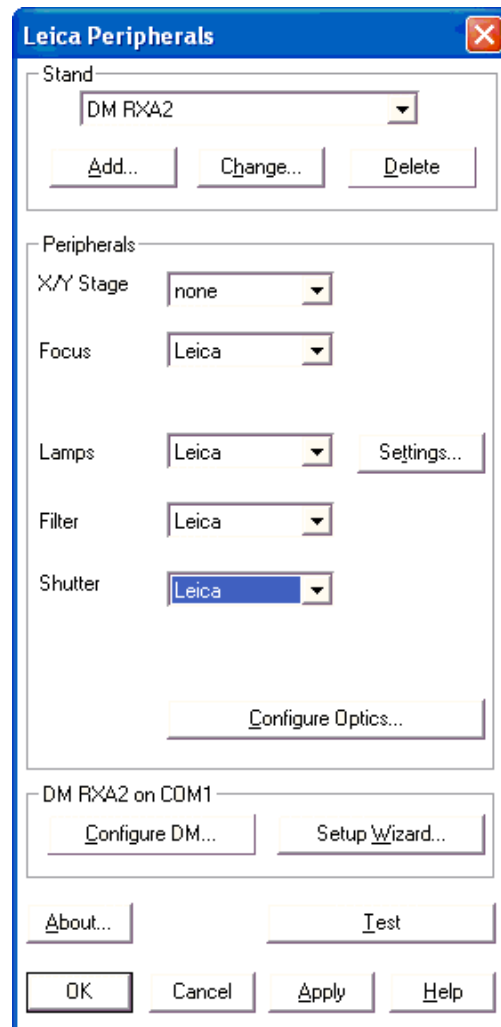


5. You now need to configure this dialog to recognise your microscope correctly. Click on Add... and then select Leica Other Leica DM Microscope. Choose a name for your microscope and then click on OK.



6. You will now return to the Leica Peripherals dialog. You should now be able to select your Leica microscope, in this case DM RXA2, from the drop-down list at the top of the dialog. Once you have selected your microscope you should see that the dialog will modify slightly to appear correctly for the new configuration. Before selecting any Peripherals you will need to run and check the Microscope Configuration Utility by clicking on the button 'Configure DM' near the bottom of the dialog and then you will need to run the Microscope Setup Wizard by clicking on the 'Setup Wizard' icon. Both of these procedures are detailed in the relevant microscope documentation.
7. Once you have configured the microscope fully you can select exactly which components are to be accessible from the Servers environment and this will be available to Leica QWin,

and MW4000. In the example shown below, Focus, Lamps, Filter and Shutter will be available to the applications.



Leica Peripherals

Stand

DM RXA2

Add... Change... Delete

Peripherals

X/Y Stage none

Focus Leica

Lamps Leica Settings...

Filter Leica

Shutter Leica

Configure Optics...

DM RXA2 on COM1

Configure DM... Setup Wizard...

About... Test

OK Cancel Apply Help



Tip: If you have configured a Leica DM microscope as the Stand and you then start an application with the microscope turned off, you will see error messages that the 'Leica Peripheral Server cannot communicate' with the microscope. This is perfectly normal. Switch the microscope on and then click on 'Retry'.

Chapter Five: Installing and checking an Oasis X, Y, Z Controller.

Chapter Overview

This chapter contains the following topics:

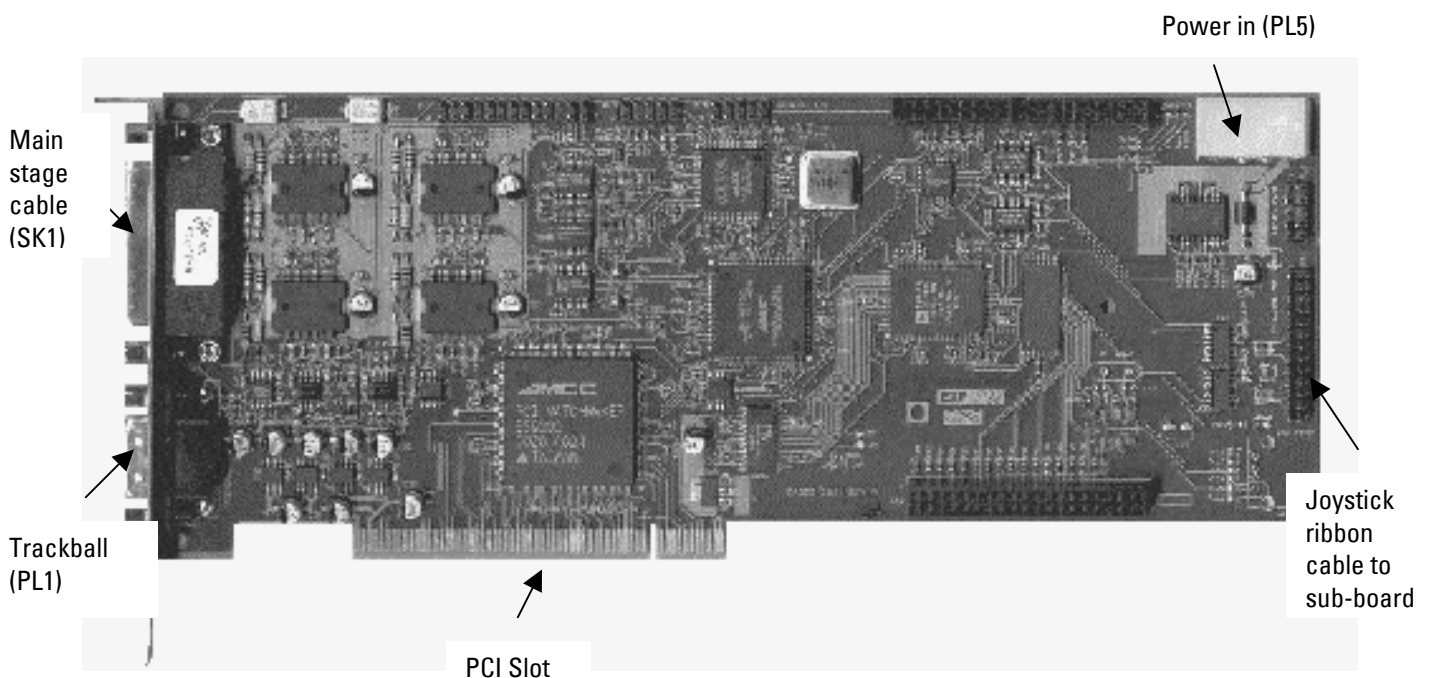
- ◆ How to install the Oasis stage controller in the PC
- ◆ Installing the required drivers and software
- ◆ Checking and Configuring

How to install the Oasis Controller in the PC



WARNING: : The Leica Imaging Workstation has **no user serviceable parts** and should be opened only by the Leica Support Team representatives or by competent IT specialists with the permission of Leica.

- ◆ When handling internal components of the Leica system-unit, with the permission of the Leica Support Team, the following handling procedures for static sensitive devices should be observed:
 - Always turn off the power and unplug the system.
 - Drain static electricity from your body by touching a metal part of the Leica Imaging Workstation before you remove or install any part of the system. Avoid letting your clothing come into contact with the components of the system.



1. Switch off the PC and unplug from the mains to disable any standby power.
2. Remove the system unit cover or side panel.
3. Select a suitable PCI slot with no obstructions (preferably one with adequate air-flow from the auxiliary fan), and remove blanking panel as necessary.
4. Ground yourself to an antistatic mat or other grounded source to discharge static electricity before handling the board.
5. Pick up the board (still in its anti-static sleeve), by grasping the metal edge bracket with one hand, and remove the sleeve.
6. Taking care to hold the edges of the board, avoiding contact with the electronic components, position it over the PCI slot and locate the tip of the metal bracket in the slot of the PC chassis, before pushing the board firmly but gently home with a slight rocking action.
7. Secure the bracket with a retaining screw.

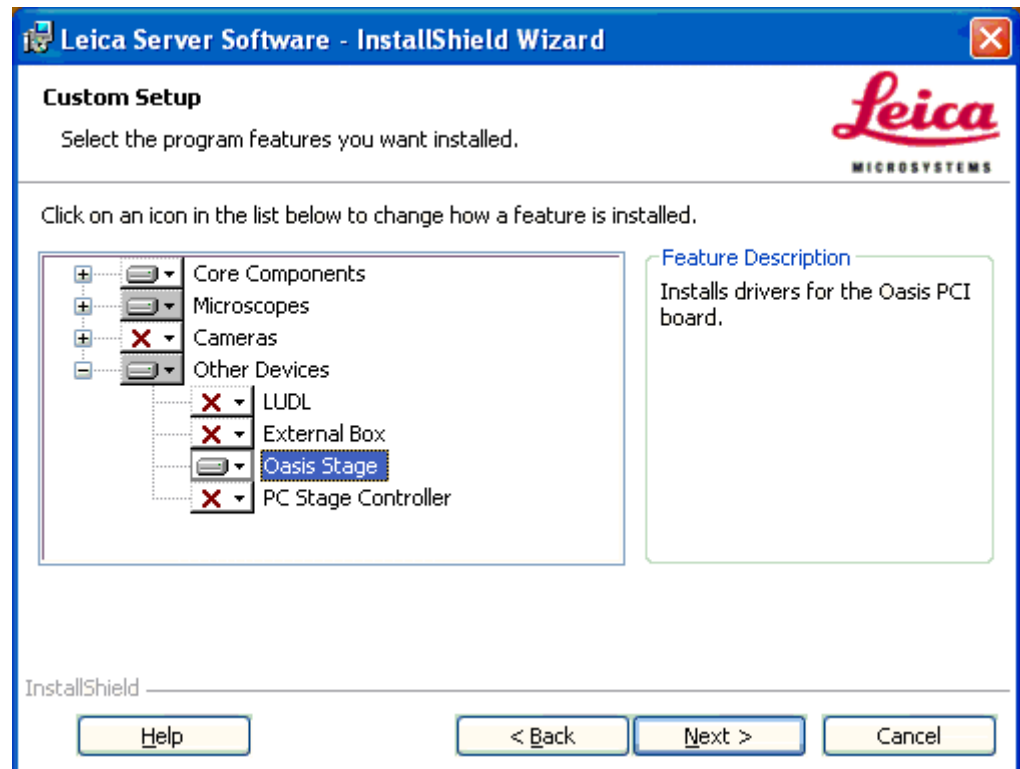
8. Connect a spare power connector from the PC power supply to PL5 at the rear of the board. Preferably the OASIS-4i should be the only device drawing power from this lead. The on board motor drive components get their power via the +12V from this connector.
9. Replace PC system cover or side panel.
10. Connect a trackball device to PL1, (the 9-pin trackball serial port), if required.
11. Connect the appropriate cable from SK1, (the 44-way XYZ and video in/out connector), to your desired XY stage, focus adapter(Z) and video source as required. Notice that this 44-way connector is keyed to prevent insertion of an incorrect cable.
12. You are now ready to switch on the PC and proceed with the driver installation for your operating system.

Installing the Required Drivers

1. Switch on PC and boot into Windows.
2. The 'Add New Hardware Wizard' should appear.
3. Select 'Search for best driver for your device' and press next.
4. Insert Leica Servers CD into your CD-Rom drive and select 'Specify a Location' with D:\ as the source for the driver. (Where D: is the CD-Rom drive letter).
5. Windows should find 'OASIS-4i : 4-axis PCI Stage Controller'. Press next.
6. After drivers and dlls have been copied to the relevant directories, press 'Finish'.
7. Re-boot the PC with the CD still in the drive. Windows will then find a 'windriver virtual device' and prompt you for a location for the driver, which can also be found on the CD.

Installing the Required Leica Servers Software

1. Insert the Leica Servers CD into the CD drive of your system. This will then Autorun, you will be asked to confirm Licensing and organisation details and then will enter the configuration dialog.
2. Select the Oasis stage from the Setup dialog as shown below and then click on Next.



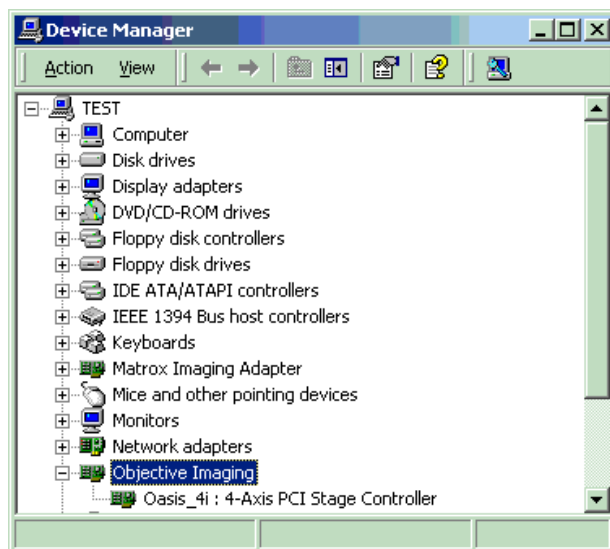
Follow the procedure through until the end completes and reboots the system.

Checking and Configuring the Setup

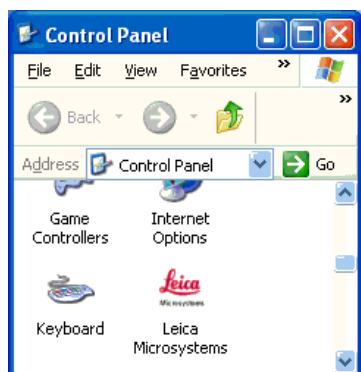
You can check that the board and drivers are correctly installed by going to the Windows Control Panel.

Click on the System Icon, select Device Manager and then Hardware.

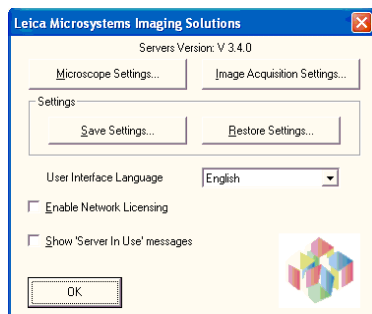
1. In the dialog that appears you should see the board displayed as below.



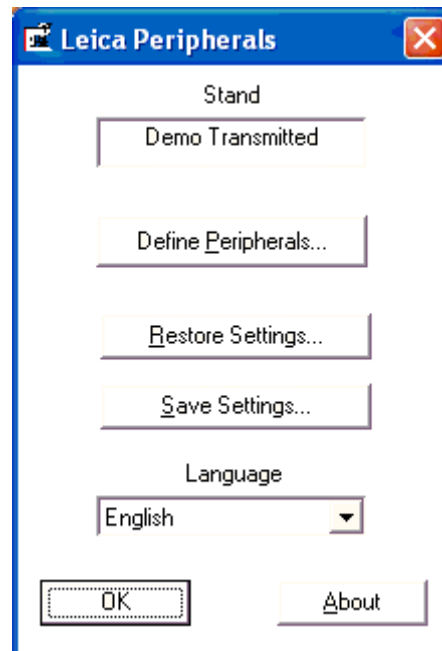
2. Goto the Windows Control Panel and click on the Leica Microsystems Icon.



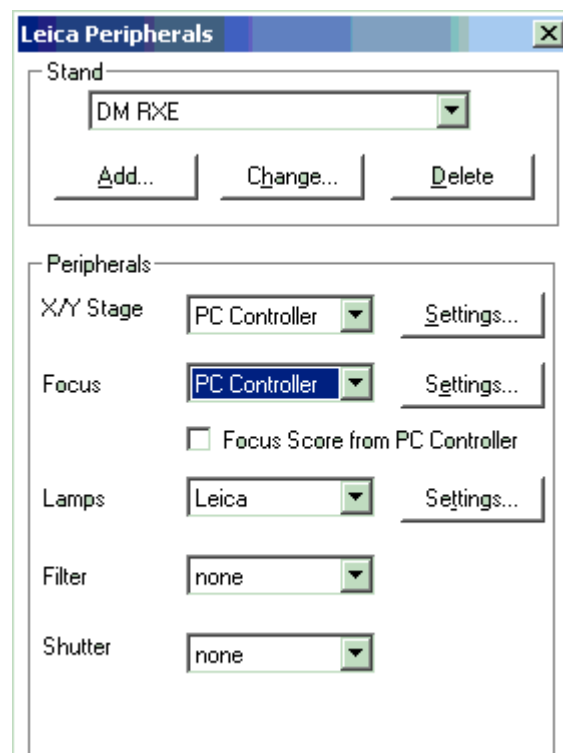
3. Next, click on Microscope Settings



4. Then click on Define Peripherals...



5. You should now be able to select the X,Y (and Z) board to control any suitable stage or focus drive as shown below. PC controller is the correct setting in this dialog when using this board.



6. At this point it is also worth clicking on the Settings button the the right of the X/Y Stage or Focus options. This will allow you to check and configure your specific stage and/or focus.

	Stage X	Stage Y	Focus
Cruising Speed	68 %	68 %	29 %
Ramp Profile	Normal	Normal	Normal
Backlash	☒ On	☒ On	☐ On
Drive Sense	☒ Positive	☒ Positive	☒ Positive
JoyStick Sense	☒ Positive	☒ Positive	☒ Positive
Lead Screw Pitches	2 mm	2 mm	Step Size: 0.010 µm
	☐ Enable Trackerball lower left button		☐ Manual Initial'n
	☐ Enable Trackerball lower right button		
OK Cancel Set Defaults Help			

The most critical items in this dialog are:

The Cruising Speed (shown as 68) which can be reduced if your stage does not seem to be moving consistently. 50 is actually a more standard and reliable figure to use.

And the 'Lead Screw Pitch' which absolutely must be set correctly in order to ensure that the stage moves the correct distance with each step. The default option shown here is for a Prior stage. For a Maertzhäuser stage you need to check on the underneath the stage or refer to the stage documentation as the Lead Screw Pitch can be 1,2 or 4 depending on the stage purchased.

Chapter Six: Installing the Leica Smart Move

Chapter Overview

This chapter contains the following topics:

- ◆ How to install the OI SNP card in the PC
- ◆ Connecting the different options
- ◆ Configuration of the Smart Move Module

How to install the OI SNP card in the PC

The OI-SNP interface card, shown below, is designed to allow the OASIS-4i PCI Controller Card to use the Leica Smart Move input device as a control for manual positioning of X, Y and Z axes. This document describes the installation, operation and functionality of the interface.



WARNING: : The Leica Imaging Workstation has **no user serviceable parts** and should be opened only by the Leica Support Team representatives or by competent IT specialists with the permission of Leica.

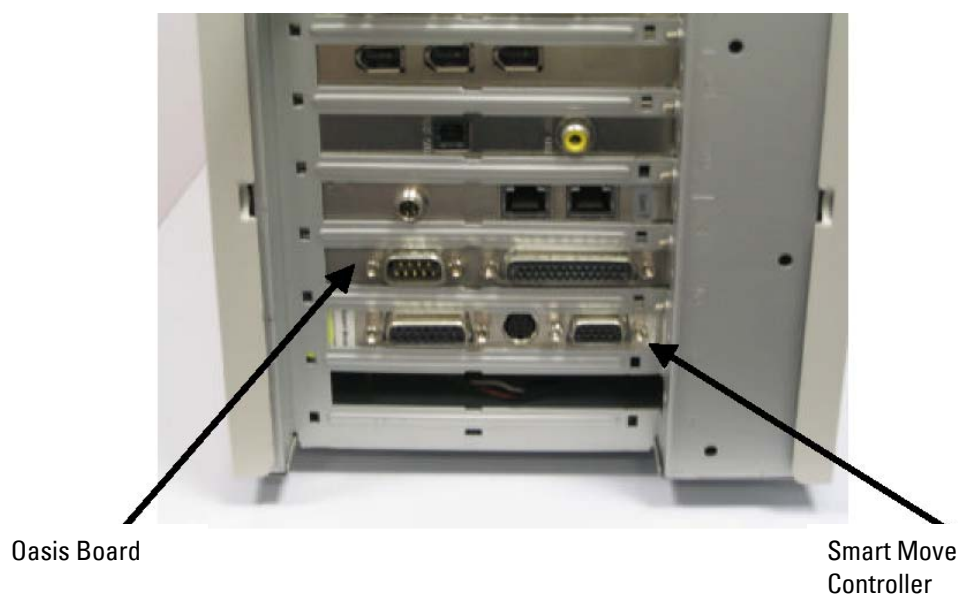
- ◆ When handling internal components of the Leica system-unit, with the permission of the Leica Support Team, the following handling procedures for static sensitive devices should be observed:
 - Always turn off the power and unplug the system.
 - Drain static electricity from your body by touching a metal part of the Leica Imaging Workstation before you remove or install any part of the system. Avoid letting your clothing come into contact with the components of the system.

Attach the supplied 26 way ribbon cable between PL2 on the OI-SNP and PL7 on the OASIS-4i card, taking care to align pin 1 on each connector with the red stripe on the ribbon cable, as shown below. Pin 1 is marked on the silk-screen of both cards. This is shown below.

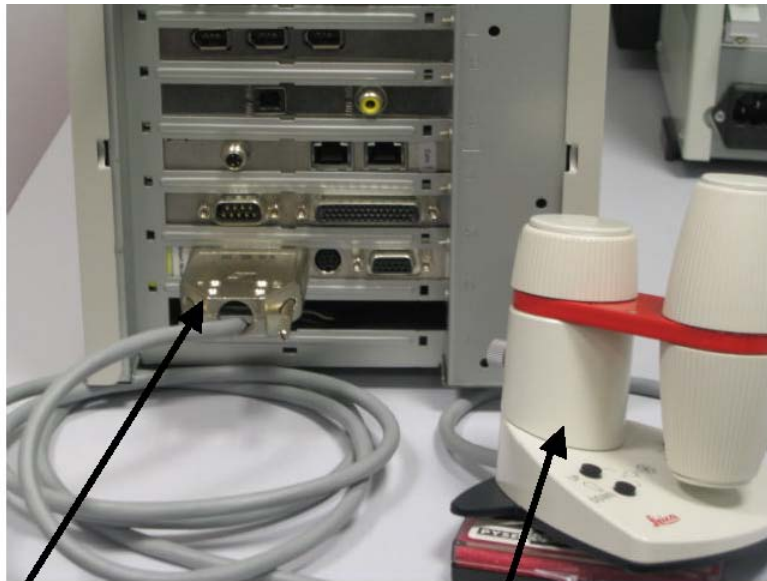


Connecting the different options

The image below shows the OASIS 4i & Smart Move controller fitted to a PC. In this image the Oasis board itself is fitted above the extra OI-SNP interface card



To use your Leica Smart Move Controller (Salt and Pepper Pot) you need to plug the controller itself into the 15-way D-Type connector on the left of the interface board. This is shown below.



15-way D-Type

FIG 4

Smart Move Controller

To complete the connection to your Leica Microscope you need to connect the 15-way high-density out to the X,Y,Z connector on the Micbox as shown below. . This is to allow pass-through of some or all of the Smart Move controller signals to the MIC Controller.



15 way High-Density D-type

FIG 6

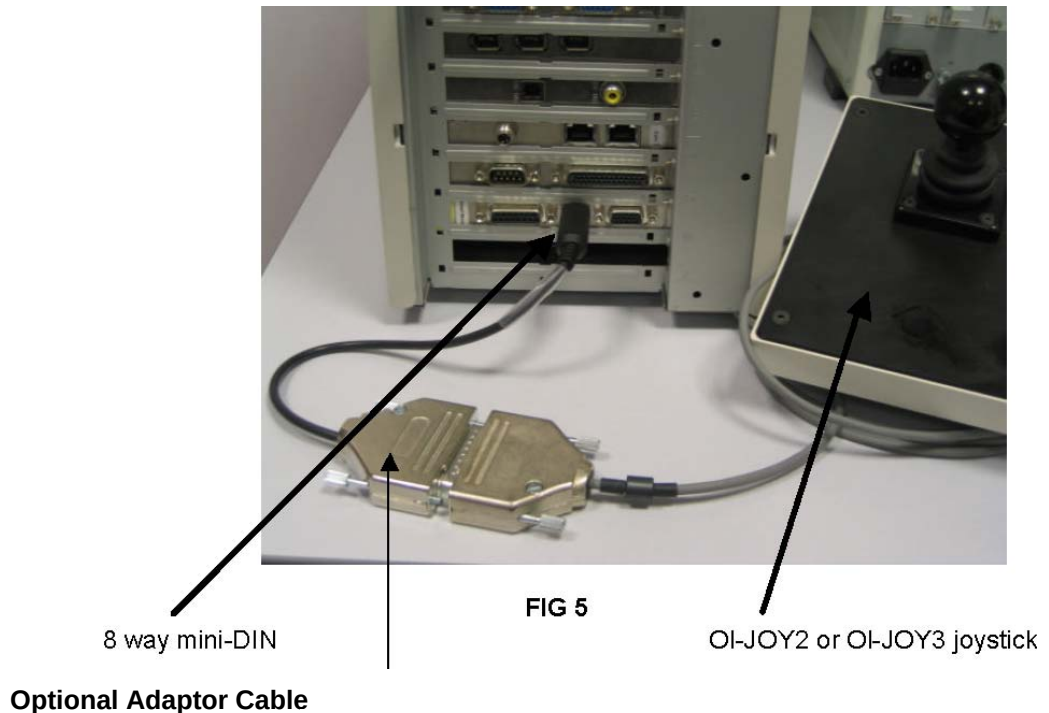
X,Y,Z Control



Note: This cable will be supplied as Standard with the Kit (Cable not shown)

Fitting a Joystick to the Smart Move Interface Card.

The 8-way mini-DIN socket in the middle of the bracket is for attaching an OI-JOY2 or OIJOY3 joystick unit (via an adapter cable or with a modified joystick cable connector). This is shown below.



Configuration of the Smart Move Module

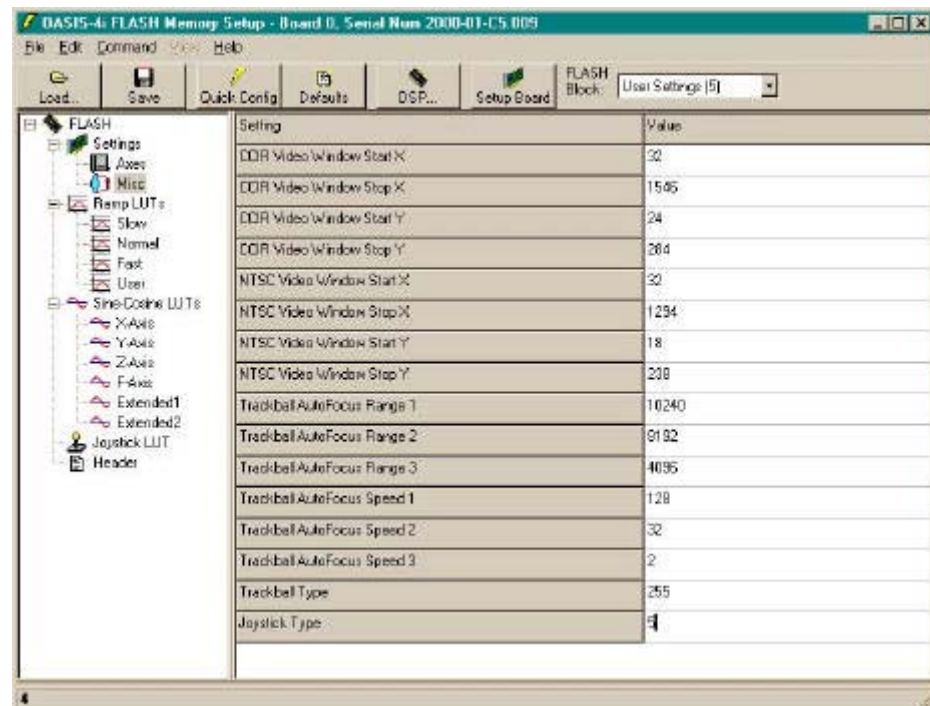
On the top right hand corner of the interface board is a 4 way DIP-switch which controls the following functions:

	Switch On	Switch Off
1	XY controlled by MIC	XY controlled by OASIS -4i
2	Z controlled by MIC	Z controlled by OASIS -4i
3	Buttons controlled by MIC	Buttons controlled by OASIS -4i
4	Z control input is Smart Move	Z control input is joystick digi-knob

For example if the OASIS-4i is being used to control the XY stage, and the MIC controller is being used to control Z, the lamps and the turret, then set switch 1 to **OFF**, and switches 2 and 3 to **ON**. The MIC controller's XYZ-Control input must be connected to the OI-SNP module's top connector (SK1), for the signals to be passed through to it.

Settings

It will also be necessary to change a Flash memory setting to select the Smart Move Controller as the input device. Normally this is done using the OIFlashCfg.exe utility program which can be found on the Leica Servers CD in the \Drivers\Diags directory. If you run this program and go to the 'Settings -> Misc' page, you will see a 'Joystick Type' value near the foot of the page, as shown.



This value can be set to the following options depending on your hardware setup.

Value	Input type
-------	------------

- | | |
|---|---|
| 1 | OI Standard 2 or 3 axis joystick – button is autofocus |
| 2 | OI Standard 2 or 3 axis joystick – button is turbo-mode |
| 3 | Leica Lamp Controller |
| 4 | Leica Joystick Unit |
| 5 | Leica Smart Move + OI Joystick - button is autofocus |
| 6 | Leica Smart Move + OI Joystick - button is turbo-mode |

It is not necessary to have a joystick fitted as well as the Smart Move Controller, but it is possible to have both. The normal value for Leica would be 5. After changing the value, don't forget to press the 'Save' button on the toolbar to store it in the Flash memory.

A thick black vertical bar is positioned on the left side of the page, extending from the top of the chapter title down to the start of the chapter overview section.

Chapter Seven: Fitting a Prior Focus Module.

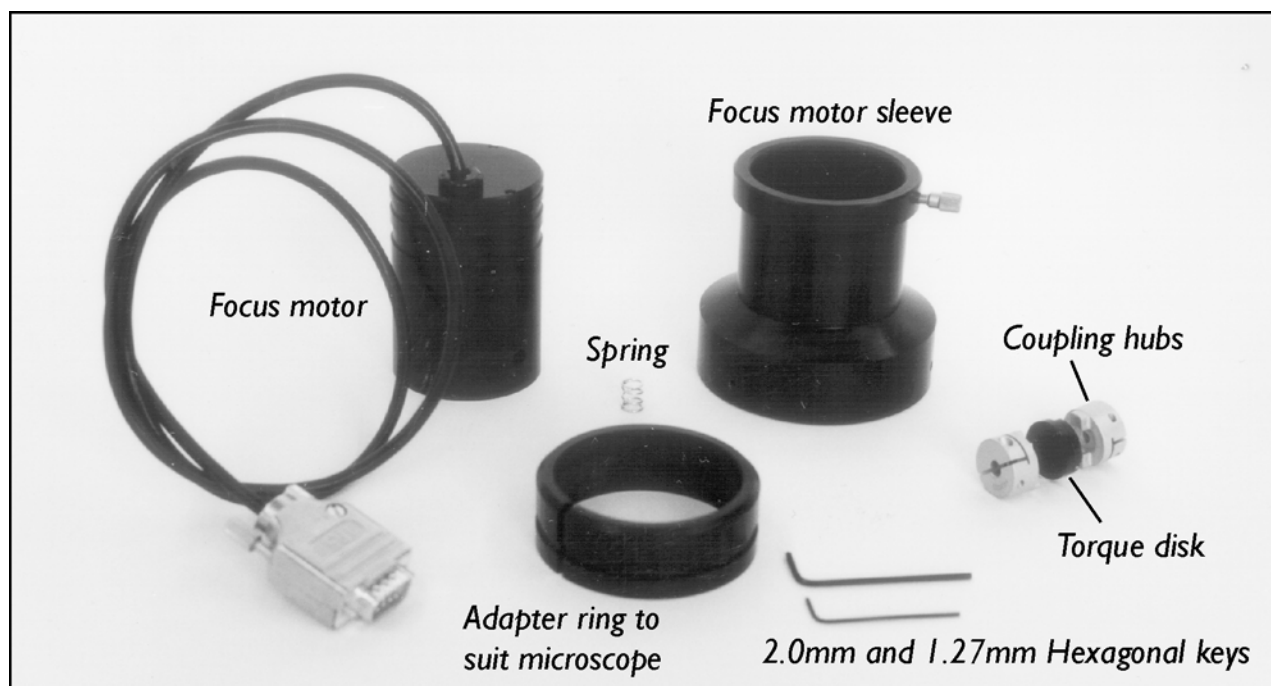
Chapter Overview

This chapter contains the following topics:

- ◆ How to install the Leica Microscope
- ◆ Checking the connection

Components of the kit

The image below shows the items that make up the Prior Focus kit and the tools that will be needed to fit this kit



Fitting the motor on a Leica DMR type microscope

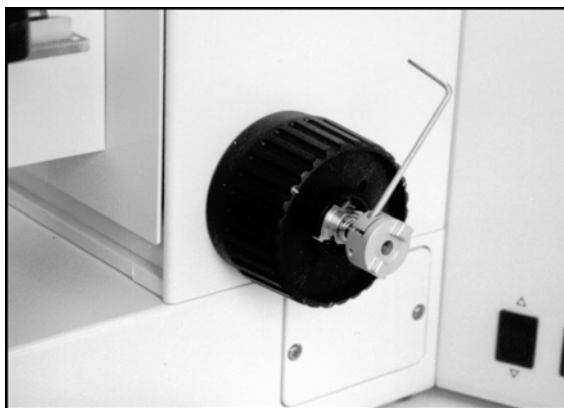


WARNING: This installation should only be attempted by a qualified Leica technician as it involves some minor disassembly of critical mechanical components. If you are not familiar with this type of mechanical assembly do not attempt this installation.

Using a 1.27mm Hexagonal key undo the fine focus set screw. The knob can then be pulled off.



Place the spring over the fine focus shaft and place a coupling hub on the shaft whilst holding the opposite focus knob in position, or it may disengage from gears. Compress the spring by 3-6mm and clamp the hub using the 2mm hexagon key.

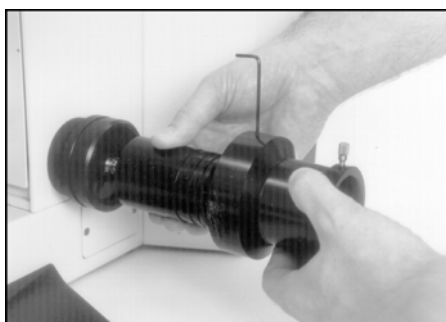


Note: Only one of the coupling hubs will fit the fine focus shaft.

Push the remaining coupling hub and plastic torque disc together and place on the focus motor shaft. Tighten using the 2mm hexagon key making sure it does not bind on the motor casing.



Place the adaptor ring over the coarse focus knob. Align and push the couplings together and slide the focus sleeve over the focus motor and onto the adaptor ring, using the 2mm hexagon key to tighten the three set screws; again whilst holding the opposite focus knob.

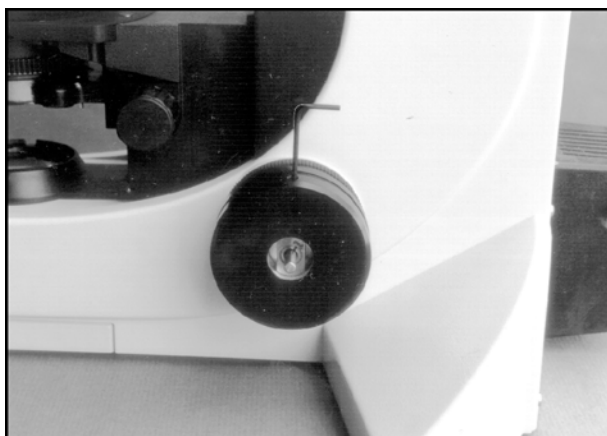


Fitting the motor on a Leica DMR type microscope

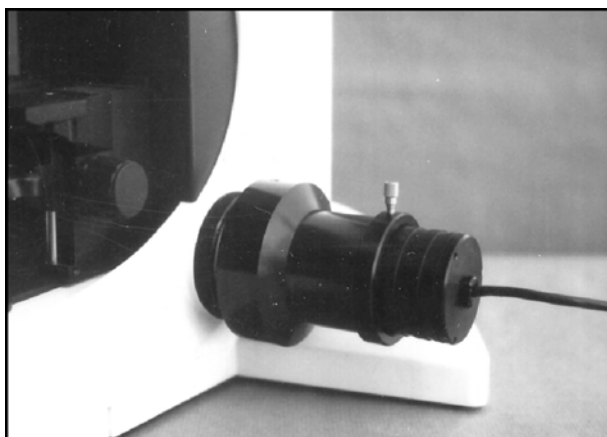


WARNING: This installation should only be attempted by a qualified Leica technician as it involves some minor disassembly of critical mechanical components. If you are not familiar with this type of mechanical assembly do not attempt this installation.

Step 1 as for 'DMR' series described in previous section - then place the adaptor ring over the coarse focus knob and secure the brass shaft using the 2mm hexagon key on the set screw.



Continue with steps 2, 3 and 4 as for Leica 'DMR' series described in previous section.





Chapter Seven: Installing a Matrox Meteor II Framegrabber

Chapter Overview

This chapter contains the following topics:

- ◆ How to install the card
- ◆ Checking and configuring

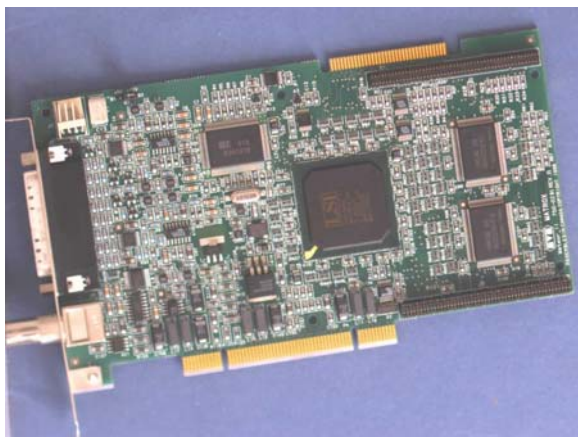
Installing a Matrox Meteor II Framegrabber



WARNING: : The Leica Imaging Workstation has **no user serviceable parts** and should only be opened by the Leica Support Team representatives or by competent IT specialists with the permission of Leica.

- ◆ When handling internal components of the Leica system-unit, with the permission of the Leica Support Team, the following handling procedures for static sensitive devices should be observed:
 - Always turn off the power and unplug the system.
 - Drain static electricity from your body by touching a metal part of the Leica Imaging Workstation before you remove or install any part of the system. Avoid letting your clothing come into contact with the components of the system.

1. Switch off the PC and unplug from the mains to disable any standby power.
2. Remove the system unit cover or side panel.
3. Select a suitable PCI slot with no obstructions (preferably one with adequate air-flow from the auxiliary fan), and remove blanking panel as necessary.
4. Ground yourself to an antistatic mat or other grounded source to discharge static electricity before handling the board.
5. Pick up the board by grasping the metal edge bracket with one hand.
6. Taking care to hold the edges of the board, avoiding contact with the electronic components, position it over the PCI slot and locate the tip of the metal bracket in the slot of the PC chassis, before pushing the board firmly but gently home with a slight rocking action.
7. Secure the bracket with a retaining screw.
8. Connect a spare power connector from the PC power supply to the connector indicated in the image shown below.
9. Replace PC system cover or side panel.
10. Reboot and **Cancel 'Found New Hardware'** Wizard when it appears.



Configuring and Checking the System

Installing the Drivers

With the Matrox card inserted into the system you will now need to install the drivers which will allow it to be used. This is done in the following manner.



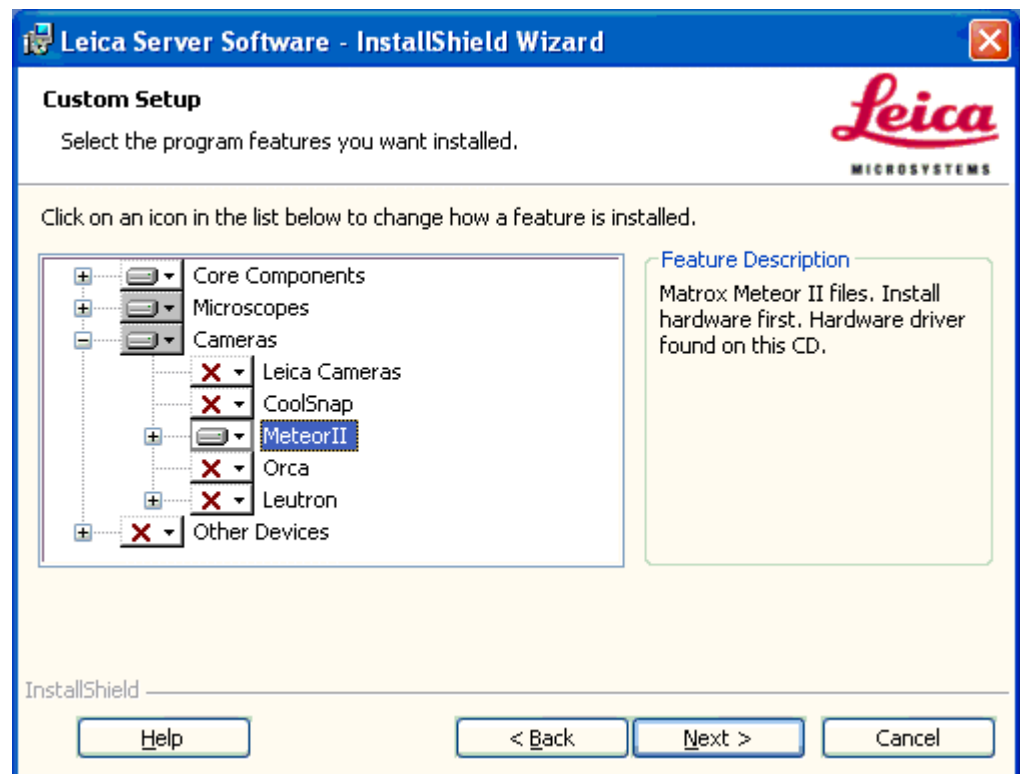
Note: This procedure should only need to be followed if your Leica Microscope has been supplied separately or is being added onto a system. If it was supplied with the system then it will have already been installed and tested.



WARNING: You must have Administrator rights to perform this installation procedure.

Insert the Leica Servers CD into the CD drive of your system. This will then Autorun. You will be asked to confirm Licensing and organisation details and then will enter the configuration dialog.

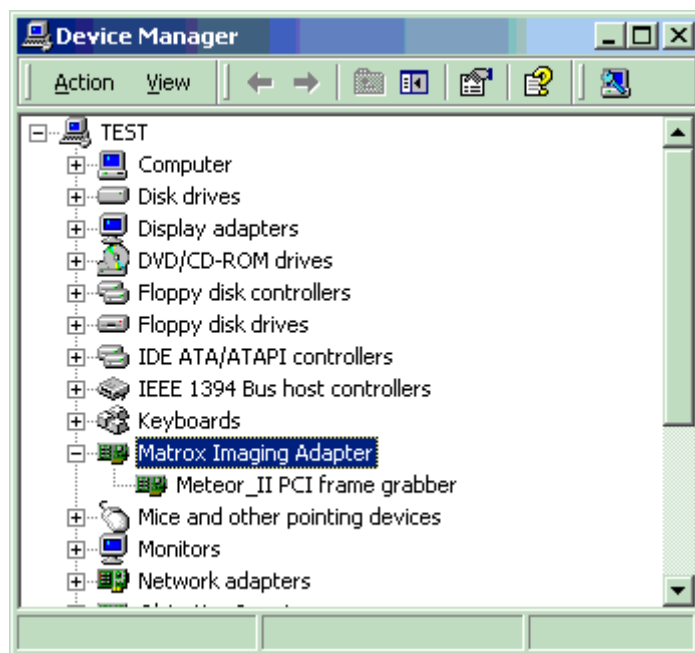
You will then need to select the Meteor install from this dialog and then click on next. This will install the hardware drivers needed by the board as well as the software drivers needed to allow the Meteor board to be used with the Leica Servers environment.



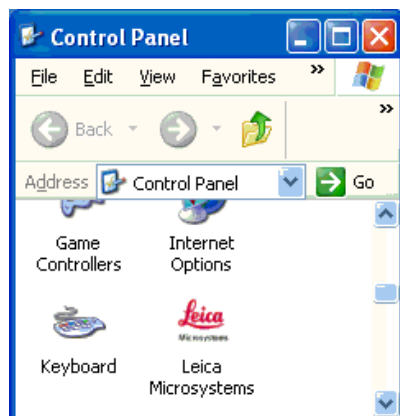
Follow this procedure through and then reboot the system.

Checking and Configuring

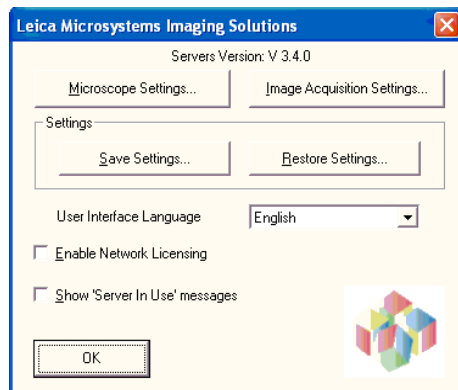
1. You can check that the board and drivers are correctly installed by going to the Windows Control Panel.
2. Click on the System Icon, select Device Manager and then Hardware.
3. In the dialog that appears you should see the board displayed as shown below.



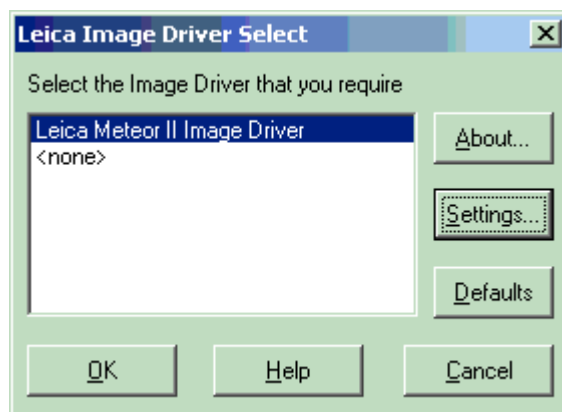
4. Go to the Windows Control Panel and click on the Leica Microsystems Icon.



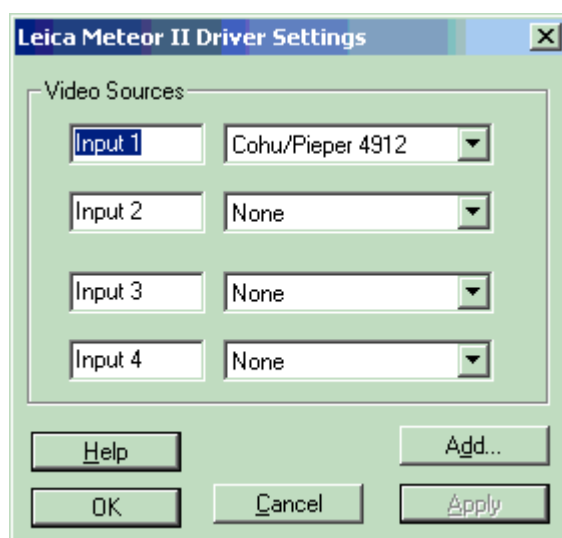
5. Next, click on Image Acquisition Settings.



6. You will now see a dialog which shows which Image Driver is currently selected. Click on Select
7. You will now see the Image Select dialog. Make sure that 'Leica Meteor II Image Driver' is selected and then click on 'Settings'.



8. In this dialog you should select your camera and which input it is on. The default input in single camera systems is input 1. Selection of a camera is done by choosing from the drop down list to the right of each input. The example shown is for the Cohu/Pieper monochrome camera.



9. You can now click on OK to exit this dialog and then OK on the preceding dialogs to exit to windows. The live image should now be accessible to your Leica applications.



Appendix A:

Declaration of Conformity

This chapter contains the following topics:

- ◆ Declaration of Conformity

Declaration of Conformity

We, **Leica Microsystems Cambridge Ltd.** declare under our sole responsibility that the Leica Microsystems Models:

Leica Q550 IW

Leica Q550 MW

are in conformity with the following harmonised standards:

EN55022 - Conductive and Radiated Emissions (Class A on Radiated Emissions).

IEC 801/4 - Conductive Immunity.

IEC 801/3 - Radiated Immunity.

IEC 801/2 - Electrostatic Discharge.

EN 61010-1: 1990 - Safety requirements for electrical equipment for measurement control and laboratory use.

following the provisions of directives:

89/336/EEC - Electromagnetic Compatibility.

73/23/EEC - Electrical Safety.



Note: This is a copy. **Full Certificates** are shipped with every system.



Appendix B: Contacting Leica – Fault Reports

Chapter Overview

This chapter contains the following topics:

- ◆ Fault Report Procedure
- ◆ Customer Hotline Request Form

Fault Report Procedure

If a system fault occurs with your Leica Imaging Workstation, then it is important that as much information concerning your machine's particular configuration and a full description of the fault is provided, to allow the Leica Support Team to process your request for help as quickly as possible. Please collect as much as you can of the information detailed in the Checklist below about your Leica Imaging Workstation and the fault, to allow the **Leica Support Team** to help you quickly and efficiently. This form is available via email if requested.

The **Leica Support Team** will be happy to assist you with any questions you may have.

You can contact our team by the following methods:

Email Di.support@leica-microsystems.com

Tel +44 1223 401824

Fax +44 1223 412526.

Customer Hotline Request Form

In order to be able to process your hotline request as efficiently as possible, please fill in the required information about your system environment as fully and accurately as possible. Thank you very much for your help!

PC related information

Operating System [Windows 2000/XP/Vista]	Service Pack
PC type (e.g. Dell Dimension XXX)	
RAM capacity (e.g. 256 MB)	
CPU type and speed (e.g. Intel Pentium 4/2.4)	
Hard disk capacity /free disk space (e.g. 60 GB, 800 MB)	
Graphic display properties: ☐ Resolution (e.g. 1024x768) ☐ Colours (e.g. True Colour) ☐ Font size [small / large]	
Network System (e.g. Novell, NT)	

Application Software related information

Version and Release (menu Help/About) (e.g. IM1000, V1.20 / R19, QWin V3.1)	
Server Software version (if present)	
Language Windows, IM Software (e.g. Windows English, IM German)	
System number (menu Help/Registration) (e.g. 500-D1-34 Found on rear of system)	

Software related information

DFC TWAIN Version (e.g. V5.1.1)	LAS Version (e.g. V2.6.0)
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Specific Hardware related information

Microscope type (e.g. DM4000)	
Camera type (e.g. DFC300FX)	
Stage type (e.g. Prior)	
Frame Grabber type (e.g. Matrox Meteor II)	
Printer type	
Graphic board	
Network board	
Motherboard type	

Please send the information back to "DI.Support@Leica-Microsystems.com"