HyperLab 2002 System

Installation Guide

HyperLabs Software
Budapest, Hungary

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Preface

Welcome to HyperLab 2002 System! The documentation guidelines for our gamma spectroscopy system are the following:

- To install HyperLab System quickly, start reading this **Installation Guide**.
- When you have successfully installed the software system, read **Quick Start Guide** to become familiar with its concepts and learn how to use it efficiently.

We wish you successful work with our software. Thank you for purchasing HyperLab.

HyperLabs Software
Budapest, Hungary

1. Introduction

HyperLab comprises several software modules (independent applications). This Installation Guide describes steps necessary to setup HyperLab Main Module, Measurement Controller Station and Measurement Server onto your computer.
Main Module performs gamma spectrum evaluation, as well as system nonlinearity, detector efficiency and resolution determination. Measurement Controller Station and Measurement Server may be used to take new measurements.
For detailed instructions on using the installed components, see **Quick Start Guide** book.

1.1. Possible system configurations

Each of HyperLab 2002 Spectroscopy System modules requires to install software components, that is, helper applications which work together and may be installed separately. The selected component set determines the capabilities of the installed system. For example, if you do not install Measurement Server or Controller Station modules, you will not be able to take new measurements. Or, if you do not install MSDE database engine, Main Module will not work.
Standard HyperLab 2002 configurations and required software components are listed in the following table.

Configuration	*Components to install*	*Features*
For each configuration	• Windows Installer • Sentinel hardware key driver	• Software installation and removal through Control Panel • Communication with software protection key
Evaluation Station	• MSDE database engine • MSDE patch (recommended) • Main Module	• Evaluation of previously measured gamma spectrum data files • Post-processing the evaluation results for nonlinearity, efficiency and resolution determination

Configuration	*Components to install*	*Features*
Evaluation and Measurement Controller Station	• MSDE database engine • MSDE patch (recommended) • Main Module • Measurement Controller Station	• All features of Evaluation Station • Capability to start and stop remote measurements
Standalone Measurement Server	• Measurement Server Module	• Controls local measurement devices and accepts remote measuring commands
Full system	• MSDE database engine • MSDE patch (recommended) • Main Module • Measurement Controller Station • Measurement Server	• All features of Evaluation Station • Capability to start and stop measurements for local or remote measurement devices

Notes:

- *Measurement Server* must always be installed to the PC where your measurement device is connected - typically where your MCA card is fitted.

1.2. System requirements

System requirements for various software components of HyperLab 2002 are listed in the following table.

Configuration	*System requirements*
For each configuration	• Standard PC with Windows 98, 2000 or XP operating system. Modules are possibly working on other 32-bit Windows platforms, but this is not extensively tested. We suggest using Windows 2000 or XP systems due to their improved stability. • Properly installed Windows networking software even for standalone PCs. This is *absolutely necessary* to install HyperLab. Note that no physical device is needed to be present in your computer, but you may set up virtual devices (e.g. Dial-Up Network Adapter or Microsoft Loopback Adapter). • Display with at least 800x600 pixels resolution, and 256 colors • Standard parallel port to attach hardware key(s)
Evaluation Station	• At least 128 MB RAM. • At least 250 MB free hard disk space. May vary on operating system version. • Software protection key with Main Module License • Fast Pentium processor recommended, because spectrum evaluator performs a huge amount of numerical calculations during spectrum evaluation.
Measurement Controller Station	• Working TCP/IP-based network • Software protection key with Measurement Controller Station License

Configuration	*System requirements*
Standalone Measurement Server	• Working TCP/IP-based network • Works on older (even 486-based) machines with Windows 95 • Requires only 64 MB RAM • Software protection key with Measurement Server License

2. Installation

HyperLab gamma spectroscopy system requires a multi-step installation procedure. Please read carefully and follow instructions below.

Important note: HyperLab 2002 requires that you have *Administrator security privileges* for setup and running under Windows 2000 and XP operating systems.

2.1. Prerequisites of the installation

Prior installation you must ensure that your system is capable to install HyperLab 2002 Gamma Spectroscopy System modules.

2.1.1. Removing existing Sentinel hardware key driver

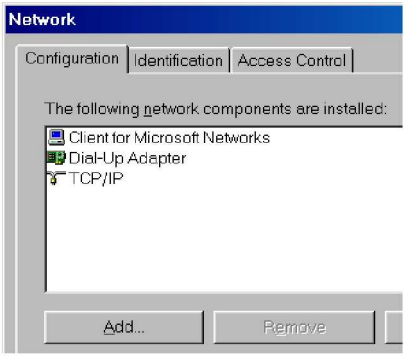
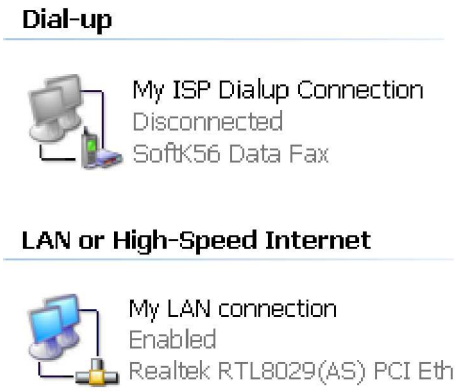
Some other applications on your computer also may require a Sentinel hardware key manufactured by Rainbow Inc. to run. In general, these keys communicate with the software through the parallel port, and use a system driver previously installed for the key.
HyperLab provides an up-to-date driver for these Rainbow keys, which will automatically install and replace the old driver. However, the safest solution is to manually remove the old driver preceding HyperLab installation.
To remove the old Sentinel driver, please run the following file from the distribution media:
`AddOns\HardwareKey\RemoveOldDriver\RemoveOldDriverQuietly.bat`
This will silently remove the old driver, thus it cannot interfere with the new one.

2.1.2. Removing existing MSDE installation

Please make sure that no “MSDE” or “Microsoft SQL Server Desktop Engine” database management software is installed on your system previously by any other application, because HyperLab setup may interfere with these previous installations. Search for these application names under `Control Panel/Add or Remove programs` icon. If you find any, uninstall these from your computer first, reboot your machine, then restart HyperLab setup.

2.1.3. Checking and installing Windows networking software

To successfully install any module of HyperLab System, `Client for Microsoft Networks` software component must be installed. Prior to installing this component, you must have a network interface device installed, namely a network card or a modem, as shown in the next table.

System	*To check networking component, ...*	
Windows 98	Open Control Panel / Network and make sure that a green network adapter icon as well as `Client for Microsoft Networks` appears in the list. This may represent a dial-up adapter for a modem connection, or a Network Interface Card (for LANs). **Note:** If any of these components are missing, you must manually install them. ☞ See *Appendix B* for instructions.	
Windows 2000 or XP	Open the Control Panel / Network Connections icon, check Dial-up or LAN section. If you find some icon here representing real connections, you have the software installed. **Note:** If your computer does not have either a modem, or a network card fitted, you must manually install a "Standard 56000 bps modem" software component from Control Panel, a TCP/IP dial-up connection for it, and Client for Microsoft Network.	

2.2. Installing software components for HyperLab

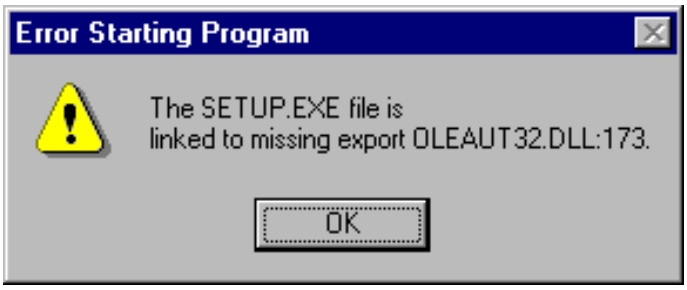
HyperLab 2002 Setup application will setup necessary HyperLab software components to your computer. The installation may require to restart your computer several times, and typically takes half an hour to complete, but this depends heavily on your machine's existing hardware and software configuration.
If the setup program requires you to restart your computer during the installation of a specific software component, do so. HyperLab 2002 Setup should automatically start again when your Windows system restarts. If Setup is not starting, start it manually again by running Setup.exe. HyperLab Setup will then continue the installation process where it has been interrupted.

2.2.1. Using the main setup application

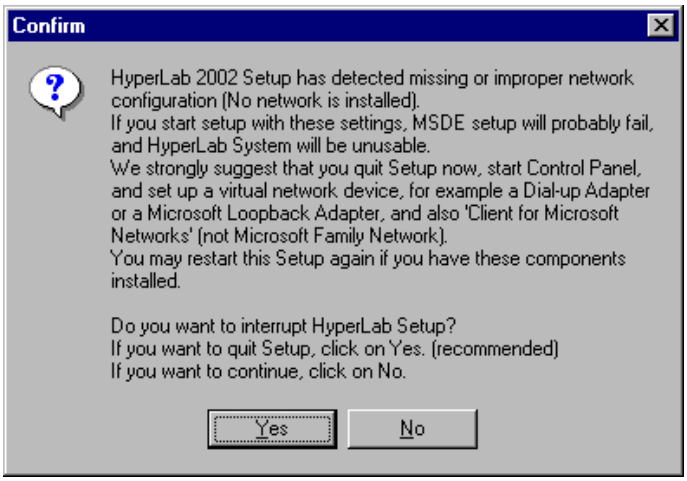
The main setup program is Setup.exe, which in turn sequentially starts separate setup applications for each software components. The steps necessary to run HyperLab 2002 main setup application are described below, while the interaction with individual HyperLab software components is described later.

a) Start the Setup program by double-clicking the Setup.exe program icon in the root folder of the distribution media. If any important system component is missing from your computer, an error window appears.

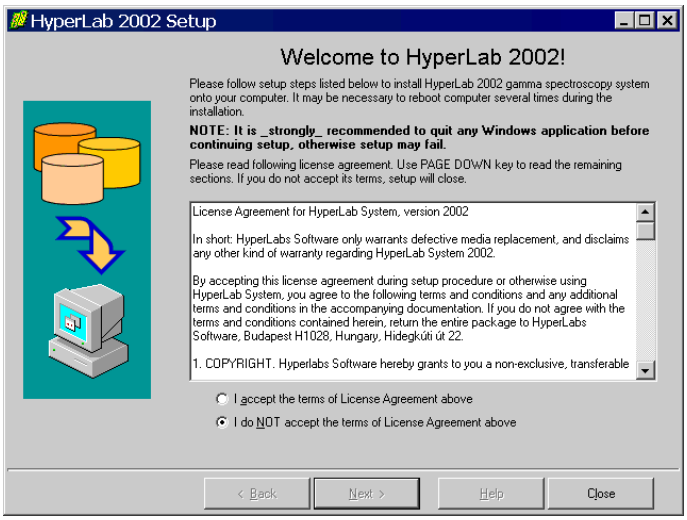
This message (or similar) appears if you have really old Windows system files. Update your system files first, and start again Setup.exe.
See *Appendix A* about Windows 98 system file updates.

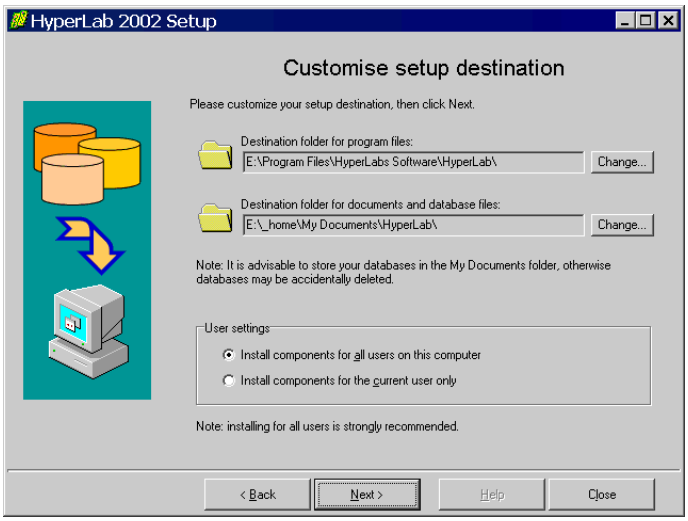


If you have no network components installed, or the network is not properly configured, this warning message window appears.
We strongly recommend to quit Setup by clicking on `Yes`, install a virtual networking device, then run Setup.exe again.
See *Appendix B* about Windows 98 network device installation.

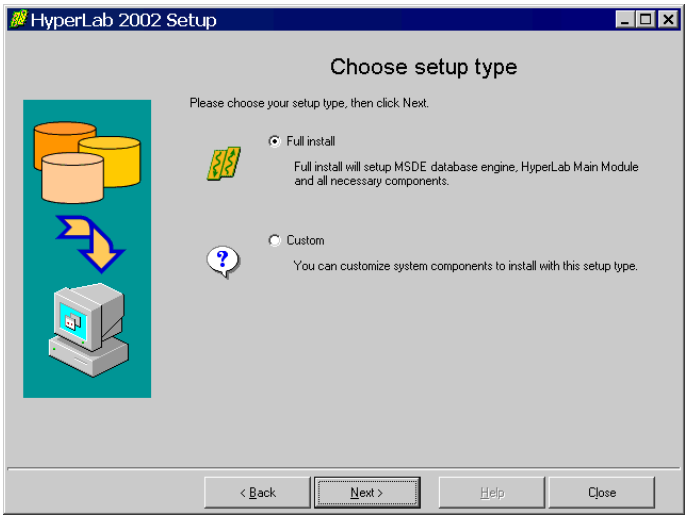


b) HyperLab 2002 Setup Welcome window appears with the License Agreement. Use scrollbar at the right or press `PgDn` key to read the License Agreement entirely.
You must accept License Agreement in order to setup HyperLab 2002 System. To accept the license, click on the appropriate radio button at the bottom, then click `Next`.



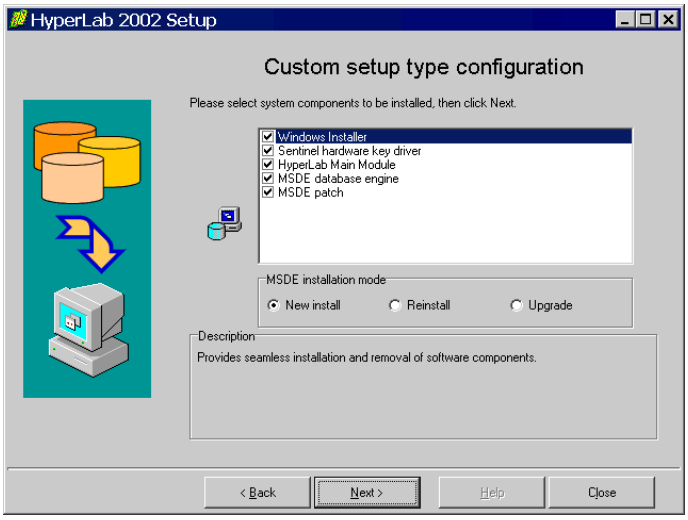


c) Destination customizing window appears. You can set folders for HyperLab program files and databases here. Please note that the size of databases folder will be continuously growing, so you must always keep free space on the destination drive.
You can set here the type of installation: the settings to be stored for each user on the target computer or just for the current one. This setting is relevant only on Windows NT-based systems (NT, 2000, XP).
We strongly recommend to install HyperLab for each user in these cases.



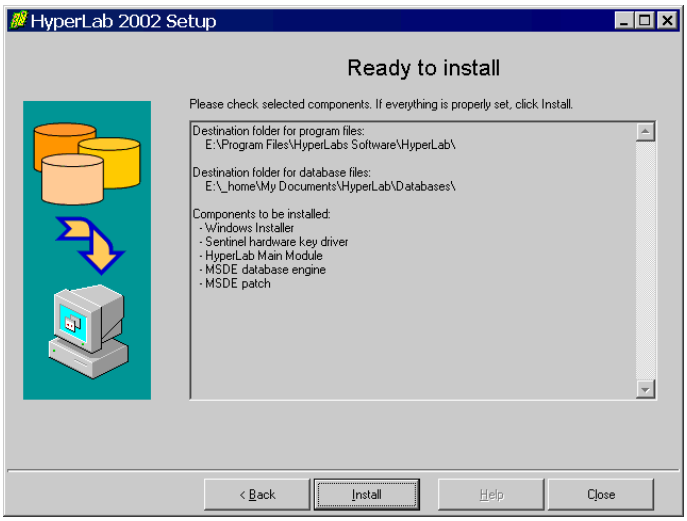
d) Now the Setup Type selection window appears. Here you can choose the basic system configuration for your needs. Presently only two options are presented: full install and custom installation. Typically you should select full install to setup complete HyperLab 2002 System.

If you select Custom setup type, read on, otherwise jump to section f).



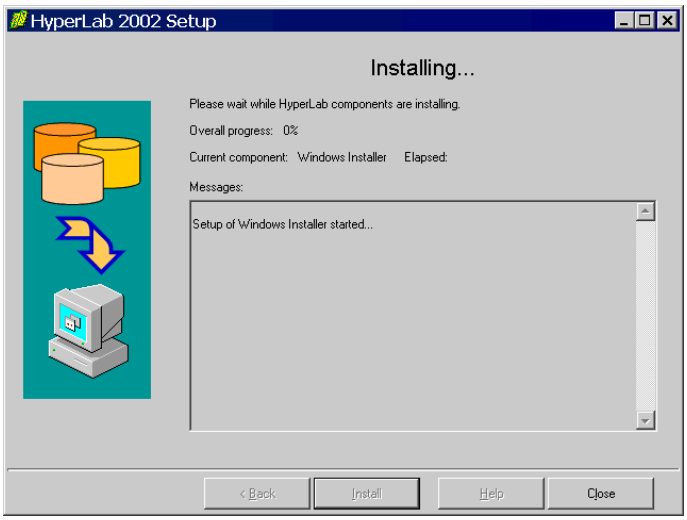
e) If you selected Custom setup type, the software component customization window appears. You can check here the software components you want to set up. Refer to section “1.1 Possible system configurations“ for required software components in each common setup scenarios.
After you selected components, click `Next`.

f) You are ready to start setup process now. Check the listed components which are selected for installation. If the list is complete, click Install.

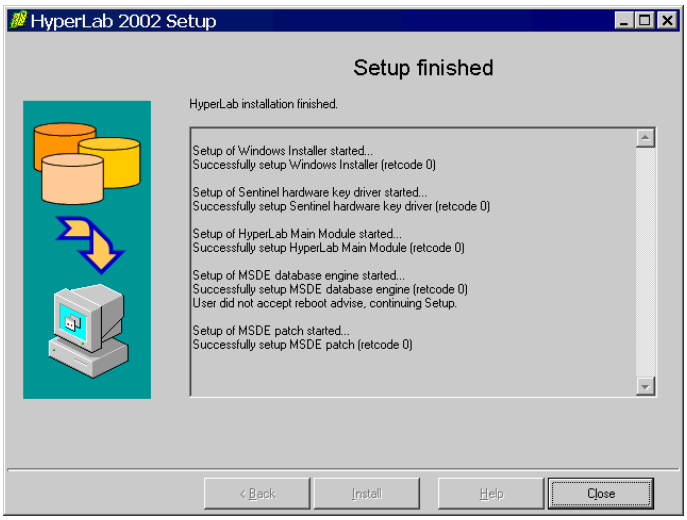


g) Installation starts now, and you can follow the progress of the setup steps in this window. Name of the currently installed component and elapsed time is displayed at the top, while the interpreted responses of the setup applications are displayed in the Messages area.

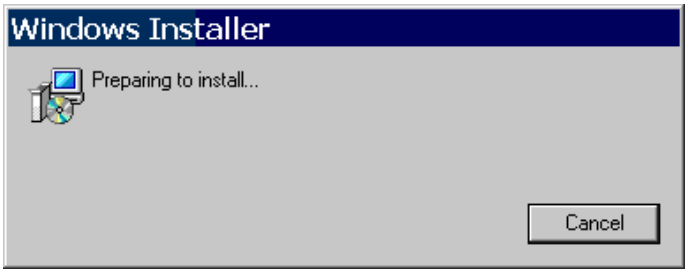
Note: Installation process of each specific component is detailed in the next sections.



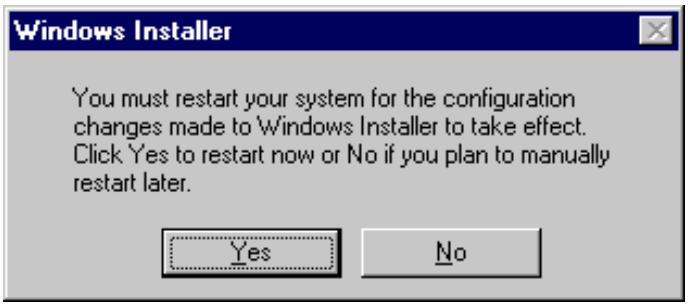
h) When setup has finished, a message window appears. Click `Close` to finish setup.



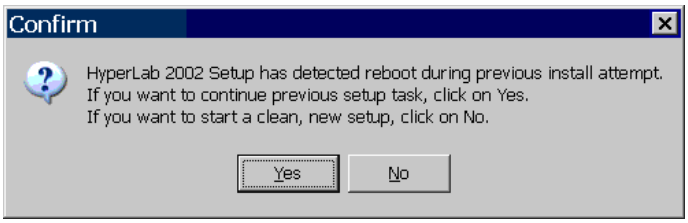
2.2.2. Setting up Windows Installer



If you selected Windows Installer component in the main setup program, it installs first. This requires minimum interaction from the user.
Result of setup process will be indicated in the Messages panel of the main setup program.



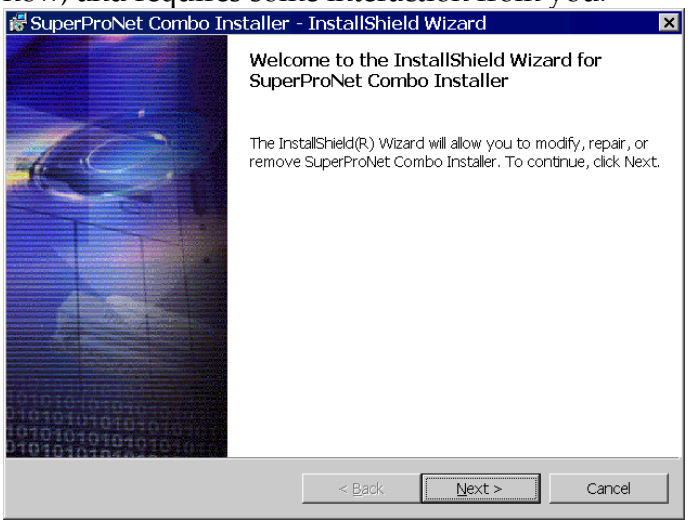
Sometimes necessary to reboot your computer after setting up Windows Installer. In this case, a warning message box appears. Press `Yes` to reboot your computer.



After reboot, HyperLab setup automatically restarts itself, and lets you choose continuing the installation interrupted before, or starting a new, clean install. Click on `Yes` to continue your previous setup procedure.

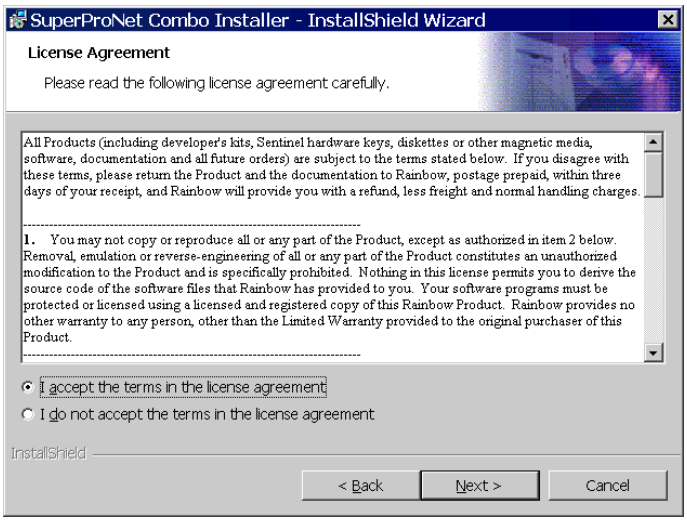
2.2.3. Setting up Sentinel Hardware Key Driver

If you selected Sentinel Hardware Key Driver component in the main setup program, it installs now, and requires some interaction from you.

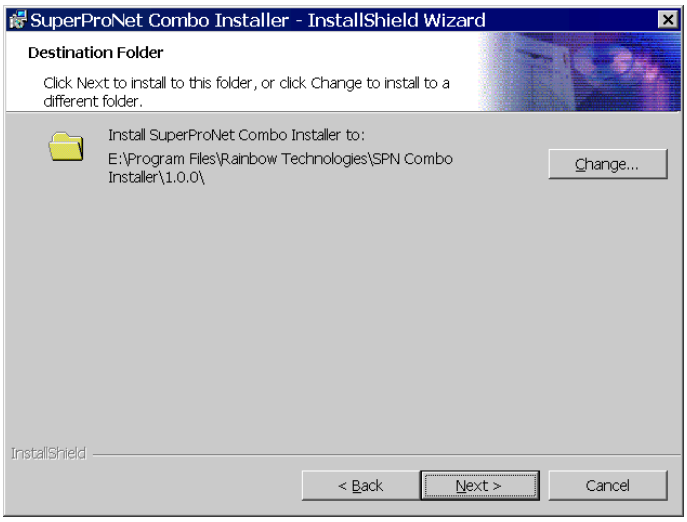


A welcome message window appears first. Click `Next`.

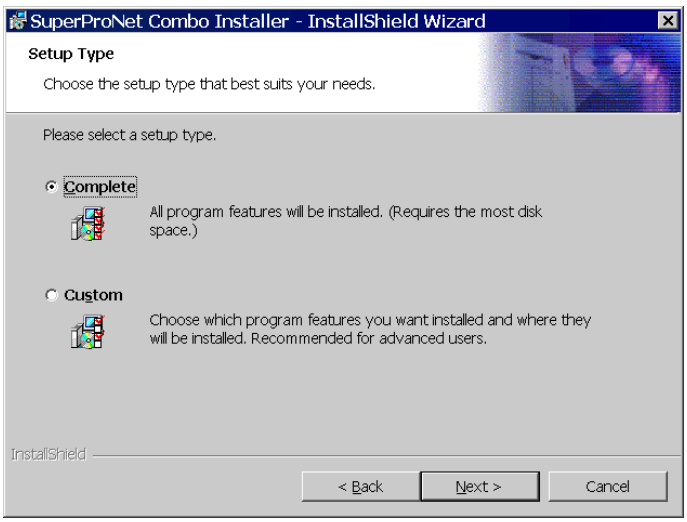
You must accept the license agreement of Sentinel driver now. Select `I accept...` radio button at the bottom of the window, then click `Next`.

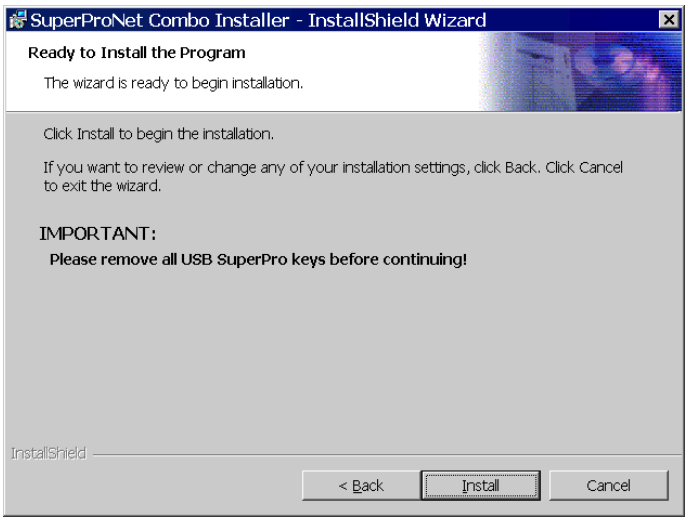


You can change the default installation directory for the driver, or just leave as it is at the next window. If the folder is properly set, click `Next`.

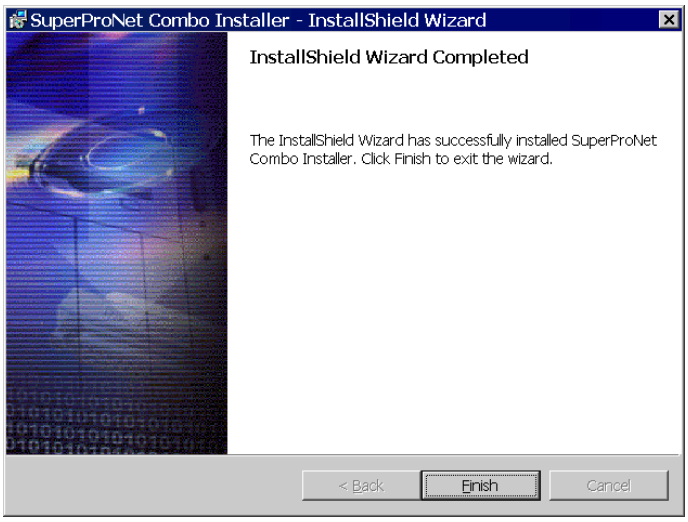


You can select the type of the setup on the next page. Choose Complete setup type, then click `Next`.



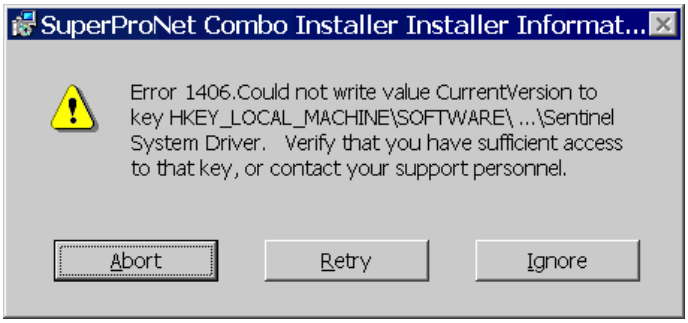


Start the installation process by clicking on `Install`.



Now the installation process is starting. If it is successfully completed, a message window appears.
Click `Finish` and installation status will be indicated in the Messages panel.

Sometimes a reboot is required at this point. After reboot, HyperLab setup should start automatically. If it is not started, run Setup.exe again.



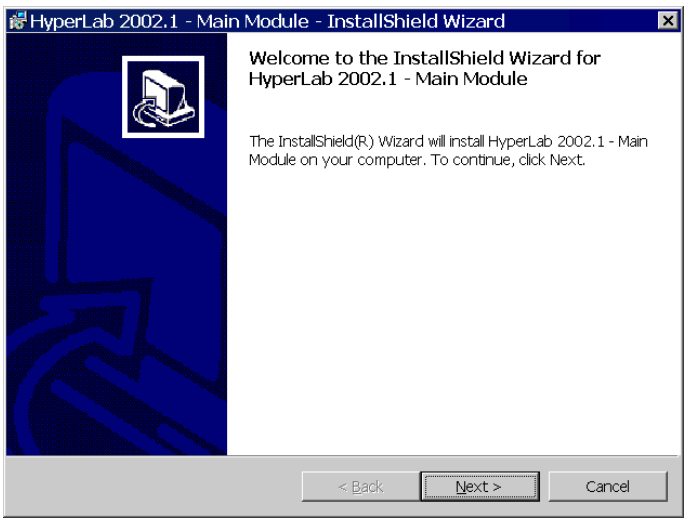
Common errors:

If Sentinel driver is previously installed and is in use by your Windows 2000 or XP system, several warning messages may appear. Click `Ignore` for each warning window, as the driver successfully installed on your system previously.

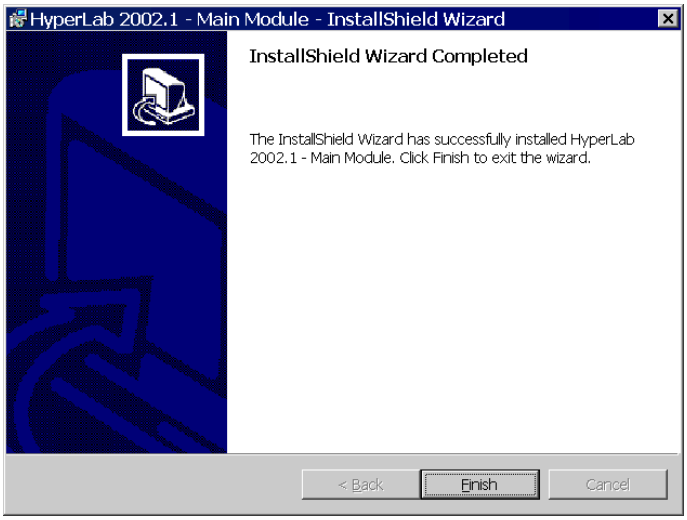
2.2.4. Setting up HyperLab Main Module

This software component performs core spectrum evaluation and post-processing tasks. If you selected Main Module component in the main setup program, it installs now, and requires minimum interaction from you.

First a welcome message window appears. Click `Next` here.



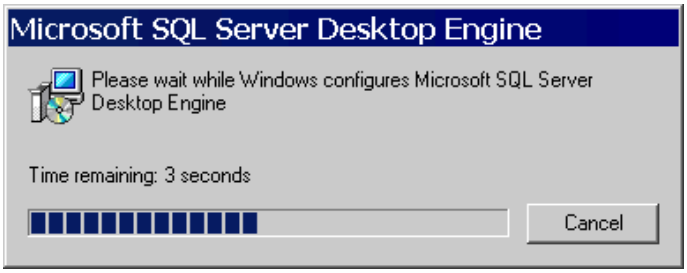
Now the installation process is starting. If installation has been successfully completed, a message window appears. Click `Finish` and installation status will be indicated in the Messages panel.



2.2.5. Setting up MSDE Database Engine

This is a critical component for HyperLab Main Module, because it makes it possible to store and retrieve spectroscopic data in a relational database.

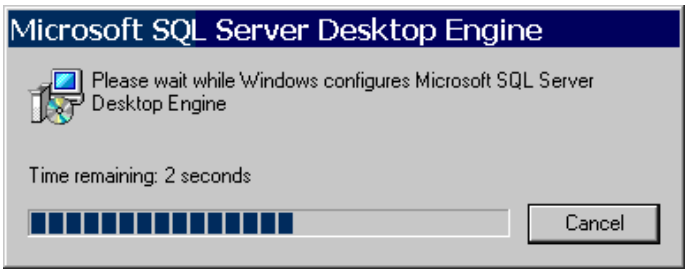
When the MSDE setup application is started, a Windows Installer window appears on your screen, and displays the installation progress. Setup of MSDE may take 5-15 minutes. If it is successfully finished, the window disappears, and main setup continues.



Sometimes a reboot is required at this point. After reboot, HyperLab setup should start automatically. If it is not started, run Setup.exe again.

2.2.6. Setting up MSDE Patch

The installation of this component, in contrast with MSDE itself, is not mandatory, but recommended whenever MSDE is installed. The patch addresses some MSDE issues arising after the initial release of the database engine and therefore may help to keep your databases error-free.



When the MSDE Patch Setup application is started, a Windows Installer window appears on your screen (very similar to the MSDE installation window), and designates the status of the installation progress. Setup of MSDE patch may take 5-15 minutes. If it is successfully finished, the window disappears, and main setup finishes.

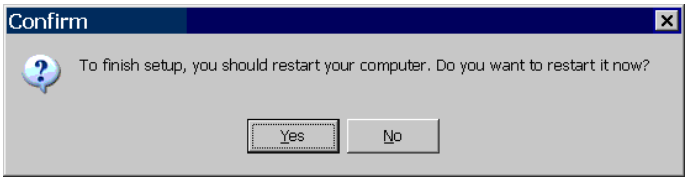
Common errors:

A message window may appear on some computers during the installation of the MSDE Patch, stating that an important ODBC library could not be installed, and it waits for user interaction.

In this case, right-click on the MSDE icon at the Taskbar, and select Exit from the menu. This will stop the MSDE Monitoring Utility which causes this problem.
After this utility stopped, click on Retry button to complete the installation of the patch.

3. Finishing Setup

Setup finalizing steps are the following:



Reboot your computer if required.
If necessary, Setup will warn you to restart your computer. Click on Yes to perform a reboot.

Check correct MSDE database engine installation.
If a little computer icon appears on the Taskbar showing a red square or a green triangle, and a tooltip containing "MSSQLServer" appears when you hover the mouse cursor over this icon, then MSDE has been successfully installed, otherwise you should attempt MSDE installation again.
Refer to *Appendix C* for advanced MSDE setup.

Start MSDE engine.
Right-click on the red square MSDE icon on the Taskbar, then select "MSSQLServer – Start" item from the menu.
Refer to *Appendix C* for advanced MSDE setup.

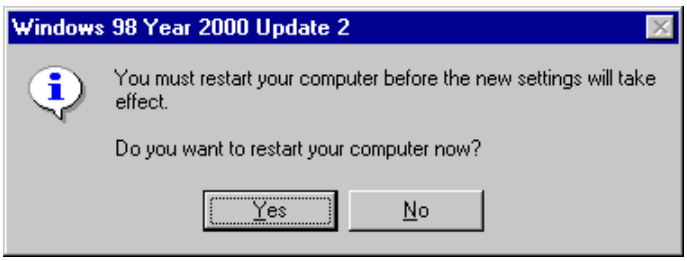
Now you can start reading "**Quick Start Guide**" on getting HyperLab 2002 started.

Appendix A. Installing system updates for Windows 98

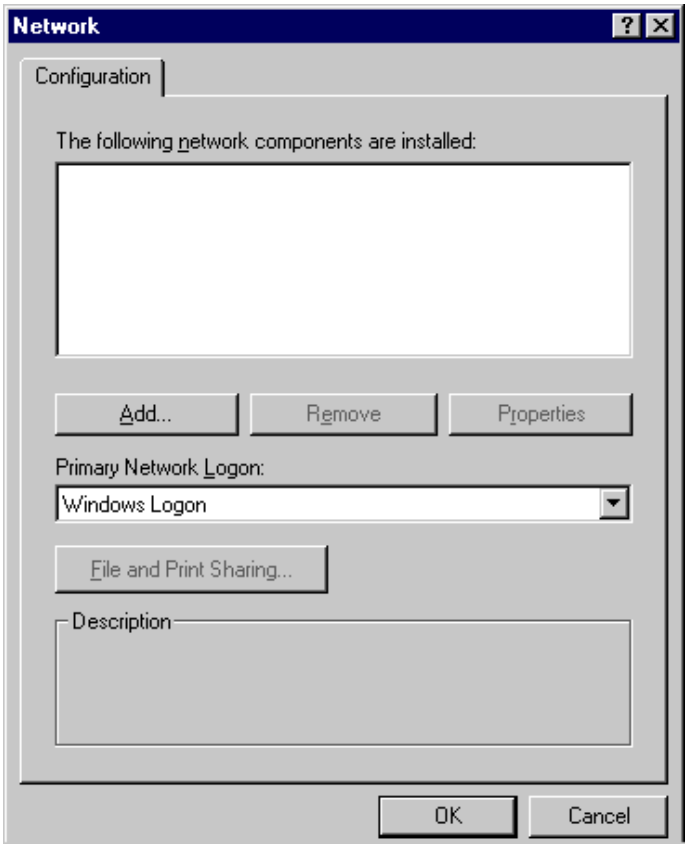
a) Start `y2k.exe` from the `AddOns / WinUpdates / Win9x` folder from the distribution media. This update should install silently.

b) Start `y2kw98_2.exe` from the `AddOns / WinUpdates / Win9x` folder. After confirmation of starting the update, and accepting the license agreement, system files will be updated.

c) Update may require a restart by displaying this window.
Click on `Yes` and system file update will be finalized.

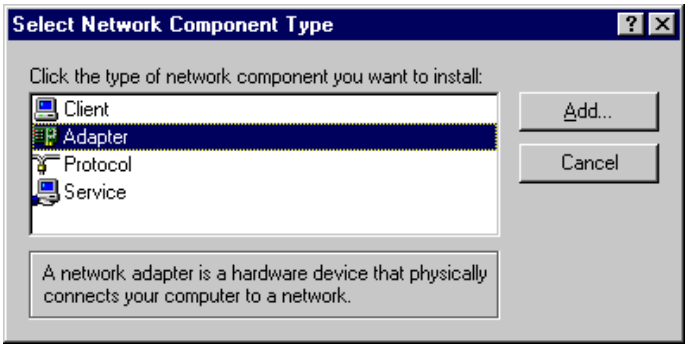


Appendix B. Installing virtual network device for Windows 98

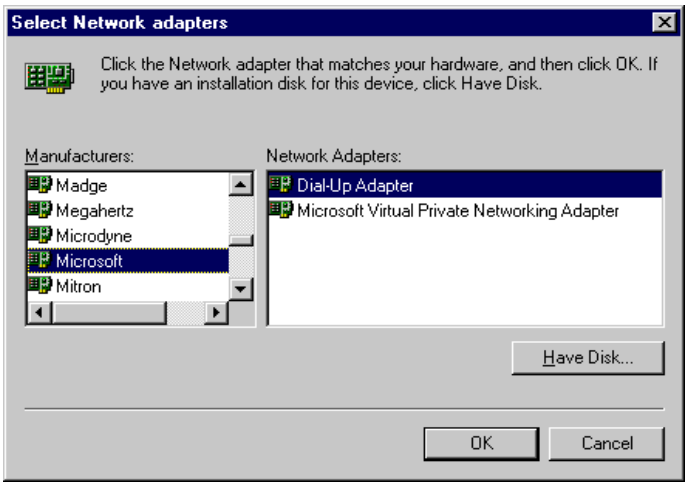


a) Double-click on `Control Panel / Network` icon, and check installed network components on the property page. If you do not have any networking components installed, you will see an empty list. If you have problems with network, you should remove all items from the list: click repeatedly on `Remove` button, until the list becomes empty.

b) Click on `Add...` button.

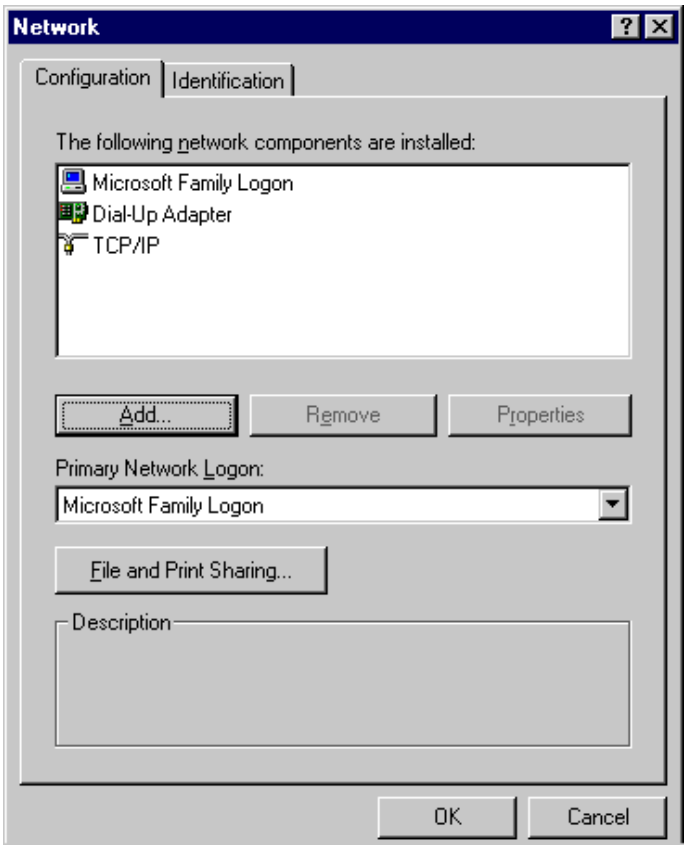


c) In the Select Network Component Type window select `Adapter`, then click `Add`.



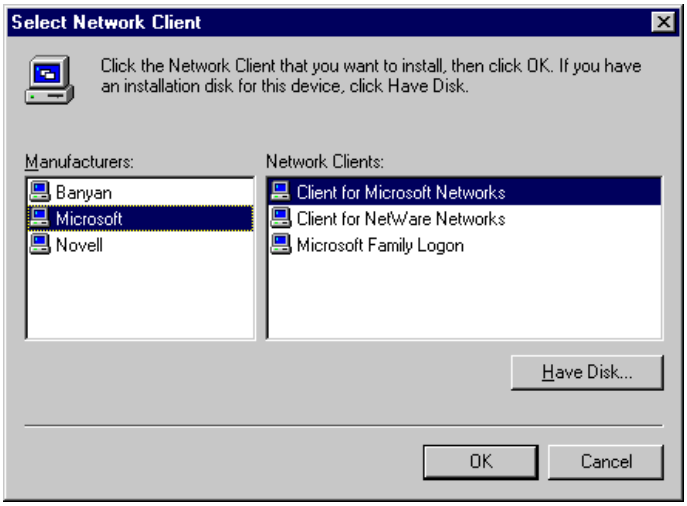
d) In the Select Network adapters window scroll down the list on the left, and click on `Microsoft`. Click `Dial-Up Adapter` on the right, and click on `OK`.

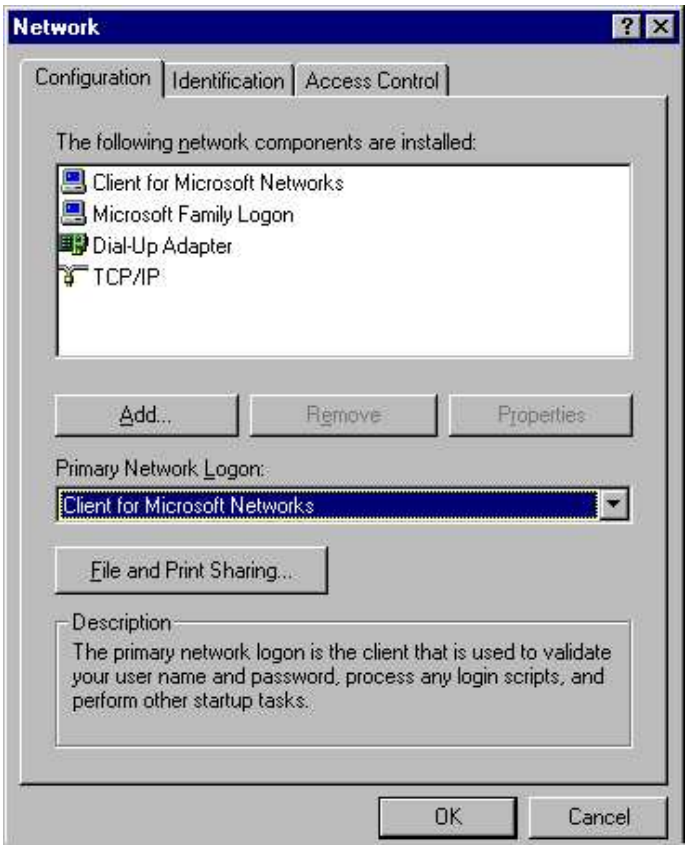
e) The Network window appears again, with the recently set-up networking components. We have to configure the computer for Microsoft Networking now. Click on `Add` button again.



f) Select `Client in` the `Select Network Component Type` window, then click `Add`.

g) A new window, titled `Select Network Client` appears. Select `Microsoft` from the list on the left, and `Client for Microsoft Networks` from the list on the right, then click `OK`.



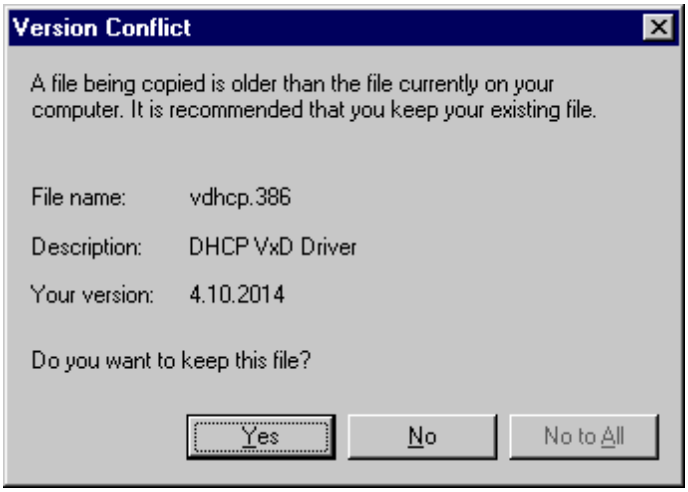


h) Now you will see the components installed as shown in the picture.

i) Choose here Client for Microsoft Networks from the `Primary Network Logon`. This is only necessary during MSDE installation. You can change primary logon back to your preferred setting after MSDE is successfully set up.

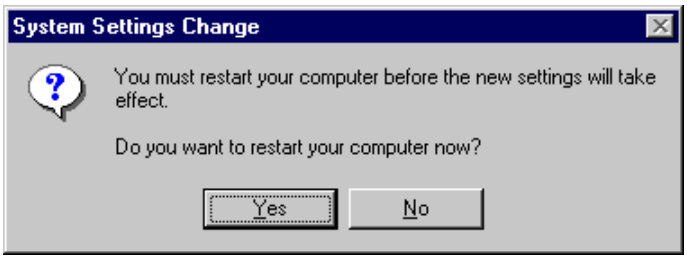
j) Click `OK` to confirm your changes.

k) Your system may prompt you to insert Windows 98 setup disk now. If you click `OK`, setup starts copying system files.

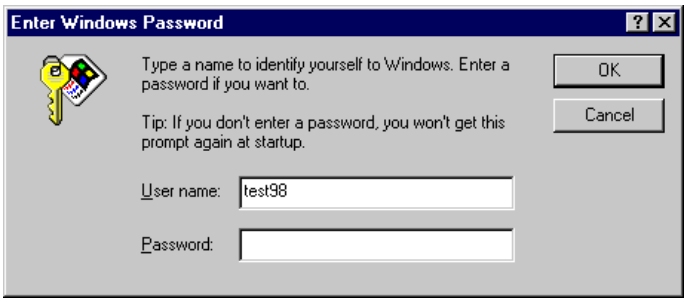


l) If the file to be copied is older than the one found on your computer, a Version Conflict window appears. It is strongly recommended to keep all newer files to maintain system stability, so it is always advisable to click on `Yes`.

m) If Windows prompts you to restart your computer, do so.



n) When you restart your computer, a new window may appear, requiring a Windows password from you. If you do not want to set up a password for your Windows sessions, simply click on `OK`, leaving the `Password` field empty.



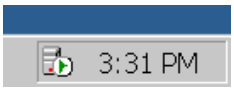
When the system is restarted, virtual network component installation finishes.

Appendix C. Managing MSDE database engine

As HyperLab Main Module operates on one or more of your HyperLab databases, it requires MSDE (Microsoft SQL Server Data Engine) database service to be started before using it. Generally, it works silently in the background, and does not need interactions from the end user.

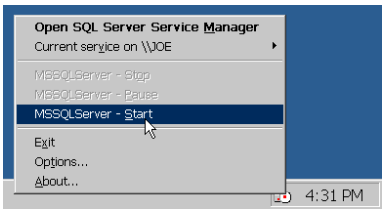
Checking status and starting of MSDE

Make sure that the MSDE database management system is running when you start HyperLab. This can be checked by looking at the MSDE icon on the Taskbar.
This icon is provided by a small MSDE monitoring utility called `Service Manager` and its shortcut is placed in `Start` / `Programs` / `Startup` menu, therefore it automatically starts when your Windows system is started.



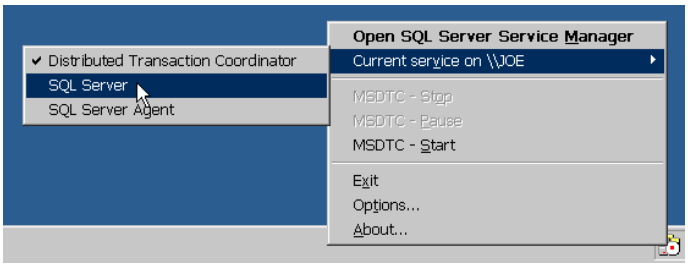
- If you can see a server icon with a green triangle on it, this designates running MSDE service. If you see this, you can immediately use HyperLab.

- If a red square appears here, MSDE service is installed, but presently is not running (stopped). You must start database service to use HyperLab.



- To start MSDE, right-click on the red square icon, and select `MSSQLServer - Start` from the menu appearing. Wait for the engine while it is starting (takes about 30 seconds). After the engine has started, the red square icon changes to the green triangle.
  You can start using HyperLab now.

Common errors



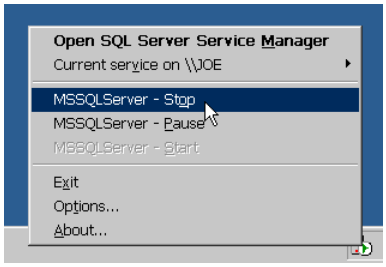
- If `MSSQLServer - Start` item does not appear in the menu, you can display it by selecting `Current Service...` menu item, and clicking on `SQL Server`.

- If no such red or green icon is available on your Taskbar, then either MSDE is not installed or its monitoring utility is not running.
- To check whether MSDE is properly installed, search "Microsoft SQL Server Data Engine" item under `Control Panel` / `Add or Remove programs` icon. If not found, please install again MSDE from HyperLab distribution media, possibly using *Custom* setup type.
- If MSDE is installed, and you just accidentally removed the shortcut of MSDE monitoring utility from Programs / Startup menu, create new shortcut here, and direct it to `X:\Program Files\Microsoft SQL Server\80\Tools\Binn\sqlmangr.exe`, where `X:` is the drive letter of your Program Files Folder.

Stopping MSDE temporarily

If you do not want MSDE to interfere with the installation process of some other application, you can temporarily stop it using the Service Manager icon on the Taskbar.

- To stop MSDE, right-click on the green triangle icon on the Taskbar, and select `MSSQLServer - Stop` from the menu appearing. Wait for the engine while it is stopping (this takes about 30 seconds). After the engine has stopped, the green triangle icon changes to the red square.



- A confirmation window appears. Click Yes to stop the database engine. You can perform your computer management task now. When it is ready, you can start again MSDE for HyperLab.

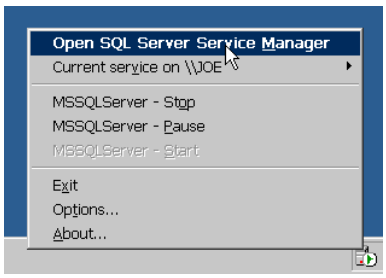
Notes:

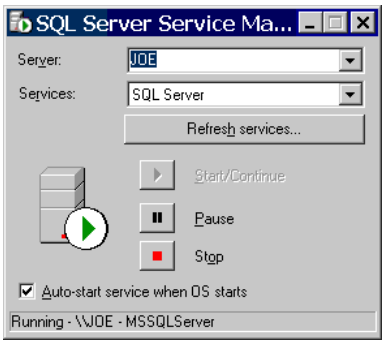
- MSDE database engine consumes relatively small amount of system resources. If it is set up to continuously running, and automatically starts up, this does not affect adversely the performance of an average computer.
- If you click Exit in the menu above, you just stop the MSDE monitoring utility, not the database engine itself. To prevent the MSDE engine starting automatically, read the next section.

Enable / disable the automatic starting of MSDE

If you use HyperLab on a regular basis, it is convenient to set up the MSDE database engine to start up automatically at system start. To auto-start MSDE, perform the following steps:

- Right-click on the MSDE icon on the Taskbar, and select `Open SQL Server Service Manager` item.





- A property window appears for the MSDE service. You can find the Auto-start check box at the bottom of the window. If you place a check mark in it, MSDE will start automatically after reboot.
  If you remove the check mark from here, MSDE must be started manually before using HyperLab.
- After making changes you can simply close the window by clicking the X button at the top right corner. Your settings will be retained in the system registry.

Notes:

- If you remove the shortcut of Service Manager monitoring utility from the Startup folder, you do not prevent starting the MSDE service itself, just the starting of the monitoring utility. To prevent starting MSDE engine automatically, you must remove the check mark from the property page as seen above.