



# ibaAnalyzer

## Introduction and Installation

Manual Part 1

Issue 7.2

Measurement Systems for Industry and Energy

[www.iba-ag.com](http://www.iba-ag.com)

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The current version is available for download on our web site [www.iba-ag.com](http://www.iba-ag.com).

Version	Date	Revision - Chapter / Page	Author	Version SW
7.2	02/2021	Search/Replace, HD query with password	rm	7.2

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## Content

<b>1</b>	<b>About this manual.....</b>	<b>6</b>
1.1	Target group.....	6
1.2	Notations .....	6
1.3	Used symbols.....	7
1.4	Documentation structure .....	8
<b>2</b>	<b>Welcome to ibaAnalyzer - an overview.....</b>	<b>9</b>
2.1	The ibaAnalyzer standard functions (no license required) .....	9
2.1.1	General functions .....	9
2.1.2	Expression builder .....	10
2.1.3	Report generator .....	11
2.1.4	ibaCapture .....	11
2.1.5	ibaHD-Server .....	11
2.2	ibaAnalyzer functions subject to licensing.....	12
2.2.1	Database interface ibaAnalyzer-DB .....	12
2.2.2	Data extraction in files (ibaAnalyzer-V7-File-Extract) .....	12
2.2.3	Reading foreign formats (ibaAnalyzer-E-Dat) .....	13
2.2.4	Display of InSpectra modules (ibaAnalyzer-InSpectra) .....	14
<b>3</b>	<b>Installation and program start.....</b>	<b>15</b>
3.1	System requirements.....	15
3.2	Installation .....	15
3.2.1	Standard installation.....	15
3.2.2	Installing by command line.....	16
3.2.2.1	Command line switch /S.....	16
3.2.2.2	Command line switch /D .....	17
3.2.2.3	Command line switch /db.....	17
3.3	Program start.....	17
3.3.1	Starting in Windows .....	17
3.3.2	Starting with command line .....	18
3.3.2.1	Command line syntax with unprotected data files .....	18
3.3.2.2	Command line syntax with password protected data files .....	19
3.3.2.3	Using the postprocessing command.....	19

3.3.2.4	Using the switches in the command line .....	19
<b>4</b>	<b>Program interface .....</b>	<b>25</b>
4.1	The screen .....	25
4.1.1	Smart Docking .....	25
4.1.2	Generating and moving tabs.....	27
4.1.3	Hide window manually .....	28
4.1.4	Hide window automatically .....	29
4.1.5	Scale window automatically .....	30
4.2	The menu bar .....	31
4.2.1	The file menu.....	31
4.2.2	The database menu .....	34
4.2.3	The historical data menu .....	34
4.2.4	The edit menu .....	35
4.2.5	The setup menu.....	36
4.2.6	The graph mode menu .....	37
4.2.7	The File Group menu .....	40
4.2.8	The view menu .....	41
4.2.9	The Help menu .....	43
4.3	The toolbar .....	44
4.3.1	The tool bar .....	44
4.3.2	Adjust tool bars.....	45
4.4	Mouse and key commands.....	48
4.4.1	Drag & Drop.....	48
4.4.2	Context menu .....	48
4.4.3	Hot Keys.....	49
4.4.4	Combinations of mouse and key operation.....	50
4.4.5	Tooltips .....	51
4.5	The signal tree window.....	53
4.5.1	Signals tab: Tree of data file(s) and signals .....	53
4.5.1.1	Appearance with module name or linear numbering .....	54
4.5.1.2	Presentation of expressions .....	56
4.5.1.3	Other channel types .....	57

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4.5.1.4	The context menu.....	59
4.5.1.5	Alternative signal names .....	62
4.5.2	Search tab: Function for searching signals.....	62
4.5.3	Report info tab: Display of characteristic values.....	63
4.5.3.1	Presentation of an image on the "Report information" tab .....	64
4.5.4	Analysis files tab: Quick access to PDO files .....	65
4.6	The signal table.....	66
4.6.1	Context menu .....	66
4.6.2	Markers tab .....	67
4.6.2.1	Context menu .....	69
4.6.3	Statistics tab.....	70
4.6.4	Harmonic markers tab .....	70
4.6.5	Navigator tab .....	70
4.6.6	Overview tab .....	71
4.7	The recorder window .....	72
4.7.1	Context menu .....	74
4.7.2	Status bar.....	76
<b>5</b>	<b>Support and contact.....</b>	<b>77</b>

# 1 About this manual

This documentation describes the function and application of the software *ibaAnalyzer*.

## 1.1 Target group

This manual addresses in particular the qualified professionals who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded as professional if he/she is capable of assessing safety and recognizing possible consequences and risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

This documentation addresses in particular professionals who are in charge of analyzing measured data and process data. Because the data is supplied by other iba products the following knowledge is required or at least helpful when working with *ibaAnalyzer*:

- Operating system Windows
- *ibaPDA* (creation and structure of the measuring data files)

## 1.2 Notations

In this manual, the following notations are used:

Action	Notation
Menu command	Menu <i>Logic diagram</i>
Calling the menu command	<i>Step 1 – Step 2 – Step 3 – Step x</i> Example: Select the menu <i>Logic diagram - Add - New function block</i> .
Keys	<Key name> Example: <Alt>; <F1>
Press the keys simultaneously	<Key name> + <Key name> Example: <Alt> + <Ctrl>
Buttons	<Key name> Example: <OK>; <Cancel>
File names, paths	"Filename", "Path" Example: "Test.doc"

## 1.3 Used symbols

If safety instructions or other notes are used in this manual, they mean:

---

### Danger!



The non-observance of this safety information may result in an imminent risk of death or severe injury:

- Observe the specified measures.
- 

### Warning!



The non-observance of this safety information may result in a potential risk of death or severe injury!

- Observe the specified measures.
- 

### Caution!



The non-observance of this safety information may result in a potential risk of injury or material damage!

- Observe the specified measures
- 

### Note



A note specifies special requirements or actions to be observed.

---

### Tip



Tip or example as a helpful note or insider tip to make the work a little bit easier.

---

### Other documentation



Reference to additional documentation or further reading.

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## 1.4 Documentation structure

This documentation describes the functionality of the *ibaAnalyzer* software in detail. It is created as a guide for familiarization as well as a reference document.

In addition to this documentation, you can also draw on the version history in the main menu Version history (file versions.htm) for the latest information about the installed program version.

In addition to the list of corrected program errors, this file also refers to extensions and improvements to the software by keyword.

In addition, each software update, which includes the main new features, also includes special documentation “NewFeatures...”, offering an extensive description of the new features.

The state of the software to which the respective part of this documentation refers is listed in the revision table on page 2. The documentation of *ibaAnalyzer* (PDF and printed edition) is divided into four separate parts. Each part has its own chapter and page numbering, beginning with 1, and is updated independently.

Teil	Title	Content
Part 1	Introduction and installation	General notes, licenses and add-ons Installation and program start User interface
Part 2	Working with <i>ibaAnalyzer</i>	Working with data file and analysis, representation features, macro configuration, filter design, preferences, printing, export, interfaces to <i>ibaHD-Server</i> , <i>ibaCapture</i> and report generator
Part 3	Expression builder	Directory of all calculation functions in the expression builder, including explanation
Part 4	Application examples	<i>In preparation</i>

## 2 Welcome to ibaAnalyzer - an overview

*ibaAnalyzer* is a powerful tool for analyzing complex data which were recorded using the *ibaPDA*, *ibaScope*, *ibaQDR*, *ibaLogic* or *ibaFiles* recording programs as well as with products from other manufacturers (such as VISTA).

*ibaAnalyzer* supports fast analysis of even large volumes of data and offers a variety of functions and algorithms to correlate measurement data from a process and interpret it meaningfully.

In addition to the traditional task of being able to present measured values from the process, mainly for fault analysis or machine evaluation, *ibaAnalyzer* fulfills a number of other features.

*ibaAnalyzer* is thus a powerful tool for quality data management and analyzing product-related data. With the upgraded functions of the database interface and of the report generator, *ibaAnalyzer* constitutes the fully integrated link between process-based and time-based measuring data ("Level 1") on the one hand and product-related quality data ("Level 2/3") on the other. Thanks to the underlying concept, quality data management systems can be implemented in this way which can cover a plant or machine as well as plant-spanning, factory-wide networks.

When buying an online data acquisition system from iba, you will receive *ibaAnalyzer* for free, which is not subject to any restrictions in terms of copying or number of installations. License fees are only payable for certain upgraded or additional functions enabling the use of the program for data extraction to files or databases or the processing of data from external sources.

### 2.1 The ibaAnalyzer standard functions (no license required)

*ibaAnalyzer* is a software with a simple and intuitive to operate interface, smart docking windows and drag & drop functionality. The following features and properties are available by default for the comprehensive analysis of the acquired measurement values.

#### 2.1.1 General functions

- Any number of trend views (trend graphs), each enabling the selection of the following modes:
  - Time-based mode (X axis = time axis)
  - Length-based mode (X axis = length axis)
  - X-Y mode with two or more signals, where each signal can be defined as X axis
  - FFT mode
- Simple placement of any number of signals in the signal strips using the drag & drop functionality (IEC1131-conforming)
- Combination of data originating from different measuring processes or data sources, analog or digital signals as well as text signals
- Automatic or manual selection of colors for the curves.
- Individual scales for every signal within a signal strip, or scaling of a signal in relation to any other signal on the same Y axis within a strip

- Permanent display of the X/Y values for two rulers as well as for the most important statistical values (min, max, average, standard deviation) for all the signals displayed
- Zooming and moving of the section in a Navigator window
- 3D view and 2D top view (profile view) of vector signals (arrays)
- Powerful logical, mathematical and technological functions for linking, combining, calculating and creating signals.
- Generation of virtual signals, even multi-dimensional ones (array)
- A powerful digital, graphic filter designer with integrated signal generator for filter testing.
- Flexible export function for generating new iba data files (for example, with combined or mathematically modified signals) and for generating text or COMTRADE files (.txt, .csv) for further processing by other programs (for example, document generation, spreadsheet processing, etc.)
- Powerful report generator for the free design and layout of analysis, quality, production and fault reports with different output formats
- Information window: large-sized and alphanumeric display of important, calculated parameters or textual information is possible
- Macro function for simplifying and reusing comprehensive analysis functions and calculations.
- Versatile marker functions for highlighting special measurements, including measurement and display of on / off times of digital signals or distances between markers
- Efficient management of the analyses for flexible use
- Multilingual program interface, switchable
- ibaHD-Server query

### 2.1.2 Expression builder

*ibaAnalyzer* has the so-called expression builder for the analysis of the recorded acquired values and execution of various calculations. This is a formula editor that offers a number of logical, mathematical and technological features that can be used in *ibaAnalyzer* at various points.

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#### Other documentation



The extensive documentation about the expression builder can be found in part 3 of the manual. Supplementary application examples can be found in part 4.

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### 2.1.3 Report generator

Behind the feature *Report generator* is an independent tool that is integrated into *ibaAnalyzer*. The report generator can be used without a license and serves to configure, generate and publish various user-defined reports.

Since the description of the data supply of the report generator in *ibaAnalyzer* and the free design of the report layout in the report designer is very extensive, we have dedicated a separate manual to this topic.

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#### Other documentation



You will find an extensive description of the features regarding the topic of the report generator in the documentation

ibaAnalyzer-Reportgenerator\_vx.y\_de.pdf

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### 2.1.4 ibaCapture

*ibaAnalyzer* can also be used to look at measurement value records and video recordings that were recorded synchronously to the measurement value with *ibaCapture*.

The prerequisites, settings and operation are described in detail in the manual for *ibaCapture*.

---

#### Other documentation



The documentation for the software product *ibaCapture* contains an extensive description of the features on the topic of analyzing ibaCapture videos:

ibaCapture\_v4.x\_de.pdf

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### 2.1.5 ibaHD-Server

In addition to the analysis of iba data files, *ibaAnalyzer* also offers the ability to analyze data from records that were recorded with *ibaHD-Server*.

Using so-called HD queries, the data can be called up from the HD store and then evaluated as with normal measurement files.

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#### Other documentation



An extensive description of the HD query and the analysis possibilities can be found in the documentation about the software product *ibaHD-Server*:

ibaHD-Server\_v2.x\_de.pdf

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## 2.2 ibaAnalyzer functions subject to licensing

The functional extensions for *ibaAnalyzer* listed below require licenses. It is possible to subsequently enable the licensed features at any time via dongle.

The licensing of the features can be done both in the USB dongle on the computer used as well as with the central *ibaLicenseService-V2* on the network.

### 2.2.1 Database interface ibaAnalyzer-DB

The added database interface feature enables the writing of measuring data into a database and/or the retrieving and analyzing of data from a database. MS SQL server, MS ACCESS, DB2-UDB, PostgreSQL and ORACLE as well as other ODBC-compatible databases are supported.

This feature enables the comprehensive integration of basic process data into your company's quality management system. The related data editing and compression as well as data extraction processes can be fully automated.

Order number	Name	Comment
33.010001	ibaAnalyzer-V7-DB	Write measurement and analysis data in databases or query from databases (MS SQL, MySQL, Access, ORACLE, DB2-UDB, PostgreSQL, Maria DB and other ODBC-DB)
33.010004	ibaAnalyzer-V7-DB-Multiuser	Database queries for several clients

Table 1: Licenses for the database interface

#### Other documentation



The description of the database interface is available as a separate document (*ibaAnalyzer-DB*) on the DVD *iba Software & Manuals*.

### 2.2.2 Data extraction in files (ibaAnalyzer-V7-File-Extract)

With the extension to include database extraction, it is possible to write measurement data into a different file. The following formats are supported

- iba data file (\*.dat)
- ASCII (.txt, .csv)
- COMTRADE v1999, v2013 (.cfg)
- NI TDMS
- Apache Parquet
- Matlab (.mat)

The measurement values and data calculated in *ibaAnalyzer* can thus be made available to other systems or analysis tools (e.g. MS Excel). The data extraction can be completely automated with the help of *ibaDatCoordinator*.

Order number	Name	Comment
33.010002	ibaAnalyzer-V7-File-Extract	Data extraction from an iba data file or HD query to a different file format

Table 2: Licenses for the data file extraction

### Other documentation



The description of the data extraction interface is available as a separate document (*ibaAnalyzer-V7-File-Extract*) on the DVD *iba Software & Manuals*.

### 2.2.3 Reading foreign formats (ibaAnalyzer-E-Dat)

In order to enable the analysis of data recorded using a system other than an iba system, iba offers an additional license (*ibaAnalyzer-E-Dat*) under which the import of the following file types is possible:

- ASCII (.txt, .csv)
- COMTRADE CFF (\*.cff)
- NI TDMS (.tdm, .tdms)
- Vista Control (\*.varc)
- FDA (\*.das)
- Apache Parquet
- Matlab (.mat)

This upgrade also enables the combination of data from the most varied sources in one analysis, such as the results of process model calculations with real process data.

Order number	Name	Comment
33.010445	<i>ibaAnalyzer-E-Dat</i>	Upgrade for the reading of external data formats

Table 3: Licenses for external file formats

### Other documentation



The description of the foreign format interface is available as a separate document (*ibaAnalyzer-E-Dat*) and comes with the additional license, and/or can be requested from iba.

## 2.2.4 Display of InSpectra modules (ibaAnalyzer-InSpectra)

With the extension to include the display of *ibaInSpectra* modules, FFT and Orbit views, as they are available as an online display in *ibaPDA*, can also be used in *ibaAnalyzer*. In addition to the display of the measured and calculated variables, the calculation profiles can also be edited. The calculation profiles can be exchanged with *ibaPDA*.

It is thus possible to create or optimize calculation profiles offline and then transfer them to *ibaPDA* to implement the same calculations online.

Order number	Name	Comment
33.010410	<i>ibaAnalyzer-InSpectra</i>	Display of complete InSpectra modules in FFT and/or Orbit view; exchange of calculation profiles with <i>ibaInSpectra</i> ( <i>ibaPDA</i> ).

Table 4: Licenses for ibaInSpectra extensions

### Other documentation



The description of the InSpectra function is included both in the manual of *ibaInSpectra* as well as in a separate document for the product *ibaAnalyzer-InSpectra*. The latter is delivered with the additional license or can be requested from iba.

## 3 Installation and program start

### 3.1 System requirements

- PC, multi-core CPU, 2 GHz or better
- 2048 MB RAM or more for extended analyses (with video etc.)
- 100 MB or more available hard disk space for the program
- Additional hard disk capacity for data files and analyses, depending on your particular application
- Operating system: MS Windows Vista, 7, 8, 8.1, 10, Server 2012 or Server 2016
- .NET Framework v4.8 or higher

### 3.2 Installation

#### 3.2.1 Standard installation

The DVD *iba\_Software&Manuals* has all required program files in a directory ... \01\_iba\_Software\ibaAnalyzer\.

There are separated installation files for the 32 bit version (*ibaAnalyzerInstall\_x86\_vX.Y.z.exe*) and for the 64 bit version (*ibaAnalyzerInstall\_x64\_vx.y.z.exe*).

You will receive a zip file from the download area of our website containing both versions.

#### Which version should you install?

The x64 version can only be installed on 64 bit operating systems.

The x86 version can be installed on both 32 bit and 64 bit operating systems.

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#### Note



The 32 bit and 64 bit version of *ibaAnalyzer* **can not** be installed on the same computer at the same time!

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The features of the 64 bit version compared to the 32 bit version are:

- More memory can be reserved for more extensive analyses.
- The database extraction (*ibaAnalyzer-DB*) only works if the 64 bit versions of the OLE DB or ODBC driver are available and configured correctly.
- *ibaCapture-HMI* is not supported. You can therefore no longer view any *ibaCapture-HMI* videos with the 64 bit version. Only *ibaCapture (V4) ScreenCam* is supported.
- *ibaCapture-CAM* is only supported if the software *ibaCapture-Client v3.4.7* or higher is installed on the computer.
- The formats Apache Parquet and FDA are supported

### Other installation steps

1. Run the file *ibaAnalyzerInstall\_xMN\_vX.Y.Z.exe*.  
If *ibaAnalyzer* is already installed on your computer, you will be notified and asked to confirm the reinstallation.  
Click <Yes>.  
The installation wizard will start.
2. Click <Next> to start the installation.  
In the next step, you can change the target folder for the program files, if you wish.
3. Click <Next>.  
In the next step, you can select the type of database support. This is only necessary if you use *ibaAnalyzer-DB* to extract data into a database or to read from a database. All other applications do not require database support.
4. Make your choice and click <Install>.  
The installation will start and a progress bar will be displayed. If interested, you can click on <Show details> in order to track the individual actions. A notification will be displayed after the installation is complete.
5. If you want to launch *ibaAnalyzer* immediately after the installation, then activate the checkbox "Launch *ibaAnalyzer*" and click <Finish>.

### 3.2.2 Installing by command line

The installation of *ibaAnalyzer* can also be started via a command line. This is helpful for the central software administration or when using deployment systems.

The installation process can also occur in so-called 'silent mode' so that the interaction with the user (clicking the <Next> button in the installation wizard) is omitted.

You can control how the installation proceeds and which components are to be installed with the command line switches, which are set after calling up the installation program.

Notation:

```
ibaAnalyzerSetup_xMN_vX.Y.Z.exe [/S] [/D | /db]
```

#### 3.2.2.1 Command line switch /S

Use this switch to install *ibaAnalyzer* in 'Silent Mode,' i.e. interaction is not required during installation.

Without specifying additional parameters, the installer is run as if <Next> was always pressed in the dialog. With a fresh installation, the program parts from the default setting are then installed (program, without database support but with dongle viewer). When installing an update, already selected program parts from the previous installation still remain selected.

Example:

```
ibaAnalyzerSetup_xMN_vX.Y.Z.exe /S
```

### 3.2.2.2 Command line switch /D

Use this switch to specify the installation folder, i.e. the program folder.

The switch must be the last parameter in the command line and may not contain any quotation marks, even if the path name contains spaces. Only absolute path specifications are permissible.

Example:

```
ibaAnalyzerSetup_x64_v6.11.0.exe /D=C:\Program Files\Analyzer
```

### 3.2.2.3 Command line switch /db

Use this switch to indicate whether a database profile is to be supported and in which way.

Application: /db=x, with x = 0, 1 or 2

- 0: No database support; if database libraries have already been registered, these will be discharged
- 1 Time-based database support; registered ibaDataExtractor.dll
- 2: Column-based database support; registered ibaDatExtractorMC.dll

Example:

```
ibaAnalyzerSetup_x64_v6.11.0.exe /S /db=2
```

## 3.3 Program start

### 3.3.1 Starting in Windows

Program symbol:



If *ibaAnalyzer* was installed as described in the "Installation" chapter, the program is started most easily by double-clicking on the icon on the desktop (see above). If you have additionally created a program group for *ibaAnalyzer* in the start menu, you can, of course, also start the program from the start menu.

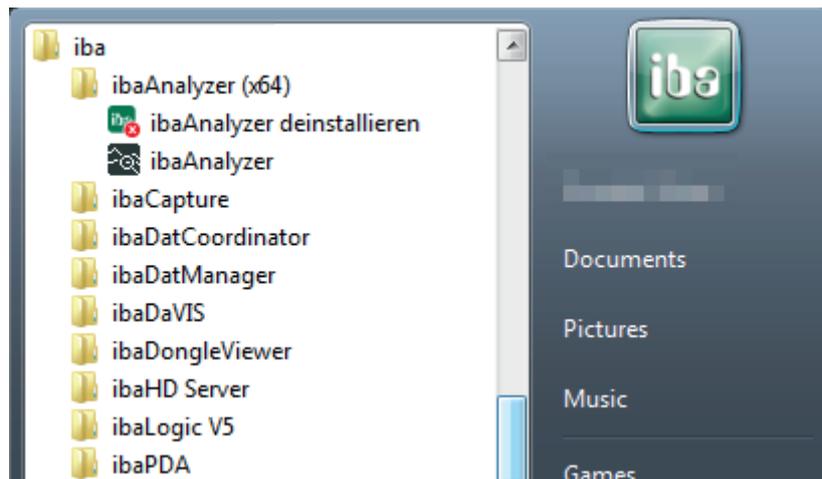


Fig. 1: Start menu, example Windows 7

### 3.3.2 Starting with command line

*ibaAnalyzer* can also be started from a (DOS) command line. This means that the program can also be started via batch files or from other programs, such as *ibaPDA*, *ibaQDR* or *ibaLogic*.

A special option which is available when the program is started via the command line is that different parameters can be added in order to have *ibaAnalyzer* carry out particular analyses, print reports, write data into a database, cyclically refresh the display with every new data file and much more.

The functions can be used for "postprocessing" in conjunction with data acquisition programs, such as *ibaPDA* and *ibaQDR*. Postprocessing means the automatic execution of a command line each time a data file is completed. Although it is generally possible to execute any commands or batches in this command line, executing *ibaAnalyzer* is particularly useful in order to trigger the appropriate analysis right directly following the storing of the measuring data.

In general, the program *ibaDatCoordinator* is preferred for the execution of the aforementioned tasks of post-processing measurement files. *ibaDatCoordinator* offers advantages in configuring the post-processing tasks and ensures their safe execution.

Nevertheless, *ibaAnalyzer* calls can also be entered into scripts and batch files executed with *ibaDatCoordinator* by using the command line.

#### 3.3.2.1 Command line syntax with unprotected data files

```
ibaAnalyzer.exe datfilename1 [datfilename2] ... [datfilenamen] [pdofilename] [/switch]
```

One or more measurement files (datfilename), an analysis (pdofilename) and a switch parameter (switch) can be included in the call of the program. The complete path and file names must be entered for data files and analysis files.

Instead of data files you can also enter HD query file names (.hdq).

### 3.3.2.2 Command line syntax with password protected data files

With different passwords per data file

```
ibaAnalyzer.exe "pw1|datfilename1" "pw2|[datfilename2]" ... "pwn|[-datfilenamen]" [pdofilename] [/switch]
```

With the same password

```
ibaAnalyzer.exe "pw1|datfilename1" [datfilename2] ... [datfilenamen] [pdofilename] [/switch]
```

With HD query files referring to ibaHD-Server with active user management

```
ibaAnalyzer.exe "hdqfilename|user|pw" [pdofilename] [/switch]
```

One or more data files (datfilename) can be opened, which are protected by a password. In case of different passwords per data file, the password and the data filename (separated by a pipe/vertical bar) must be entered in quotes.

You get the vertical bar character by [Shift]+['] on a Windows IBM PC keyboard layout or by [Alt]+[0][1][2][4]

If the same password applies to all data files, only the first datafile should be attached the password and all other data filenames follow without password and quotes.

An analysis (pdofilename) and a switch parameter (switch) can be included in the call of the program as well. The complete path and file names must be entered for data files and analysis rules.

### 3.3.2.3 Using the postprocessing command

Since postprocessing is an automatic function which is controlled by the data acquisition program, such as *ibaPDA*, a placeholder must be used instead of the data file name in order to access the most recent data file:

```
ibaAnalyzer.exe %f [pdofilename] [/switch]
```

%f: Last data file, complete path and file name (e.g. d:\dat\pda001.dat)

%g: Last data file, only file name (e.g. pda001.dat)

%h: Last data file, file name without suffix (e.g. pda001)

---

#### Note



For regular and automated calls of ibaAnalyzer depending on the data file generation, we recommend using the *ibaDatCoordinator* software. Compared to the postprocessing, the application free of charge offers higher ease of use as well as higher flexibility and functional reliability.

---

### 3.3.2.4 Using the switches in the command line

The switches are particularly important in conjunction with postprocessing because they can be used to automate complete analysis processes. It is, however, also possible to use the switches in conjunction with a manual program start.

**Switch /reuse**

If this switch is included in the program call, *ibaAnalyzer* starts, loads the specified data files and, if applicable, displays the results as determined by an analysis. If another program call with */reuse* switches follows, the new data files and, if applicable, also a new analysis are loaded into the existing instance of *ibaAnalyzer* with the old data being overwritten. This means that the existing instance is reused and prevents the opening of further instances.

By automating this process, for example, e.g. by using the postprocessing command, it is possible to permanently update an analysis display with the latest measuring data.

If *ibaAnalyzer* is started with the */reuse* switch, a key button in the upper left corner of the toolbar appears . Clicking this button stops the automatic update function, so that you can take your time to view data. Clicking the button again re-enables the update function.

**Switch /append**

This switch enables the appending of several data files specified in the call. These files are then coherently shown one after another in the X direction.

In connection with the */sql* switch, the results from database queries are appended to each other.

**Switch /print**

This switch ensures that the measuring data can be printed as a record or log in the format defined in the selected analysis rule. The Windows default printer is used.

When the printing process is completed or after the print job has been triggered, *ibaAnalyzer* is closed again. In the case of an error, however, *ibaAnalyzer* remains open in order to display the error message.

**Switch /extract[:filename]**

This switch can only be used in conjunction with the license for the database interface (*ibaAnalyzer-DB*). The */extract* switch means that *ibaAnalyzer* starts and loads the specified data file. Subsequently, the measuring data is processed in accordance with the specified analysis and extracted into a database. During this process, no *ibaAnalyzer* window is opened on the screen, i.e. the extracting process takes place in the background. The database connection must have been configured beforehand and is part of the analysis.

You may also extract the data into a file, instead of a database. In this case, the desired file name is to be added as parameter. For extracting data into a file, a particular license is required (*ibaAnalyzer-V7-File-Extract*).

---

**Other documentation**

You will find a complete description of the extraction feature in the documentations for the products *ibaAnalyzer-DB* and *ibaAnalyzer-V7-File-Extract* on the DVD *iba Software & Manuals*.

---

### Switch /report[:filename]

With this switch, *ibaAnalyzer* starts, loads a specified data file and performs an analysis in accordance with the specified analysis rule. Thereafter, the integrated report generator is started and the data is printed on the Windows default printer using a report layout specified in the analysis rule if the [:filename] option was not used with the switch.

If the [:filename] switch option is used, the report can be written into a file rather than being printed. The desired file type is determined by the file name extension. Many customary formats are supported, including, for example, .pdf, .htm, .rtf, .tiff, .jpg, .xls, etc. (an example is given below).

---

#### Other documentation



You will find a complete description of the report generator interface and report designer feature in the documentation *ibaAnalyzer-Reportgenerator* on the DVD *iba Software & Manuals*.

---

### Switch /sql:filename.sql[;sync:"syncFieldName"]

This switch can only be used in conjunction with the license for the database interface (*ibaAnalyzer-DB*). This switch is used for database queries. The :filename.sql argument can be used to transfer SQL statements as a basis for the database query. The additional, optional [;sync:...] parameter can be used to specify a grouping criterion for the query data.

---

#### Other documentation



You will find a complete description of the database feature in the documentation for the product *ibaAnalyzer-DB* on the DVD *iba Software & Manuals*.

---

### Switch /trendsql:filename.sql[;sync:"syncFieldName";msec]

This switch can only be used in conjunction with the license for the database interface (*ibaAnalyzer-DB-Extractor*). Unlike the previous switch, it is used to query info fields and/or computed columns from a database. The "filename.sql" parameter can be used to transfer SQL statements as a basis for the database query.

The query results, i.e. signals with measuring points from the time stamp column as well as info fields and/or computed columns, are displayed in the "Trend query result" branch and can be used in the analysis.

The "filename.sql" file must be a text file compliant with the SQL language as is supported by the database specified in the analysis (.pdo) (e.g. Oracle SQL server, DB2-UDB, etc.). You can load and execute this file by means of the trendquery builder.

Moreover, the execution of the SQL statement should lead to a result set with a time stamp field and at least one numerical field. Moreover, the statement should contain a sort ORDER BY clause on the time stamp.

Optionally, a synchronization field can be transferred with the "sync:" parameter for the query.

If the option "msec" is used, the first numeric column of the query is used as microsecond information of the timestamp.

### Example

```
C:\Program Files\iba\ibaAnalyzer\ibaanalyzer.exe c:\pdo_for_sql\sql.pdo /trendsql:getlastcoil.sql
```

### Other documentation



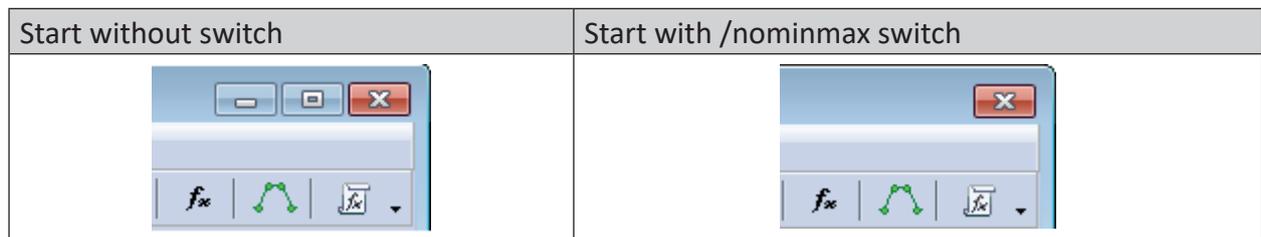
You will find a complete description of the database feature in the documentation for the product *ibaAnalyzer-DB* on the DVD *iba Software & Manuals*.

### Switch /overviewsql:filename.sql[;sync:"syncFieldName";msec]

This switch has the same function as the one described before. However, the result of the trend query is not displayed in the signal tree, but in the "Overview" window or tab.

### Switch /nominmax

This switch starts *ibaAnalyzer* without the buttons for minimizing and maximizing the program window.



### Switch /autoreload

This switch is used for automatically and periodically reloading the data file(s) while they are still being written.

This function is equivalent to clicking the "Autoreload files" button.



For more information please refer to the manual *ibaAnalyzer*, Part 2, chapter *Online analysis*.

### Switch /loadnewfiles

This switch provokes the automatic searching and loading of the data file which is being written in the specified folder.

The function is equivalent to clicking the "Automatically load new data files from specified directory" button.



For more information please refer to the manual *ibaAnalyzer*, Part 2, chapter *Online analysis*.

**Switch /dbPDO**

This switch opens analyses (\*.pdo) which had been stored in a database. This database is created once and set in the preferences, PDO database storage tab.

Only add the desired analysis name – as it was stored in the database – after the colon.

**Switch /filetree:**

This switch starts *ibaAnalyzer* with a predefined signal or file tree. Thus, several data files can be opened both on the same level and appended to each other.

The desired configuration of the file tree has to be exported as text file (here *conf.txt*) before. This file is transferred as parameter with the switch.

For information about export/import of a file tree please refer to the manual *ibaAnalyzer*, Part 2, chapter *Export/import file tree*

**Switch /language**

This switch only works in conjunction with Windows versions Vista or higher. It starts *ibaAnalyzer* in the specified language. If no language is specified, *ibaAnalyzer* starts in the system language or in English.

At the moment, the following variants are available:

- /english
- /german
- /french
- /spanish
- /russian
- /chinese

**Possible combinations of the most important switches**

Combination permissible or useful?	/sql	/reuse	/append	/print	/extract	/report	/trendsqli	/overviewsql	/nominmax	/autoreload	/loadnewfiles
/sql											
/reuse	Yes										
/append	Yes	Yes									
/print	Yes	No	Yes								
/extract	No	No	Yes	Yes							
/report	Yes	No	Yes	Yes	Yes						
/trendsqli	Yes	Yes	No	Yes	No	Yes					
/overviewsql	Yes	Yes	No	Yes	No	Yes	Yes				
/nominmax	Yes	Yes	Yes	No	No	No	Yes	Yes			
/autoreload	No	No	Yes	No	No	No	No	No	Yes		
/loadnewfiles	No	No	Yes	No	No	No	No	No	Yes	No	

Table 5: Switch combinations for the command line call-up

# 4 Program interface

## 4.1 The screen

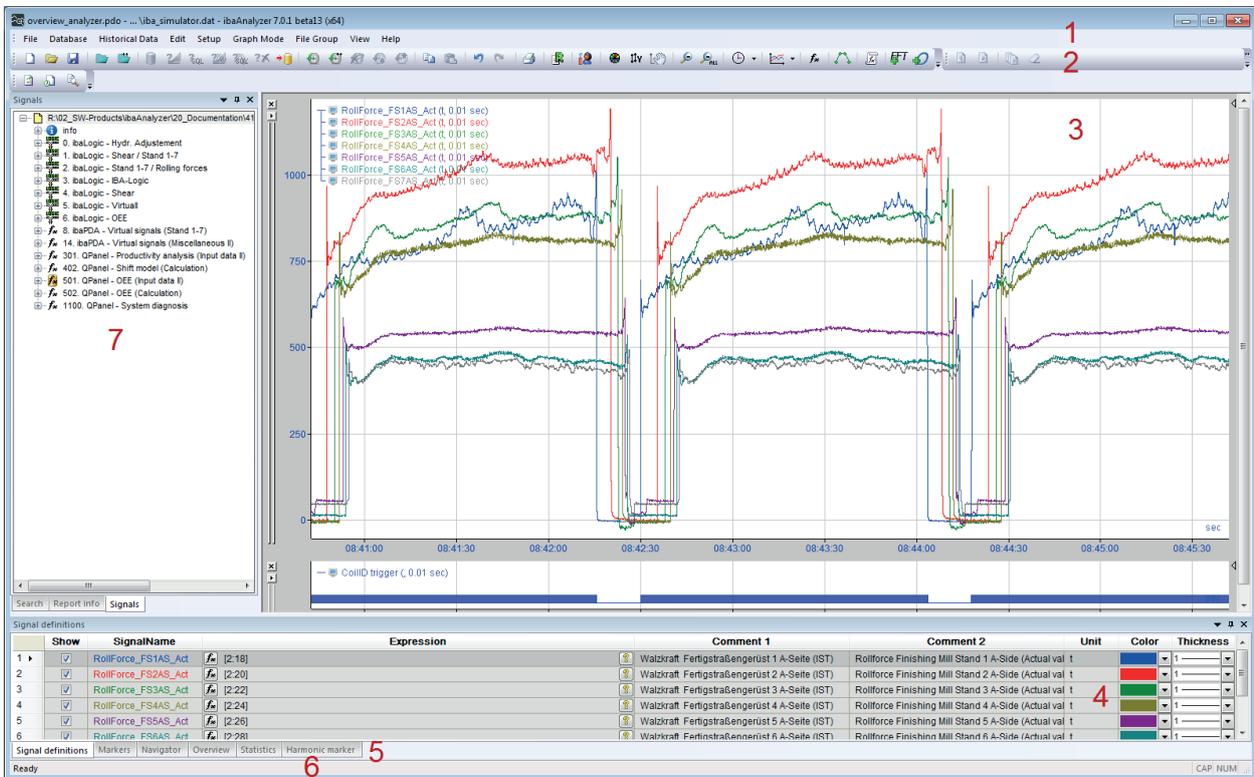


Fig. 2: Standard screen

(1)	Menu bar
(2)	Toolbar
(3)	Recorder window/signal window
(4)	Signal table (Signal definition, Markers, Statistics) + Navigator + Harmonic markers + Overview of trend query
(5)	View tab of (4)
(6)	Status bar
(7)	Signal tree + search function + report information + analysis files

### 4.1.1 Smart Docking

All partial windows or tabs (numbers 4, 5 and 7 in the above table) can be freely moved and docked (smart docking). Also the menu and toolbars can be freely arranged.

**Note**

The recorder window and status bar cannot be moved.

The windows can be:

- Free-floating, independent of the main window (i.e. also outside the main window)
- Docked to the border of the main window (above, below, right or left)
- Docked to another partial window
- Grouped as tabs in a new partial window which in turn can also be docked or placed freely floating.

Use the smart docking function using of drag & drop by clicking with the mouse on the caption of a partial window or a tab and drag the mouse.

The partial window will be released and is now freely floating. Indicators appear at the same time. For each window the mouse is currently placed on, the suitable indicators are displayed. Usually, 4 indicators for the edge positions within the main window appear and 5 indicators for the partial window (edges and tab) on which the mouse is currently being placed.

For docking, position the window/mouse on the desired indicator and drop it.

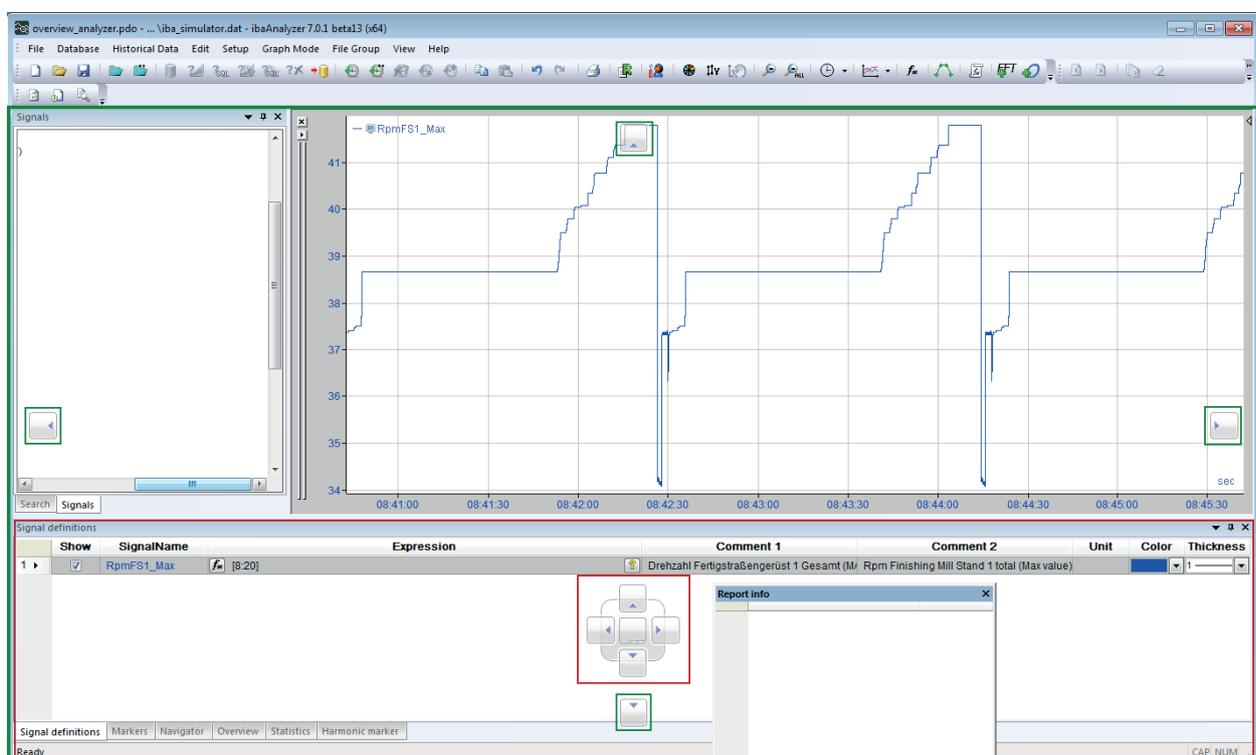


Fig. 3: Example of smart docking

In the above figure, the report information tab was released from the compound of the signal tree window and positioned on the window of the signal table. The indicators of the main window (green) and of the partial window (red) appear.

#### Note



With video windows of *ibaCapture* or *ibaInSpectra* windows, proceed accordingly.

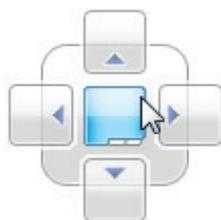
#### Tip



The command *Reset window layout* in the View menu can be used to reset the arrangement of the windows back to the default setting.

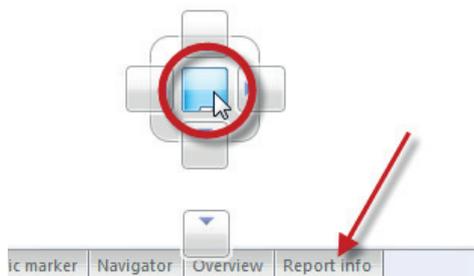
### 4.1.2 Generating and moving tabs

With smart docking, you can group the partial windows as you wish and place them on top of each other as tabs. For this purpose, drop the released partial window on the central indicator of the desired target window.



The partial window is then inserted in the window as last tab.

X2	X2 - X1	Y1	Y2
00:00:05.76	2.40	15.61	-19.1



You can change the tab order using drag & drop. Make sure not to leave the tab area, as otherwise the window will be released again.

### 4.1.3 Hide window manually

You can close or hide partial windows and tabs by clicking on the red button in the upper right corner



In order to reopen partial windows, select the *View* menu. All partial windows are listed here. A checkmark in front of the names shows that a window is being displayed. Check the box again if you want to reopen the window.

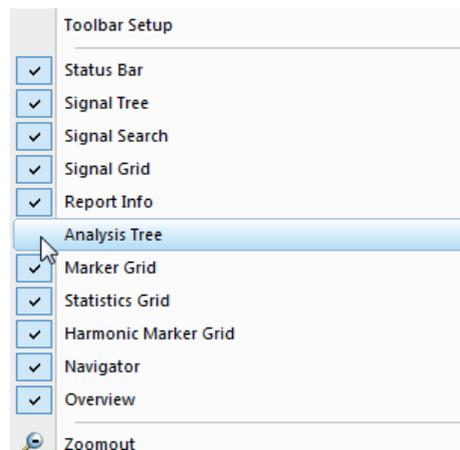


Fig. 4: Hide window manually by View menu

#### 4.1.4 Hide window automatically

Each partial window can be configured in such a way that it automatically disappears if it is not needed.

Such a window only becomes visible if you place the mouse on the corresponding tab at the border of the main window. As soon as the cursor is placed on the tab, the window opens and thereby covers other windows. If you move the cursor from the tab or the window, the window closes again unless you put the focus on the window with only a mouse click.

As long as the window has the focus, it remains open. If you click on another window or execute another function, the window closes again.

To configure a window for automatic hiding, click on the pin icon in the window caption.



If the automatic hide function shall be deactivated, click again on the pin icon while the window is open.

Depending on where the windows are docked, the tabs of the hidden windows are displayed at the border of the main window.



### 4.1.5 Scale window automatically

If you have opened several windows in tiled windows, it might make sense to arrange them at the same height or width in columns or rows.

There is an automatic function for this making the arrangement of an analysis view significantly easier, e. g. if you want to show a lot of *ibaCapture* windows.

Roughly arrange the windows in columns and/or rows and right-click on the caption of one of the windows in the column/row.

Select *Make panes in row same width* or *Make panes in column same height* in the opening context menu.

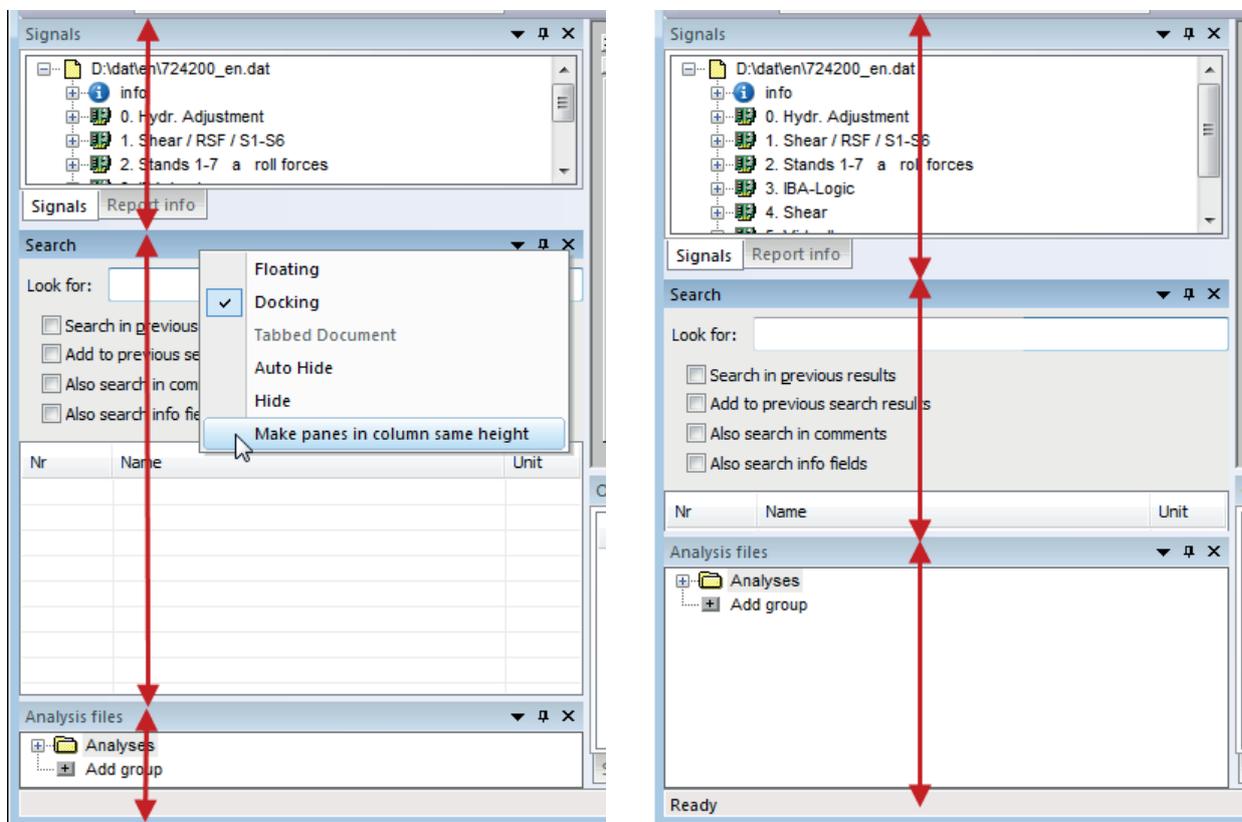


Fig. 5: Making windows the same height: before (left) and after (right)

## 4.2 The menu bar

### 4.2.1 The file menu

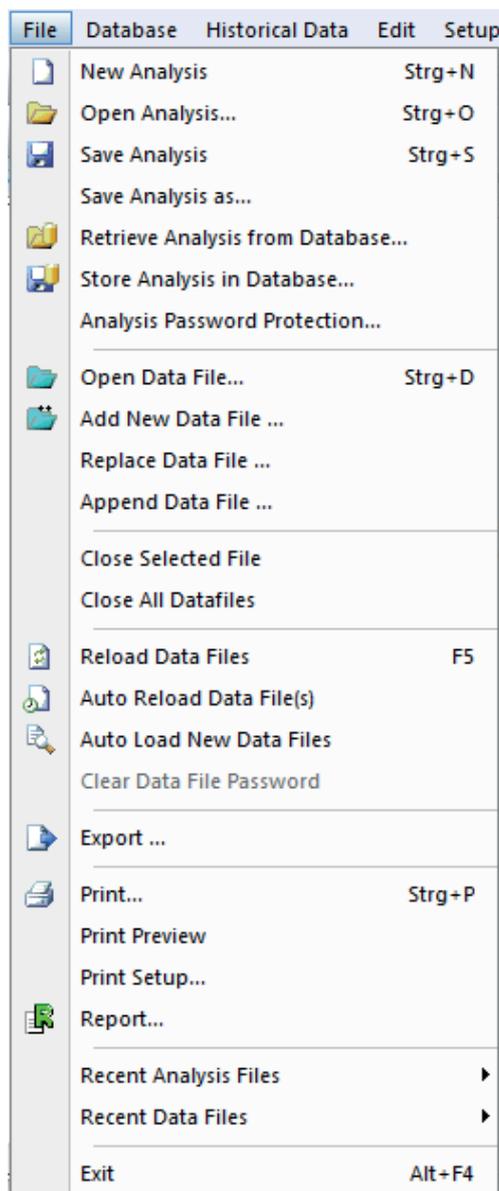


Fig. 6: File menu

#### Analysis file functions

##### ■ New Analysis

Discarding all current views, analysis functions, newly created signals and expressions, database configurations, etc., deleting the signal strips and clearing the signal table. Loaded data files continue to be displayed in the signal tree.

##### ■ Open Analysis

Browser-based opening of an existing analysis file (\*.pdo).

- Save Analysis   
Save the current analysis rule.
- Save Analysis as...  
Saves the current analysis in an analysis file with a new name (browser-based).
- Retrieve Analysis from Database...  
Loads an analysis which had been stored in a database.
- Store Analysis in Database...  
Save the current analysis in a database.
- Analysis Password Protection...  
Create, change or remove a password to save the analysis settings.

For this, also see part 2, chapter *Analysis password protection*.

### Data file functions

- Open Data File   
Browser-based opening of one or more existing data file(s) (\*.dat) in the "Open Data File" dialog.
- Add New Data File   
The "Add New Data File" dialog can be used to open further data files which are displayed in the signal tree window on the same level
- Replace Data File  
The file which was marked in the signal tree window beforehand is replaced with a new file to be selected in the "Replace the selected data file" dialog.
- Append Data File  
The "Open Data File" dialog can be used to open further files and to append these to the existing file(s). The signal tree window then shows the files in a cascaded form. The measured-value trends of the individual files are displayed one after another along the time axis.
- Close Selected File  
The file which was marked in the signal tree window beforehand is closed and removed from the signal tree window. Analysis settings and/or expressions remain unaffected.
- Close All Data Files  
All the files in the signal tree window are closed and removed from the signal tree window. Analysis settings and/or expressions remain unaffected.
- Reload Data Files   
The file which was marked in the signal tree window beforehand is loaded once again (refresh).
- Auto Reload Data File(s) 

The first (topmost) file in the signal tree window is automatically reloaded cyclically at defined intervals, even if this file is currently being written by *ibaPDA* (online analysis).

- Auto Load New Data Files 

*ibaAnalyzer* searches in a pre-set directory for the data file that is currently being written by *ibaPDA* and loads it. (Online analysis)

- Clear Data File Password

Clear any saved data file password. The next time a password protected file is opened the password will need to be entered again.

Regarding data files, also see part 2, chapter *The data file*.

### Export

Calling up the export dialog for exporting the measuring and analysis data into another file format.

For this, also see part 2, chapter *Exporting data*.

### Print and report functions

- Print... 

...starts the Windows print function

- Print Preview

The print preview shows the anticipated result of the print process. In the print preview, additional information from the file information as well as literal text to be printed can be entered. These additions can be stored in the analysis.

- Print Setup...

opens the Windows printer setup dialog.

For this, also see part 2, chapter *Print function (hard copy)*.

- Report... 

Opens the configuration dialog for the report generator. The report generator offers substantially more options for the free, user-defined design and layout of analysis reports than the simple print function.

For this, also see the manual *ibaAnalyzer-Reportgenerator*.

### Recent Analysis Files

This selection opens a list of the analysis files opened most recently in order to facilitate the selecting and opening of files.

### Recent Data Files

This selection opens a list of the data files opened most recently in order to facilitate the selecting and opening of files.

### Exit

Exit *ibaAnalyzer*

## 4.2.2 The database menu

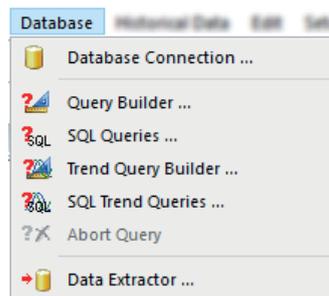


Fig. 7: Database menu

This menu is only available if the database interface option *ibaAnalyzer-V7-DB* or *ibaAnalyzer-V7-File-Extract* is enabled in the dongle and if the corresponding DLL was registered.

Also see additional documentation *ibaAnalyzer-DB*.

## 4.2.3 The historical data menu

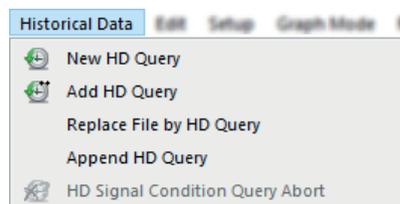


Fig. 8: Historical data menu

### New HD Query

This command opens the dialog for configuring a new HD query. After executing the query, the result is displayed in the signal tree. Data files or former HD queries available in the signal tree are replaced.

### Add HD Query

This command opens the dialog for configuring a new HD query. After executing the query, the result is displayed in the signal tree in addition to possibly existing data files or former HD queries.

### Replace File by HD query

This command opens the dialog for configuring a new HD query. After executing the query, the result replaces a data file or HD query having been marked in the signal tree before.

### Append HD query

This command opens the dialog for configuring a new HD query. After executing the query, the result is appended to the bottommost data file or HD query in the signal tree. If one of several data files or HD queries in the signal tree was marked beforehand, the result of the new HD query is attached to the checked file or HD query.

### HD Signal Condition Query Abort

You can use this command to cancel an ongoing HD query for signal condition, e.g. if it is to take too long due to too much data.

For more information about the HD query, see part 2, chapter *The HD query dialog*.

#### 4.2.4 The edit menu

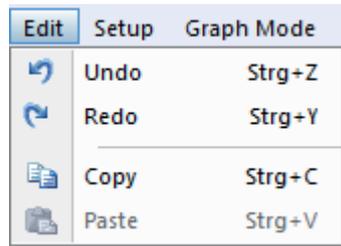


Fig. 9: Edit menu

##### Undo / Redo

These two commands can be used to undo recent steps of user operations, e. g. the deletion of an expression by accident. Vice versa, an undone step can be redone again.

This function can be enabled or disabled in the preferences and/or graph settings, *Signal grid* tab. Also, the number of operation steps in the undo stack can be set there.

For this, also see part 2, chapter *Settings/Preferences - Signal grid*

##### Copy

This command will copy the current contents of the recorder window, i.e. the visible signal strips and signal tables, to the Windows clipboard. From there, it can be inserted as HTML object in other Windows programs, e.g. in Word or Excel. In this way, analyses can be used in other documents.

For this, also see part 2, chapter *Documenting with HTML and graphic objects*.

##### Paste

This command inserts the contents of the clipboard in the current *ibaAnalyzer* window. If the *Copy* function was executed before, the *Paste* function adds the same signal strips and table rows of the view again.

## 4.2.5 The setup menu

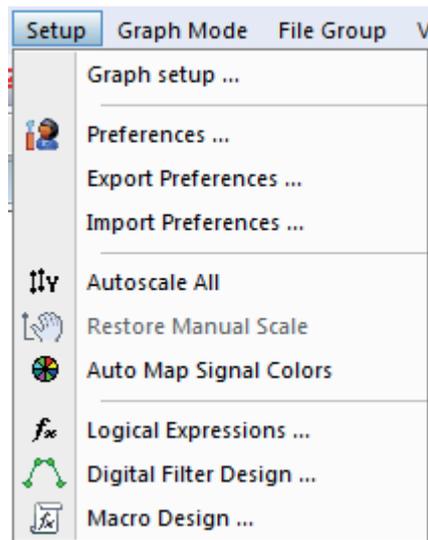


Fig. 10: Setup menu

### Graph setup

The *Graph setup* menu gives access to the dialog for the different setting options available for the signal strip currently marked. The dialog includes the settings (X axis, Y axis, views, etc.) which are relevant for the corresponding graph, so that redundant settings are excluded beforehand. A change in current graph settings does not lead to a change in preferences.

For this, also see part 2, chapter *Strip settings*.

### Preferences

The dialog window for setting the preferences is opened under this menu item. The preferences form the summary of all possible settings for the graph together with some general settings. The preferences are applied to a new analysis and/or when creating a new signal strip.

For this, also see part 2, chapter *Preferences*.

### Export / Import Preferences

The current preferences can be exported and imported as \*.ini file. Therefore, optimized preferences can be stored or made available to other users. When executing these commands, path and file name of the ini file have to be filled in and/or be selected. Further settings for the export and import of the preferences have to be configured in the *Preferences dialog, Export/import settings* tab.

For this, also see part 2, chapter *Export/import settings*.

### Autoscale All

Clicking this menu item automatically scales all the signals displayed in the Y direction on all strips displayed. The X axis is not affected by this operation, so that a zoomed time section remains unchanged.

### Restore Manual Scale

If manual scaling was selected in the graph settings for the axis and if this manual scaling was subsequently changed by autoscaling, zooming in / out or by compressing / stretching the scale

using the mouse, this command can be used in order to restore the manual scaling. This effect of this command is limited to the currently marked signal strip.

### Auto Map Signal Colors

This command automatically assigns different colors to the different signal curves within the currently marked signal strip .

### Logical Expressions

This command opens the dialog for the logical signal definitions. It serves for defining artificial or "virtual" signals. Here it is also possible to define multi-dimensional signals (arrays) .

For this topic, also see part 2, chapter *Logical signal definitions*.

### Digital Filter Design

This menu item opens the graphic editor for digital filter design.

For this, also see part 2, chapter *Filter editor*.

### Macro Design

This command opens the dialog for generating macros. With macros, comprehensive calculations and complex analysis functions can be encapsulated to be able to handle them more easily and reuse them more than once.

For this, also see part 2, chapter *Macros*.

## 4.2.6 The graph mode menu

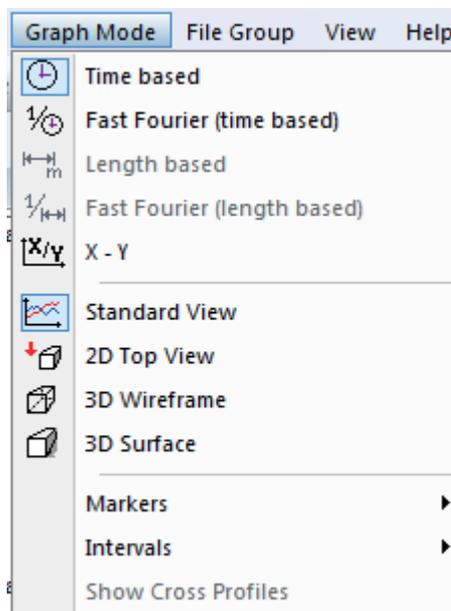


Fig. 11: Graph mode menu, icons refer to corresponding toolbar buttons

The individual menu items can be selected both via the menu bar as well as via the corresponding icons in the toolbar.

### X-axis mode

The different X-axis modes can be selected via the toolbar.

These commands apply to the signal strip currently marked.

The current settings of the graph in focus when calling up the menu are highlighted in color in the menu.

■ Time - Y 

This means that the time axis is used as the X axis (default). From the time of commencing the recording process (recorded in the data file) until the end of recording. Switching between absolute time values (hh:mm:ss) and relative time (0....n sec) is carried out in the strip setup.

For this, also see part 2, chapter *Time - Y and length - Y*.

■ Fast Fourier Transform (time based) 

In this mode, the trend view shows a FFT representation of the signal(s) with a frequency axis (1/s, Hz) as the X-axis. The magnitudes of the frequency spectrum are displayed in Y-direction. The transformation and scaling functions are carried out as set in the preferences.

For this, also see part 2, chapter *FFT*.

■ Length - Y 

This command divides the X axis into length units (m) related to the signal displayed. As a precondition for display, the signal to be presented must have been converted from a time to a length basis, for example, by a *TimeToLength* function.

For this, also see part 2, chapter *Time - Y and length - Y*.

For information on time-length-conversion see part 3, *Expression builder*, chapter *Conversion from time to length reference*.

■ Fast Fourier Transform (length based) 

In this mode, the respective trend view shows a FFT representation of the signal(s) with a reciprocal length axis (1/m) as the X-axis. The transformation and scaling functions are carried out as set in the preferences. The transformation and scaling functions are carried out as set in the preferences.

For this, also see part 2, chapter *FFT*.

■ X - Y 

This presentation mode is only offered if a strip contains at least two signals. If this mode is selected, the time or length axis is ignored and one signal is plotted above the other. In this way, it is possible to show dependencies of one or more signals on another signal. Using the mouse, the user selects the signal to be plotted on the X axis and the signal to be plotted on the Y axis by arranging the signals accordingly on the strip. The function is available for both time and length based signals.

For this, also see part 2, chapter *X Y*.

## Views

■ Standard view 

The standard view is the default setting. It leads to a two-dimensional curve presentation.

For this, also see part 2, chapter *Standard view*.

### ■ 2D top view

Despite two-dimensional presentation, this view also offers information on a third dimension by displaying the amplitudes of the measured values in colors. This view is particularly suitable for the presentation of profiles (temperature, thickness, shape profiles, etc.).

For this, also see part 2, chapter *2D top view*.

### ■ 3D wireframe

This view shows the signals measured as a three-dimensional "mountain" which solely consists of lines which connect the samples to each other. The resolution of this line mesh (B-Splines) can be varied in the setup for the 3D display (preferences or graph setup).

For this, also see part 2, chapter *3D wire frame*.

### ■ 3D surface

This view offers a three-dimensional false-color presentation of the signals measured. Different colors (as selected in the setup) are assigned to amplitudes of the signals measured. The spaces between the signals measured can be sharply separated or they can be displayed with smooth color transitions as required. These preferences are also set in the 3D setup.

For this, also see part 3, chapter *3D surface*.

### ■ Markers...:

Behind this item you will find the configuration dialog for the X-axis markers and the commands for setting markets at the current positions of linear X1 and X2.

In addition, there is a command for clearing the existing markers.

For this, also see part 2, chapter *Markers*.

### ■ Intervals...

Behind this item you will find the configuration dialog for displaying defined intervals and the command for the interval display between current existing markers.

In addition there are commands for clearing intervals.

For this, also see part 2, chapter *Using intervals*

### ■ Show cross profiles

This option is only available in the 2D top view. It enables the activation or deactivation of the display of cross profiles.

For this, also see part 2, chapter *2D top view*.

## 4.2.7 The File Group menu

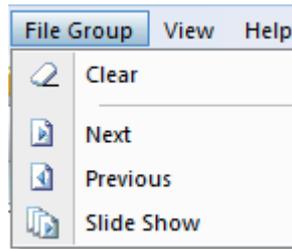


Fig. 12: File Group menu

The menu items are only activated if a group of data files is opened.

- Clear 

This menu command deletes the group of data files.

- Next / Previous  

Loading the next or previous data file in the group relative to the file currently loaded in the signal tree.

- Slide show 

Starts and stops the automatic display of all the data files belonging to the group of files (successively).

Also see part 2, chapter *Defining groups of data files* and *Slide show*.

## 4.2.8 The view menu

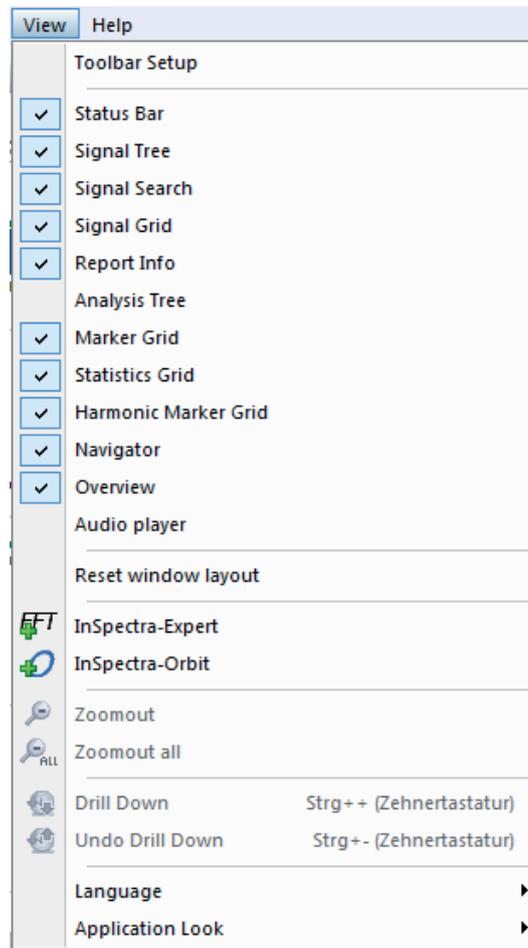


Fig. 13: View menu

### Screen settings

#### ■ Toolbar Setup

This is where the dialog for adapting the toolbars can be opened in a manner quite similar to the procedure in the MS programs.

#### ■ Status Bar, Signal Tree, Signal Search, Signal Grid, Report Info, Analysis Tree, Marker Grid, Statistics Grid, Harmonic Markers Grid, Navigator, Overview and Audio Player

These commands can be used to activate or deactivate (toggle) the corresponding views in order to create more space for the curve display, for example. Sub-windows which had been bound to certain areas as tabs before are placed and enabled individually.

#### ■ Reset window layout

Use this command to reset all changes to the layout since the last start of *ibaAnalyzer*.

### InSpectra-Expert

Use this command to open a new FFT view for InSpectra Expert modules in a new window, which can be positioned freely.

Corresponding button: 

For further information, please also refer to the manual *ibaAnalyzer-InSpectra* or *ibaInSpectra*.

### InSpectra-Orbit

Use this command to open a new Orbit view for InSpectra Orbit modules in a new window, which can be positioned freely.

Corresponding button: 

For further information, please also refer to the manual *ibaAnalyzer-InSpectra* or *ibaInSpectra*.

### Zoom functions

#### ■ Zoom out

Each time this menu item is clicked, a zoom-in stage previously selected for a display is reversed, so that a gradual zooming out is carried out. The command concerns the graph currently marked as well as all other graphs having the same X axis basis (time, length, FT).

#### ■ Zoom out all

Clicking this menu item selects all the zoom factors of all signal strips irrespective of the strip which is currently marked and irrespective of whether different X axes exist.

### Drill-down functions (HD-Query)

Drill-down functions only apply to trend graphs of HD-Queries.

#### ■ Drill down

This command is only available after a trend graph of an HD-Query has been zoomed in. It provides for higher resolution measured data in the zoomed area by reloading the data from the HD store.

#### ■ Undo Drill Down

This command is only available if a drill down has been performed before. The drill down will be undone and the graph will be zoomed out.

For additional information, see part 2, chapter *Drill-down function*.

### Language

In the sub-menu *Language* you can select the display language for *ibaAnalyzer*. Switching the language requires a restart of *ibaAnalyzer* which is done automatically. With selection *System* the region and language settings of the Windows control panel are used.

### Application Look

In the sub-menu *Application look* you can choose from different styles of *ibaAnalyzer*'s program interface. Available are different display styles and color schemes with reference to different Microsoft products. The changes basically apply to colors and shades of windows and controls. A switching of the application look applies immediately without restart of *ibaAnalyzer*.

## 4.2.9 The Help menu

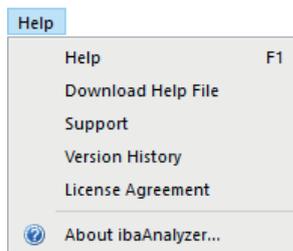


Fig. 14: Help menu

### Help / download help file

The command *Help* opens the Help file if it is already installed on the computer. If the Help file was not installed yet, you will be asked whether you want to download the Help file.

The command *Download Help file* is used to start the download of the Help file from our FTP server immediately, for example to update the help.

An internet connection is required to download the Help file.

### Support

The *Support* command is used to open a page with the contact information for iba locations worldwide.

### Version history

With the version history command, you open a page that chronologically documents all changes of the ibaAnalyzer program up to the current version. In addition to bug fixes, you will also find key information on improvements and new features.

### License agreement

Behind this point you will find the text of the license agreement that you agreed to when installing the program.

### About ibaAnalyzer...

Here you will receive information about the version of *ibaAnalyzer*.

## 4.3 The toolbar

There are several toolbars set by default so that all functions can be used. If requested, the toolbars can be shown, hidden or modified and user-defined toolbars can be added.

The functions of the buttons available on the toolbar have already been correlated to the appropriate menu items in the previous chapter.

### 4.3.1 The tool bar

#### Main toolbar



Fig. 15: Main toolbar

This toolbar contains all basic functions which can be grouped by different categories.

#### File functions (from left to right)

Analysis rule: 1 new - 2 open - 3 save (\*.pdo)

1 open data file - 2 add data file (\*.dat)

#### Database functions

1 Database setup- 2 Query builder - 3 SQL query (editor) - 4 SQL trend query builder - 5 SQL trend query - 6 Abort query - 7 Data extractor

#### Historical data

1 New HD query - 2 Add HD query - 3 Abort HD signal condition query - 4 Drill down - 5 Undo drill down

#### Edit and print

1 Copy current curve to clipboard - 2 Paste clipboard content - 3 Undo – 4 Redo – 5 Print report - 6 Call up report generator

#### Preferences

Preferences (signal and system preferences)

#### Display functions

1 Auto map signal colors - 2 Autoscale all - 3 restore manual scale

1 zoom out to previous stage – 2 zoom out completely

Switch X axis (time, FFT (time), length, FFT (length), X-Y);

View (2D / 3D)

#### Logical signals

Open dialog for logical signal definition

### Digital filter design



Open filter editor

### Macro design



Open macro design dialog

### ibaInSpectra



1 FFT view InSpectra-Expert - 2 InSpectra-Orbit view

### Data file group

#### Data file group list/HD query results (HD-query with signal condition)



1 previous data file - 2 next data file - 3 group list with multiple selection - 4 start / stop slide show - 5 clear file group (list)

### Reloading

#### Reload files



1 reload data file - 2 automatically reload first data file -

3 Search for new data file

### Locking

#### Key button



Disable /enable display overwrite (in "Reuse" mode only, refer to "[Starting with command line](#), page 18")

## 4.3.2 Adjust tool bars

### Adjustment in accordance with the standard preferences

In order to change the toolbars, click on the arrow symbol at the end of a toolbar.

Then click on *Add or remove buttons* and select the toolbar to be modified. You will always be offered the toolbars here that are in a line.

You can select from the default buttons which ones to hide or remove.

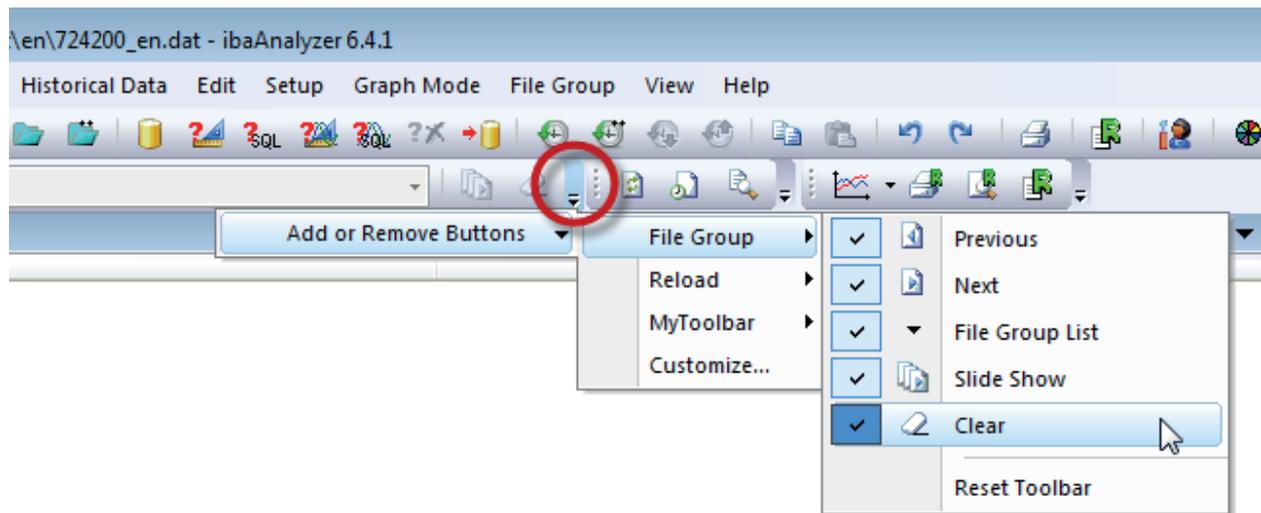


Fig. 16: Adjusting a toolbar, file group example

### Free adjustment with dialog

If you got to the sub menu with the toolbars as described above, select *Customize...* and the dialog for adjusting the toolbars opens.

You also get to the dialog via the *View – Toolbar Setup...* menu

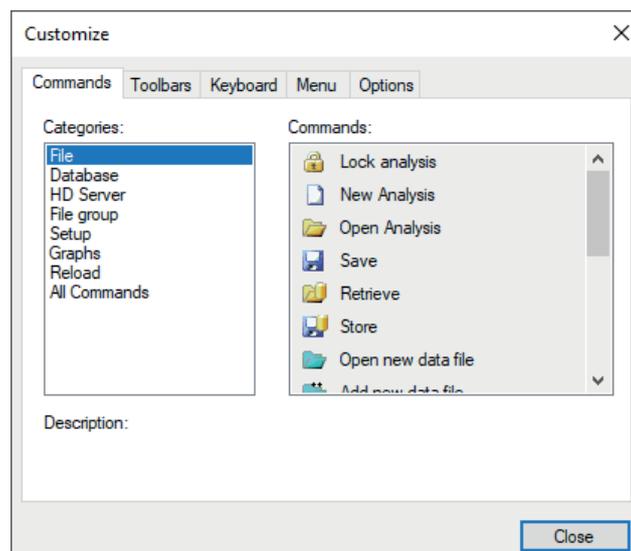


Fig. 17: Dialog for adapting toolbars, menus and keyboard allocations

### Command tab

In the first tab, *Commands*, you can drag – as known from other Windows programs, e. g. MS Office – commands from different categories to a toolbar using the mouse to insert them there.

As long as the *Customize* dialog is open, you can add or remove toolbar commands.

You remove toolbar commands by dragging them out of the toolbar using the mouse. By doing so, you can also change the main toolbar, e. g. in order to remove commands not being required.

**Toolbars tab**

In the *Toolbars* tab, you can define which toolbars to be shown or hidden.

Moreover, you can reset the toolbars to factory settings.

You can also create your own toolbars. Proceed as follows:

1. Click on <New...>
2. Enter a name for the toolbar and click <OK>.
3. A freely floating toolbar without commands occurs.
4. Drag the toolbar to the toolbar area using the mouse.
5. Then go to the *Commands* tab and drag the desired commands to the new toolbar using the mouse.

**Keyboard tab**

In the *Keyboard* tab, you can assign key combinations to toolbar commands.

1. First, select the command category and then the command you want to assign access keys to. If there already is an assignment, the access key is shown in the field on the right.
2. Click on the "Press New Shortcut Key" field and press the desired keys.
3. Click on <Assign>.

**Menu tab**

In this tab, you can reset the menus to the factory settings and set the animation when opening the menus. The differences regarding animation, however, are only noticeable on close inspection, as this is very quick.

You can also set whether or not an open menu is to cast a drop shadow.

**Options tab**

In the *Options* tab, you can set whether quick info (tooltips) is to be activated on the toolbar and with which contents.

You can also activate large icons.

## 4.4 Mouse and key commands

### 4.4.1 Drag & Drop

The intuitive Drag&Drop functionality is available at many points in the *ibaAnalyzer* program. Simply click and mark the object (file name, signal name, signal strip, etc.) and then drag and drop it, keeping the mouse key depressed, where you need it. The Drag&Drop function is, for example, available for the following operations.

- Moving a data file from the Windows Explorer to *ibaAnalyzer*'s signal tree window; applies also to archived data files (\*.pdc, \*.zip etc.)
- Moving one or more data files into the group window within the "Open data file" dialog
- Moving signals from the signal tree to a new trend view or adding signals to an existing trend view
- Moving signals within the same signal strip or between different signal strips.
- Moving trend views

### 4.4.2 Context menu

In the different screen areas, *ibaAnalyzer* also offers context menus which contain commands that can be applied to the area in which the cursor is currently located. These areas are:

- Signal tree window
- Signal strips (trend graphs)
- Axes
- Signal grid
- Navigator

A click with the right mouse key opens the context menu.

### 4.4.3 Hot Keys

Certain key combinations can be used instead of the mouse. In *ibaAnalyzer*, however, these combinations are almost exclusively limited to the usual Windows functions.

Additional key combinations, if available, are also displayed in the quick info (tooltips). If required, you can assign individual access keys via the menu *View – Toolbar Setup... – Keyboard* tab.

Shortcuts	Function
<Ctrl>+<C>	The contents currently displayed in the recorder window are copied to the Windows clipboard.
<Ctrl>+<V>	The content having been copied into the clipboard before is pasted to the recorder window.
<Ctrl>+<I>	Insert an interval spanning from X1 marker position to X2 marker position.
<Ctrl>+<M>	Insert a static marker at the X1 marker position. The marker will be visible in the selected graph only.
<Ctrl>+<Alt>+<M>	Insert a static marker at the X2 marker position. The marker will be visible in the selected graph only.
<Ctrl>+<N>	New analysis rule (analysis file *.pdo).
<Ctrl>+<O>	Open existing analysis rule
<Ctrl>+<S>	Save current analysis.
<Ctrl>+<Z>	Undo
<Ctrl>+<Y>	Repeat
>Ctrl>+<D>	Open data file
<F5>	Reload data files
<Ctrl>+<P>	Opens the print dialog to print out the current view.
<Alt>+<F4>	Exit ibaAnalyzer

Table 6: Shortcuts (hot keys)

#### 4.4.4 Combinations of mouse and key operation

LM = left mouse key RM= right mouse key

Key	Mouse	Function
<Shift>+	LM (double click)	a signal in the signal tree: adds the signal to an existing and marked signal strip and appends it to the Y axes of the bottommost signal.
<Ctrl>+	LM (double click)	a signal in the signal tree: adds the signal to an existing and marked trend view and gives it its own Y axis.
<Ctrl>+	LM (depressed)	in 3D appearance moving / rotating the graph
<Shift>+	LM (depressed)	in 3D appearance Zoom
<Ctrl>+	LM	When moving a marker in the marker view: Marker locks in at next signal point (can be adjusted in the preferences menu).
<Shift>+	LM	When moving a marker in the marker view: Both markers keep on moving simultaneously.
<Shift>+<Ctrl>+	LM	Combination of both preceding features

Table 7: Mouse and key combinations

### 4.4.5 Tooltips

If you mouse over the buttons in the toolbar, a short description appears as is generally the case in Windows programs (tooltip). If requested, you can also disable this function in the *View – Toolbar Setup...* menu – *Options* tab.

If you mouse over the legend of a signal, a tooltip is displayed as well, subject to the condition that this function was activated in the preferences or strip settings beforehand. You can configure the content of the tooltip. The preferences and strip settings define the contents to be displayed in the tooltip.

Available information which can be activated in the tooltip of the legend:

- FFT prefix
- Signal name
- Signal unit
- Comments 1 and 2
- X values of markers 1 and 2
- Difference between markers-X-values
- Y values of markers 1 and 2
- Difference between markers-Y-values
- Sampling period
- Expression

How to configure the legend tooltips is described under *Setup*, in part 2, chapter *Graph setup, 2D view*.

If you hide a signal strip in the recorder window, you can check to see the content of the signal strip (signal names) by positioning the cursor above the triangle (downwards arrow tip = signal strip is hidden).

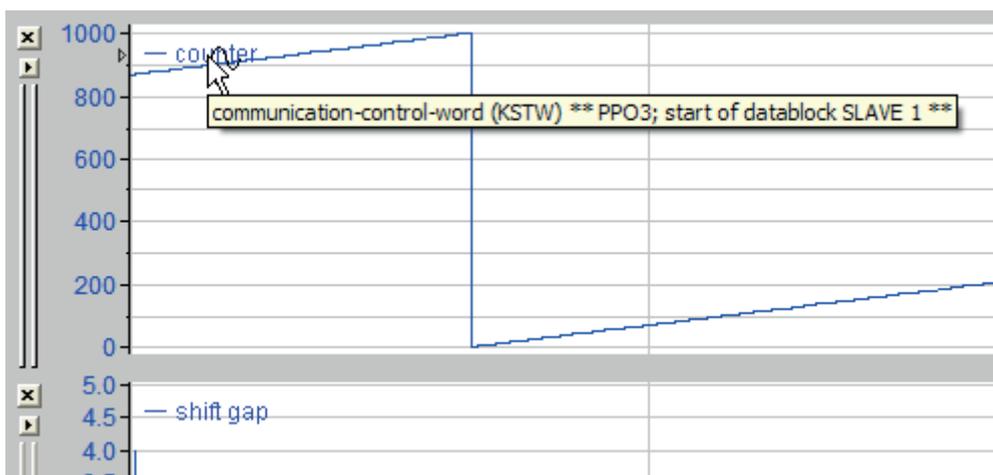


Fig. 18: Example of tooltip on legend

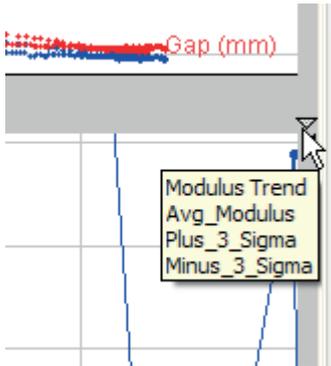


Fig. 19: Example of tooltip on signal strips

## 4.5 The signal tree window

The signal tree window has multiple functions which can be selected by the tabs on the lower edge of the window:

On the *Signals* tab, the data files which are currently opened are shown, including the signals contained therein. In order to find signals inside a data file, one should use the *Search* tab. Calculated characteristics and parameters of the current analysis can be displayed in the *Report info* tab. The *Analysis files* tab provides shortcuts for analysis file selection.

As described in the *The screen* chapter, the signal tree window represents a factory-set grouping of the partial windows as tabs. You can release each tab with drag & drop and position it as a separate window.

### 4.5.1 Signals tab: Tree of data file(s) and signals

#### Note



Analogously, the following explanations also apply to the HD query results (historical data).

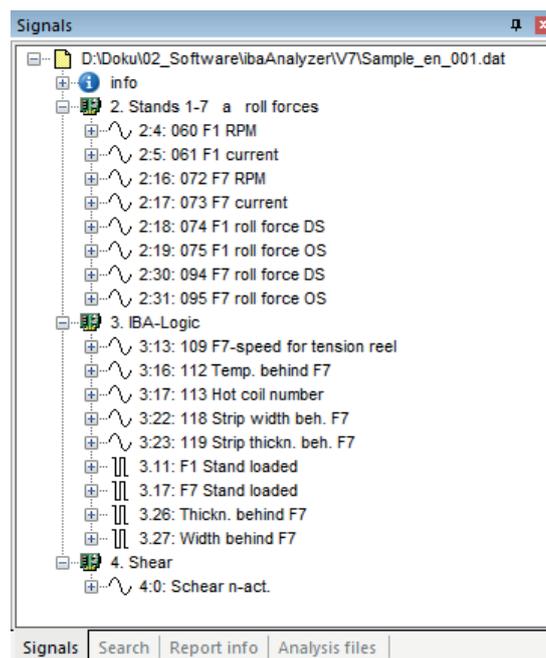


Fig. 20: Signal tree window, Signals tab

In order to view the individual signals, click the small cross at a module icon.

#### Tip



If you hover the mouse over the signals, you'll find the signal comments in the tooltip, provided they have been configured in *ibaPDA*.

### 4.5.1.1 Appearance with module name or linear numbering

The data files can be presented in the signal tree window in different ways as follows:

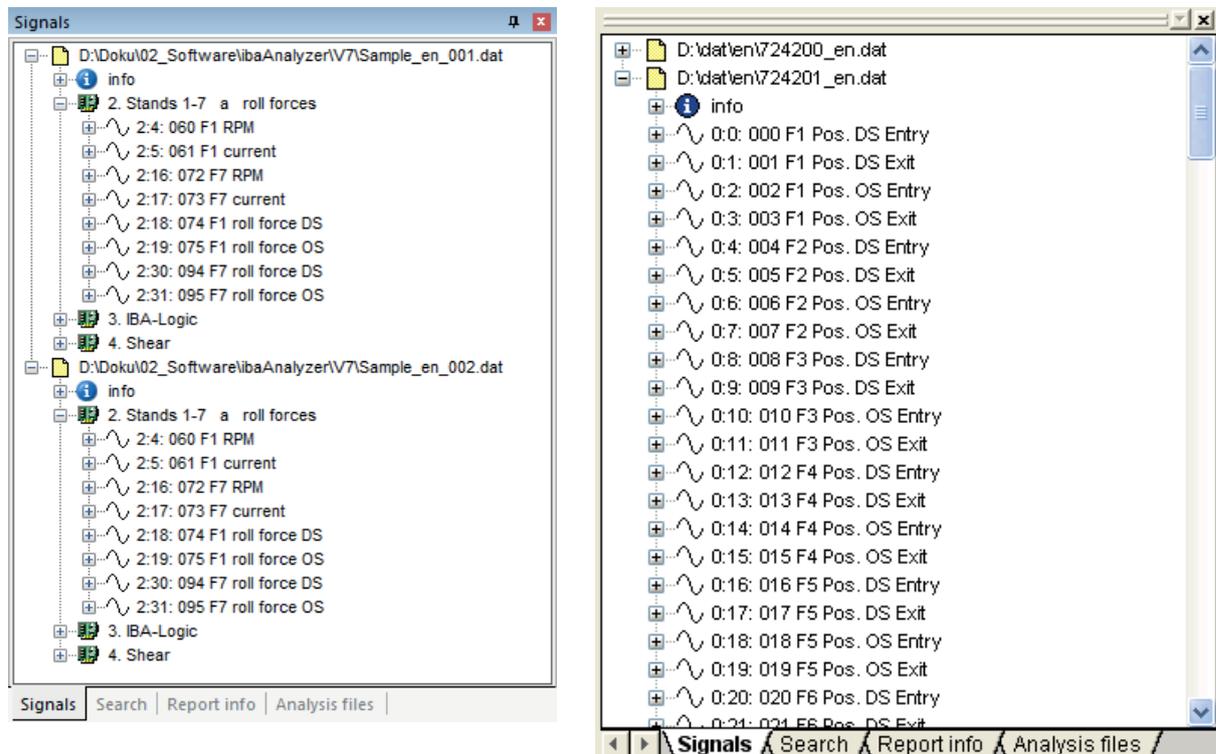


Fig. 21: Signal tree with modules (left) or without modules (right)

The image to the left shows the technological structure of the signals as determined in *ibaPDA*, for example.

In the image on the right, linear numbering was chosen in the context menu. All the signals of a data file are listed consecutively without the module names. All that remains is the change in analog and digital signals. The linear numbering option should be used if many signals of the same type and belonging to the same technological process units cover several modules, such as the 72 measuring zone values of a flatness measuring roll. This is an advantage for creating arrays or vectors (logical signal definitions) for the presentation of profiles.

The two data files shown in the picture are opened in *ibaAnalyzer*. The corresponding module and signal trees can be extended for every file. Signal curves of the same signal in different data files can be displayed at the same time and compared.

If data files are appended to each other, this looks as follows:

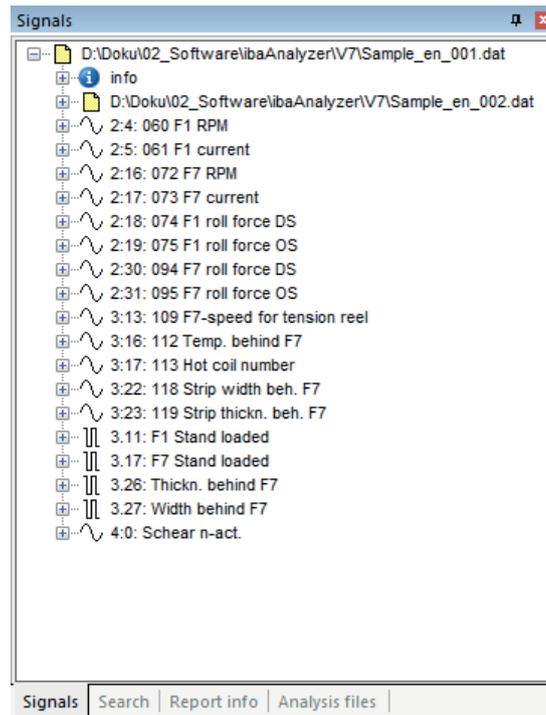


Fig. 22: Appended data files

The signal tree is available only once for the selection of signals because the signal curves from the different files are shown one after another in the trend graphs.

### 4.5.1.2 Presentation of expressions

In addition to the original signals from the data file, the signal tree window also displays expressions and/or virtual signals if these were generated using the editor for "logical signal definitions".

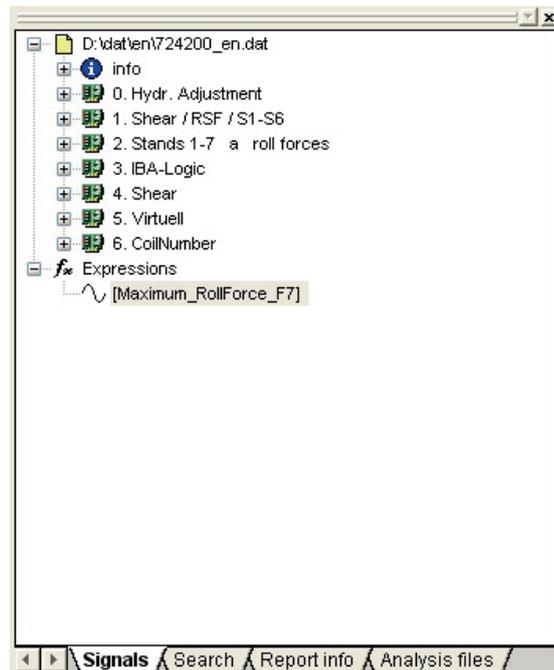


Fig. 23: Signal tree window, presentation of expressions

#### Note



Expressions which were created using the expression builder in the signal table, *Signal definitions* tab (add signals), are not displayed in the signal tree window and are lost when they themselves are removed from the signal table or when the signals on which they are based are deleted. However, it is also possible to declare every expression as a virtual signal via the *logical signal definitions*. Such an expression then appears, just like the original signals, in the signal tree, but still forms a permanent part of the analysis.

### 4.5.1.3 Other channel types

In addition to normal numerical values, texts and vectors can also be displayed as "signals" in the signal tree. Text signals can be used like conventional signals. They have an individual name, just like the static markers ("flag").

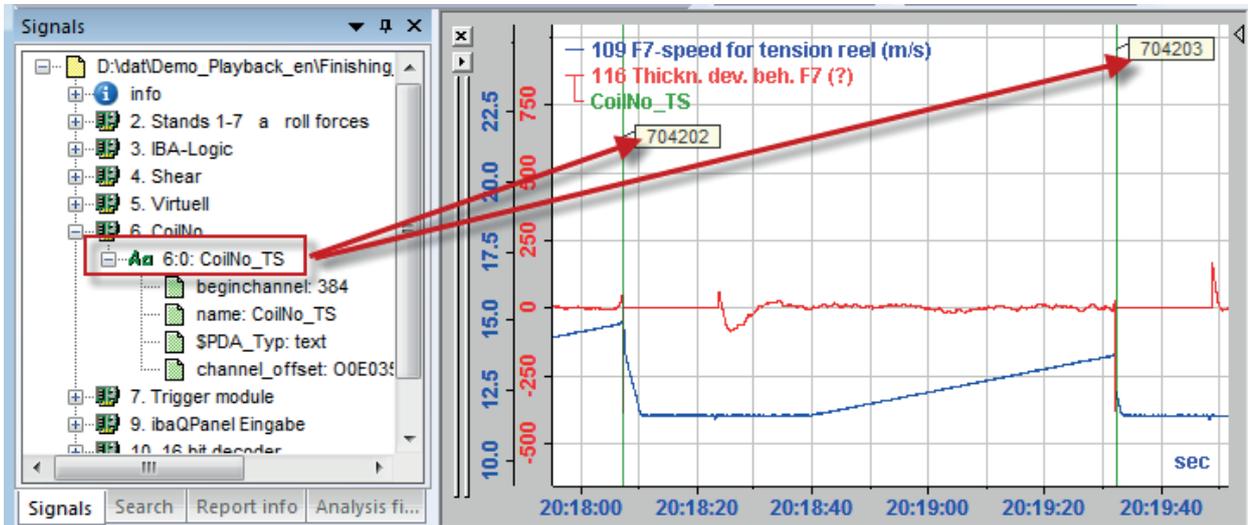


Fig. 24: Example text signal based on technostings (up to ibaPDA-V6.39.14)

Vector signals are displayed in the signal tree window within the expressions branch. They consist of individual signals summarized into groups.

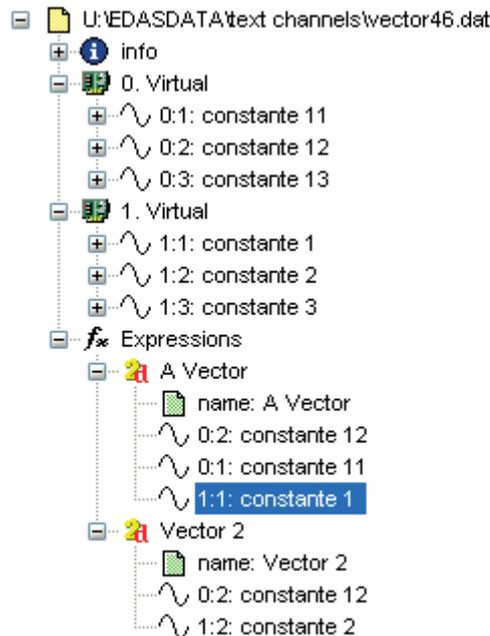


Fig. 25: Vectors in signal tree

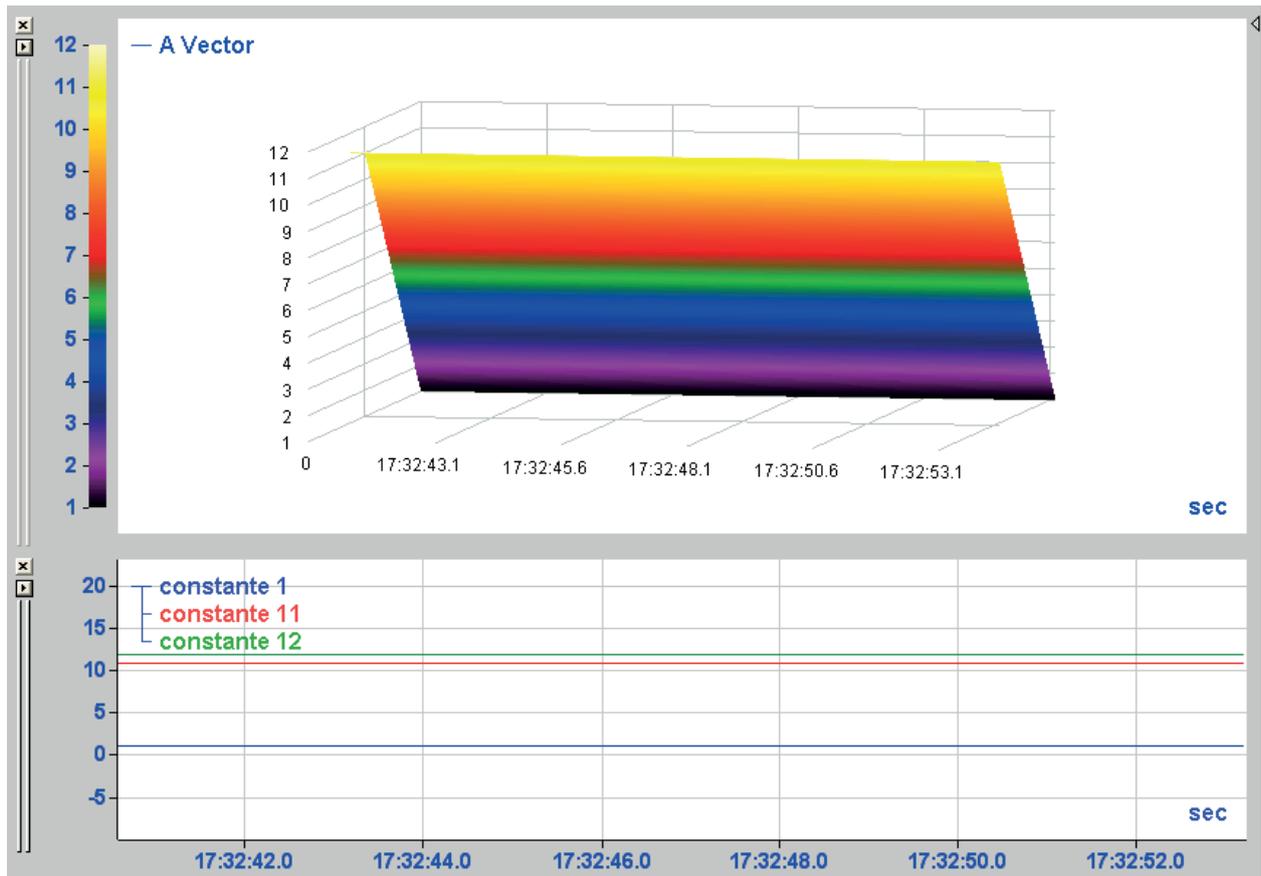


Fig. 26: 3D presentation of "A vector" (above) and the corresponding individual signals (below)  
 Vectors can also be created afterwards in *ibaAnalyzer* using the *logical signal definitions*.

#### 4.5.1.4 The context menu

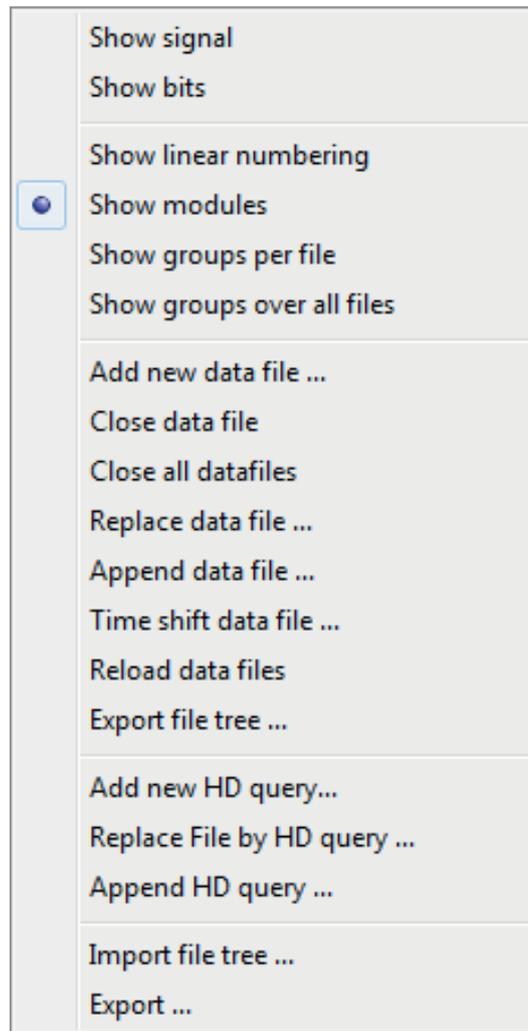


Fig. 27: Context menu Signal tree window, Signals tab

This context menu basically contains the familiar commands for data files as the file menu (see [↗ The file menu, page 31](#)). Depending on where the mouse click is done, reduced menus may appear.

Menu commands referring to data files or HD queries usually apply to the file or HD query in which the context menu was opened or which was marked at the time the context menu was opened.

However, certain special features exist in addition:

##### **Show signal**

This command will cause the signal, which was right-clicked with the mouse, to be displayed in a signal strip.

##### **Show bits**

This command – applied to an analog signal – will cause the display of all bits of the analog signal as separate digital signals. Thus, digital information which has been “packed” for transmission e. g. in a 16 bit integer can be displayed again in form of individual signals.

This works for 32 bit floating point values, too.

**Show linear numbering, show modules**

This function toggles between linear numbering and the module view.

**Show groups per file / ...over all files**

These display options are only applicable if the signals have been grouped before in the configuration of *ibaPDA* (or formerly in *ibaScope*). The signal-group-assignments are stored in the data file.

"Show groups per file" displays the data files as the topmost structure level in the signal tree window, with the pertinent signal groups being displayed below.

"Show groups over all files" displays the signal groups on the topmost structure level in the signal tree window.

This way, it is possible to define signal groups which show the signals necessary for a particular analytical purpose at a glance in the signal tree, irrespective of their physical module assignment. This means that the information concerning the technological affiliation does not necessarily have to be included in the signal name as a precondition for identifying a signal.

**Show length and time-based signals separately (*ibaQDR-V6*)**

This option is only visible if a data file from an *ibaQDR* system with length-based and time-based signals is opened. By checking this option, the nodes of the measuring locations in the signal tree are divided into nodes for length-based signals (L) and time-based signals (T). The nodes of the measuring locations with length-based signals automatically receive the numbers x, the nodes of the measuring locations with time-based signals receive the numbers x + 1. Precondition: an archiving profile with length-based and time-based storage must have been used in the *ibaQDR* data recording.

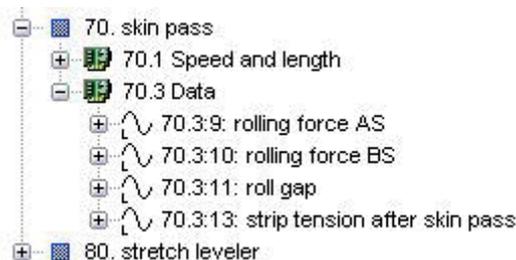


Fig. 28: ibaQDR data file: Signals only length-based

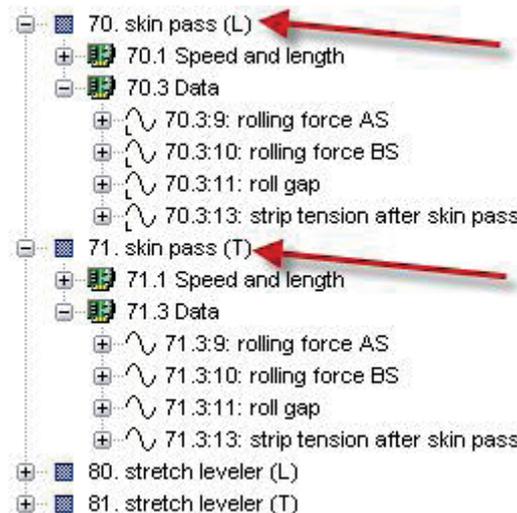


Fig. 29: ibaQDR data file: Signals length and time-based

### Time shift data file

This command opens the dialog for configuring the time shift of data files. If more than one file is opened in *ibaAnalyzer*, you can arrange them one below the other.

For additional information, see part 2, chapter *Time shift of data files*

### Reload data files

The file which was marked in the signal tree window beforehand is loaded once again (refresh).

### Export file tree... / import file tree...

This command can export the file tree to a text file or import it from a text file.

For additional information, see part 2, chapter *Exporting/importing file tree*

### Add new HD query...

A new HD query is added to the signal tree.

### Replace File by HD query

The (marked) data file or HD query is replaced by a new HD query.

### Append HD query

A new HD query is appended to the file or HD query in which the context menu was opened.

### Export HD query file

This command is only available if an HD query is in the signal tree.

This command exports the parameters of the HD query to a text file.

For additional information, see part 2, chapter *Query HD server*

### Export

This command opens the configuration dialog for exporting the data files to other file formats.

For additional information, see part 2, chapter *Exporting data*

### 4.5.1.5 Alternative signal names

For displaying the signal names in the signal tree, it is possible to use alternative titles, e.g. to display clearer titles or another language. The prerequisite is that corresponding info fields for each signal in *ibaPDA* have already been filled with information, e.g. comment1 and comment2.

For more information on the settings, see part 2, chapter *Signal tree*

### 4.5.2 Search tab: Function for searching signals

If a data file contains many signals, it might be hard to find a particular signal. The same challenge applies to expressions, logical signal definitions and markers.

Using the search function makes these things easier.

In addition to the columns *Signal number*, *Signal name* and *Unit* (standard), other columns can also be displayed in the results table if necessary (*Module name*, *Comment 1* and *Comment 2*).

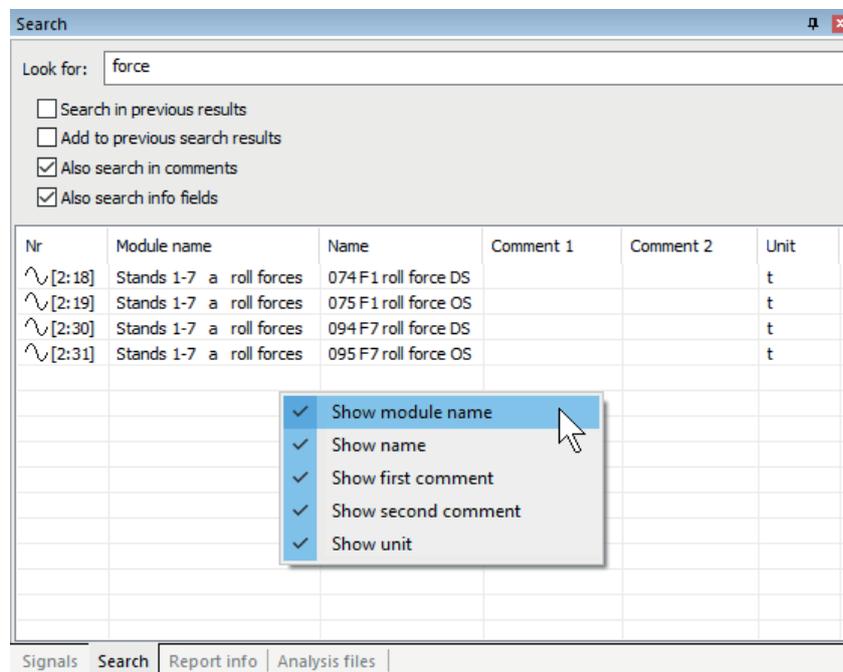
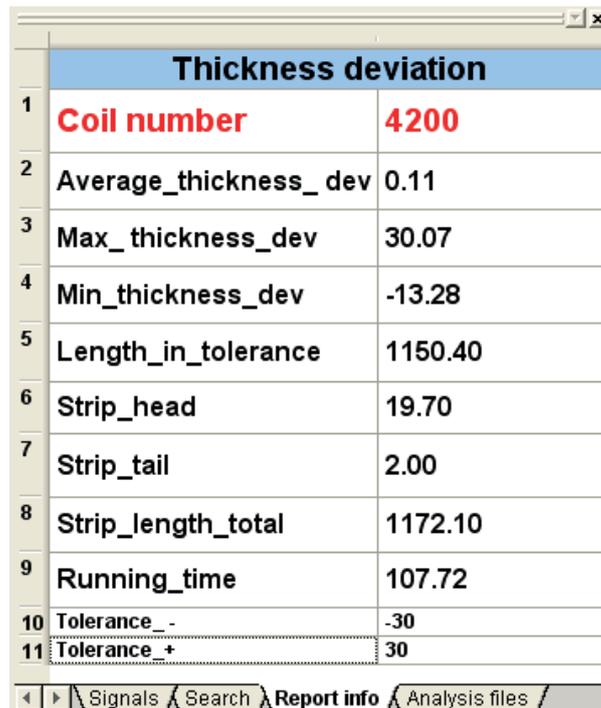


Fig. 30: Signal tree window, search tab with context menu for column selection

Also see part 2, chapter *Searching for signals*.

### 4.5.3 Report info tab: Display of characteristic values



Thickness deviation	
1	<b>Coil number</b> 4200
2	Average_thickness_dev 0.11
3	Max_thickness_dev 30.07
4	Min_thickness_dev -13.28
5	Length_in_tolerance 1150.40
6	Strip_head 19.70
7	Strip_tail 2.00
8	Strip_length_total 1172.10
9	Running_time 107.72
10	Tolerance_- -30
11	Tolerance_+ 30

Fig. 31: Signal tree window, "Report info" tab (example)

The *Report info* tab of the signal tree window – also called Info window – enables the display of calculated characteristic values resulting from a measuring series.

The typestyle format (font, character size, color, etc.) can be defined by the user, so that a very clear and easy-to-read display can be implemented. The values are determined and made available via the dialog for the report generator.

#### Other documentation



Also see the manual *ibaAnalyzer-Reportgenerator* on the DVD *iba Software & Manuals*.

### 4.5.3.1 Presentation of an image on the "Report information" tab

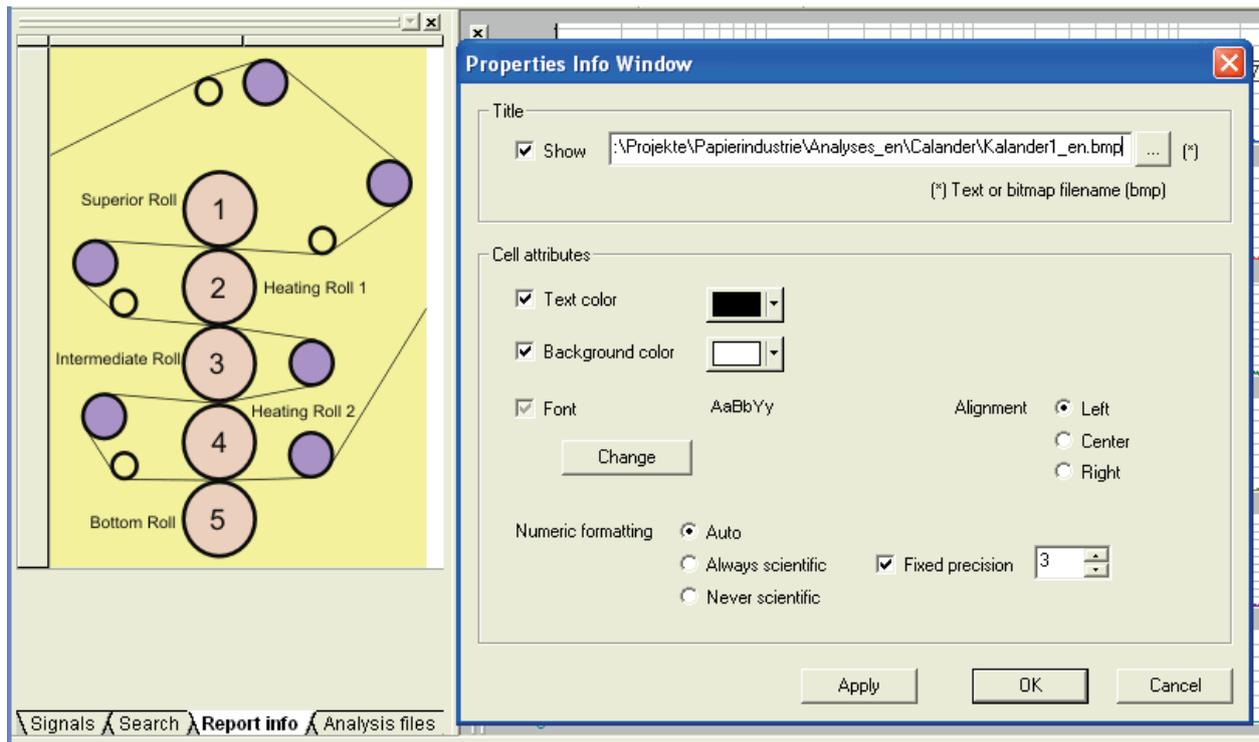


Fig. 32: Signal tree window, "Report info" tab with image

In addition to or instead of the calculated characteristic values and info columns, a graphic may also be shown in the tab. Valuable information can be included in the analysis and given to the user, e. g. about the function of a machine. In order to display a picture in the tab you just need to enter the filename of an image file in the properties dialog of the Info tab for title. The graphic must be available as a bitmap (.jpg, .png, .bmp, .gif).

#### 4.5.4 Analysis files tab: Quick access to PDO files

Under this tab you can configure a tree structure with an arbitrary number of selectable analysis rules. You can apply each of these analysis files to a loaded data file simply by a double-click.

In addition, further shortcuts e.g. to signals, expressions and markers may be added to the analysis tree.



Fig. 33: Signal tree, Analysis files tab

For this purpose, also see part 2, chapter *Quick access to analyses and more*.

## 4.6 The signal table

The signal table, i.e. the lower part of the screen offers several display and analysis aids to quickly display the desired values and additionally create logical signals (expressions) for display. The different control levels can be selected via tabs on the lower margin.

As described in the *The screen* chapter, also the signal table window represents a factory-set grouping of the partial windows as tabs. You can release each tab by means of drag & drop and position it as a separate window.

The width of the columns can be adjusted with the mouse and will be stored in the analysis file.

In the signal table the lines of those signals get a gray background, which are part of the currently selected graph.

### 4.6.1 Context menu

A click with the right mouse key on the tab opens a context menu.

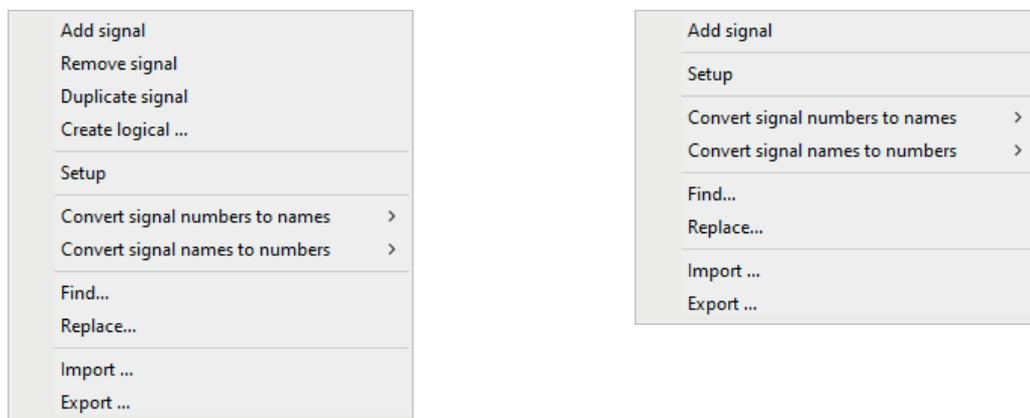


Fig. 34: Context menus in the signal table

As shown in the image to the left, the context menu also includes commands for duplicating and removing signals. The command then refers to the signal in the table the context menu was opened upon.

The context menus differ depending on where they are opened. A right click on a signal row opens the menu as shown in the image to the left. Beside the commands for adding, removing or duplicating a signal, you will also find the item *Create logical* (signal definitions) here. A mouse click on this item opens the dialog for *logical signal definitions*. The expression and the signal name from the corresponding row are automatically entered as default values. Furthermore, an import and export function is available in the shortcut menu. The context menu which opens when right-clicking on the table headers or in the empty space below the table offers a reduced choice of items (image on the right).

Both menus offer the items *Convert signal numbers into signal names* and *Convert signal names into signal numbers*. Applied to selected or all signals, the usual *[Module:Channel]* names are replaced by the more descriptive signal names and vice versa. A signal calculation (formula expression) may become more comprehensive but longer as well.

With the functions *Find* and *Replace* it is possible to search through the configured signal names, expressions, comments and units and optionally replace the found occurrences by another string.

Furthermore, the *Settings* dialog can be opened via the menu which offers additional options to change the signal table. It is the same dialog like in the preferences or strip settings.

Also see part 2, chapter *Signal table*.

## 4.6.2 Markers tab



	SignalName	X1	X2	X2 - X1	Y1	Y2	Y2 - Y1	Unit
1	094 F7 roll force DS	20:16:27.7	20:20:30.2	4:02.5	49.35	390.17	340.83	t
2	095 F7 roll force OS	20:16:27.7	20:20:30.2	4:02.5	64.00	428.75	364.75	t
3	109 F7-speed for tension reel	20:16:27.7	20:20:30.2	4:02.5	11.604	12.603	0.999	m/s
4	116 Thickn. dev. beh. F7	20:16:27.7	20:20:30.2	4:02.5	0.10	-8.59	-8.69	?
5	119 Strip thickn. beh. F7	20:16:27.7	20:20:30.2	4:02.5	2.06546	2.06546	0.00000	mm
6	F7 Stand loaded	20:16:27.7	20:20:30.2	4:02.5	0.00	1.00	1.00	

Fig. 35: Signal table, Markers tab

If you select the *Markers* tab, two vertical red rulers (X1 and X2) appear in the recorder window. You can move these two rulers independently from each other using the mouse. When pressing the <SHIFT> key while moving one of the two markers, the other one follows in the same distance.

The signal table shows for each signal the X and Y values at the markers, as well as the difference between the two markers in the X and Y directions. In this way, the curves displayed can be easily measured and time sections can be determined.

### Exact determination of particular signal points

To be able to exactly determine and/or exactly mark ("capture") particular signal points, proceed as follows:

- Enlarge the signal view to the extent to which the particular signal points become visible,
- Press the <Ctrl> key while moving one of the two markers with your mouse; the marker will jump to the signal point of the first signal in the signal strip being closest to it (can be adjusted in the preference settings). Therefore, you can exactly determine every signal point in X direction.
- By pressing the <Shift> + <Ctrl> keys simultaneously while moving one of the two markers with your mouse, the second marker will follow the first one in the same distance from signal point to signal point.

If the signal points are not visible (the curve section is not sufficiently enlarged), these functions will not be supported.

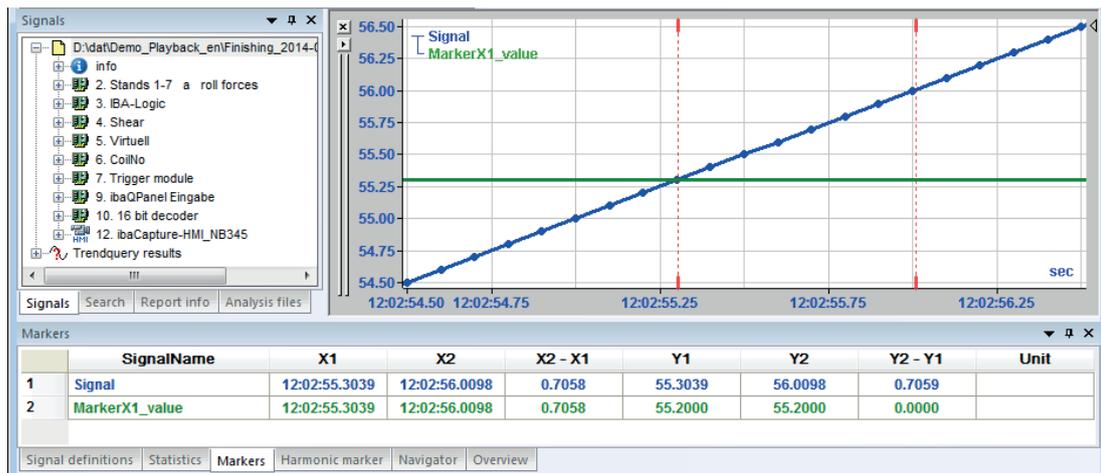


Fig. 36: "Capturing" a signal point

The markers can also be moved with the arrow buttons of the keyboard. The following additional functions are applicable:

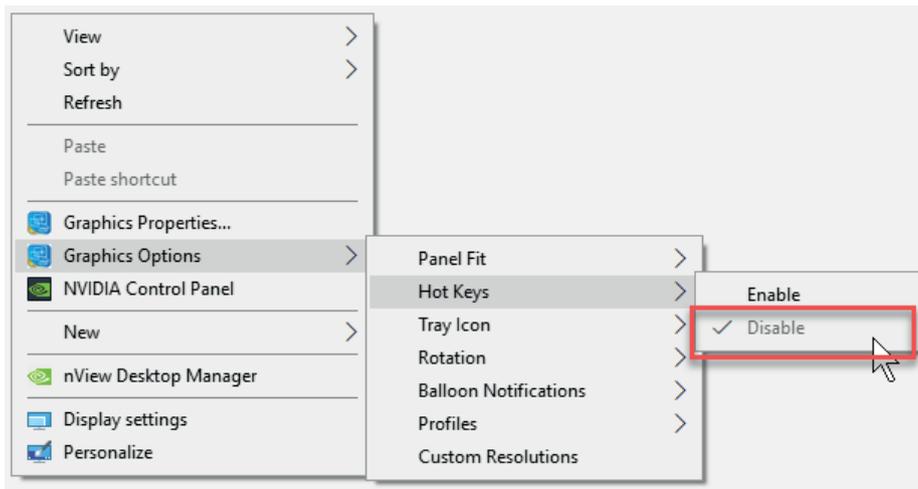
- By using the left or right arrow buttons, only the X1 marker moves.
- <Alt> + arrow button= only the X2 marker is moved
- <Shift> + arrow button= both markers are moved simultaneously
- <Ctrl> + arrow button = marker jumps from signal point to signal point
- <Ctrl> + combination with <Alt> and/or <Shift> = as explained

**Note**

Under certain conditions, there may be overlaps of the shortcuts with other hot-keys on the part of the operating system, which leads to unexpected responses. The best way is to try the shortcut to see whether there are unexpected responses.

In case of Windows 7 and Windows 10, it is, e.g., recommended disabling the hot keys for the "Graphics options", as otherwise the complete desktop will be turned when pressing <Ctrl>+<Alt>+cursor key.

You can configure the settings by right-clicking on the desktop:



When using different graphics cards, these menu items may not appear. In this case, refer to the documentation about your graphics card.

#### 4.6.2.1 Context menu



Fig. 37: "Markers" context menu

The context menu can be used to switch the display of the Y values to hexadecimal values. This can be an interesting option if, for example, integer values are used for transmitting binary control information. The bits which are set are identified more easily in the hexadecimal presentation.

**Note**

The hexadecimal value of the stored data type is displayed.

### 4.6.3 Statistics tab

	SignalName	X1	X2	Min	Max	Average	Std dev	Unit
1	094 F7 roll force DS	20:16:27.7	20:20:30.2	-15.59	610.39	380.815	133.961	t
2	095 F7 roll force OS	20:16:27.7	20:20:30.2	3.94	625.04	415.061	141.931	t
3	109 F7-speed for tension reel	20:16:27.7	20:20:30.2	11.462	14.962	12.4390	0.9387	m/s
4	116 Thickn. dev. beh. F7	20:16:27.7	20:20:30.2	-384.95	188.68	0.591	19.236	?
5	119 Strip thickn. beh. F7	20:16:27.7	20:20:30.2	2.05814	2.07279	2.064866	0.002075	mm
6	F7 Stand loaded	20:16:27.7	20:20:30.2	0.00	1.00	0.858	0.349	

Fig. 38: Signal table, Statistics tab

This table offers a quick overview of the most important statistical values, i.e. minimum, maximum, average and standard deviation.

The red markers are also displayed when the *Statistics* tab is selected. They can now be used to define a range to which the statistical functions are to be applied in the signal table. The values displayed in the min, max, average and std. dev. columns are only applicable to the range between the two markers. When the marker position changes, you can easily see that the values are calculated on an ongoing basis and updated immediately.

This is hence a relatively simple way of determining mean values or maximum/minimum values of parts of the chart and/or to single out invalid values, for example, at the beginning of measurement.

### 4.6.4 Harmonic markers tab

	SignalName	Y(F/2)	Y(F)	Y(2xF)	Y(3xF)	Y(4xF)	Y(5xF)	Y(6xF)	Y(7xF)	Y(8xF)	Y(9xF)
1	094 F7 roll force DS	-58.69	-65.19	-77.58	-81.52	-79.28	-75.52	-80.47	--	--	--
2	095 F7 roll force OS	-59.26	-65.76	-82.33	-77.06	-78.61	-75.87	-79.66	--	--	--
3	109 F7-speed for tension reel	-81.85	-88.95	-97.03	-99.04	-96.79	-98.16	-95.66	--	--	--
4	116 Thickn. dev. beh. F7	-39.90	-40.25	-45.20	-49.56	-52.05	-51.46	-57.33	--	--	--
5	119 Strip thickn. beh. F7	--	--	--	--	--	--	--	--	--	--
6	F7 Stand loaded	--	--	--	--	--	--	--	--	--	--

Fig. 39: Signal table, Harmonic markers tab

In this table, you will find the result values of the FFT for the main frequency Y(F) and its harmonics for each signal which is presented in the recorder window on an FFT axis (1/s or 1/length).

Also see part 2, chapter *Marker*.

### 4.6.5 Navigator tab

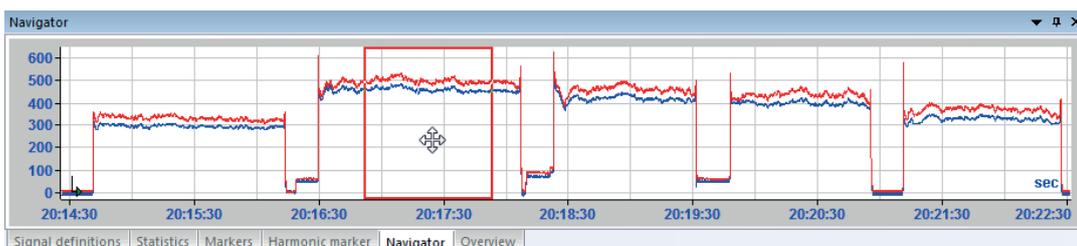


Fig. 40: Signal table, Navigator tab

The "Navigator" tab always shows the complete contents of the data file for the signal strip appearing in the first (topmost) position in the recorder window.

A red frame in the navigator window marks the range which can be seen in the current recorder window. This is a helpful feature that improves orientation, in particular, when the zoom function is used.



The zoom function can also be carried out using the red frame. Just move the cursor on the red frame line until the cursor changes its shape to become a double arrow. Then, keeping the mouse key depressed, reduce or enlarge the red frame.

If you click in the navigator's display area, the red frame will centrally be placed at the point of the mouse click - if possible.

If more than one signal strip is opened in the recorder window, all those strips having the same X mode as the topmost follow when zooming and moving on the X axis.

For the Y direction, this behavior is not designated.

By positioning the cursor within the red frame, you can move it over the curve. The section shown in the signal strip is adjusted accordingly.

In some cases it may be useful to have a frame with defined length for the X range. Therefore, the use of the navigator X range snap function, which can be enabled by the context menu, is recommended (also see part 2, chapter *Using the Navigator*).

The navigator window never displays an FFT presentation. But it may be used for selection of the range of samples being taken into account for the FFT.

### 4.6.6 Overview tab



Fig. 41: Signal table, Overview tab

The overview tab shows the results of trend queries from databases. For details and explanations, please refer to the *ibaAnalyzer-DB* manual.

## 4.7 The recorder window

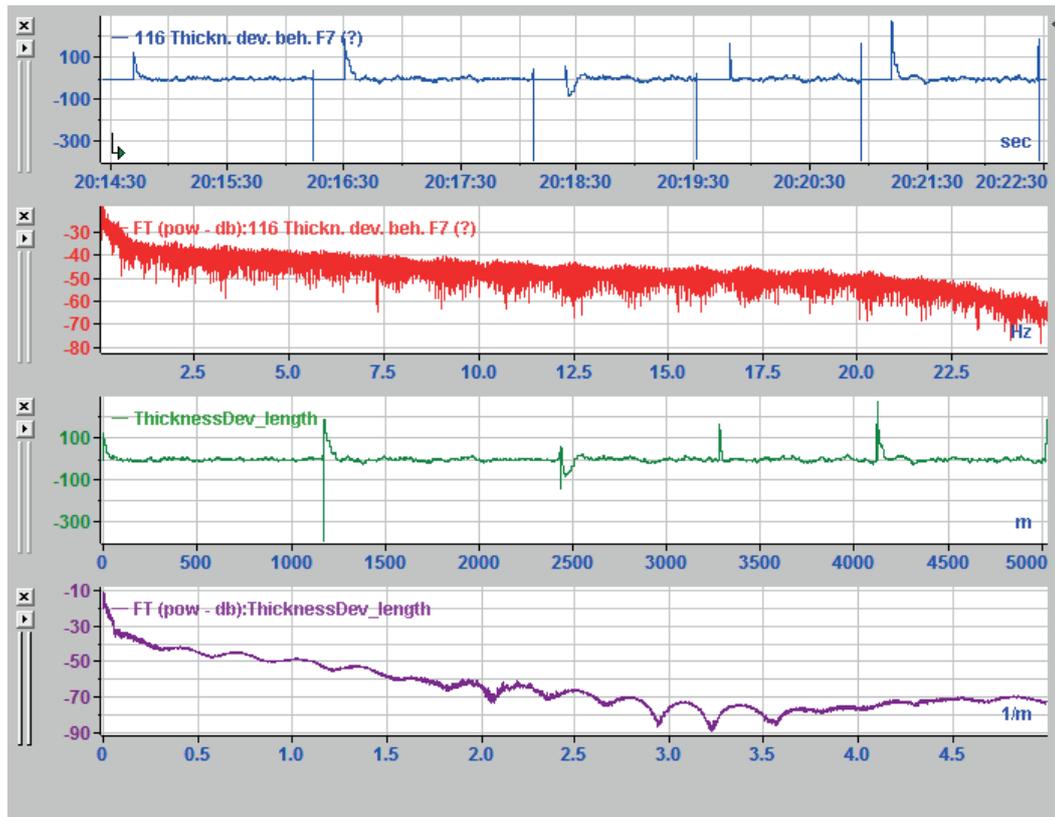
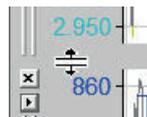


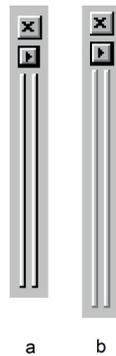
Fig. 42: Measured value with X axis modes Time, Frequency, Length and 1/length (from above)

The recorder window is the central area for value display. The signal strips form the basic structural element within the recorder window. The program tries to arrange all the signal strips in the visible area of the recorder window until a minimum strip height is reached and scales them accordingly. If the number of strips becomes too large, a scrollbar appears on the right margin.



It is also possible to manually change the height of a signal strip using the mouse. For this purpose, move the cursor in the area of the lower margin of a strip near its header bar until the cursor changes its shape to become a separation symbol (see picture above). Then, keeping the mouse key depressed, increase or reduce the height of the strip. Increasing the height is possible in the downward direction only, so that all the strips above remain unaffected.

One or more signals can be presented in one strip. If several signals share the same strip, they always have a common X axis and either a common or separate Y axis. (also see part 2, chapter *Presenting signals*)



If several strips are displayed, one of them is the "active" one. "Active" here means that a strip is selected (has focus) to which certain commands in the menus or on the toolbar are then applicable, such as strip settings or automatic color assignment. You can tell which strip is active by the shaded header (see image a: in focus, image b: not in focus).

The basic variable for the X axis (time, length, frequency or 1/length) can be separately selected for each strip. Just click the small arrow button to the left of the Y axis and select the basis. In the case of several strips with different basic variables, there is only *one* general time axis, *one* length axis and/or *one* frequency axis.

X and Y-axes can be scaled (see part 2, *Settings* chapter).

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#### Note



Clicking the small "X" in the upper left corner of a strip removes the strip and its signals from the display. It is then no longer possible to display any derived expressions which were generated in the signal table (signal definitions). In order to hide a strip, click the small arrow on the right margin of the respective strip.

---

### 4.7.1 Context menu

Different context menus exist in the recorder window depending on where the cursor is positioned at the time you press the right mouse key.

#### Curve area of a strip

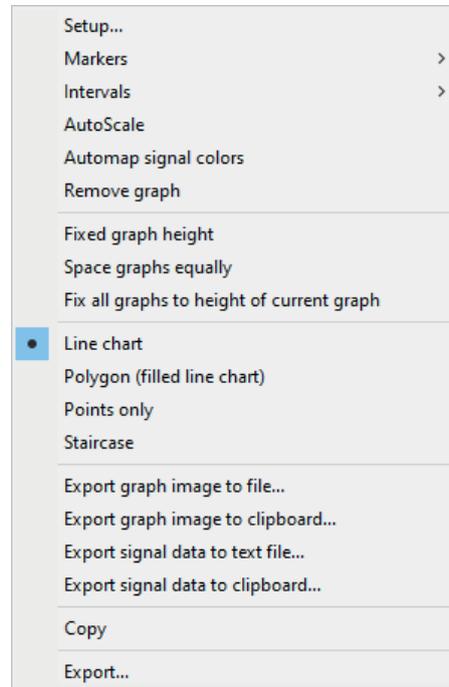


Fig. 43: Context menu signal strip with time base

As you can see from the picture above, the context menu offers a selection of relevant setting options for the strip in question. If it is a FFT display, more setting options are available. In the zoomed-in condition, commands for autoscrolling and zooming out are additionally offered.

For this, also see part 2, chapter *Setup*.

The menu items

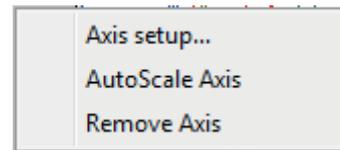
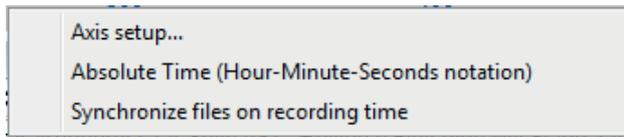
- Export graph image to file...
- Export graph image to clipboard...
- Export signal data to text file...
- Export signal data to clipboard...
- Copy
- Export...

is used for documentation purposes by copying or exporting the displayed signals.

For additional information, see part 2, chapter *Documenting with HTML and graphic objects*.

For additional information, see part 2, chapter *Exporting data*.

## X and Y axis areas



In order to access the context menus for the axes, position the cursor right on the particular axis.

For a detailed description of the axis setup, please refer to part 2, chapter *Setup*.

Options in the context menu of the time axis (right picture above):

- Hours - minutes - seconds  
toggling between absolute and relative time display on the scale.
- Synchronize files on recording time  
This option is important in the case of appended files. If this option is selected, the signal curves are not necessarily appended to each other in direct succession, but are rather arranged on the time axis in accordance with their time stamp. In this way, it is possible to detect and show recording gaps between two data files.

For this, also see part 2, chapter *Appending data files*.

## 4.7.2 Status bar

The status bar as the bottom element of the *ibaAnalyzer* screen mostly offers information on the cursor position as long as the cursor is positioned in the curve area. This means that a signal measured can be viewed – irrespective of the tab chosen in the signal table and irrespective of the markers – by simply pointing at this signal.

Corresponding to the X axis mode, the correct physical unit is also displayed for the X coordinate. In the case of a time axis, a distinction is made between absolute and relative time.



Fig. 44: Status bar, cursor position for signal strip with time axis: relative time

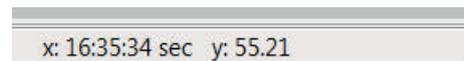


Fig. 45: Status bar, cursor position for signal strip with time axis: absolute time

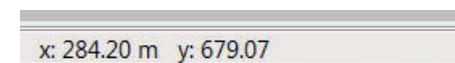


Fig. 46: Status bar, cursor position for signal strip: with length axis

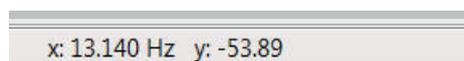


Fig. 47: Status bar, cursor position for signal strip: with frequency axis (FFT)

The 2D top view for profile presentations also displays the third dimension coordinate.

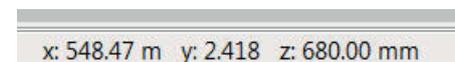


Fig. 48: Status bar, cursor position for 2D top view

"y" in this case is the index coordinate, for example, the strip width, the position of the temperature scanner or the zone number of a flatness measuring roll for the purposes of a strip flatness presentation. "z" represents the value of the real measured signal (e.g. thickness, temperature or shape).

The status bar can be shown or hidden in the *View* menu.

## 5 Support and contact

### Support

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Fax: +49 911 97282-33  
Email: support@iba-ag.com

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#### Note



If you require support, indicate the serial number (iba-S/N) of the product or the license number.

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### Contact

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