

Spectrum TimeBase Installation Leaflet

Overview of Spectrum TimeBase

When installed with Spectrum or Spectrum Express software, Spectrum TimeBase enables you to collect many spectra from a sample, either continuously or at specific time intervals. This enables you to track the progress of a sample that is changing with time, for example, because of a chemical reaction that is occurring in the sample.

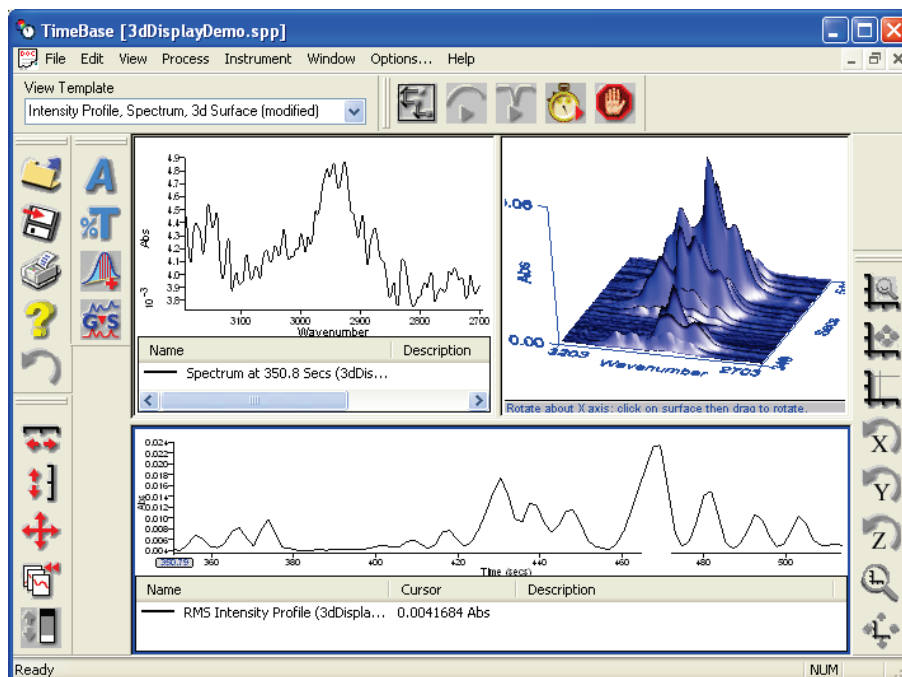


Figure 1 Spectrum TimeBase

Spectrum TimeBase has the following features:

- True multitasking: Data can be manipulated while a run is in progress.
- Real-time Beer's Law quantitation.
- Views: By saving the current view, you can recall the data at a later date and see exactly the same graphs, profiles, text labels, and so on.
- View templates: A set of pre-defined templates is provided, and you can also create your own templates.



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Produced in the UK.

- Import/export of spectra, including export to JCAMP-DX (.dx) format.
- Export of data to a comma-separated values (.csv) file, suitable for importing into Excel.
- Data-processing commands.
- Batch processing of data.
- Gram-Schmidt profiles:
 - Industry standard calculation for GC-IR chromatograms;
 - Calculation on spectrum instead of interferogram;
 - Improved speed of calculation;
 - Improved sensitivity;
 - Real-time GS reconstruction.
- Intensity profiles: Average, RMS, maximum, max – min.
- Quantitative profiles: Beer's Law, Band ratio, 2-band functional group, 3-band functional group.
- Rapid data collection feature: The software allows instruments (Frontier IR, Spectrum Two, Spectrum 100 and Spectrum 400 series only) to be configured to provide the maximum rate of data acquisition.

Features Related to Particular Applications

Spectrum TimeBase has the following applications:

- GC-IR;
- TG-IR;
- STA-IR
- GPC-IR;
- DSC-IR;
- LC-IR;
- General kinetics;
- Reaction monitoring.

GC-IR

- Turbochrom and GC-IR data collection on single PC;
- Unique Gram-Schmidt chromatogram calculation;
- Peak spectra optimization;
- Reading of Turbochrom data files;
- Data synchronization from external trigger.

TG-IR

- Experiment control from single computer;
- Calculation of gas evolution profiles;
- Display of Pyris TGA data (a range of graphs is available, using the raw data obtained from Pyris or calculated derivatives);
- Display of infrared profiles using a temperature axis.

STA-IR

- Experiment control from single computer;
- Calculation of gas evolution profiles;
- Display of STA 6000 data (a range of graphs is available, using the raw data obtained from Pyris or calculated derivatives);
- Display of infrared profiles using a temperature axis.

DSC-IR

- Measurement of changes in sample during heating;
- Transmission or reflection measurements;
- Custom experiment using third-party micro DSC.

System Requirements

To ensure successful installation of the software, please check these requirements before starting the installation.

Hardware Requirements

Install the Spectrum TimeBase software on a PC that meets, or exceeds, the requirements for the existing spectrometer software: Spectrum or Spectrum Express.

To control a Frontier IR System, Spectrum 100 series, Spectrum 400 series, Spectrum One or Spectrum One NTS spectrometer, or to connect to a Spectrum Two spectrometer over a network, the PC must have an Ethernet adapter to enable the TCP/IP protocols used to communicate with the instrument.

To connect directly to a Spectrum Two spectrometer the PC should have a USB 2.0 port, although you can also connect directly using an Ethernet cable.

PC Operating System and Required Software

NOTE: The software you use to control your spectrometer, Spectrum or Spectrum Express, must be installed on the PC *before* installing Spectrum TimeBase software.

If you are installing software on a new PC, check that its operating system is appropriate for the version of Spectrum or Spectrum Express you plan to install.

NOTE: Before installing the software, we recommend that you read and print the release notes which can be found as a .rtf file and a .pdf file in the Documentation folder on the CD, because they contain important information that may not be in this manual or the Spectrum TimeBase Help.

NOTE: If you are using a GC system with Turbochrom, you should also install Turbochrom before installing Spectrum TimeBase.

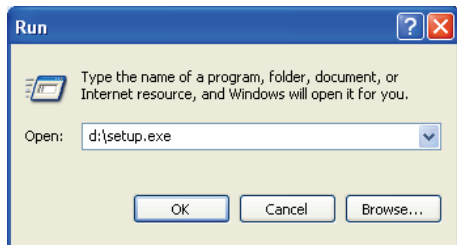
The following table lists the spectrometer, software, and operating system combinations that will support the Spectrum TimeBase software:

Instrument	Spectrometer software	Operating system
Spectrum Two	Spectrum v10.3 or later	Windows XP SP2 or later or Windows 7 (32-bit only)
Frontier IR Systems	Spectrum v10.3 or later	Windows XP SP2 or later or Windows 7 (32-bit only)
Spectrum 100 Series Spectrum One and Spectrum One NTS	Spectrum v6.3.4 or later	Windows XP SP2 or later
	Spectrum Express v1.3.2 or later	Windows XP SP2 or later or Windows Vista Business SP1
Spectrum 400 Series	Spectrum v6.3.4 or later	Windows XP SP2 or later
Spectrum GX, Spectrum 2000 and System 2000	Spectrum v5.3.1	Windows XP SP2 or later or Windows 2000 SP4
Spectrum RX and BX	Spectrum v5.3.1	Windows XP SP2 or later or Windows 2000 SP4

Software Installation

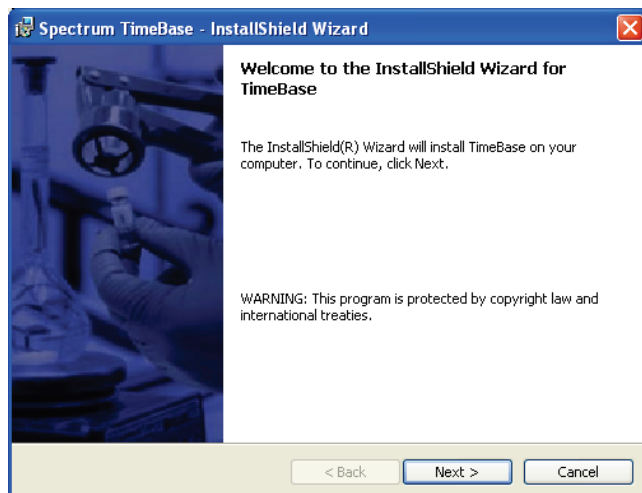
The Installation Wizard helps you to install the software on your PC.

1. Place your *Spectrum TimeBase CD* (LX100916) into your CD drive.
If the installation program does not start automatically, from the Start Menu select **Run**.
The Run dialog is displayed.



2. Enter **d:\Setup.exe** and then click **OK**.
Replace d:\ with the drive letter for your CD.
The InstallShield Wizard dialog appears while the system is preparing to install the software.

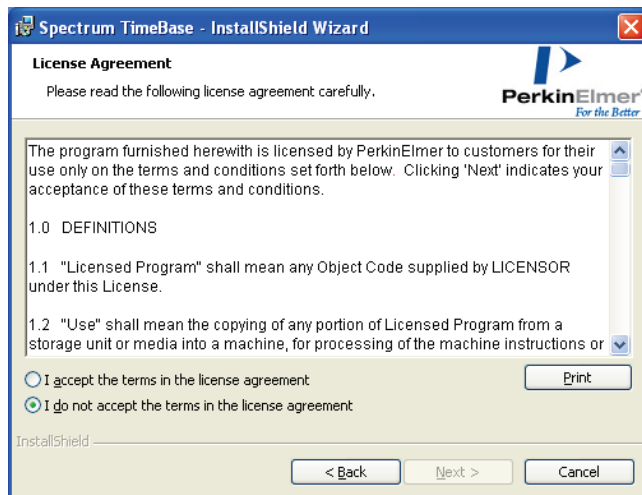
When the installer is ready, the Welcome dialog is displayed.



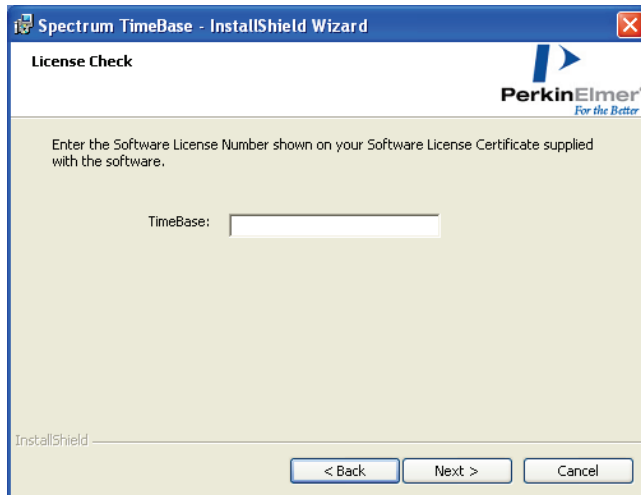
If your PC does not meet the software requirements given in *PC Operating System and Required Software* starting on page 3, an appropriate error message will inform you of the problem. You will need to correct this issue before the installation can be performed.

3. Click **Next**.

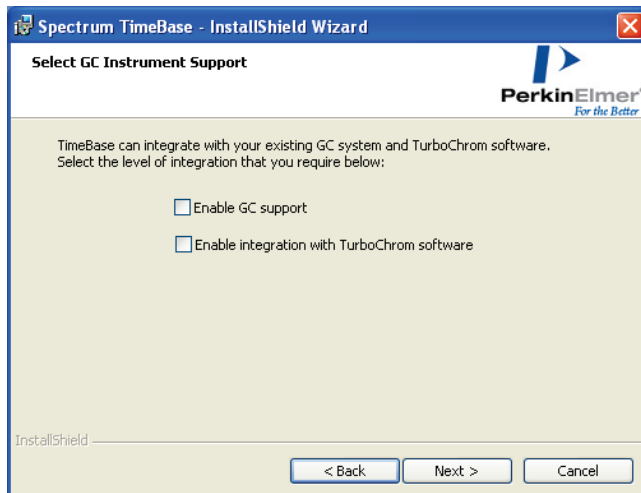
The License Agreement page is displayed.



4. Read the license and if you accept the terms, select that option and then click **Next**.
The License Check dialog is displayed.



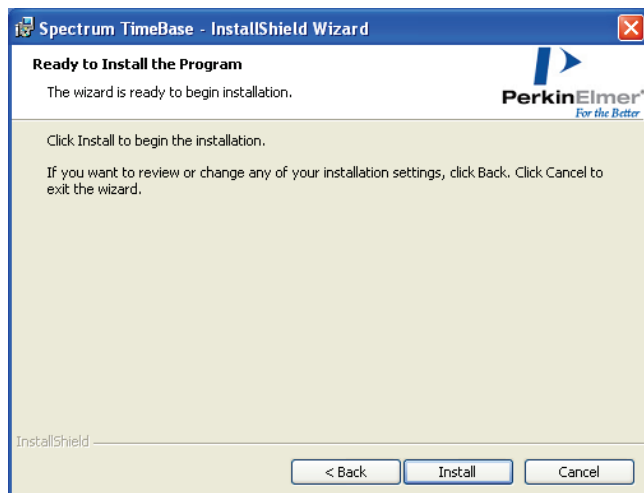
5. Enter the License Number for Spectrum TimeBase and then click **Next**.
The Select GC Instrument Support page is displayed.



6. If you will be using Spectrum TimeBase with a GC instrument, select the GC options you require.

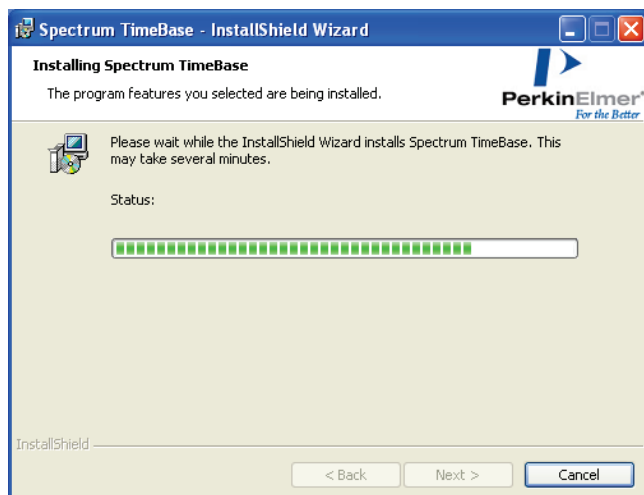
- Click **Next**.

The Ready to Install the Program page is displayed.

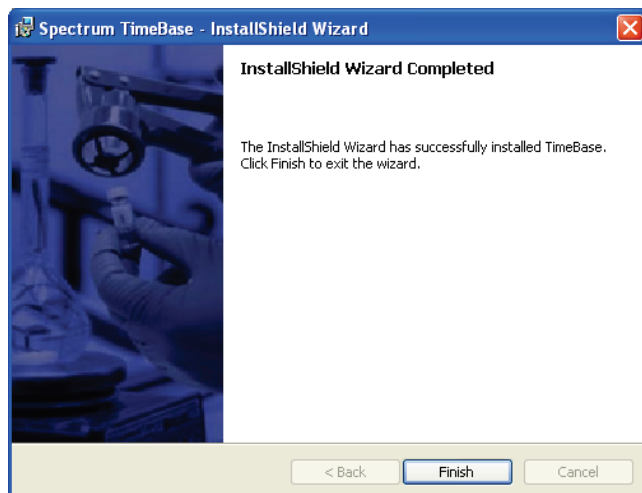


- Click **Install** to begin installing Spectrum TimeBase.

The Installing TimeBase page is displayed, which informs you of the status of the installation.



When the installation is complete, the InstallShield Wizard Completed page is displayed.



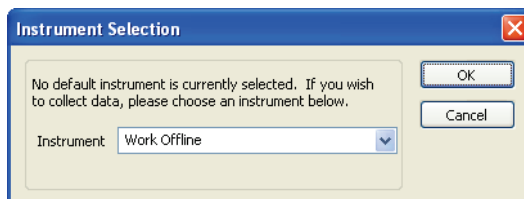
9. Click **Finish**.

When the installation is complete, Spectrum TimeBase is available in the PerkinElmer Applications group under All Programs on the Start Menu.

Starting up TimeBase with Spectrum v10 or later, or Spectrum Express

If you are using Spectrum TimeBase in conjunction with Spectrum v10 or later, or Spectrum Express, you should be aware that you cannot connect to the same instrument simultaneously with both software packages.

If you start up Spectrum TimeBase and try to connect to an instrument that is already under the control of Spectrum or Spectrum Express, the following dialog is displayed.



Use the drop-down to select offline working or to choose another instrument.

External Trigger

An RS232 cable is provided that you can use to trigger the start of a data collection run. At one end it has a connector that you can plug into a spare communication port on your PC. At the other end are two bare wires.

The start of the run is triggered by a contact closure between the wires. For the external trigger to work reliably, you need to arrange for a contact closure with a duration of at least 200 ms.

Autosystem GC

With GC experiments using the Autosystem GC, the terminal block for connecting the trigger cable can be found under the cover on the top right-hand-side of the Autosystem. Connect the bare ends of the trigger cable to pins 7 and 8 (labeled **C** and **NO**).

Selecting the communications port

Spectrum TimeBase needs to know which communications port on the PC you are using for the external trigger. To select the communications port:

1. Select the Options menu, and in the Options dialog display the Instrument tab.
2. In the **External Trigger** box, select the port you are using for the external trigger.

Firmware Upgrade Utility (Spectrum 100/400 Series Only)

The Firmware Upgrade Utility identifies the current version of your instrument firmware and enables you to upgrade your firmware, if required.

To have full use of the features in Spectrum TimeBase v3.x, you must upgrade if your firmware version number is lower than **v00.02.7240 (10 October 2008 15:14)**.

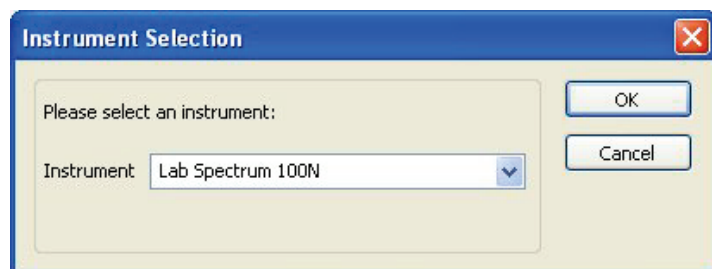
To run the firmware upgrade utility:

NOTE: Before running the firmware upgrade utility, ensure that all PerkinElmer applications have been closed.

1. Place your *Spectrum TimeBase CD* (LX100916) into your CD drive and then navigate to d:\Firmware. Replace d:\ with the drive letter for your CD.
2. Double-click on **DownloadFW.exe**.
The PerkinElmer Login dialog is displayed.
3. Login using the **User name** and **Password** that you use for the PerkinElmer software that is already installed on the PC.

The default **User name** and **Password** are **administrator**.

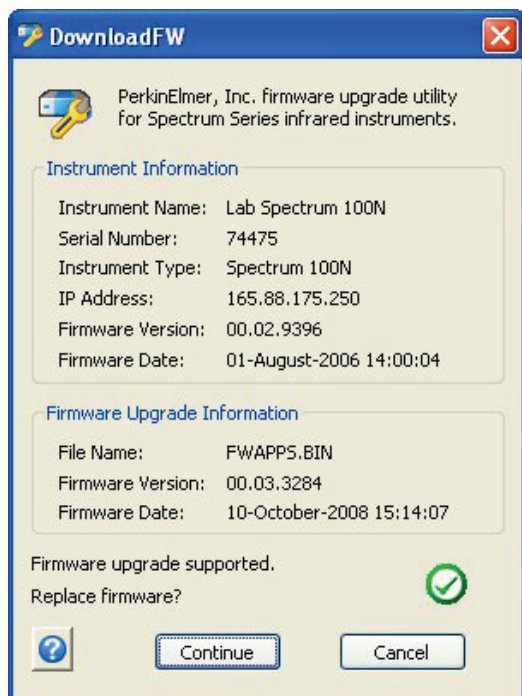
The Instrument Selection dialog is displayed.



NOTE: Only instruments that have been installed previously will be available.

4. Select the instrument you want to update from the drop-down list, and then click **OK**.
The DownloadFW dialog is displayed.

For example:



The utility displays information about your instrument, the current version of firmware and the firmware upgrade. If the firmware upgrade is supported, an icon with a check mark is shown. If the firmware upgrade is not supported, contact your PerkinElmer Service Engineer.

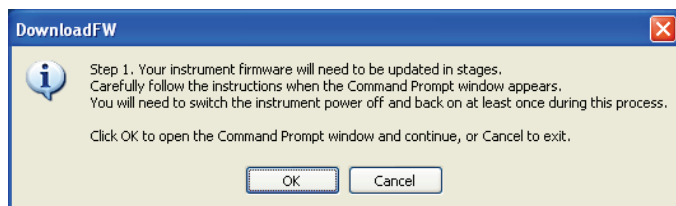
5. Click **Continue**.

The utility prompts you to confirm that you want to continue.

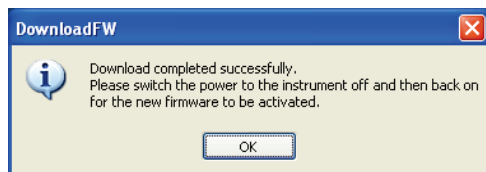
6. Click **Yes**.

The firmware download begins.

If your firmware is older than v00.02.7, the following message is displayed. Click **OK** and follow the instructions in the Command Prompt Window.



When the download is complete the following message is displayed.



7. Click **OK**, and then switch your instrument off and then back on.
Your new firmware is now activated.

