

**MX**<sup>pro</sup>

# Client User Manual

Revision 4.2

sino AG | High End Brokerage

May 21, 2019

## Foreword

This manual has been produced specifically for the Heavy Traders of sino AG | High End Brokerage. Particulars that apply to sino customers have been included as far as possible.

There will nevertheless be passages where one could ask oneself whether this passage is relevant – or, why it isn't. In such cases of doubt, please contact your sino trader, who'll be happy to assist you further.

A German version of this manual is also available.

If you should find points requiring clarification or errors in this manual, please let us know, in order that we can avoid these in future versions of this manual. Thank you. For all technical and functional questions, turn to your sino trader. He'll either be able to help you personally or he'll find someone in his team to assist further in case of especially tricky problems. Definitely.

In closing, we can only wish that you successfully implement your trading strategies together with your team at sino AG and MX<sup>pro</sup>.

Ingo Hillen  
Executive, sino AG

# Contents

<b>Foreword</b>	<b>2</b>
<b>1 Introduction</b>	<b>11</b>
1.1 About this Manual . . . . .	11
1.2 About MX <sup>pro</sup> . . . . .	11
1.3 Nomenclature . . . . .	11
1.3.1 Exchange in MX <sup>pro</sup> . . . . .	12
1.3.2 Instrument in MX <sup>pro</sup> . . . . .	12
1.3.3 MSPID in MX <sup>pro</sup> . . . . .	12
1.3.4 InstrumentExchange in MX <sup>pro</sup> . . . . .	12
1.3.5 Account in MX <sup>pro</sup> . . . . .	12
1.4 Software Requirements . . . . .	12
1.5 Hardware Requirements . . . . .	13
1.5.1 PC-Compatible . . . . .	13
1.5.2 Apple Mac . . . . .	13
<b>2 Getting Started</b>	<b>14</b>
2.1 Before You Start... . . . .	14
2.2 Starting the MX <sup>pro</sup> Client . . . . .	14
2.3 Login Window . . . . .	14
2.3.1 Automatic login . . . . .	15
2.3.2 Login . . . . .	15
2.3.3 Cancel . . . . .	15
2.3.4 Progress Bar and Network Status Window . . . . .	15

2.3.5	Theme Switch . . . . .	16
<b>3</b>	<b>Desktops and Worksheets</b>	<b>17</b>
3.1	Introduction . . . . .	17
3.2	Desktops . . . . .	17
3.2.1	The Desktop Menu . . . . .	19
3.2.2	The Desktop Toolbar . . . . .	21
3.3	Worksheets . . . . .	23
3.3.1	Introduction . . . . .	23
3.3.2	View Task Bar . . . . .	23
3.4	Single Item Worksheet . . . . .	24
<b>4</b>	<b>Views</b>	<b>26</b>
4.1	Common Title Bar Elements . . . . .	26
4.1.1	View Icon . . . . .	26
4.1.2	Order Line Switch . . . . .	26
4.1.3	Account Picker . . . . .	27
4.1.4	Filter Picker . . . . .	27
4.1.5	Style Picker . . . . .	28
4.1.6	Range Picker . . . . .	28
4.1.7	InstrumentExchange Picker . . . . .	29
4.1.8	InstrumentExchange Info Switch . . . . .	29
4.2	Title Bar Context Menu . . . . .	29
4.3	Common Filter Elements . . . . .	30
4.3.1	Order ID . . . . .	30
4.3.2	Accounts . . . . .	31
4.3.3	Users . . . . .	31
4.3.4	Instruments . . . . .	31
4.3.5	Exchanges . . . . .	31
4.3.6	States . . . . .	31
4.3.7	Types . . . . .	32
4.4	Manipulating Table Columns . . . . .	32

4.5	Selecting Table Rows . . . . .	34
4.6	Printing Tables . . . . .	34
4.7	Search View . . . . .	34
4.7.1	Title Bar Elements . . . . .	34
4.7.2	Filter Elements . . . . .	35
4.7.3	Searching . . . . .	35
4.8	Quote Sheet View . . . . .	36
4.8.1	Title Bar Elements . . . . .	36
4.8.2	Filter Elements . . . . .	37
4.8.3	Quote Sheet Splitter . . . . .	37
4.8.4	Own Orders . . . . .	37
4.8.5	Menu . . . . .	37
4.8.6	Adding InstrumentExchanges . . . . .	39
4.8.7	Changing the InstrumentExchange of a Row . . . . .	40
4.8.8	Changing the currency in which an InstrumentExchange is shown . . . . .	40
4.8.9	Selecting Rows . . . . .	40
4.8.10	Deleting Rows . . . . .	40
4.8.11	Columns . . . . .	41
4.8.12	Copy columns . . . . .	41
4.9	All Exchanges View . . . . .	44
4.9.1	Title Bar Elements . . . . .	44
4.9.2	Filter Elements . . . . .	44
4.10	Quote Map View . . . . .	45
4.10.1	Title Bar Elements . . . . .	45
4.11	Option Sheet View . . . . .	46
4.11.1	Title Bar Elements . . . . .	47
4.11.2	Menu . . . . .	48
4.12	Time & Sales View . . . . .	48
4.12.1	Title Bar Elements . . . . .	48
4.13	Level 2 View . . . . .	49
4.13.1	Title Bar Elements . . . . .	49

4.14	Grid View . . . . .	49
4.14.1	Title Bar Elements . . . . .	55
4.15	Chart View . . . . .	55
4.15.1	Title Bar Elements . . . . .	55
4.16	Order Book View . . . . .	59
4.16.1	Title Bar Elements . . . . .	60
4.16.2	Filter Elements . . . . .	60
4.16.3	Order Manipulation Buttons . . . . .	60
4.17	Trades View . . . . .	61
4.17.1	Title Bar Elements . . . . .	61
4.17.2	Filter Elements . . . . .	62
4.18	Trade Stats View . . . . .	62
4.18.1	Title Bar Elements . . . . .	62
4.18.2	Filter Elements . . . . .	62
4.19	Portfolio View . . . . .	63
4.19.1	Example . . . . .	66
4.19.2	Title Bar Elements . . . . .	69
4.19.3	Filter Elements . . . . .	69
4.20	Cash View . . . . .	69
4.20.1	Title Bar Elements . . . . .	69
4.20.2	Filter Elements . . . . .	69
4.21	Quote Request View . . . . .	70
4.21.1	Title Bar Elements . . . . .	70
4.22	Account Messages View . . . . .	70
4.22.1	Title Bar Elements . . . . .	71
4.22.2	Filter Elements . . . . .	71
4.23	FX Trading View . . . . .	71
4.23.1	Title Bar Elements . . . . .	73
4.24	Quick Trading View . . . . .	73
4.25	FX Quote Request View . . . . .	74
4.25.1	Title Bar Elements . . . . .	74

4.26	Equity Borrowing View . . . . .	75
4.26.1	Requesting and agreeing to a loan . . . . .	76
4.26.2	Returning a loan . . . . .	76
4.26.3	Title Bar Elements . . . . .	76
4.27	Exchanges View . . . . .	76
4.27.1	Title Bar Elements . . . . .	77
4.28	News View . . . . .	77
4.28.1	Title Bar Elements . . . . .	78
4.28.2	Filter Elements . . . . .	78
4.29	Position Adjustment View . . . . .	79
4.29.1	Title Bar Elements . . . . .	80
4.29.2	Filter Elements . . . . .	80
4.30	Events View . . . . .	80
4.30.1	Title Bar Elements . . . . .	81
4.31	Simple Trade View . . . . .	82
4.31.1	Title Bar Elements . . . . .	82
4.31.2	Usage and Layout . . . . .	83
<b>5</b>	<b>Orders</b>	<b>85</b>
5.1	Order Line . . . . .	85
5.2	Order Elements . . . . .	85
5.3	Order Types . . . . .	88
5.3.1	Stop Market Order (Stop) . . . . .	88
5.3.2	Stop Limit Order (Stop) . . . . .	88
5.3.3	Discretionary Order (Discr.) . . . . .	88
5.3.4	Trailing Stop Order (T.Stop) . . . . .	88
5.3.5	DynaBeat Order (DynaBeat) . . . . .	89
5.3.6	One-Cancels-the-Other Orders (OCO) . . . . .	89
5.3.7	IfDone Orders . . . . .	90
5.4	Execution Types . . . . .	92
5.4.1	None . . . . .	92

5.4.2	IOC (Immediate Or Cancel)	92
5.4.3	BOC (Book Or Cancel)	92
5.4.4	FOK (Fill Or Kill)	92
5.4.5	Hidden	92
5.4.6	Manual	92
5.5	Order cancellation dialog	92
5.6	Order Menus	93
5.6.1	Order Creation Menu	93
5.6.2	Order Manipulation Menu	94
<b>6</b>	<b>Settings</b>	<b>95</b>
6.1	Settings	95
6.2	Hotkeys	95
6.2.1	Using hotkeys	97
6.3	Size Groups	97
6.4	Click Trading	98
6.5	Order Lines	100
6.6	Price Check	102
6.6.1	Price Check	102
6.6.2	Click Trading	104
6.6.3	Confirmation in specific views	104
6.6.4	Cancelation	105
6.7	Quote Sheets	106
6.8	Styles	107
6.8.1	Adding a New Style	109
6.8.2	Changing the Column Order	110
6.8.3	Changing a Font	110
6.8.4	Changing Colours	111
6.8.5	Changing Alternation of Cells	112
6.8.6	Formatting Cells	113
6.9	Filters	113



6.9.1	Example . . . . .	114
6.10	Sounds . . . . .	114
6.11	Data Export . . . . .	114
6.11.1	Substitutions . . . . .	116
6.12	Alerts . . . . .	116
6.12.1	ActionGroup . . . . .	117
6.12.2	Website . . . . .	117
6.12.3	Cloned Tasks . . . . .	118
6.12.4	The General tab . . . . .	118
6.12.5	The Instrument & Exchange tab . . . . .	118
6.12.6	The Parameters tab . . . . .	119
6.13	Contact . . . . .	119
6.14	Views . . . . .	119
6.15	API . . . . .	120
6.15.1	Connections . . . . .	120
6.15.2	Trading . . . . .	121
6.15.3	Excel® Quote Rate Limits . . . . .	121
6.16	Events . . . . .	122
6.16.1	Exchange Events . . . . .	122
6.16.2	News Events . . . . .	123
6.16.3	Order Events . . . . .	124
6.16.4	Quote Events . . . . .	125
6.16.5	Trade Events . . . . .	127
6.16.6	Actions . . . . .	128
6.16.7	The "Event occurred" dialog . . . . .	129
6.17	Substitutions . . . . .	130
6.17.1	Strings . . . . .	130
6.17.2	Numbers . . . . .	130
6.17.3	Dates and Times . . . . .	131
6.17.4	Default Values . . . . .	131
6.18	Desktop . . . . .	131

6.19 Market Data Sources . . . . .	132
<b>A Lucene query language</b>	<b>133</b>
A.1 Terms . . . . .	133
A.2 Fields . . . . .	133
A.3 Wildcards . . . . .	134
A.4 Operators . . . . .	134
A.5 Grouping . . . . .	134
A.6 Special characters . . . . .	135
<b>Afterword</b>	<b>137</b>

# Chapter 1

## Introduction

### 1.1 About this Manual

The MX<sup>pro</sup> Client is an intuitive application; nevertheless, a description of its functions and settings can often be helpful. As there are endless trading methods and possibilities, this manual cannot guide you in how to trade – but it can certainly help you to make your methods and strategies work within our product. We would appreciate you sharing your experiences with us while using our product and this manual. You and your ideas are the source of our development and success.

Please send your feedback to [feedback@sino.de](mailto:feedback@sino.de).

### 1.2 About MX<sup>pro</sup>

MX<sup>pro</sup> is a state-of-the-art multi-market trading system. Designed to enable real-time trading in various environments and markets, MX<sup>pro</sup> is a versatile and dynamic system compatible with 32- and 64-bit processing. MX<sup>pro</sup> is designed to be extensible and will be enhanced to take advantage of any future technological developments.

### 1.3 Nomenclature

The following terms are used throughout this manual. Since some terms may be used in a different sense to that used by other trading systems, we recommend you read through the terms below before turning to the rest of the manual.

### 1.3.1 Exchange in MX<sup>pro</sup>

A centralised place for trading different asset classes, often involving an auction process. Examples are Xetra®, Eurex®, NYSE™ and NASDAQ® or direct trading against a bank or other over-the-counter trading partner. *Exchanges* are usually entered and represented in the client using a shortened version of the name, such as XTR for Xetra.

### 1.3.2 Instrument in MX<sup>pro</sup>

A tradable asset such as a commodity, security, or derivative, or an index or value that underlies a derivative or could underlie a derivative. An *Instrument* in MX<sup>pro</sup> is exchange-independent. Wherever an *Instrument* is represented in the client, both its ISIN and name are made available.

### 1.3.3 MSPID in MX<sup>pro</sup>

A market-specific ID, such as a WKN in Germany or CUSIP in the USA, used to uniquely identify an *Instrument*.

### 1.3.4 InstrumentExchange in MX<sup>pro</sup>

A particular *Instrument* traded at a particular exchange. We will always follow the same pattern to display an *InstrumentExchange*: *<Instrument Symbol>.<Exchange Symbol>*. For example, BMW stock at Xetra will be shown as BMW.XTR. The same stock listed in Munich would be shown as BMW.MUN. When entering an *InstrumentExchange*, you can also use the forms *<ISIN>.<Exchange Symbol>* and *<MSPID>.<Exchange Symbol>*.

### 1.3.5 Account in MX<sup>pro</sup>

Orders and cash are related to a particular account. You can have multiple accounts, in which case one of them will be selected as the default.

## 1.4 Software Requirements

An operating system that supports Java™ SE 8 or higher from Oracle<sup>1</sup>

The following operating systems have been tested with the MX<sup>pro</sup> Client:

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<sup>1</sup>Java SE 8 is also sometimes referred to as Java 1.8. Java can be downloaded from <http://www.java.com>.

- Windows 7 SP1®, Windows10®
- Mac OS X 10.6, 10.7, 10,8
- Ubuntu® Linux®
- Red Hat® Linux® 7.x or greater (including Fedora® Core)
- SUSE™ Linux® 7.x or greater

## **1.5 Hardware Requirements**

The MX<sup>pro</sup> Client fully supports 32- and 64-bit systems and single- and multi-processor environments.

### **1.5.1 PC-Compatible**

Intel®: Minimum: 1.7GHz Pentium® IV, 512MB RAM.

Intel: Recommended: Core™ 2 Duo, 2GB RAM.

AMD: Minimum: Athlon™ XP 1800+, 512MB RAM.

AMD: Recommended: Athlon X2 5000+, 2GB RAM.

### **1.5.2 Apple Mac**

Minimum: Intel-based Mac, 1024MB RAM.

Recommended: Intel Core 2 Duo-based Mac, 2GB RAM.

## Chapter 2

# Getting Started

### 2.1 Before You Start...

Please make sure that you are connected to the Internet. Alternatively, if you have a local area network connection to your MX<sup>pro</sup> Server, please make sure you can access the network from your machine.

Check that you've installed a supported version of the Java Runtime Environment. The MX<sup>pro</sup> Client currently supports Java SE 8 and Java SE 9. You can download Java at <http://www.java.com>. If you are unsure, ask your sino trader.

### 2.2 Starting the MX<sup>pro</sup> Client

Depending on your setup, you will access your MX<sup>pro</sup> Client via a website or an icon on your desktop or start menu. Click on the appropriate website link or start menu icon, or double-click on your desktop icon.

The first time that you start the MX<sup>pro</sup> Client, your operating system may perform some installation procedures. Shortly after that, you should see the *Login Window* (figure 2.1 on the facing page).

### 2.3 Login Window

Enter your Login (user name) and the corresponding Password.

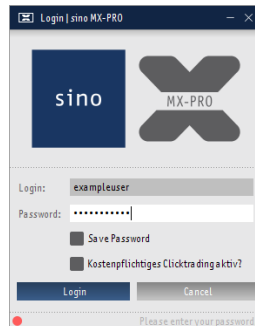


Figure 2.1: The login window

### 2.3.1 Automatic login

If you select *Automatic login?*, the MX<sup>pro</sup> Client will log in automatically in future, without asking for your password again. **Please keep in mind that anyone who has access to your workstation can then log in using your settings and permissions simply by starting the client.** If you subsequently wish to disable auto-login, please see “Log out” on page 20.

### 2.3.2 Login

After you have filled in the Login and Password fields, you can press the Enter key or click on Login.

### 2.3.3 Cancel

Clicking on Cancel will cancel the login and exit the client.

### 2.3.4 Progress Bar and Network Status Window



Figure 2.2: The login progress bar

A sliding bar (figure 2.2) is shown while the MX<sup>pro</sup> Client is connecting. If you double-click on the *Network Status Light* to the left of the progress bar, the *Network Status Window* will open. The *Network Status Window* can be useful if you have difficulties connecting. It will list every connection attempt and its progress or failure.

### 2.3.5 Theme Switch

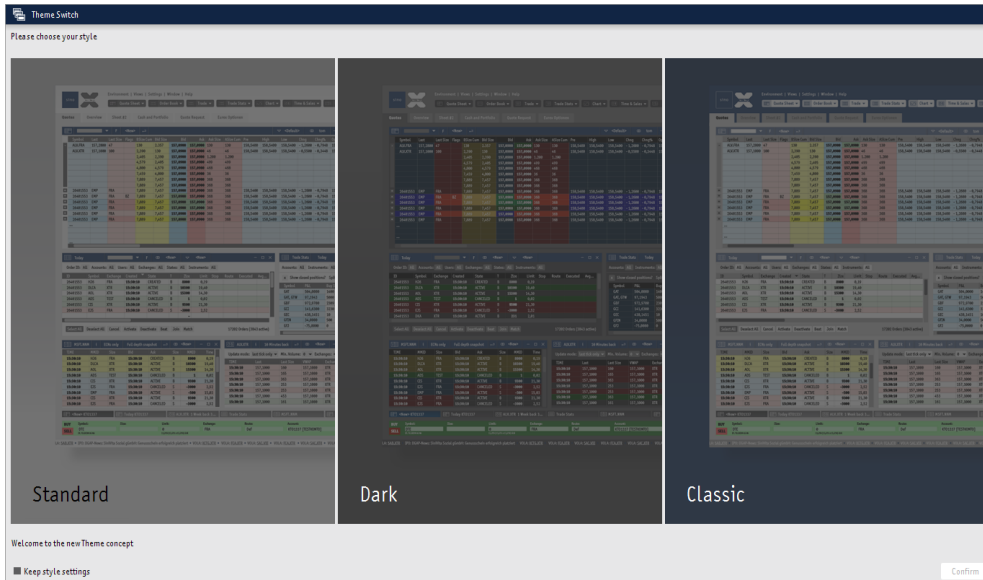


Figure 2.3: The theme switcher panel

After successful initial login (e.g. no settings have been saved yet) a theme switch panel will be displayed. The theme switch panel gives users the opportunity to change the general look and feel of the MX<sup>PRO</sup> Client. There is a choice of three predefined themes – *Standard*, *Dark* and *Classic*. For each theme there is a panel previewing the result of applying the theme. To apply a theme the user simply selects the relevant preview panel via a single mouse click and then clicks on the *Confirm* button. The theme selection panel is also accessible through the relevant desktop toolbar button. When the user opens the theme switcher panel after custom styling settings have been applied it may make sense to keep those settings. This can be done by selecting the *Keep style settings* checkbox.



## Chapter 3

# Desktops and Worksheets

### 3.1 Introduction

The MX<sup>pro</sup> Client has many different types of *views*, e.g. Quote Sheet Views and Order Book Views. *Views* are usually contained within *worksheets*. *Worksheets* are in turn contained within *desktops*. You can have multiple *desktops*, each of which will have all of your *worksheets* available for selection. A *worksheet* can, however, only be selected within one *desktop* at a time. *Desktops*, *worksheets* and the various types of *views* are explained in detail below.

### 3.2 Desktops

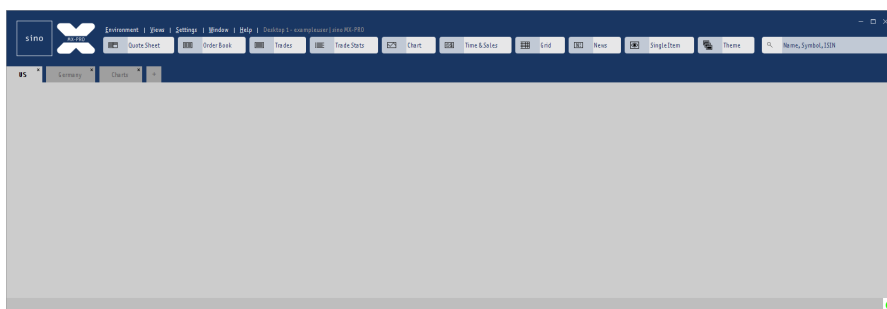


Figure 3.1: The desktop window

A *desktop* is a container for your *worksheets*. You can have multiple *desktops* simultaneously, enabling you to distribute your *worksheets* over more than one monitor. A *worksheet* can only be selected in one *desktop* at a time – if you try to select a *worksheet* in more than one *desktop*, it will be deselected in its previous *desktop*.

The first time that you log in, you may find a *desktop* with one empty *worksheet*, or – if your server has been so configured – one or more *worksheets* and/or *views*.



Figure 3.2: The desktop window controls

In the top right corner are the window controls to minimise, maximise and close the *desktop*. Closing a *desktop* does not discard any of the *worksheets* – they'll still be available for selection in other *desktops*.

When closing the last *desktop*, the MX<sup>pro</sup> Client will save your changes and then exit.

In the lower right corner there is a status light (as in the *Login Window*), which shows the status of your connection to the MX<sup>pro</sup> servers.



Figure 3.3: The network status light

The possible statuses are:

- Red – The connection to at least one server has been lost.
- Yellow – A reconnection is in progress.
- Green – All connections are established and running normally.

If you hover with your mouse over the status light, a status summary will appear displaying details of your connection to the servers.

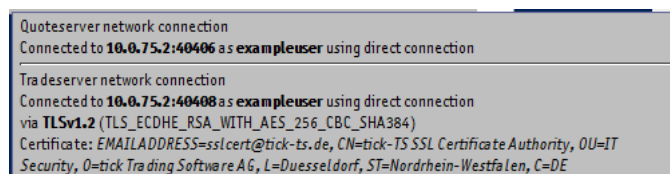


Figure 3.4: The network status tooltip

Along the bottom of the screen runs a “ticker-tape” bar which (by default) will show a message each time one of your orders is executed as well as showing news items. You can configure what should appear in the *Ticker* in the *Event Settings* (see on page 122).

Figure 3.5: The *Ticker*

### 3.2.1 The Desktop Menu

Every *desktop* has a menu bar at the top. Above the menu bar appears the desktop's number and your username.

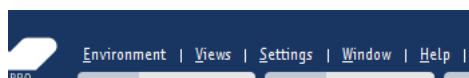


Figure 3.6: The menu bar at the top of each *desktop*

The following menus are available:

- Environment

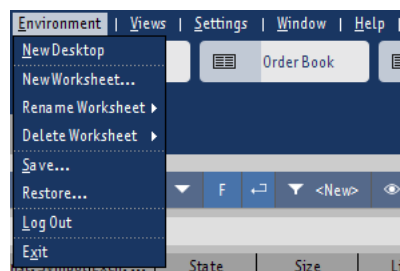


Figure 3.7: The Environment menu

- New Desktop – This will open a new *desktop*. You cannot have more *desktops* than there are *worksheets* available.
- Show Order Line – Every *desktop* can have its own *Order Line* – the *Order Line* is described on page 85.
- New Worksheet – This will add a new, empty *worksheet* with the name you specify. *Worksheets* are described on page 23.
- Rename Worksheet – Select a *worksheet* from this sub-menu to rename it.
- Delete Worksheet – This will delete the *worksheet* you select in the sub-menu. You cannot delete the last *worksheet*.
- Save – This will save all your settings, including those for all *desktops*, *worksheets* and *views*. Your configuration will be saved on the server, so it is available from different machines. You will be asked to provide a name for the settings.  
Note that your settings are automatically saved whenever you exit the client – this menu item allows you to explicitly snapshot a state to which you may want

to revert. Automatically saved settings generate a new save state and don't overwrite your previously saved settings.

- **Restore** – This item allows you to restore your previously saved settings (regardless of the machine you're currently logged in with). The *Environment Restore Window* will appear, from which you can select from all settings you have available. If you explicitly saved the settings using **Save**, the name you supplied at that time will be shown. You can also use the *Environment Restore Window* to rename or delete previously-saved settings.

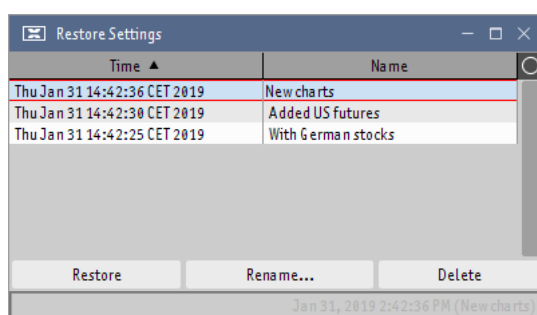


Figure 3.8: The Environment Restore Window

- **Log out** – This will terminate your session and open a new *Login Window*. If you close the newly opened *Login Window*, the MX<sup>pro</sup> Client will exit. Use **Log out** if you want to deactivate the auto-login function – just un-tick **Automatic login?**
- **Exit** – This will save your settings, close all *desktops* and exit the MX<sup>pro</sup> Client. A new save state will be generated.

#### • Views

The **Views** menu contains items for every type of *view* available in the MX<sup>pro</sup> Client. Clicking on one of these items adds a new *view* of the corresponding type to the currently selected *worksheet*. Every *view* is described separately in section 4 on page 26.

- **Hotkeys** – This sub-menu is only visible if you have hotkeys defined (see “Hotkeys” on page 95). Each hotkey is listed with a brief description of the action it will perform; clicking on an item will perform that action.

#### • Settings

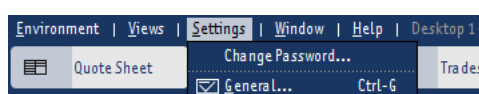


Figure 3.9: The Settings menu

- Change Password... – This allows you to change your login password. You must specify your current password and enter your desired password twice in the appropriate fields.
  - General... – This will open the *General Settings Window*, as described on page 95.
- Window
- This menu provides a list of all open windows (including *desktops*). Clicking on an item will bring the associated window to the front.
- Help

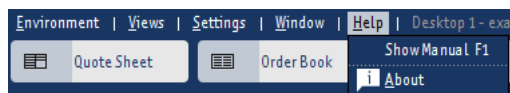


Figure 3.10: The Help menu

- Click on Show Manual to show a copy of this handbook.
- Click on About to show the *About Window*, with information about the MX<sup>pro</sup> Client, including the version you are currently using. MX<sup>pro</sup> includes software licensed under the Apache License 2.0, the GNU General Public License (GPL) V2 with the Classpath Exception and the GNU Lesser General Public License (LGPL) V2.1. These licenses can be viewed via links within the *About Window*. For components licensed under the LGPL, copies of the source code are available upon request.

### 3.2.2 The Desktop Toolbar

#### View Buttons

*Desktops* provide a selection of buttons for several of the most commonly used *view* types. Clicking on one of these buttons adds a *view* of the corresponding type to the currently selected *worksheet*, similar to selecting the *view* type in the View menu.

#### Search Entry Field

Enter the *Instrument* text you wish to search for and press the Enter key to create a new *Search View* with that text already entered. The *Search View* is described on page 34.

#### Panic Button

The *Panic Button* will cancel all of your active orders at once. The panic button is not shown by default – “Panic Button” on page 105 describes how to configure the visibility and ac-

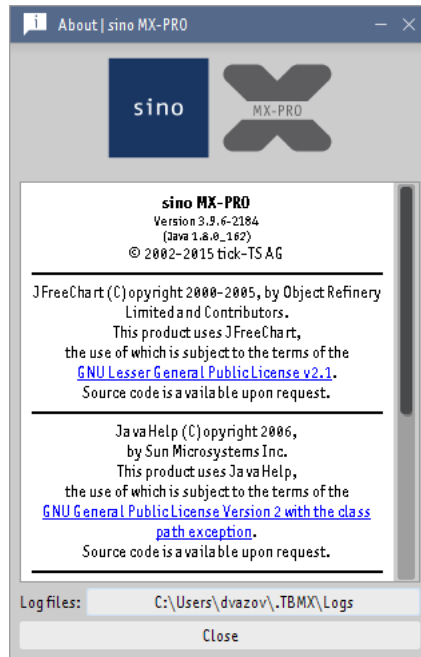


Figure 3.11: The About window



Figure 3.12: The view buttons



Figure 3.13: The Search Entry Field

tivation behaviour of the *Panic Button*. To avoid accidental use, the *Panic Button* must be clicked *three* times.

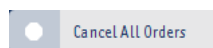


Figure 3.14: The panic button in its normal quiescent state

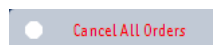


Figure 3.15: The panic button after being clicked once



Figure 3.16: The panic button after being clicked twice. One more click will cancel all orders.

## 3.3 Worksheets

### 3.3.1 Introduction

A *worksheet* can contain *views* of any type. For example, you might configure a *worksheet* named "My Worksheet", which has a *Quote Sheet View* and an *Order Book View* (see figure 3.17). *Worksheets* can be reordered by dragging and dropping them with the mouse. To rename or delete a *worksheet*, you can click on its tab with the right mouse button and select the appropriate option, or select the *worksheet* from within the *Rename Worksheet* or *Delete Worksheet* submenus on the *Environment* menu. The order of the *worksheets* is the same for all desktops.

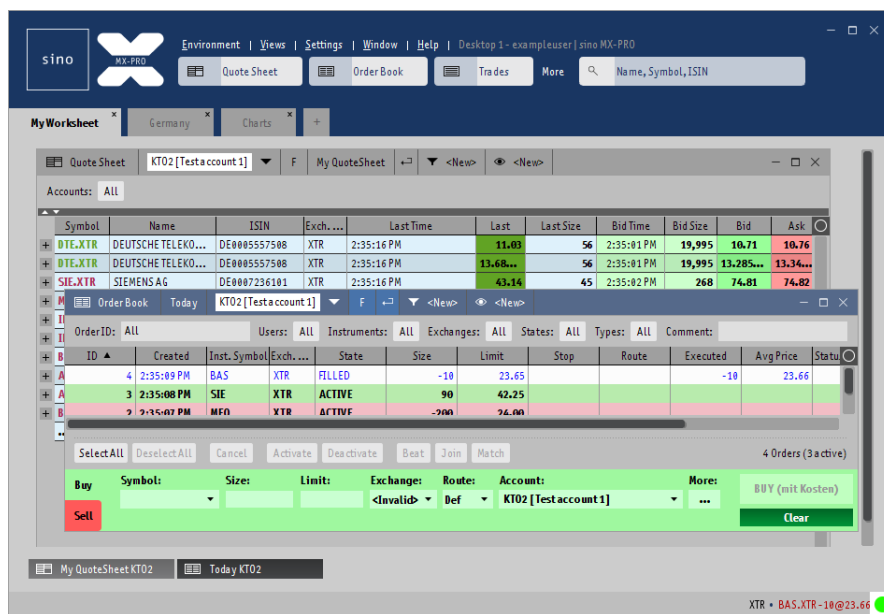


Figure 3.17: Desktop with a Quote Sheet View and an Order Book View

### 3.3.2 View Task Bar

At the bottom of every *worksheet* is the *View Task Bar*. Every open *view* within the *worksheet* is listed there. You can easily switch to a different *view* by clicking on its entry in the *View Task Bar*. A right-click on the *View Task Bar* will open a menu; you can choose to close the selected *view*, to close all other *views* or to close all *views*.

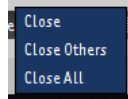


Figure 3.18: The Task Bar menu

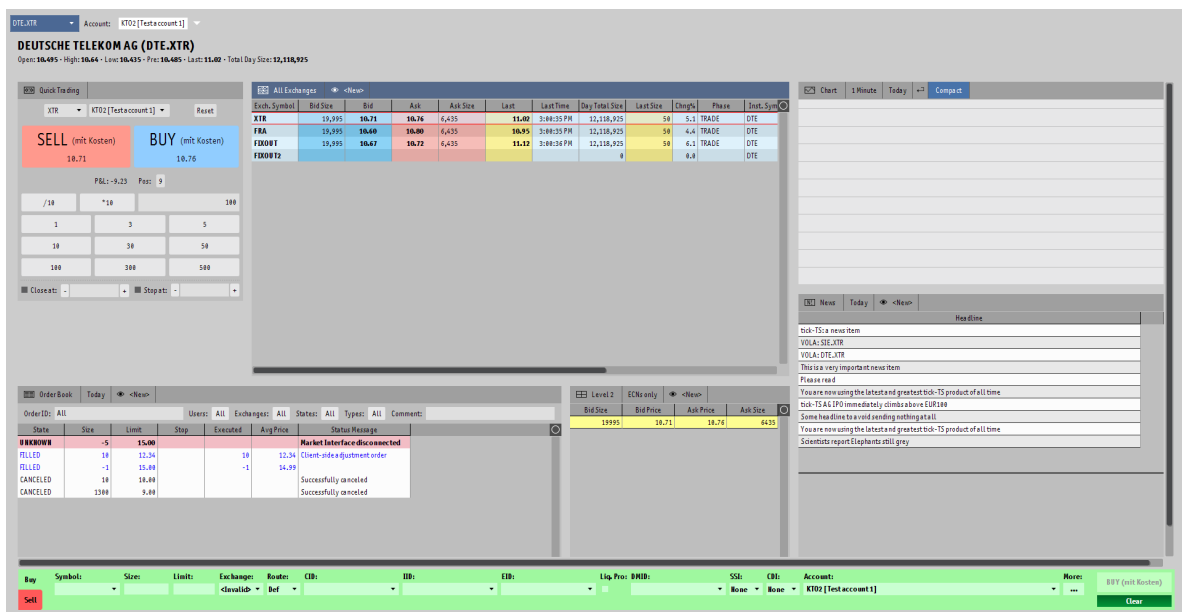


Figure 3.19: The Single Item Worksheet

### 3.4 Single Item Worksheet

The purpose of a *Single Item Worksheet* is to give users an environment for monitoring and trading a single *InstrumentExchange* at the click of a button. To this end a *Single Item Worksheet* groups several *Views*. Once a *Single Item Worksheet* is opened the user sets an *InstrumentExchange* in the relevant *InstrumentExchange Picker* and an account. Both the account and the *InstrumentExchange* are applied worksheet-wide. The grouped views only display information relevant to the worksheet-wide *InstrumentExchange* and account. The *Views* that make up a *Single Item Worksheet* are:

- *Quick Trading View* – Described on page 73. Used for quick order entry.
- *Chart View* – Described on page 55. Provides tools for historical data analysis.
- *Order Book View* – Described on page 59. Provides tools for order management. In this context the view does not feature order manipulation buttons. Order parameters can be changed either through the featured *Order Line* or the *Order Manipulation Menu* (described on page 94).



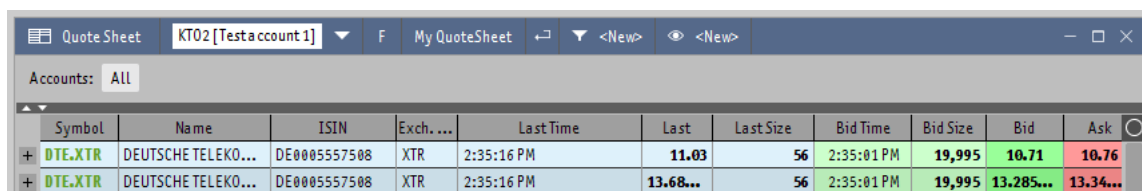
- *Level 2 View* — Described on page 49. Displays the market depth for the specified *InstrumentExchange*.
- *News View* — Described on page 77. Displays news related to the worksheet-wide *InstrumentExchange* from a variety of sources.
- *All Exchanges* — Described on page 44. Displays information relevant to a single *Instrument* listed of several *Exchanges*.

The *Single Item Worksheet* is rounded of with an info panel below the *InstrumentExchange Picker* and an *Order Line* (described on page 85) at the bottom of the worksheet. The layout of the worksheet is permanent and can not be changed. The featured views are trimmed by default so that the displayed information can be grasped with a single glance. All filters (where applicable) are removed from the views, since only information relevant to the worksheet-wide *InstrumentExchange* is displayed. However layouts and styles can still be changed or saved on a per-view basis.

# Chapter 4

## Views

### 4.1 Common Title Bar Elements



Symbol	Name	ISIN	Exch. ...	Last Time	Last	Last Size	Bid Time	Bid Size	Bid	Ask
+ DTE.XTR	DEUTSCHE TELEKO...	DE0005557508	XTR	2:35:16 PM	11.03	56	2:35:01 PM	19,995	10.71	10.76
+ DTE.XTR	DEUTSCHE TELEKO...	DE0005557508	XTR	2:35:16 PM	13.68...	56	2:35:01 PM	19,995	13.285...	13.34...

Figure 4.1: A title bar showing with various control elements

The title bar of every *view* in the MX<sup>pro</sup> Client has a number of control elements. Which elements are present depends upon the kind of *view*; those that are common to more than one kind of *view* are described here.

#### 4.1.1 View Icon



Figure 4.2: The View Icon

An icon in the top left represents which kind of *view* this is. Double-clicking on this icon will close the *view*. Every *view* has such an icon.

#### 4.1.2 Order Line Switch

The *Order Line Switch* shows or hides the in-view *Order Line*. Nearly every kind of *view* has this switch. The *Order Line* is described on page 85.



Figure 4.3: The Order Line Switch

### 4.1.3 Account Picker

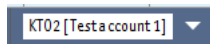


Figure 4.4: The Account Picker



Figure 4.5: The Account Filter button

Any *view* which allows you to enter orders features an *Account Picker*. The account selected here will be used for any orders entered via this *view*. The F button next to the picker allows you to filter the *view* by this account. If the *view* also has an Account Filter, turning on the F button will override (and hide) the Account Filter.

### 4.1.4 Filter Picker



Figure 4.6: The Filter Picker

Some *views* are filterable, allowing you to limit the information shown to that which you are interested in. The *Filter Picker* allows you to select the filter to be applied to the *view* and manipulate the currently applied filter.

All filterable *views* have a default filter which appears in the *Filter Picker* with the name `<Default>`.

Whenever a filterable *view* is created, it is given a `<New>` filter which is a copy of the `<Default>` filter for that *view* type at the time. This filter is specific to its *view* – changing it does not affect any other filters (including `<New>` filters in other *views*), and it is lost if the *view* is closed.

If you select a filter other than `<New>` for the *view*, any filtering changes that you make will be reflected in all other *views* that use the same filter.

The `Save As...` item allows you to save a named copy of the currently selected filter. The copy will be available for use in all other *views* of the same type.

`Delete...` allows you to delete the currently selected filter (the `<New>` and `<Default>` filters

cannot be deleted). The *view*, and any other *views* using the same filter, will change to use their independent `<New>` filters.

Clicking on `Edit...` will open the *Filter Settings* and allow you to immediately configure the currently selected filter. This item is not enabled for the `<New>` filter.

The `Edit inline` item allows you to toggle the display of the filter editor buttons at the top of the *view*. This option is initially enabled for newly created *views*, and is the only method of editing the `<New>` filter.

Configuration and creation of filters is explained on page 113.

#### 4.1.5 Style Picker

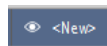


Figure 4.7: The Style Picker

Some *views* allow you to change their appearance using *styles*.

The *Style Picker* allows you to select the *style* to be applied to the *view* and manipulate the currently applied *style*.

Whenever a *style*-supporting *view* is created, it is given a `<New>` *style*. This *style* is based on the default for the *view* type, and the *view* will be updated to reflect any changes subsequently made to the default.

Clicking on `Edit...` will open the *Style Settings* and allow you to immediately configure the currently selected *style*.

Configuration and creation of *styles* is explained on page 107.

#### 4.1.6 Range Picker



Figure 4.8: The Range Picker

Use the *Range Picker* to select the time frame you want to include in your *view*.

Please be aware that choosing a large time range may require a long time for the requested data to be transferred to your client. Try to be as specific as possible.

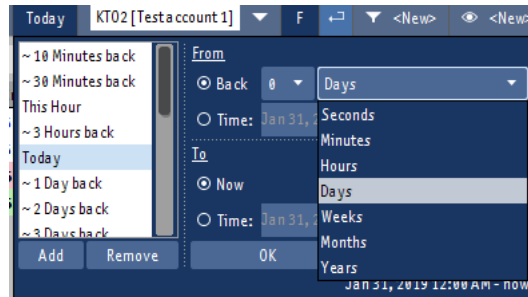


Figure 4.9: The Range Picker in use

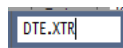


Figure 4.10: The InstrumentExchange Picker

#### 4.1.7 InstrumentExchange Picker

Here you can enter the symbol, ISIN or MSPID and the *Exchange* of the *InstrumentExchange* you would like the *view* to refer to. You can also drag an *InstrumentExchange* from a *Quote Sheet View* to the *InstrumentExchange Picker* in order to use that *InstrumentExchange*.

#### 4.1.8 InstrumentExchange Info Switch



Figure 4.11: The InstrumentExchange Info Switch

Clicking on this switch will show or hide information (such as high, low, last, pre and total day size) about the *InstrumentExchange* entered in the *InstrumentExchange Picker*.

### 4.2 Title Bar Context Menu

The title bar context menu is accessed by a right-click on the title bar of any *view*.

- **Lock** — This allows you to lock the current *view*. A locked *view* cannot be moved or resized. When a *view* is locked, this menu item is replaced by **Unlock**.
- **Detach** — **Detach** will separate the selected *view* from its *desktop*. The selected *view* will appear as an independent window in your operating system's taskbar and can be minimised or maximised independently of any *desktop*. A detached *view* is still related to its *worksheet*. If the *worksheet* is deleted, the detached *view* will be closed.

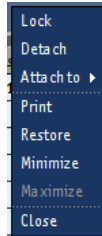


Figure 4.12: The Title Bar Context Menu

When a *view* is detached, this menu item is replaced by *Attach*, which will re-attach it to the *desktop* showing its *worksheet* (if any).

- *Attach to* – *Attach to* will move the *view* to any other *worksheet*, attaching it if it was previously detached. Select the *worksheet* you would like to attach the current *view* to from the sub-menu.
- *Print* – Prints the view as it currently appears. A dialog will appear allowing you to select the printer to print to as well as setting other printing options.
- *Restore*, *Minimise*, *Maximise* and *Close* – Allow you to restore, minimise, maximise or close the window, as if you had selected the buttons in the top right of the window. Note that the text of these menu items is localised into your operating system's language.
- *Always on top* – This item only appears for detached windows. It allows you to specify that the window should remain visible even when another application or MX<sup>pro</sup> *Desktop* is active.

## 4.3 Common Filter Elements

Each kind of filterable *view* has its own kind of filter, with one or more filter elements, appropriate to the data displayed. Here we describe all the filter elements that are used in more than one kind of *view*.

### 4.3.1 Order ID

Here you can enter order IDs to include only those orders. Bear in mind that all other filter elements are still applied first. Enter the desired order IDs, separated by commas, into the field provided and press the Enter key. Entering two order IDs separated by a semicolon will show all orders with IDs between those two IDs (inclusive).

### 4.3.2 Accounts

This element allows you to select which accounts will be included. Only accounts to which you have access can be selected. If you only have access to one account, this element will not appear.

### 4.3.3 Users

These options determine whether orders created by users other than yourself should be included. The options are only effective if you have been given the appropriate permissions on the MX<sup>pro</sup> Server. Orders that you yourself create are not affected by this element.

- `Other users` — This option determines whether to include orders that have been created by other MX<sup>pro</sup> users.
- `RTD sync user` — This option determines whether to include orders created using different order routing systems.

### 4.3.4 Instruments

With this element, you can choose to only include orders (or, for the News View on page 77, news items) for specific *Instruments* in the filter. To add an *Instrument*, enter its ISIN in the `Add:` field and press the Enter key. You can also enter an *InstrumentExchange* symbol, or a symbol without *Exchange* to add all *Instrument(s)* with that symbol. The associated *Instrument(s)* will appear in the list above. To delete an *Instrument*, select it and click on `Remove`.

When the list is empty, all *Instruments* will be included by the filter. Otherwise, only the *Instrument(s)* in the list will be included.

### 4.3.5 Exchanges

This element provides you with a tree of *Exchanges* grouped according to the MX<sup>pro</sup> Server configuration. Only orders for the selected *Exchanges* will be included by the filter.

### 4.3.6 States

This element allows you to select which states an order may be in to be included by the filter. MX<sup>pro</sup> orders can be in any one of the following states:

- `Created` — An order that has been acknowledged by the MX<sup>pro</sup> Server, but has not yet been acknowledged by the *Exchange*.

- **Inactive** — An order that is only held within your order book; it is not live at the *Exchange*.
- **Active** — An order that is live at the *Exchange*.
- **Filled** — An order that has completed with at least one execution. The order may have completed due to being completely filled, expiring, or being cancelled (by the user or the *Exchange*).
- **Canceled** — An order that has completed without any executions. The order may have completed due to expiring or being cancelled (by the user or the *Exchange*).
- **Unknown** — An order for an *Exchange* to which the server does not currently have a connection (and whose status is therefore unknown).

In addition to the state, you can filter on the basis of whether an order has had any executions:

- **Executions** — An order that has been partially or completely filled.
- **No executions** — An order that has had no executions.

#### 4.3.7 Types

This element allows you to restrict the display of orders or trades to show either only buys or only sells.

### 4.4 Manipulating Table Columns

Many *views* contain tables. You can relocate any column within these tables by holding down the left mouse button over the column header and dragging. Clicking on a column header without dragging allows you to sort the column in ascending or descending order.

Right-clicking on a column header opens a menu which provides further column-related options:

- **Export table as CSV...** — Exports the contents of the table as a CSV file, suitable for importing into spreadsheets such as Microsoft® Excel®.
- **Resize all columns to fit** — Resizes all columns in the table to be exactly as wide as its widest row. Note that if the content subsequently becomes wider, the columns will not automatically adjust themselves.



Symbol	Name	ISIN	Exch. ...	Last Time	Last	Last Size	Bid Time	Bid Size	Bid	Ask	Ask Size	Ask
+	Export table as CSV (auto)...	DE0007236101	XTR	2:35:16 PM	43.14	45	2:35:02 PM	268	74.81	74.82	193	2:35:
+	Export table as CSV (custom)...	DE0007257503	XTR	2:35:16 PM	22.17	4,500	2:35:02 PM	384	40.155	40.175	1,543	2:35:
+	Resize all columns to fit	US4592001014	XTR	2:35:16 PM	82.41	9,999	2:35:03 PM	200	99.41	99.43	100	2:35:
+	Resize this column to fit	US4592001014	NYSE	2:35:05 PM	102.7...	115	2:35:05 PM	200	102.76...	102.7...	100	2:35:
-	Hide this column	DE0005557508	XTR	2:35:16 PM	11.03	56	2:35:01 PM	19,995	10.71	10.76	6,435	2:35:
	Disable sorting											
	Sort by this column											
+	DTE.XTR	DE0005557508	XTR	2:35:16 PM	13.68...	56	2:35:01 PM	19,995	13.285...	13.34...	6,435	2:35:
+	BMW.XTR	BAY.MOTOREN WER...	DE0005190003	XTR	2:35:16 PM	18.26	65,899	2:35:03 PM	91	42.02	42.065	400
+	BAS.XTR	BASF SE O.N.	DE000BASF111	XTR	2:35:16 PM	23.09	80	2:35:02 PM	5,352	63.645	43.65	470
+	ALV.XTR	ALLIANZ SE VNA O.N.	DE0008404005	XTR	2:35:16 PM	63.78	333,333	2:35:02 PM	23	85.66	85.69	213,456
+	ADS.XTR	ADIDAS AG	DE0005003404	XTR	2:35:16 PM	28.81	450	2:35:02 PM	938	42.375	42.38	1,505
...	...	...										

Figure 4.13: The Column Header menu

- **Resize this column to fit** – Resizes the column under the header you clicked on to be as wide as its widest row.
- **Hide this column** – Hides the column under the header you clicked on.
- **Disable sorting** – Disables sorting by this column.
- **Sort by this column** – Allows you to specify (using the submenu of this item) that the rows of the table should be sorted such that the values of the column under the header you clicked on are in ascending or descending order. Depending on the table, the sort can be performed **Once** (and will therefore not be affected by subsequent changes in the cell values), or may be performed **Continuously**.



Figure 4.14: The Column selector

If you click on the column selector (figure 4.14) in the top-right corner of a table, a drop-down menu will appear offering you the option of editing the columns. Clicking this will

show a window similar to that in *Style Settings* showing you all available columns which you can use to configure the columns (see “Styles” on page 107 for more information on using the window). This menu also provides an option to select whether the column configuration is shared with other *views* that use the same *style*.

## 4.5 Selecting Table Rows

Many of the tables found in the client support the selection of one or more rows. You can select a single row or several adjacent rows by pressing the left mouse button on the first row and then (if you want to select multiple rows) dragging the mouse to expand the selection. You can add rows to – or remove rows from – the selection by holding the Ctrl key and individually clicking on the rows you want to add or remove.

Selected rows within *views* are coloured according to your *style* settings (see “Styles” on page 107).

## 4.6 Printing Tables

Most of the tables in MX<sup>pro</sup> can be printed. Right-click on a cell within the table and select one of the options under Print Table. The Scale Table Width to Fit option will ensure that the entire width of the table fits on a single page (though if the table has many rows, it may nevertheless print over multiple pages). Note that this may result in the text within the table being very small. The Break Column on Page Border option will instead, if the width of the table will not fit on a single page, print the first columns in the table on a first page, subsequent columns on a second page and so forth.

## 4.7 Search View

With this *view* you can search the entire Instrument database for any given text.

### 4.7.1 Title Bar Elements

- Search Entry Field.

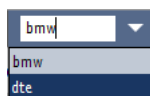


Figure 4.15: The Search Entry Field

This element is specific to *Search Views*, and is described below.

- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).

### 4.7.2 Filter Elements

- **Instrument Type** – This filter element is specific to the *Search View*, and allows you to select which types of *Instruments* (Stock, Future, Option, Warrant, Index, Crossrate/FX, Bond or Fund) should be displayed in the list.

### 4.7.3 Searching

To search, enter your search text in the *Search Entry Field* and press the Enter key. You can search by ISIN, symbol, name or *MSPID*.

After searching, the *Search View* displays a list of *Instruments* found, separated by the symbol used, with the best matches at the top. You can now either drag and drop a row into a *Quote Sheet*, or double-click on a row to display it in a new *Quote Sheet View* and immediately close the *Search View*. For each *Exchange* shown in the *Exchange* cell, an *InstrumentExchange* will be added to the *Quote Sheet*.

If you right-click on the list after selecting a row, you can choose from further options in the menu that appears:

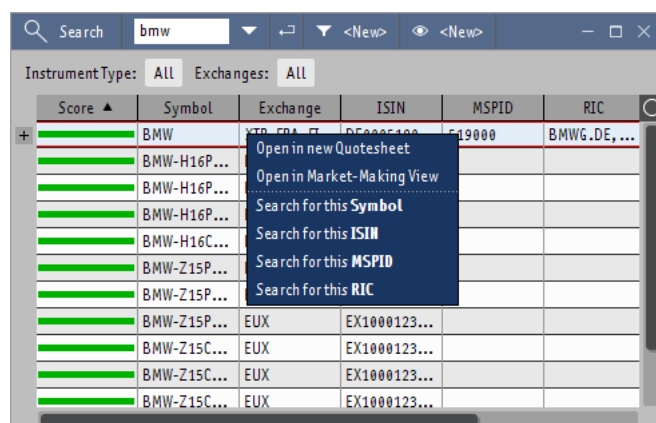


Figure 4.16: The Search View, with its context menu

You can re-search for the symbol, ISIN, ID or name shown in the first selected row, or you can open a new *Quote Sheet View* containing *InstrumentExchanges* for all selected rows.

## 4.8 Quote Sheet View

The *Quote Sheet View* is the main *view* for displaying the prices of *InstrumentExchanges*. In addition to showing prices, execution volumes and so forth, it can show a limited amount of portfolio information. Both simple bid and ask prices and market depth information can be shown; you can configure the *view* to show the information you need for your trading style. This *view* can also be used for click-trading (see “Click Trading” on page 98). Depending on your server settings, you may find one or more pre-configured *Quote Sheet(s)* the first time you log in.

### 4.8.1 Title Bar Elements

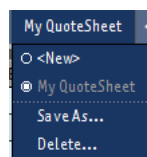


Figure 4.17: The Quote Sheet Picker

- *Quote Sheet Picker* – Clicking on the *Quote Sheet Picker* provides you with the list of available *Quote Sheets*. Selecting one of these *Quote Sheets* fills the *view* with the stored list of *InstrumentExchanges*. Changes made to a *Quote Sheet* other than <New> will be reflected in all other *views* which have that *Quote Sheet* selected.

You can also save the currently active *Quote Sheet* under a new name, or delete it. If you close a *Quote Sheet View* without first saving your *Quote Sheet*, a dialog will appear asking whether you'd like to save the *Quote Sheet*.

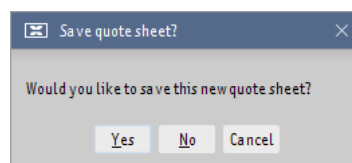


Figure 4.18: A dialog will appear if you close a *Quote Sheet View* without saving your *Quote Sheet*

- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).

Within this *view*, the filter used determines which accounts are considered for the display of portfolio information.

- *Style Picker* (described on page 28).

## 4.8.2 Filter Elements

- Accounts

## 4.8.3 Quote Sheet Splitter

Symbol	Name	ISIN	Exch....	
DTE.XTR	DEUTSCHE TELEKO...	DE0005557508	XTR	2

Symbol	Name	ISIN	Exch....	
DTE.XTR	DEUTSCHE TELEKO...	DE0005557508	XTR	2
DTE.XTR	DEUTSCHE TELEKO...	DE0005557508	XTR	2

Figure 4.19: Left: closed Quote Sheet Splitter, Right: open Quote Sheet Splitter

The *Quote Sheet Splitter* allows you to divide your *Quote Sheet* into two separate views. This is useful if you want to keep track of two values at different places in a long *Quote Sheet*.

## 4.8.4 Own Orders

The *Quote Sheet View* can highlight your own orders for any *InstrumentExchanges* displayed in the currently selected *Quote Sheet*. When you have market depth open for an *InstrumentExchange*, your orders will be shown at the rank where they would appear in the *Exchange's* order book. For *InstrumentExchanges* where market depth is not open, your orders will only be shown if their price is equal to or better than the best bid price (for buy orders) or best ask price (for sell orders). By default, buy orders will be highlighted in green, sell orders in red; this can be configured using *styles* (see "Styles" on page 107), with independent configuration of active and inactive orders. You can also configure whether your own orders are indicated at all (see "Quote Sheets" on page 106).

## 4.8.5 Menu

Right-clicking on a cell will display a shortcut menu. For some cells, the menu will offer order functionality (see "Order Menus" on page 93). The common menu items for all cells are described here.

- **Quote update request** – Sends a request to the *Exchange* that the quote displayed be updated. Certain electronic *Exchanges* relay this request to market makers, who might provide an updated quote or a tighter spread.
- **Quote request** – Opens a new *Quote Request View* (described on page 70) for the first selected *InstrumentExchange*. Note that this menu item will only be available if the *Instrument* referred to by this row is traded on an *Exchange* which allows Quote Requests.
- **Copy ...** (e.g. Copy 12.34 – Copies the value that appears in the cell, as text.
- **Copy Excel DDE Link (for...)** – The MX<sup>pro</sup> Client can send market data to Microsoft® Excel® using DDE. Select this menu item for the cell you would like to be copied, then paste it to your Excel worksheet. New data will be relayed to Excel as it arrives, for as long as the MX<sup>pro</sup> Client is open.
- **Copy Excel RTD Link (for...)** – The MX<sup>pro</sup> Client can also send market data to Microsoft® Excel® using Excel's Real Time Data interface. To do this, an additional piece of software (the RTD gateway) must be installed. If the RTD gateway is installed, this menu option will appear. Select this menu item for the cell you would like to be copied, then paste it to your Excel worksheet. New data will be relayed to Excel as it arrives, for as long as the MX<sup>pro</sup> Client is open.
- **Copy OpenOffice.org DDE Link (for...)** – The MX<sup>pro</sup> Client can send market data to OpenOffice.org Calc using DDE. Select this menu item for the cell you would like to be copied, then paste it to your Calc worksheet. New data will be relayed to Calc as it arrives, for as long as the MX<sup>pro</sup> Client is open.
- **Option Sheet...** – Opens one or more *Option Sheet Views* for options with the selected *InstrumentExchange(s)* as the underlying. See "Option Sheet View" on page 46 for more information about the *Option Sheet View*.
- **Time and Sales...** – A *Time & Sales View* will be displayed for each of the selected *InstrumentExchange(s)*. See "Time & Sales View" on page 48 to learn more about the *Time & Sales View*.
- **Level 2...** – A *Level 2 View* will be displayed for each of the selected *InstrumentExchange(s)*. See "Level 2 View" on page 49 to learn more about the *Level 2 View*.
- **Chart...** – Opens a *Chart View* for each of the selected *InstrumentExchange(s)*. See "Chart View" on page 55 for more information about the *Chart View*.
- **FX Trading...** – An *FX Trading View* will be displayed for each of the selected *InstrumentExchange(s)*. See "FX Trading View" on page 71 to learn more about the *FX Trading View*.
- **FX Quote Request...** – An *FX Quote Request View* will be displayed for each of the selected *InstrumentExchange(s)*. See "FX Quote Request View" on page 74 to learn more about the *FX Quote Request View*.

- **Grid...** – A *Grid View* will be displayed for each of the selected *InstrumentExchange(s)*. See “Grid View” on page 49 to learn more about the *Grid View*.
- **Remove symbols** – The currently selected *InstrumentExchange(s)* will be deleted from the *Quote Sheet*.
- **Insert Empty Row** – Inserts an empty row into the *Quote Sheet*, above the selected row. This can be useful to group *Instruments*.

#### 4.8.6 Adding InstrumentExchanges

There are several ways to add *InstrumentExchanges* to your *Quote Sheet*:

##### Searching

You can search for *Instruments* in the *Search View*, as described on page 34, and either open a new *Quote Sheet View* with the search results or drag the search results to an existing *Quote Sheet*.

##### Adding manually

Click in the *Symbol* column of the last row in the sheet and type the symbol, *MSPID* or *ISIN* of the desired *Instrument*. For example, “DTE” will add all *InstrumentExchanges* with the symbol “DTE” at the *Exchanges* configured in your settings (see “Quote Sheets” on page 106). Note that when adding by symbol, not all of the rows added will necessarily be for the same *Instrument* – in this example, both “DTE.XTR” and “DTE.NYSE” might be added, even though the former is Deutsche Telekom and the latter DTE Energy Co. You can optionally add a dot followed by the *Exchange* you’re interested in. If you enter “dte.xtr”, only the Deutsche Telekom stock at Xetra will be added.

##### Adding lists

You can copy a list of symbols, *MSPID(s)* or *ISIN(s)* from another application and paste them into the *Quote Sheet*. Before doing this, take care that the *Symbol* column is not selected. Each row of the list will be treated as if it had been entered manually.

##### Drag and Drop

Using drag and drop, you can copy selected rows between *Quote Sheets* or reposition them within their current *Quote Sheet*. If you drag and drop an *InstrumentExchange* into another *view*, the displayed columns will be as configured in the new *view*. This enables you to add a row to a *view* that shows more or less information or has a different filter.

#### 4.8.7 Changing the InstrumentExchange of a Row

Click in the `Symbol` column of the row to be changed, and then proceed as for adding a new *InstrumentExchange*.

#### 4.8.8 Changing the currency in which an InstrumentExchange is shown

By default, *Quote Sheets* show *InstrumentExchanges* in the currency in which they are traded at the relevant *Exchange*. If (for example) you've only added the *InstrumentExchange* to the *Quote Sheet* in order to have a reference price while trading the *Instrument* at another *Exchange*, it may be more useful to show the price in a different currency. To do this, you can add a \$ symbol to the end of the *InstrumentExchange*'s normal symbol, followed by the currency you'd like the price displayed in. Omitting the currency will cause the price to be shown in the system's default currency. For example:

- `MSFT.NNM` would show the price of Microsoft stock at NASDAQ, in US Dollars.
- `MSFT` would show the price of Microsoft at all *Exchanges* where it is listed with the symbol "MSFT", in the currency of those *Exchanges*.
- `MSFT.NNM$EUR` would show the price of Microsoft at NASDAQ, in Euro.
- `MSFT$EUR` would show the price of Microsoft at all *Exchanges* where it is listed with the symbol "MSFT", in Euro.
- `MSFT$` would show the price of Microsoft at all *Exchanges* where it is listed with the symbol "MSFT", in the system's default currency.

#### 4.8.9 Selecting Rows

The best way to select a row is to click on a static cell. Static cells, such as those in the `Name`, `ISIN`, `Phase` and `Last` columns, do not interact when clicked on. If, to take a contrasting example, you were to click on a cell in the `Symbol` column, the MX<sup>pro</sup> Client would expect that you want to add or change an *InstrumentExchange* as above.

#### 4.8.10 Deleting Rows

Select the row(s) you want to delete and press the Delete key. You can also right-click on the selected row(s) and select `Remove symbols` from the context menu.



#### 4.8.11 Columns

You can add, remove, move and resize columns. See “Manipulating Table Columns” on page 32.

#### 4.8.12 Copy columns

In addition to the normal table manipulation facilities, the *Quote Sheet View* also allows you to add copies of columns bound to a specific *Exchange*. In this way you can create *Quote Sheet Views* with side-by-side prices from different *Exchanges*. For example, you could add a copy of the *Last* column, bound to *Exchange FRA*. If you then entered *InstrumentExchange DTE.XTR* in a row, you would have two *Last* values next to each other – one for *DTE.XTR* and one for *DTE.FRA*.

To add copy columns, click on the column selector in the top right of the table, then select the menu item *Add columns...*. In the dialog that appears, select from the list the columns that you wish to add. You can select multiple columns by holding down the *Ctrl* key and clicking the individual columns. You can select a group of columns together by selecting the first column to add, holding down the *Shift* key and selecting the last column to add. When you’ve selected the columns you want, select the *Exchange* to which these copies should be bound and click *Add*. The selected columns will now be available for selection in all *Quote Sheet Views* (they can be manipulated – including changing their visibility for particular *Quote Sheet View Styles* – in the same way that normal columns can). The *Style* of a freshly-added copy column is the same as that for the column it is copied from. Copy column *Styles* can be manipulated as for normal columns.

To remove copy columns, select the column to remove from the submenu which appears under *Remove Column*. Note that removing a copy column removes it from all *Quote Sheet Views* – if you only want to remove a column from a particular *Quote Sheet View*, change its visibility as you would for a normal column.



Figure 4.20: The Column selector

Most of the available columns are self-explanatory, but some have special functions or meanings and are explained below.

- *Symbol*

Cells in the *Symbol* column show the symbol and *Exchange* of the *InstrumentExchange*. They also indicate the change from the previous trading day's closing price; by default, an up change in the last traded price will show the symbol in green, a down change in red, and no change in black.

If you double-click on the symbol it will expand ten rows of market depth quotes for the *InstrumentExchange*. Some *Exchanges* offer full market depths, others only a limited number of ranks. Some *Exchanges* do not provide any market depth at all. Some quote providers further limit the availability of market depth quotes.

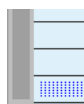


Figure 4.21: The market depth control

You can close the market depth rows by either double-clicking again or by using the market depth slider that appears within the *Symbol* column when market depth is opened.



Figure 4.22: The Quote Sheet Tree

On the far left of the *Quote Sheet* appears a “tree” structure. If two *InstrumentExchanges* which refer to the same *Instrument* are placed in adjacent rows, a line is drawn between them (see DTE.XTR and DTE.XTR\$USD in the screenshot). If market depth rows for an *Instrument* are open, these are shown as part of a tree (DTE.XTR in the screenshot). Market depth can be opened by clicking on the + symbol and closed by clicking on the – symbol or by dragging the dot at the bottom of the tree upwards.

- Last, Last(Trade), Ind. Last

Last(Trade) will always show the day's most recent trade for the *InstrumentExchange*. During an auction, Ind. Last will show the indicative price sent by the *Exchange*. (When no auction is in progress, Ind. Last will be empty.) Last will switch between showing these two things, depending on whether an auction is currently in progress or not. Each of the three columns is accompanied by matching Size, Time, Flags and T columns (e.g. Ind. Flags).

- T, Bid Trend, Ask Trend

Trend cells display up to 10 of the last tick trends for the *InstrumentExchange*. Each trend is visualised by a coloured arrowhead pointing in the direction of price movement, with the rightmost arrow representing the movement of the most recent tick. These cells are not interactive.

- Bid, Ask

Bid and Ask cells are interactive. They show the current bid and ask at the *Exchange*, respectively.

Right-clicking on a quote in one of these cells opens an *Order Menu* (described on page 93). If you left-click, the *Order Line* will be filled in with a sell order (for Bid) or a buy order (for Ask) at the price indicated, with a size configurable in your *Size Group settings* (see "Size Groups" on page 97). The *Order Line* is described on page 85.

- Bid Size, Ask Size

Bid Size and Ask Size cells show the order size of the bid and ask, respectively. Their interactivity is the same as for their corresponding Bid and Ask cells.

- Bid Cum, Ask Cum

Bid Cum and Ask Cum cells are only useful in combination with market depth; they show the cumulative price for all orders at the rank of the current row and all rows above. Their interactivity is the same as for the Bid and Ask cells, with the difference that when clicking on a Cum cell in a market depth row, an order with the cumulative size of the current row and all rows above will be entered. You can configure a maximum cumulative size in the *Size Group settings* (see "Size Groups" on page 97).

- BSize Cum, ASize Cum

These cells are interactive; they show the cumulative sizes for all orders at the rank of the current row and all rows above. Their interactivity is the same as for the Cum cells.

- Bid Count, Ask Count

For *Exchanges* that support it, the number of individual orders comprising the current rank is displayed in these columns. Cells in these columns are not interactive.

- Order Bid, Order Ask

When you have configured *Quote Sheets* to indicate your own orders, these columns show the combined size of all orders that have been identified at the associated quote. Cells in these columns are not interactive.

- Net Size, Net Val, Net Avg Cost, Ref Exch., Ref Price, P&L, Account

Cells in these columns display the same information as found in the *Portfolio View* (see "Portfolio View" on page 63). The *Quote Sheet View's* filter determines which accounts are considered. These cells are not interactive.

- News Time, News Headline

Cells in these two columns display the time of the most recent headline received for the *InstrumentExchange* in this row and the headline itself, as seen in the *News View* (see “News View” on page 77). Double-clicking a cell in these columns will open a *News View* showing available news for the *Instrument*.

## 4.9 All Exchanges View

The *All Exchanges View* is meant to be used as an information tool in Arbitrage trading use cases. The view displays information (prices, execution volumes, etc.) related to an *Instrument* listed on multiple exchanges. The information is packed in a table similar to the one found in a *Quote Sheet*.

Exch. Symbol	Phase	Last Time	Last	Last Size	Bid Time	Bid Size	Bid	Ask	Ask Size	Ask Time	Day Total	Chng%
XTR	TRADE	3:00:35 PM	11.02	50	3:00:35 PM	19,995	10.71	10.76	6,435	3:00:35 PM	12,118,925	5.1
FRA	TRADE	3:00:35 PM	10.95	50	3:00:35 PM	19,995	10.60	10.80	6,435	3:00:35 PM	12,118,925	4.4
FIXOUT	TRADE	3:00:36 PM	11.12	50	3:00:36 PM	19,995	10.67	10.72	6,435	3:00:36 PM	12,118,925	6.1

Figure 4.23: The All Exchanges View

### 4.9.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 29).
- *InstrumentExchange Info Switch* (described on page 29).
- *Account Picker* (described on page 27).
- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

### 4.9.2 Filter Elements

- *Accounts* (described on page 31).

To populate the view with information the user has to add a single *InstrumentExchange* in the title bar picker. The view will then attempt to resolve the underlying *Instrument* and all

known exchanges it is listed on. Eventually the table will be filled with information (bid/ask ticks, last traded sizes, etc.) relevant to the *Instrument* from all available *Exchanges*. In case the *InstrumentExchange Info Switch* is turned on the info panel will not be aggregated based on all *InstrumentExchanges* only information relevant to the selected *InstrumentExchange* will be displayed. The *All Exchanges View* does not feature an *Order Creation Menu*, *Order Manipulation Menu* or click-trading capabilities. Orders can only be entered through the *Order Line*.

## 4.10 Quote Map View

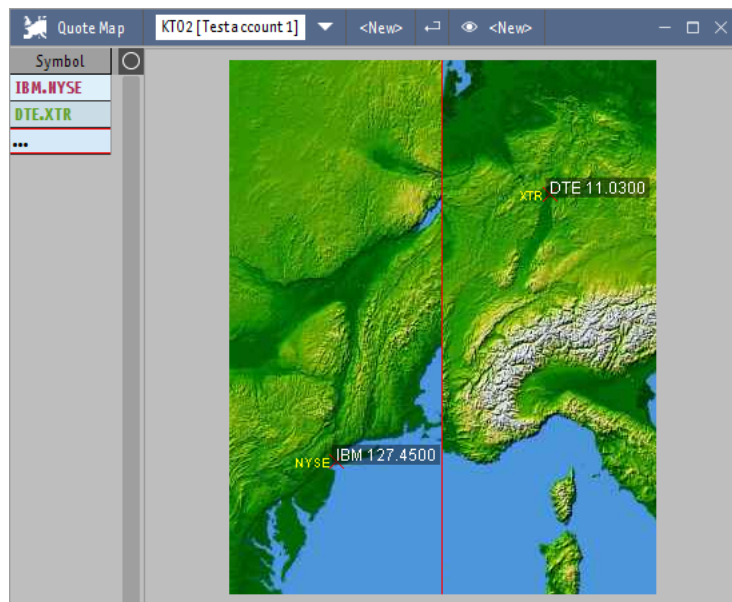


Figure 4.24: The Quote Map View

The *Quote Map View* allows you to geographically visualise the prices of stocks at different markets. The left-hand portion of the *view* contains an *Instrument* column which works identically to that in the *Quote Sheet View*. To add, change or remove an *InstrumentExchange* from the *view*, see the appropriate sections within the description of the *Quote Sheet View*, beginning on page 39.

### 4.10.1 Title Bar Elements

- *Quote Sheet Picker* – Clicking on the *Quote Sheet Picker* provides you with the list of available *Quote Sheets*. Selecting one of these *Quote Sheets* fills the *view* with the stored list of *InstrumentExchanges*. Changes made to a *Quote Sheet* other than *<New>*

will be reflected in all other *views* which have that *Quote Sheet* selected. The same *Quote Sheets* are available both in the *Quote Sheet View* and the *Quote Map View*.

- *Order Line Switch* (described on page 26).
- *Style Picker* (described on page 28).

## 4.11 Option Sheet View

ExpiryDate	CLast	CLastSize	CBidSize	CBid	CAsk	CAskSize	Strike	PLast
03.12.2019			65	19.11	19.72	90	35.00	
03.12.2019	19.40	2	50	19.14	19.74	50	35.00	
03.12.2019			25	21.92	24.73	25	40.00	
03.12.2019			55	20.90	25.78	30	40.00	

Figure 4.25: The Option Sheet View

This *view* displays a list of options for a given underlying *Instrument*. Enter the desired underlying into the *InstrumentExchange Picker*. Entering DAX.XTR, for example, will list options on the DAX30 index. The *InstrumentExchange* entered is also used to obtain prices for the underlying *Instrument* upon which calculations of the theoretical fair price of the option are based.

On each row, two options are shown – the put and call options for a given strike price. By default, the leftmost column shows the expiry date of the options. The call options then appear on the left-hand side, the strike price appears in the centre and the put options on the right-hand side.

The options are always sorted first by expiry date (nearest date first), then by strike price. By default, Out-of-the-Money options will be shown with grey text. You can configure how Out-of-the-Money and In-the-Money options should be displayed in the *Style Settings*. The backgrounds of cells alternate by expiry date.

The columns available in the *Option Sheet View* are mostly similar to those in the *Quote Sheet View*, with quote columns prefixed with "P" for put options and "C" for call options. Where (prefixed) columns from the *Quote Sheet View* appear, their meanings are the same as for the *Quote Sheet View*. The other columns which appear are:

- *Expiry Date* – The expiry date of the options on this row.
- *Strike* – The strike price of the options on this row.
- *TrdUnit* – The trading unit of the options on this row.

- **IRate** — The domestic risk-free interest rate which applies to the options on this row, as specified by the option exchange in question.
- **CImVol** and **PImVol** — The implied volatility of the options on this row, as specified by the option exchange in question, based upon the most recent settlement price for the options.
- **CTheo** and **PTheo** — The theoretical price of the call and put options on this row, calculated using Black-Scholes model and the displayed interest rate and implied volatility and the most recent price of the underlying *Instrument* on the *Exchange* specified in the *view's InstrumentExchange Picker*.
- **CDelta** and **PDelta** — The delta value of the call and put options on this row, calculated using the same values and model as for the theoretical prices. Varies between 0.0 and 1.0 for call options and 0.0 and -1.0 for put options. A positive or negative delta value represents the amount that the theoretical price of the call or put option will rise or fall if the price of the underlying *Instrument* rises by 1.0, assuming no other factors change.
- **CGamma** and **PGamma** — The gamma value of the call and put options on this row, calculated using the same values and model as for the theoretical prices. The gamma value represents the expected change in the delta value of the call or put option for a rise or fall in the price of the underlying, assuming no other factors change.
- **CTheta** and **PTheta** — The theta value of the call and put options on this row, calculated using the same values and model as for the theoretical prices. The theta value represents the expected change in the theoretical price of the option if a year passes and no other factors change.
- **CVega** and **PVega** — The vega value of the call and put options on this row, calculated using the same values and model as for the theoretical prices. The vega value represents the expected change in the theoretical price of the option if the volatility changes by 1% and no other factors change.
- **CRho** and **PRho** — The rho value of the call and put options on this row, calculated using the same values and model as for the theoretical prices. The rho value represents the expected change in the theoretical price of the option if the risk-free interest rate changes by 1% and no other factors change.
- **CSet1** and **PSet1** — The previous day's settlement price for the call and put options on this row, as determined by the relevant *Exchange*.

#### 4.11.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 29).  
In this *view*, the *InstrumentExchange Picker* determines the underlying *Instrument* for which options will be shown.

- *Options Exchange Picker*.



Figure 4.26: The Options Exchange Picker

If options for the specified underlying *Instrument* are available on more than one options *Exchange*, this allows you to select the *Exchange* for which options will be shown.

- *Order Line Switch* (described on page 26).
- *Style Picker* (described on page 28).

#### 4.11.2 Menu

To request that a Market Maker provide an updated quote for a given strike price, select Request Quote Update from the menu available by right-clicking on one of the Last, LastSize, Bid, BidSize, Ask, or AskSize columns.

### 4.12 Time & Sales View

The *Time & Sales View* is a real-time ticker for all ticks in a particular *InstrumentExchange*. Below the title bar are some options which allow you to limit the ticks that are shown:

- Update Mode
  - Last tick only – Only last ticks will be displayed.
  - All ticks – Last, bid and ask ticks will be displayed.
- Min. size – Allows you to specify the minimum size a tick must have before it will be displayed.
- Exchanges – This item appears after you've selected an *InstrumentExchange*. It allows you to select the *Exchanges* for which ticks will be displayed.

#### 4.12.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 29).
- *InstrumentExchange Info Switch* (described on page 29).
- *Range Picker* (described on page 28).



- *Order Line Switch* (described on page 26).
- *Style Picker* (described on page 28).

## 4.13 Level 2 View

The *Level 2 View* displays the market depth for the specified *InstrumentExchange*.

### 4.13.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 29).
- *Order Line Switch* (described on page 26).
- *ECNs Only Switch*.

When this switch is selected, only quotes that are provided by the Electronic Communication Networks participating in NASDAQ will be displayed. For non-NASDAQ *InstrumentExchanges*, this option has no effect.

- *Full Depth Snapshot*.

When this button is clicked, a complete snapshot of the market depth is requested from the *Exchange*. Some *Exchanges* only normally supply ten ranks of market depth data, but supply all ranks upon request. Availability of this facility is *Exchange*-dependent.

- *Style Picker* (described on page 28).

## 4.14 Grid View

The *Grid View* enables you to trade quickly in a fast-moving *InstrumentExchange* while keeping an overview of the *InstrumentExchange's* development over time, the current state of the market and your position. While we've tried to make this description of the *Grid View* as easy to follow as possible, text covering such broad functionality will inevitably tend to be intimidating. We encourage you to try the *Grid View* out using a demonstration system – it's much more intuitive than the volume of text here might lead you to believe.

The *Grid View* is split into seven areas. They are:

- A Time & Sales area, on the far right of the *View*. This shows the trades occurring in the selected *InstrumentExchange*. The *Grid View's* Time & Sales area provides a subset of the functionality provided by the *Time & Sales View* (described on the preceding page).

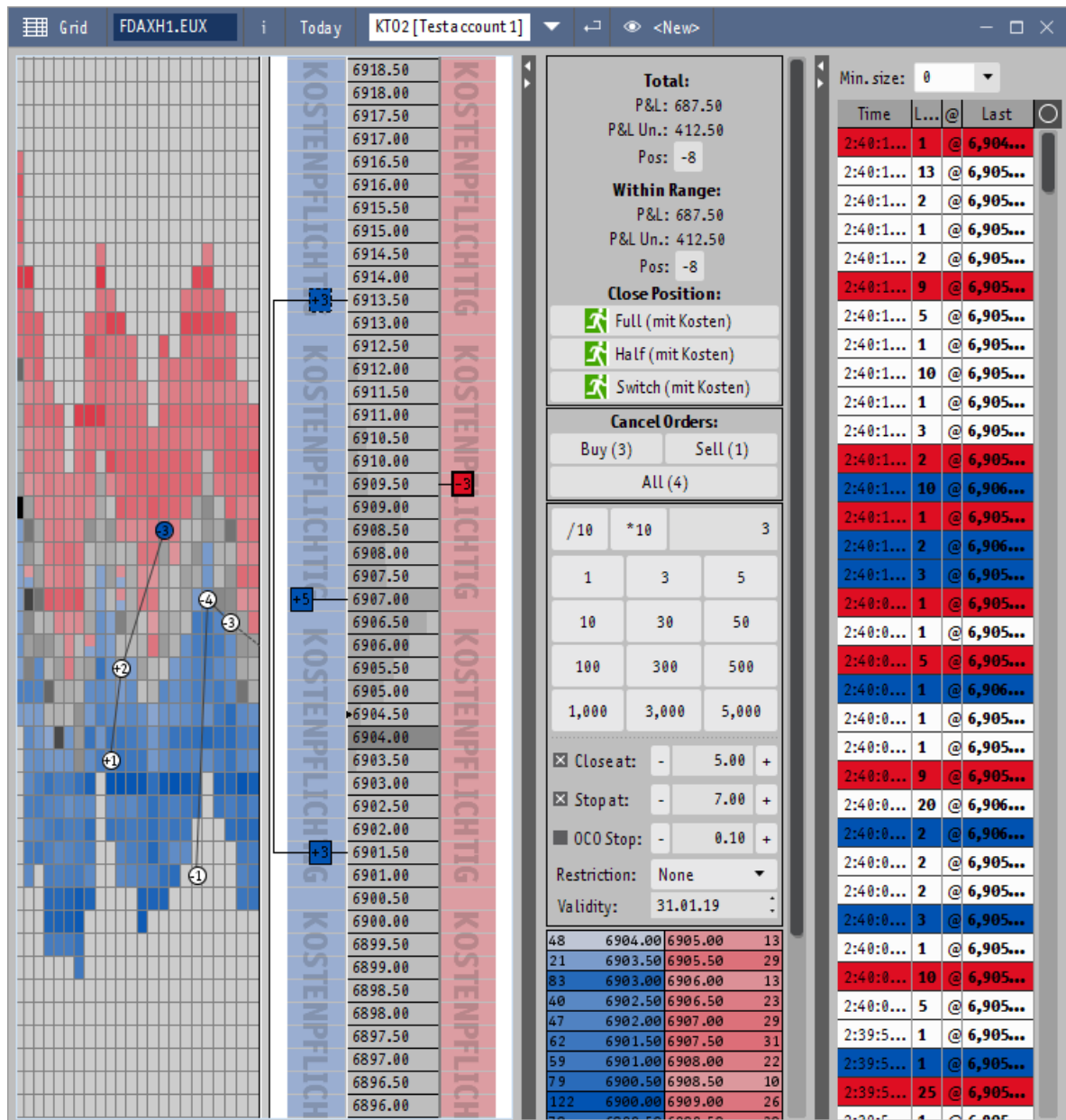


Figure 4.27: The Grid View

- A position overview area, to the left of the Time & Sales area, at the top. This contains two different profit and loss values (for the selected *InstrumentExchange*) for the account selected in the *View's Account Picker* as well as two buttons:
  - Within Range shows the profit/loss over the time selected in the *View's Range Picker* as well as the effect on the account's position of trades within that time.

- Total shows the profit/loss outside of time frame defined by the *Range Picker* as well as the account's current position (this information is the same as that shown in the *Portfolio View*, described on page 63).
  - The Close position section, below the position information offers three buttons – Full, Half and Switch. Clicking on Full enters a market order to buy or sell the *InstrumentExchange* as appropriate to close the position shown under Within Range. For example, if the current Within Range position is -2, a buy market order with size 2 will be entered. Clicking on the Half button enters a market order to close half the position. This would result in a buy market of size 1 for the above example. If the size of the position to be closed is not divisible by 2, then the size of the resulting order will be rounded down to the nearest integer. E.g. for a position of size -3 clicking the Half button produces a buy market order of size 1. And finally the Switch button enters a market order such that the position will be reversed from short to long and vice-versa. Again using the example from above, clicking on Switch will result in a buy market order of size 4 effectively switching the position from -2 to 2.  
 Note that you have to click twice on any of the buttons in the Close position section – the first click activates the button, the second enters the order.
  - The Cancel Orders section likewise offers the user three buttons – All, Buy and Sell. Using the All button cancels all orders for the selected account and *InstrumentExchange* (including any "IfDone" orders such as those generated by the "Close at" and "Stop at" checkboxes described below). Clicking on the Buy/Sell buttons cancels only the respective buy/sell orders for the selected account.
- A "mini" market depth display (below the position overview area) showing the top ten ranks of market depth data for the *InstrumentExchange*.  
 As with the *Level 2 View* (described on page 49), bids are shown on the left and asks on the right. The prices of the ranks are shown in the centre, sizes toward the outside. The background colours of the cells are adjusted according to the sizes of those cells – the larger a rank is, the brighter its background colour will be. This aids in quickly getting an overview of the market.  
 By double-clicking on a particular rank, you can enter an order matching that rank – for example, if the top rank on the bid side is at price 100.00, double-clicking on that rank will enter a buy order with limit 100.00.
  - An order control area (below the market depth display). This contains controls for setting the size of the orders entered via the grid area and the market depth area as well as for selecting whether profit/stop orders should be created when an order is executed:
    - The Close at checkbox specifies that when an order is executed, a limit order should be created on the opposite side (an "IfDone" profit order). The limit of this order will be the price at which the original order was executed plus (for buy

orders) or minus (for sell orders) the offset entered in the field to the right of Close at.

For example, if a buy order receives an execution of 10 @ 100.00, the Close at checkbox is set and 1.00 is entered in the field to the right of Close at, a sell order would automatically be entered with size 10 and limit 101.00.

To take another example, if a sell order receives an execution of 20 @ 120.00, the Close at checkbox is set and 3.00 is entered in the field to the right of Close at, a buy order would automatically be entered with size 20 and limit 117.00.

Note that an order will only be created if the checkbox was checked at the time that the executed order was created – the limit used will also be that which was entered at the time of the executed order's creation.

- The Stop at checkbox specifies that when an order is executed, a stop market order should be created on the opposite side (an "IfDone" stop order). The stop limit of this order will be the price at which the original order was executed minus (for buy orders) or plus (for sell orders) the offset entered in the field to the right of Stop at.

For example, if a buy order receives an execution of 10 @ 100.00, the Stop at checkbox is set and 1.00 is entered in the field to the right of Stop at, a sell order would automatically be entered with size 10 and stop limit 99.00.

To take another example, if a sell order receives an execution of 20 @ 120.00, the Stop at checkbox is set and 3.00 is entered in the field to the right of Stop at, a buy order would automatically be entered with size 20 and stop limit 123.00.

Note that an order will only be created if the checkbox was checked at the time that the executed order was created – the limit used will also be that which was entered at the time of the executed order's creation.

- The Size text field specifies what size orders created within the Grid View will have. The buttons below the text field can quickly be used to enter a range of standard sizes by clicking.
- An order status area, below the order control area. This area is initially blank. If an active order is selected from the ladder area, that order's status information will be shown here.
- The "ladder", to the left of the above items. The ladder shows the current position of the market, gives historical information about where the market has traded and allows you to enter, change and cancel orders.

Each "rung" on the ladder represents a different price – the further up the ladder, the higher the price. The difference between each of the prices is determined by the minimum price step of the *InstrumentExchange*.

The rung of the ladder with a blue background is the price of the last trade in the *InstrumentExchange*. This will be vertically centred when you first select the *InstrumentExchange*. It will be recentred (the ladder will move up or down so that it's in the centre) if it's no longer visible (because the last price moved such that the appropriate

price rung is above or below those within your *Grid View*) and your mouse is not over either the ladder or the grid. You can also move the ladder up and down using the wheel on your mouse. In other situations, the ladder will not move – that's to say, the displayed prices stay where they are.

The background of each rung (other than the "last" rung) contains a grey bar. This represents the sum of the sizes of all trades in the *InstrumentExchange* at the rung's price since the *InstrumentExchange* was selected. The rung for the price with the largest total size will contain a bar stretching all the way from left to right (the rung will appear to be solid grey). Other rungs will have a bar starting on the left and extending right as appropriate to their total size relative to this maximum. This provides a view of the most commonly traded prices over time.

To the left and right of the ladder's price column are columns with green and red backgrounds. Any open orders which the selected account has for the selected *InstrumentExchange* appear in these columns. The column with the green background contains buy orders, the column with the red background contains sell orders. Orders appear as small boxes showing their size (together with a + for buy orders or a – for sell orders). Stop orders appear with a dashed border, limit orders with a solid border. Selected orders appear with a thicker border. Stop orders appear at the rung representing their stop limit, limit orders appear at the rung representing their limit. If several orders appear at the same rung, only one box will be shown (per column), representing the total size of all of the orders at that rung.

By double-clicking in the buy and sell columns, you can enter limit orders to buy or sell the *InstrumentExchange*. The limit of these orders will be the price represented by the rung that you double-click in. Their size is specified by the *Size* text field described above. It doesn't matter whether an order already appears at the given rung – if you double-click again, an additional order will be entered. Holding down the shift key whilst double-clicking will result in a stop market order being entered, with the stop limit being set to the value which would otherwise be used for the limit.

By clicking on and dragging an order, you can change its limit. When you release the mouse button, the limit of the order you've dragged will be changed to match the rung you've dragged it to.

By left-clicking on an order (without dragging), you can select it. Status information regarding the order will then appear in the order status area.

By right-clicking on an order, you can cancel it. Note that if several orders appear at the rung (and have therefore been collected together into a single box), right-clicking will cancel all of these orders.

To the left and right of the "ladder" appear two white columns. If an order is executed and both an *IfDone Stop* and *IfDone Profit* order are entered as a result (i.e. both *Close at* and *Stop at* are checked), these areas show a "bracket" or line linking the order pair. Up to three individual brackets can be displayed linking three such pairs of orders. If more than three pairs of orders are present, a grey bar is shown in the area where there are too many brackets to be represented.

- To the left of the "ladder" (and the bracket area) appears the grid. The grid provides an overview of the movement of the *InstrumentExchange*'s market over time. It also shows any trades the selected account has made (in the selected *InstrumentExchange*) along with whether or not these trades were profitable.

Each column of the grid represents a ten-second time period. The rightmost column represents the most recent ten seconds. The further left a column appears in the window, the narrower this column is – this allows a larger range of time to be represented within the grid than would otherwise be possible.

As with the ladder, each row of the grid represents a given price (see the description of the ladder for more details – the grid behaves in the same way).

Each cell of the grid is coloured:

- Blue, if a trade happened at the price represented by that row of the grid during the ten seconds represented by that column, otherwise...
- Red, if a sell order was (but no buy orders were) present in the market depth at the price represented by that row of the grid during the ten seconds represented by that column, otherwise...
- Green, if a buy order was (but no sell orders were) present in the market depth at the price represented by that row of the grid during the ten seconds represented by that column, otherwise...
- Red and Green, if both buy and sell orders were present

As with the level two area, the colours of the cells are determined by the comparative sizes of the orders present at that rank. Larger orders (or trades) will have a deeper colour whereas smaller orders or trades will be lighter. This aids in determining which market movements are important and which are less so. It also helps in identifying "resistance levels" within the market where larger (or repeated, or many) orders are present – these appear as horizontal lines within the grid.

Trades in the selected *InstrumentExchange*, for the selected account, are also represented within the grid. They appear as circles at the appropriate row and column – within the circle appears the total size of any trades at that price and time, preceded by a + or – depending on whether the *InstrumentExchange* was bought or sold. The circles are coloured:

- White circles represent trades that opened or extended a position.
- Red circles represent trades that closed a loss-making position.
- Green circles represent trades that closed a profitable position.
- Grey circles represent trades that reduced a position (including closing a position which exactly broke even).

While the selected account has a position in the selected *InstrumentExchange*, the circles are connected by lines. If, for example, an account starts with a position of zero and a trade buys 5 of the *InstrumentExchange* at 100, a white circle with the text

+5 will appear. If a subsequent trade sells 2 of the *InstrumentExchange* at 99, a grey circle with the text -2 will appear. A line will connect the white and the grey circle. Should a third trade then sell 3 of the *InstrumentExchange* at 101, a green circle with the text -3 will appear. Again, a line will connect the grey and the green circle. If a fourth trade opens a new position, a white circle will appear, but no line will connect the green circle from the closing of the previous position and the opening of this new position.

Whilst a position is open, a dashed line will appear from the most recent trade. This is the “break-even” line. It points at the rung of the ladder at which price you’d need to close your position in order to break even. For long positions, closing trades at prices above this line make the position more profitable – closing trades at prices below the line make the position less profitable. For short positions, the reverse is true.

#### 4.14.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 29).
- *InstrumentExchange Info Switch* (described on page 29).
- *Range Picker* (described on page 28).
- *Account Picker* (described on page 27). Within this *View*, the *Account Picker* is used to choose which account's trades will be shown within the grid.
- *Order Line Switch* (described on page 26).

### 4.15 Chart View

The *Chart View* allows you to visually analyse the historical data of *InstrumentExchanges*. You can choose from a variety of display methods and indicators.

#### 4.15.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 29).
- *Period Picker*.  
Allows you to specify the resolution of the ticks displayed in the chart.
- *Range Picker* (described on page 28).
- *Order Line Switch* (described on page 26).



Figure 4.28: The Chart View

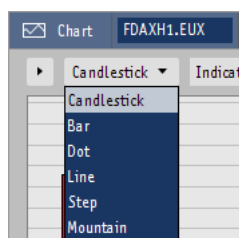


Figure 4.29: The Chart View – chart type selection

Below the title bar is a set of tools that allow you to manipulate the chart. The leftmost is a selector that specifies which rendering method is used for the price chart – Candlestick, Bar, Dot, Line or Step.

In the middle is a button which, when clicked on, provides a list of indicators which can be added to the chart. This list is in two parts, separated by a line. Those indicators which are above the line are added to the main chart. Indicators below the line appear in their own sub-chart below the main chart. An indicator can be added to a chart more than once. To remove an indicator, or to modify its parameters or colours, select the *Modify* tool (see “*Modify*” on the facing page). The *Modify* tool can also be used to move an indicator which normally appears within the chart into its own sub-chart (with the exception of the *PPT* and *TC* indicators, for which this makes little sense).

Rightmost is a selector that allows you to choose what action the mouse performs within



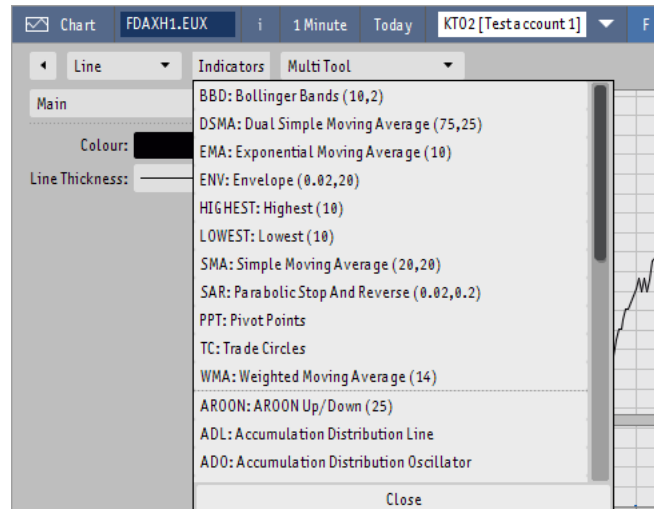


Figure 4.30: The Chart View – indicator selection

the chart – scrolling, zooming, or one of a number of drawing tools. The different mouse modes are:

- **Zoom** – By clicking and dragging the mouse to the right, you can zoom in on a given area of the chart. Clicking and dragging to the left will zoom out, showing the whole chart again.
- **Scroll** – By clicking and dragging the mouse left or right, you can select which part of the chart you look at. The chart will automatically zoom in and out vertically to most appropriately accommodate the range of prices visible in the part of the chart you're viewing.
- **Modify** – Modify can modify either shapes drawn on the chart using Line, Rectangle, etc. or to modify indicators, or to modify the chart's appearance. To modify a shape, first click on the shape. Two red boxes will appear at different points on the shape. By clicking and dragging these red boxes, you can change the position, angle, size, etc. of the shape. To delete the shape, press the Delete key on your keyboard. To modify an indicator, click on the indicator. The indicator parameters panel will appear on the right-hand side of the chart, allowing you to modify the parameters used by the indicator as well as the indicator's colours. To modify the chart's appearance, click on the chart element itself (e.g. click on a candlestick if using a candlestick chart). A panel will appear on the right-hand side allowing you to change the chart's colours.
- **Line** – Using the line mode, you can draw a line on the chart. To do this, either click at the starting point of the line and drag to the end point, or click at the starting point and click again at the end point.
- **Rectangle** – Using the rectangle mode, you can draw a rectangle on the chart. To do

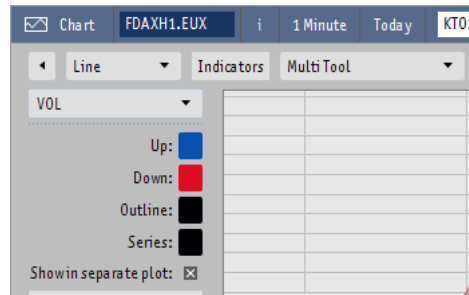


Figure 4.31: The indicator parameters panel

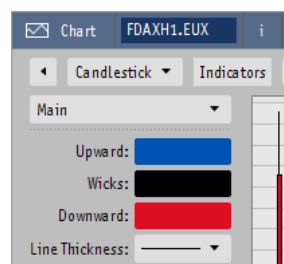
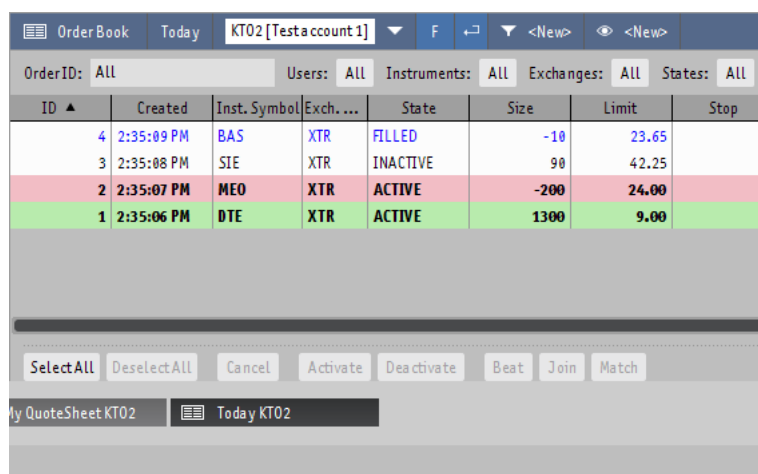


Figure 4.32: The chart parameters panel

- this, either click and drag from one corner of the rectangle to the opposite corner, or click where one corner should be and then click where the opposite corner should be.
- **Ellipse** – Using this mode, you can draw an ellipse. To easily visualise how to draw ellipses, pretend that the ellipse is contained in a rectangle, then draw that rectangle as for the **Rectangle** mode above.
  - **Fibonacci Fan** – Allows you to draw a Fibonacci Fan: a series of diagonal lines rooted at the same point and representing changes in value from that point, with each change representing a ratio based on the Fibonacci sequence. See <http://www.investopedia.com/ask/answers/05/FibonacciRetracement.asp> for a more detailed description. You can draw the fan by clicking at the “root” point, then moving the mouse up and down until the lines are position as you’d like them, or by clicking and dragging.
  - **Fibonacci Retracement** – Allows you to draw a Fibonacci Retracement: a series of horizontal lines covering the whole horizontal span of the chart and representing changes in value according to the same ratios as for the Fibonacci Fan, above. Draw this by clicking at the vertical position where the 0% line should appear, then clicking again at the vertical position of the 100% line, or by clicking and dragging.
  - **Fibonacci Arc** – Allows you to draw a Fibonacci Arc: a series of semicircular arcs, based on the same ratios as above. Draw this by clicking where the centre of the

semicircles should be, then clicking again where the 100% semicircle should be, or by clicking and dragging.

## 4.16 Order Book View



ID ▲	Created	Inst. Symbol	Exch. ...	State	Size	Limit	Stop
4	2:35:09 PM	BAS	XTR	FILLED	-10	23.65	
3	2:35:08 PM	SIE	XTR	INACTIVE	90	42.25	
2	2:35:07 PM	ME0	XTR	ACTIVE	-200	24.00	
1	2:35:06 PM	DTE	XTR	ACTIVE	1300	9.00	

SelectAll DeselectAll Cancel Activate Deactivate Beat Join Match

My QuoteSheet KT02 Today KT02

Figure 4.33: The Order Book View

The *Order Book View* lets you control your orders in any market situation. The main body of the *view* consists of a list of orders. A newly opened *Order Book View* will display all your orders for the current day, regardless of their status. The list can be filtered using the filter elements described below – thus, you can (for example) create an *Order Book View* showing only active orders, only filled orders or only orders for a particular *Instrument* or *Exchange*.

Clicking on any order in the list will activate the *view's Order Line* and fill it with the details of that order. This can be used to change the order, or (by selecting the **Clear** button) to create a new order based upon the selected order. Double-clicking on any order in the list will show a window providing detailed information about that order. Right-clicking will show a menu allowing you to perform various operations on the order. If a single uncompleted order is selected, the menu will show the *Order Manipulation Menu* (described on page 94). For a single completed order, the order information item from the *Order Manipulation Menu* will be shown. In addition, the following menu items may also appear (depending upon what is selected):

- **Cancel selected** will send a cancellation request for each of the selected orders (ignoring any orders which are already completed). This item is only present if multiple orders are selected.
- **Copy to clipboard** will copy the contents of all selected rows to the clipboard. This can be useful to paste the order data into a spreadsheet application or similar.

- `Order information...` will show an order information window for each of the selected orders. This item is only present if multiple orders are selected.
- `Export order data` is a submenu. The Data Export function allows you to export data about the selected order(s) to files in a format you define. See "Data export" on page 114 for more information. Your configurations will appear within the submenu. The *Data Export settings* can be reached via the `Configure...` item within the submenu.

#### 4.16.1 Title Bar Elements

- *Range Picker* (described on page 28).
- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

#### 4.16.2 Filter Elements

- `Order ID` (described on page 30).
- `Accounts` (described on page 31).
- `Users` (described on page 31).
- `Instruments` (described on page 31).
- `Exchanges` (described on page 31).
- `States` (described on page 31).
- `Types` (described on page 32).

#### 4.16.3 Order Manipulation Buttons



Figure 4.34: The Order Manipulation Buttons

Below the order list, several buttons are available for quickly modifying orders:

- `Select All` – All orders in the list will be selected.
- `Deselect All` – All previously selected orders will be deselected.

- **Cancel** – The selected order(s) will be cancelled.
- **Activate** – Inactive orders within the selection will be (re)activated.
- **Deactivate** – Active orders within the selection will be deactivated. As soon as you deactivate an order, it is removed from the *Exchange*. Note that since the *Exchange* sees reactivated orders as new orders, your price/time priority may be affected by deactivation.
- **Beat** – The limit of the selected order(s) will be changed to become the best bid (for buy orders) or ask (for sell orders) on the relevant *Exchange*. For example, if your limit on a buy order is 11.25 and the current best bid on the *Exchange* is 11.26, clicking on **Beat** with that order selected will change its limit to 11.27 (assuming the minimum price step is 0.01).
- **Join** – The limit of the selected order(s) will be changed to be the same as the current best bid (for buy orders) or ask (for sell orders) on the relevant *Exchange*. For example, if your limit on a buy order is 11.25 and the current best bid on the *Exchange* is 11.26, clicking on **Join** with that order selected will change its limit to 11.26.
- **Match** – The limit of the selected order(s) will be changed to match the best ask (for buy orders) or bid (for sell orders) on the relevant *Exchange*. For example, if your limit on a buy order is 11.25 and the current best ask on the *Exchange* is 11.30, clicking on **Match** with that order selected will change its limit to 11.30. This behaviour is similar to, but safer than, a market order.

## 4.17 Trades View

The *Trades View* will display all your trades within a given time range. A filter can be specified.

### 4.17.1 Title Bar Elements

- *Range Picker* (described on page 28).
- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

### 4.17.2 Filter Elements

- Order ID (described on page 30).
- Accounts (described on page 31).
- Users (described on page 31).
- Instruments (described on page 31).
- Exchanges (described on page 31).
- Types (described on page 32).

## 4.18 Trade Stats View

The *Trade Stats View* displays your trades in an *Instrument* as one position. Statistics such as buy and sell average prices, your current net size and value, and profit/loss are available. A complete description of the values seen in the various columns can be found on the facing page.

The MX<sup>pro</sup> Client uses a reference price for the *Instrument* as a basis for calculating the net value and P&L. This is normally the last traded price on the *Instrument's* home *Exchange*. The automatically-selected *Exchange* can be changed by clicking in the appropriate row of the Ref Exch. column.

### 4.18.1 Title Bar Elements

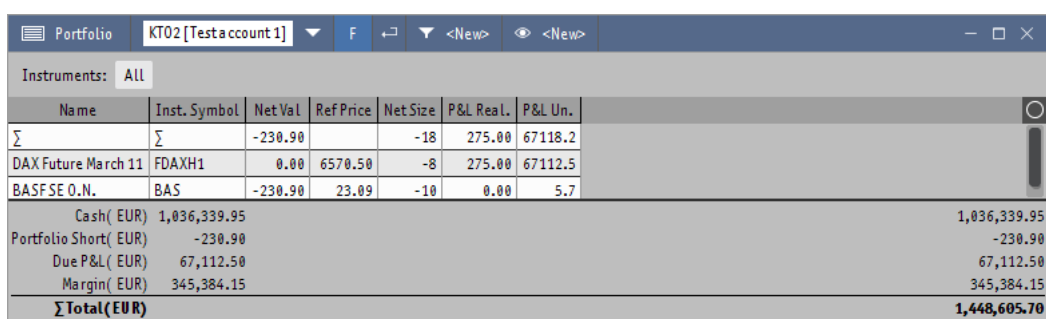
- *Range Picker* (described on page 28).
- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

### 4.18.2 Filter Elements

- Accounts (described on page 31).
- Instruments (described on page 31).
- Exchanges (described on page 31).

- Show closed positions – If ticked, MX<sup>pro</sup> will show all positions, including those with a net size of zero. If un-ticked, closed positions (with a net size of zero) will not be shown.
- Split positions – You can define if positions in a single *Instrument* should be split. Positions can be split by currency, *Exchange* or country of the *Exchange*.

## 4.19 Portfolio View



Name	Inst. Symbol	Net Val	Ref Price	Net Size	P&L Real.	P&L Un.
Σ	Σ	-230.90		-18	275.00	67118.2
DAX Future March 11	FDAXH1	0.00	6570.50	-8	275.00	67112.5
BASFSE O.N.	BAS	-230.90	23.09	-10	0.00	5.7
Cash( EUR)		1,036,339.95				1,036,339.95
Portfolio Short( EUR)		-230.90				-230.90
Due P&L( EUR)		67,112.50				67,112.50
Margin( EUR)		345,384.15				345,384.15
Σ Total(EUR)						1,448,605.70

Figure 4.35: The Portfolio View

The *Portfolio View* shows the current portfolio of a given account. One row is shown for each *Instrument* in the account's portfolio. In addition, a "sum" row is shown, showing summed values for the account's entire portfolio. Each *Instrument* is valued at its reference price. The current cash for each currency is also shown. Other than the cash values, all values are shown in the system currency. Where reference prices for one or more *Instruments* are not available, a tilde (~) is shown with the totals to indicate that the value is approximate. The columns available in the *Portfolio View* are described below. Within the descriptions below, the term "zero crossing" will be used frequently. This is the last time that the account's position crossed zero – i.e. changed from being long to short, or from short to long (or changed from being zero to being long or short). To give an example, if an account starts out with no position in some *Instrument* and then buys 10 units of that *Instrument*, the most recent zero-crossing will be before the buy. If the account then buys an additional 15 units, the most recent zero-crossing will still be before the first buy. If the account then sells 30 units (thereby having a position of -5), the most recent zero-crossing will be after the first 25 units were sold and before the last 5 units were sold (this will still be the case even if the 30 units were sold as a single fill).

- Symbol

The symbol or symbols of the position's associated *InstrumentExchanges*. Note that if different *InstrumentExchanges* have different symbols, this will be a comma-separated list of all of the associated symbols.

- Net Size

The net amount of the *Instrument* in the account's portfolio. This is the sum of the sizes of all buys minus the sum of the sizes of all sells. Clicking in this column will fill out the *Order Line* with a market order at the *Instrument's* reference *Exchange* for the whole size of the position, allowing positions to be closed quickly.

- Net Avg Cost

The netted cost of each unit of the *Instrument* in the position, viewed since the last zero-crossing before the current trading day. This is the sum of the size of each buy multiplied by the price of that buy, minus the size of each sell multiplied by the price of that sell.

- Net Val

The net value of the position. This is the effect on the account's cash position if the position were closed at its current reference price. For equity positions, this is simply the Net Size multiplied by the Ref Price.

- Un. Avg Cost

The unrealised average cost of each unit of the *Instrument* in the position, viewed since the last zero-crossing. This is the cost of obtaining each remaining unit of the *Instrument*, taking into account profit or loss already made. It may be easiest to think of it as the price at which the remainder of the position could be sold without affecting the profit or loss already realised.

- Ref Price

The reference price for the *Instrument*. This is usually the most recent price at which a trade was made on the *Instrument's* reference *Exchange*.

- P&L

The profit or loss made on the position if the remainder of the position were closed at the *Instrument's* current reference price. This is equal to P&L Real. and P&L Un. added together.

- Name

The *Instrument's* name.

- Currency

The system currency.

- Ref Exch.

The *Exchange* being used to provide the reference price. The system will automatically select an *Exchange* based on the *Instrument's* properties. If you would prefer the reference price to be based on an alternative *Exchange*, you can click on the appropriate row within this column. A dialog will then appear asking you to select an alternative *Exchange*.



- Margin

Any margin that has been paid on the position.

- ISIN

The *Instrument's* ISIN.

- Fair Price

For option *Instruments*, the fair price of the option. See the description of the *Option Sheet View* on page 46 for more details.

- Close

Clicking in this column will fill out the *Order Line* with a market order at the *Instrument's* reference *Exchange* for the whole size of the position, allowing positions to be closed quickly.

- P&L Real.

This is the realised portion of the profit or loss made on the position. This is the sum of the size of all trades which reduced the position multiplied by the unrealised average cost of the position at the time of each of those trades.

- P&L Un.

The unrealised portion of the profit or loss made on the position. This is the profit or loss that would be made on the remainder of the position if it were closed at the current reference price (additionally to the realised P&L shown in P&L Real.).

- Day P&L Open

This is the reference price the *Instrument* had at the start of the day, used to calculate the Day P&L. It is usually the closing price of the *Instrument* at the reference *Exchange* on the previous day.

- Day P&L

This is the profit or loss made on the position during the current trading day, ignoring any profit or loss made on prior trading days. It can be thought of as the profit or loss that would have been made if the position as it was at the start of the day had been opened at the start of the trading day, at the price shown in Day P&L Open.

- Day Real. P&L

This is the portion of the profit or loss realised during the current trading day. This column differs from Day P&L in that it does not act as if any position present at the start of the day was opened at the price shown in Day P&L Open. See the example on page 67 for more information.

- CapitalReq%

The capital required to hold this position overnight (as specified by your clearer or risk manager), expressed as a percentage of the position's net value (as shown under *Net Val*). Depending on your clearer and/or system configuration, this value may not be available.

- **CapitalReq**

The capital required to hold this position overnight (as specified by your clearer or risk manager), in the system currency. Depending on your clearer and/or system configuration, this value may not be available.

- **Loan Size**

The size of any loan in the instrument which the account currently has. Depending on your clearer and/or system configuration, this value may not be available. For more details regarding loans, refer to the description of the *Equity Borrowing View* on page 75.

#### **4.19.1 Example**

To further explain the various different values, the following example may be useful.

The position begins at zero. The example is based on trading an equity instrument.

Action	Net Size	Net Avg Cost	Net Val	Un. Avg Cost	Ref Price	P&L	P&L Real.	P&L Un.	Day P&L Open	Day P&L	Day Real. P&L
Buy 10 @ €9.50	10	9.500	99.120	9.500	9.912	4.120	0.000	4.120	9.844	4.120	0.000
Net size is 10. Net average cost is the cost of those 10, €9.50. Net Val is Net Size multiplied by Ref Price, or $10 \times 9.912 = 99.12$ . Un. Avg Cost is equal to Net Avg Cost, because no profit or loss has been realised yet. If all 10 units were sold at the reference price of 9.912, there would be a profit of $(9.912 - 9.50) \times 10 = 4.12$ and P&L shows this value. No profit has yet been realised, so P&L Real. is zero. The unrealised profit is also therefore equal to P&L. Day P&L Open is not relevant, because the position was opened on the current day. Day P&L is therefore also equal to P&L.											
Sell 5 @ €9.75	5	9.250	49.150	9.500	9.830	2.900	1.250	1.650	9.844	2.900	1.250
Net size decreases to 5. Net average cost drops due to the profit from the sale. It's now $((9.50 \times 10) + (9.75 \times (-5))) / 5 = (95 - 48.75) / 5 = 46.25 / 5 = 9.25$ . Net Val is still the Net Size multiplied by Ref Price. The sale <i>has not</i> affected the unrealised average cost. Selling 5 units may have made a realised profit, but the cost of buying the remaining 5 units is still the same as it was before, 9.50. The P&L now takes into account the sale for 5 units and the Ref Price for the other 5: $((9.75 - 9.50) \times 5) + (((9.83 - 9.50) \times 5) = ((0.25 \times 5) + (0.33 \times 5)) = 1.25 + 1.65 = 2.90$ . As can be seen, 1.25 is the realised profit and 1.65 is the unrealised profit – and this is shown by P&L Real. and P&L Un.. Again, since all trades have taken place on the same day, the Day columns reflect the normal P&L columns.											
Buy 10 @ €9.70	15	9.550	147.600	9.633	9.840	4.350	1.250	3.100	9.844	4.350	1.250
Net average cost is now $((9.50 \times 10) + (9.75 \times (-5))) / 5 = (95 - 48.75) / 5 = 9.25$ . The unrealised average cost <i>has</i> been affected by the buy. There are now 5 units which cost 9.50 and 10 units which cost 9.70. The unrealised average cost is therefore $((9.50 \times 5) + (9.70 \times 10)) / 15 = (47.5 + 97) / 15 = 144.5 / 15 = 9.633$ . Apart from changes due to the higher Net Size and the updated Ref Price, the remainder of the values are unchanged.											
Sell 5 @ €9.75	10	9.450	98.300	9.633	9.830	3.800	1.833	1.967	9.844	3.800	1.833
Net average cost is recalculated as before, adding the new figure. The unrealised average cost is again unaffected by the sell. P&L Real. increases to reflect the newly-realised profit, whilst P&L Un. decreases, reflecting the reduced Net Size. The day columns again match the normal columns.											
Buy 10 @ €9.70	20	9.575	197.540	9.667	9.877	6.040	1.833	4.206	9.844	6.040	1.833

Action	Net Size	Net Avg Cost	Net Val	Un. Avg Cost	Ref Price	P&L	P&L Real.	P&L Un.	Day P&L Open	Day P&L	Day Real. P&L
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Unrealised average cost can no longer be calculated as simply as it could after the second buy. Whereas at that time, it was clear that there were 5 units bought at 9.50 and 10 bought at 9.70, things can't now be expressed so simply – did the second sale sell the 5 units bought at 9.50 or 5 of the 10 bought at 9.70? Fortunately, without needing to decide about this, or follow exactly how the value is calculated, it can be seen that if the 20 remaining units were sold at 9.6667, the currently realised P&L would be unaffected. In that situation, the buys would be  $(10 \times 9.50) + (10 \times 9.70) + (10 \times 9.70) = 95 + 97 + 97 = 289$ . The sells would be  $(5 \times 9.75) + (5 \times 9.75) + (20 \times 9.6667) = 48.75 + 48.75 + 193.334 = 290.834$ . The profit would therefore be  $290.834 - 289 = 1.834$  – in other words, exactly what the realised P&L is at this point. If the remaining units can be sold at this price without affecting the P&L, they must be being sold at break-even. The average cost of the remaining units must therefore be  $9.6667$  – exactly as Un. Avg Cost says it is.

Hold overnight	20	9.575	196.720	9.667	9.836	5.220	1.833	3.387	9.881	-0.900	0.000
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After holding the position overnight, the Day columns come into their own. Since Day P&L Open (the reference price from the previous day) is 9.881 and the Ref Price now is 9.836, the position has made a loss within the day of  $(9.881 - 9.836) \times 20 = 0.045 \times 20 = 0.90$ , as shown under Day P&L. Since no trade has yet been made in the current day, Day Real. P&L remains at zero. The normal P&L, P&L Real. and P&L Un. columns are unaffected by the change of day and are calculated as before.

Sell 25 @ €9.90	-5	11.200	-48.925	9.900	9.785	7.075	6.500	0.575	9.881	0.955	4.667
-----------------	----	--------	---------	-------	-------	-------	-------	-------	-------	-------	-------

This trade shows a realised Day P&L. The total realised P&L is now 6.50. The portion of that which was realised on the previous day (see the row before "Hold overnight" above) was 1.833. The portion realised today is therefore  $6.50 - 1.833 = 4.667$ , as shown in Day Real. P&L. Day P&L meanwhile shows the P&L made by comparison to the previous day's reference price – in selling the previous position of 20, the profit was  $20 \times (9.90 - 9.881) = 20 \times 0.019 = 0.38$ . There is now a short position, sold at 9.90, whilst the reference price is 9.785. The (unrealised) profit on this position is therefore  $5 \times (9.90 - 9.785) = 5 \times 0.115 = 0.575$  (as shown in the P&L Un. column). The day's P&L is therefore  $0.38 + 0.575 = 0.955$ , as shown in the Day P&L column.

### 4.19.2 Title Bar Elements

- *Account Picker* (described on page 27).

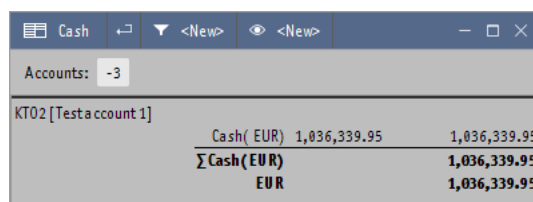
The *Portfolio View* displays portfolio information for a single account at a time. If you have access to multiple accounts, the *Account Picker* allows you to choose which of them is used.

- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

### 4.19.3 Filter Elements

- *Instruments* (described on page 31).

## 4.20 Cash View



The screenshot shows a window titled 'Cash' with a toolbar containing icons for a list, undo, redo, a dropdown menu with '<New>', an eye icon with '<New>', and window controls. Below the toolbar, there is a section labeled 'Accounts:' with a value of '-3'. The main content area displays a table for 'KT02 [Test account 1]'.

Cash( EUR)	1,036,339.95	1,036,339.95
<b>Σ Cash( EUR)</b>		<b>1,036,339.95</b>
<b>EUR</b>		<b>1,036,339.95</b>

Figure 4.36: The Cash View

The *Cash View* displays the current cash balance of your accounts. Your cash balance is updated in real-time. After settlement your cash will be adjusted to reflect margin bookings and fees if the MX<sup>pro</sup> Server is appropriately configured. Please ask your sino trader if you are unsure about your cash balance.

### 4.20.1 Title Bar Elements

- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).

### 4.20.2 Filter Elements

- *Accounts* (described on page 31).

## 4.21 Quote Request View

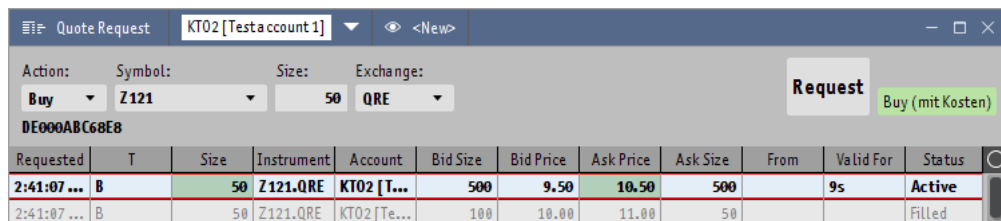


Figure 4.37: The Quote Request View

The *Quote Request View* enables you to send a quote request to a market maker and directly trade against a received quote.

Enter the action (Buy or Sell), *Instrument*, size and *Exchange* you wish to receive a quote for and click on Request. As soon as the market maker has answered your request, the quote will appear in the table below.

To trade against a received quote, select it in the table and click on the Buy/Sell button. Some *Exchanges* have limited time frames in which the quote may be traded; in this case the remaining time until the quote is withdrawn is displayed in the *Valid For* column.

### 4.21.1 Title Bar Elements

- *Style Picker* (described on page 28).

## 4.22 Account Messages View

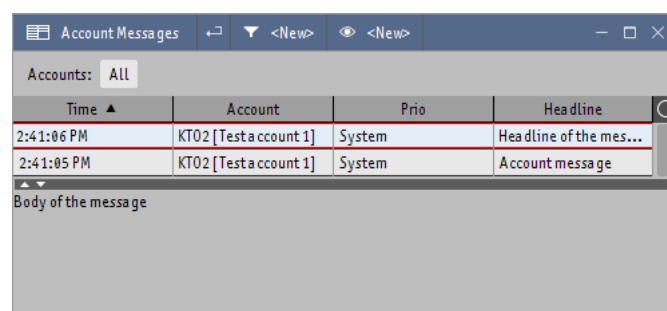


Figure 4.38: The Account Messages View

The *Account Messages View* displays system messages regarding your trading account. If a limit specified by your risk manager prevents an order creation or change, the *Account Messages View* will provide details.

#### 4.22.1 Title Bar Elements

- *Order Line Switch* (described on page 26).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

#### 4.22.2 Filter Elements

- *Accounts* (described on page 31).

### 4.23 FX Trading View

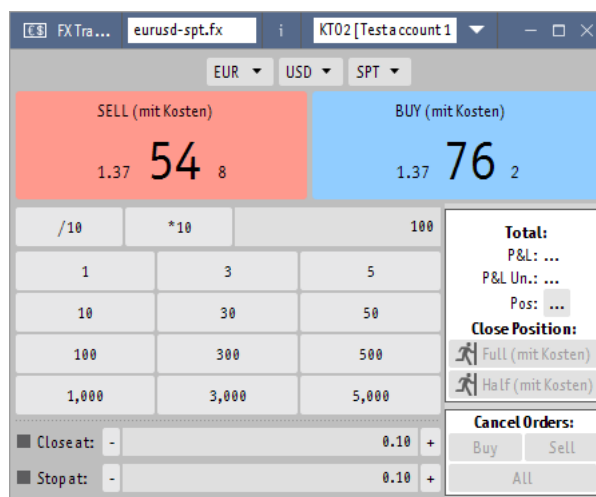


Figure 4.39: The FX Trading View

The *FX Trading View* allows for quick reaction in fast-moving markets, such as Foreign exchange markets. Select the currency pair to trade at the top of the window. You can also select the tenor to be traded. Available tenors are:

- SPT – The current spot price (generally for T+2 settlement).
- SNX – The forward price for settlement on the next trading day following the spot day.
- TDY – The price for settlement today (T+0). Note that T+0 settlement will often be affected by time constraints/deadlines within the trading day and will also often only be available for certain currency pairs, based on the limitations of time zones.
- TOM – The price for settlement tomorrow (T+1).

- 1WK, 2WK, 3WK — The price for settlement in 1, 2 or 3 weeks (T+9, T+16, T+23).
- 1MO, 2MO, etc. — The price for settlement in 1, 2, etc. months.
- 1YR — The price for settlement in 1 year.
- YYYY-MM-DD (e.g. 2019-05-21) — The price for settlement on the given date.

You can select the quantity to trade either by entering it in the *Size* text field, or by clicking the numbered buttons to the right of it. The \*10 and /10 buttons multiply and divide (respectively) the quantity shown in the text field by 10.

When an order entered through the *FX Trading View* is executed, the system can be configured to enter up to two further orders for you. The first, the "Close at" order, specifies that the position created by the order should be closed when a certain profit has been reached (this is done using an *IfDone Profit* order, described on page 90). The second, the "Stop at" order, specifies that the position created should be closed when a certain loss has been reached (done using an *IfDone Stop* order, described on page 90). You can specify whether to enter these orders by marking their respective checkboxes. You can choose the offset at which they'll trigger by clicking the + or - buttons, or by entering a value in the appropriate text field. Note that the closing or stopping orders will only be entered if the appropriate checkbox was checked at the time the original order was entered. Checking them later will not cause automatic orders to be entered upon execution of some previous order. *IfDone* orders will also only be created upon execution of an order which opens or extends a position. Execution of an order which reduces or closes a position will not result in the creation of an *IfDone* order.

To trade with the *FX Trading View*, click in the *Sell* or *Buy* areas. This will (possibly after a *Price Check* dialog) enter an order for the quantity shown, with the limit displayed on the button at that time.

The *Open Position* and *Profit & Loss* of the account selected in the *view's Account Picker* are always shown. To close the account's position by entering a market order for the full size of the current position, click the *Close position* button. The button's icon will first turn red. Click again to send the order (a *Price Check* dialog may nonetheless appear).

The *Cancel all* button will cancel all open orders for the currently selected currency.

Note that the orders entered via the *FX Trading View* may be executed as trigger orders. This involves the *MX<sup>pro</sup>* trade server monitoring an issuer's streaming prices for an *InstrumentExchange* and sending a quote request when the stream price is such that the quote is likely to be acceptable. In the case of FX orders, prices are often only streamed for the spot price. As such, any orders entered for other tenors should nonetheless use limits based upon the spot price. Trigger monitoring will compare the quoted spot price with the limit price and request execution based upon this; the execution will nonetheless be for the requested contract. As such, the all-in price will differ somewhat from the entered limit (by the amount of the forward component).



### 4.23.1 Title Bar Elements

- *InstrumentExchange Picker* (described on page 26). In the *FX Trading View*, you can enter the desired *InstrumentExchange* directly, or by selecting a currency pair directly below the title bar. Changing either will automatically update the other.
- *InstrumentExchange Info Switch* (described on page 29).
- *Account Picker* (described on page 27).

## 4.24 Quick Trading View

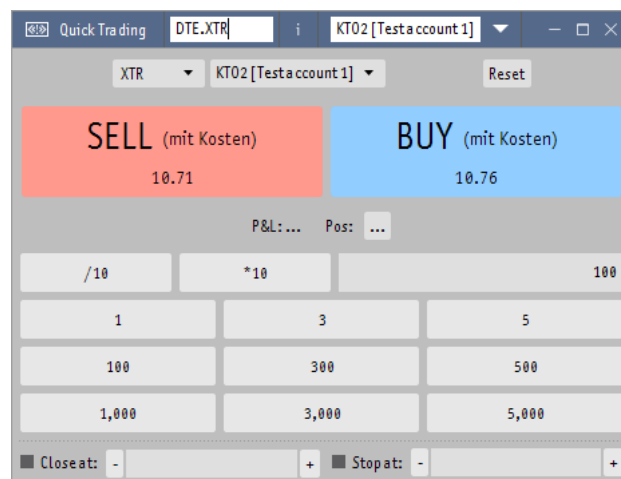


Figure 4.40: The FX Trading View

At its core the *Quick Trading View* is almost functionally equivalent to the *FX Trading View*. The main difference between the two views is that the *Quick Trading View* is meant to be used for all markets apart from the Foreign eXchange market. With this in mind the view is stripped of the combo boxes for tenor and currency selection. The *Quick Trading View* also lacks a dedicated control panel for closing the currently open position or cancelling active orders. The other notable difference is that order limits displayed on the *Sell* or *Buy* areas can be changed. To do so the user should first hover the mouse cursor over one of the areas. Once the *Sell* or *Buy* area is in focus of the mouse cursor it will be highlighted with a black outer-frame. The user can then use the scroll-wheel of his mouse to adjust the limit up (forward) or down (backward). This functionality can be turned off (on by default) from the general settings in the *Views* tab. For a description of the remaining *Quick Trading View* functions please refer to *FX Trading View* section on page 71.

## 4.25 FX Quote Request View

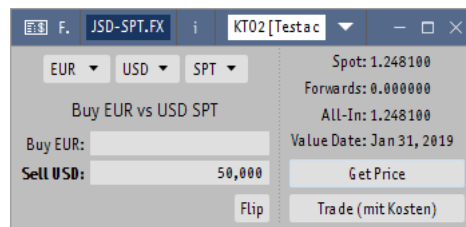


Figure 4.41: FX Quote Request

The *FX Quote Request View* allows you to trade in the Foreign eXchange markets by means of Quote Requests. Select the currency pair to trade at the top of the window. You can also select the tenor to be traded. See the list on page 71 for a description of the available tenors.

The size to be traded can be specified in either the left-hand or the right-hand currency. The left-hand currency is always shown above the right-hand currency. If, for example, you select EUR, USD and SPT, the top entry field will initially show *Buy EUR* and the bottom field *Sell USD*, with the bottom field labelled in bold. The “summary” field below the selectors will show *Buy EUR vs USD SPT*.

The entry field labelled in bold is the field currently actively specifying the size to trade. To sell 100 USD, you’d therefore enter 100 in the *Sell USD* field. Entering a value in one field will automatically activate that field and empty any value present in the other field. To return to the example above, if you were to enter 100 in the *Buy EUR* field, your previous entry in the *Sell USD* field would be emptied and the EUR field would be activated (and would be labelled in bold). To reverse the direction of the trade, you can click the *Flip* button. Continuing our example, this would change the fields to *Sell EUR* at the top and *Buy USD* at the bottom. Equally, the summary field would change to *Sell EUR vs USD SPT*. The activation of the size-entry fields doesn’t change – *Sell EUR* would still be active (labelled in bold). The entered size is also unchanged.

After entering the size to trade, you can click the *Get Price* button, which will request a quote for the proposed trade (and erase any previous values in the quote fields). Once a quote is received, the *Spot*, *Forwards*, *All-In* and *Value Date* fields will be filled with data. Should you wish to trade at the quoted price, clicking the *Trade* button will request execution of the quote (possibly following confirmation of a *Price Check* dialog). Quotes are usually provided with a timeout within which the quote should be accepted. If the timeout expires or if the quote is executed, the *Trade* button will again be disabled.

### 4.25.1 Title Bar Elements

- *InstrumentExchange Info Switch* (described on page 29).
- *Account Picker* (described on page 27).

## 4.26 Equity Borrowing View

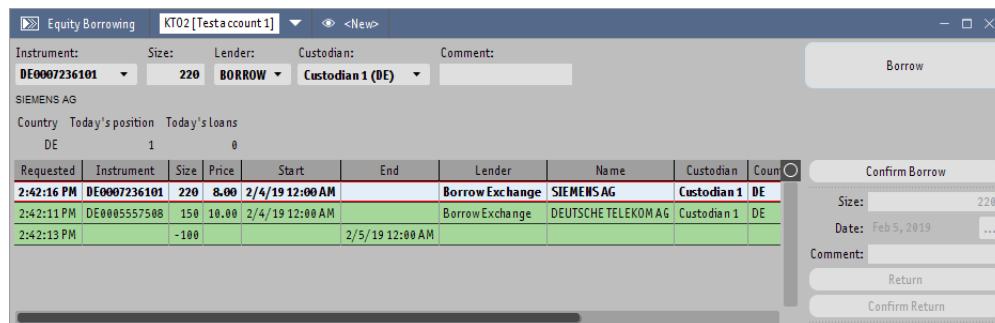


Figure 4.42: The *Equity Borrowing View*

The *Equity Borrowing View* allows you to electronically borrow equities. On certain *Exchanges* and in some jurisdictions, this is a legal or regulatory requirement before entering a short position. Note that this functionality may not be present (or supported) depending on the configuration of your installation. For more information, contact your sino trader.

The *Equity Borrowing View* is split into four areas. Across the top of the window is the loan request area. Below this appears status information indicating your current position and any loans agreed during the current day. Further below on the left-hand side is a table. This will show all current loans as well as any outstanding offers. You can see details of a loan request by holding the mouse over the Status column in the appropriate row of the table. To the right of the table is the loan/offer manipulation area, used for confirming loan offers and requesting and confirming loan returns.

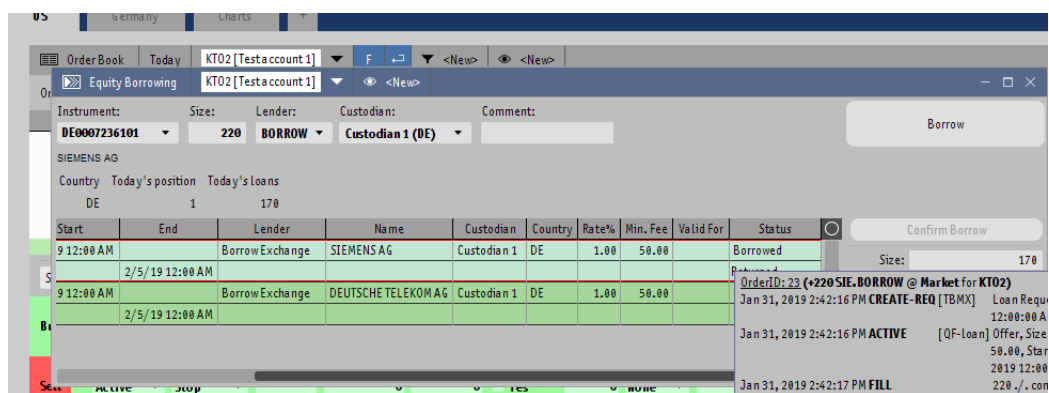


Figure 4.43: The loan status tooltip, shown in the *Equity Borrowing View*

#### 4.26.1 Requesting and agreeing to a loan

Loan requests are entered at the top of the window. The `Size` and `Comment` fields have the same meanings and function as in the normal *Order Line* (more details can be found on page 85). The `Instrument` selector differs from the `Symbol` field found in a normal *Order Line*. Since a normal order will be sent to a specific *Exchange*, entering a symbol uniquely identifies an *InstrumentExchange* and thereby an *Instrument*. Since loan requests aren't sent to any *Exchange*, this unique identification is not possible. You can enter an *ISIN* in the `Instrument` selector, or you can enter a symbol. If entering a symbol, a list of possible *ISIN(s)* will be shown to select from. Select a `Lender` and a `Custodian` from those in the list and click `Borrow` to request the loan.

Once you've requested a loan, the lender will reply with an offer of conditions. This offer will be shown in the table. If any details of the offer differ from the details of your request, these details will be highlighted. Offers are normally valid for a limited period of time (shown in the column `Valid For`). If you wish to accept the offered loan, select it from the table and click `Confirm Borrow`. (If you'd prefer not to accept the offered loan, no action is required.)

#### 4.26.2 Returning a loan

To return a loan, select the loan from the list of loans in the table. Enter the amount you'd like to return under `Size`, the `Date` you'd like to return the loan, an optional `Comment` and click `Return`. The lender will make an offer of conditions for the return of the loan. If this offer is acceptable, select the loan and click `Confirm Return`.

#### 4.26.3 Title Bar Elements

- *Account Picker* (described on page 27).
- *Style Picker* (described on page 28).

### 4.27 Exchanges View

The *Exchanges View* provides an overview of the availability of *Exchanges* as well as details about each *Exchange's* capabilities. The *view* is split into two areas:

- The tree on the left shows which *Exchanges* you have access to as well as showing for which *Exchanges* a trading gateway is currently available. *Exchanges* shown in green have a trading gateway available. *Exchanges* in red do not currently have a trading gateway available (if the *Exchange* is closed, this is normal). Exchange groups are shown in green if all *Exchanges* in the group are available, red if none of the group's

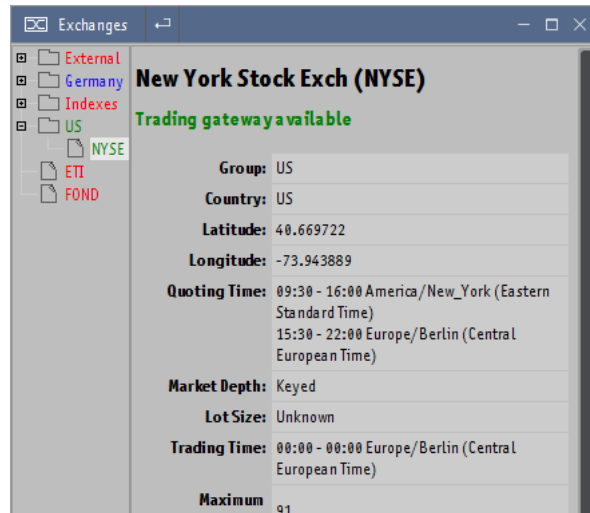


Figure 4.44: The Exchanges View

*Exchanges* are available and blue if the group contains both available and unavailable *Exchanges*. You can select an *Exchange* by clicking on its symbol in the tree.

- The pane on the right shows details about the *Exchange* selected in the tree. The details include the *Exchange's* name, country, location, quoting times, trading times and information about the *Exchange's* ordering and quoting capabilities.

#### 4.27.1 Title Bar Elements

- *Order Line Switch* (described on page 26).

### 4.28 News View

The *News View* displays news from a variety of sources. Depending on the configuration of your system, your own rights and the *Exchanges* you have access to, this may include dedicated news providers (e.g. Dow Jones, DPA, etc.), news items provided by *Exchanges* (e.g. volatility interruptions, suspensions, restarts, etc.) and internal messages about the availability of *Exchanges*. The news items to be displayed can be filtered in a variety of ways. The upper area of the window shows the time, source and headline of the news items. Clicking on a news item will show the body of that news item in the lower area of the window. The size of the two areas can be changed by clicking and dragging the bar between the two areas.

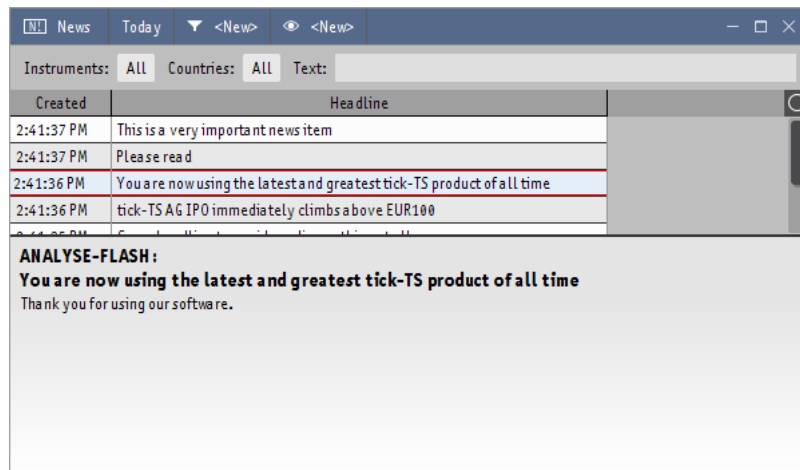


Figure 4.45: The News View

#### 4.28.1 Title Bar Elements

- *Range Picker* (described on page 28).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

#### 4.28.2 Filter Elements

- **Instruments** (described on page 31).
- **Countries** – Items of news may be associated with a particular country. For news from *Exchanges*, this is the country the *Exchange* is in. For news sent by news providers, the country is sent by the provider and is usually the country which the news relates to. Note that in addition to selecting countries from the tree, it's also possible to enter their official two-letter country code (as defined<sup>1</sup> by ISO 3166-1).
- **Text** – Entering text in this filter element and pressing **Enter** will cause only news items containing that text to be displayed.

Right-clicking on the body area provides a context menu with the following options:

- **Copy to clipboard** – Copies the news item to the clipboard.
- **Print News** – Prints the news item

<sup>1</sup>[http://www.iso.org/iso/country\\_codes/iso\\_3166\\_code\\_lists/english\\_country\\_names\\_and\\_code\\_elements.htm](http://www.iso.org/iso/country_codes/iso_3166_code_lists/english_country_names_and_code_elements.htm)

- **Auto-Width Font** – Causes the *News View* to automatically detect whether the body of a news item would be better displayed using a fixed-width font (e.g. because the item contains a table of numbers) or a proportional font (because the item contains only normal free-flowing text).
- **Fixed-Width Font** – Forces items to be displayed using a fixed-width font.
- **Proportional-Width Font** – Forces items to be displayed using a proportional font.
- **Line wrap** – Whether or not to wrap long lines. Wrapping lines makes reading long passages of text easier, but may disrupt the layout of very wide tables or similar.
- **Edit header style** – Provides access to the style menu for the headline table in the upper part of the window.

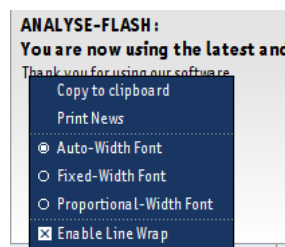


Figure 4.46: The context menu of the *News View*'s body area

## 4.29 Position Adjustment View

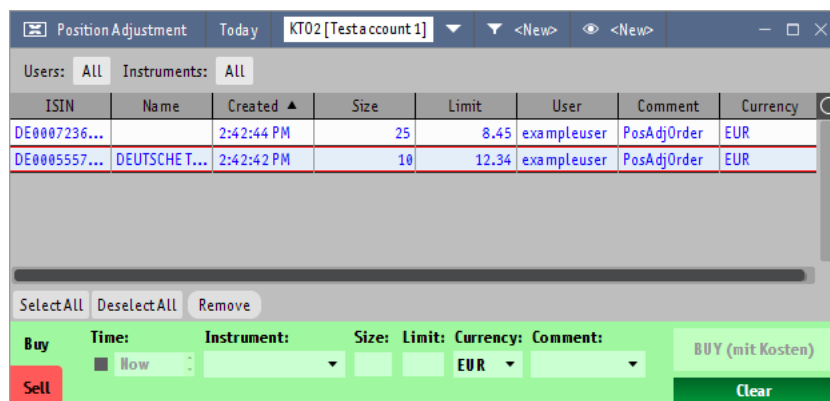


Figure 4.47: The *Position Adjustment View*

Note that this functionality may not be present (or supported) depending on the configuration of your installation. The *Position Adjustment View* allows you to make adjustments to

your own positions. These adjustments will be reflected in the *Portfolio View*, in the *Trade Stats View* and in the *Order Book View* as if they had been traded via MX<sup>PRO</sup>. They will not however have any effect on any risk limits specified by your clearer or risk manager. Position adjustments can be used for a number of purposes. You may have made a telephone trade or a trade via another clearer and wish to have the system reflect that trade. You may have taken a position in an *Instrument* and would like the system to ignore that position (not showing it in the *Portfolio View*, for example) because you intend to hold it in the longer term and don't want to see it together with your short-term positions.

Position adjustments are entered using a limited version of the *Order Line*. The *Size*, *Limit*, *Currency* and *Comment* fields have the same meanings as in the normal *Order Line* (more details can be found on page 85). If you leave the checkbox under *Time*, unchecked, the adjustment will be entered using the current date and time. By checking the checkbox, you can choose an alternative date and time for the entry of the adjustment. The *Instrument* selector differs from the *Symbol* field found in a normal *Order Line*. Since a normal order will be sent to a specific *Exchange*, entering a symbol and selecting an exchange will uniquely identify an *InstrumentExchange*. Since position adjustments aren't sent to any *Exchange*, this unique identification is not possible. You can enter an *ISIN* in the *Instrument* selector, or you can enter a symbol. If entering a symbol, a list of possible *ISIN(s)* will be shown to select from.

#### 4.29.1 Title Bar Elements

- *Range Picker* (described on page 28).
- *Account Picker* (described on page 27).
- *Filter Picker* (described on page 27).
- *Style Picker* (described on page 28).

#### 4.29.2 Filter Elements

- *Users* (described on page 31).
- *Instruments* (described on page 31).

### 4.30 Events View

The *Events View* displays events from the current session. More details regarding *Events* can be found on page 122. The *Events* shown can be filtered by time using the *Range Picker*. In addition, a filter can be entered in the field above the table. This filter uses the Lucene



Time ▲	Type	Cause	Text
2:41:...	Trade	Buy	SIE.XTR 1@14.99
2:41:...	Order	Order became ina c...	SIE.XTR
2:41:...	Trade	Sell	DTE.XTR -1@14.99
2:41:...	News	Vola	VOLA: SIE.XTR
2:41:5...	News	Vola	VOLA: DTE.XTR
2:41:...	Exch...	Exchange became ...	XTR
2:41:...	News	Non-Vola	This is a very important news item
2:41:...	News	Non-Vola	Please read
2:41:...	News	Non-Vola	You are now using the latest and greatest tick-TS pro...
2:41:...	News	Non-Vola	tick-TS AG IPO immediately climbs above EUR100
2:41:...	News	Non-Vola	Some headline to avoid sending nothing at all
2:41:...	News	Non-Vola	You are now using the latest and greatest tick-TS pro...
2:41:...	News	Non-Vola	Scientists report Elephants still grey
2:41:...	Exch...	Exchange became i...	FX
2:41:...	Exch...	Exchange became ...	FX
2:41:...	Exch...	Exchange became i...	QRE

VOLA: DTE.XTR Congratulations for using the latest and greatest tick-TS product :)

Figure 4.48: The Events View

query language, described on page 133. The following fields (all of which are searched by default) are available:

- **type** – The type of the *Event*. The valid values appear in the Type column. Valid values are currently Exchange, News, Order, Quote and Trade.
- **cause** – The name of the *Event* setting that caused this *Event*. This field will match any *Event* setting whose name contains the entered value, ignoring case and punctuation. `cause:vola` will match an *Event* setting named "Non-Vola", for example.
- **cause\_exact** – The name of the *Event* setting that caused this *Event*. In contrast to `cause`, this is case-sensitive, does not ignore punctuation and will only match the exact name of the setting. `cause_exact:Non-Vola` will match an *Event* setting named "Non-Vola", but `cause_exact:vola`, `cause_exact:non-vola` or `cause_exact:`Non Vola'`` will not.
- **text** – The short text of the *Event*.
- **message** – The long text of the *Event*.

#### 4.30.1 Title Bar Elements

- *Range Picker* (described on page 28).

- *Order Line Switch* (described on page 26).
- *Style Picker* (described on page 28).

## 4.31 Simple Trade View

Generally speaking the *Simple Trade View* combines quick trading capabilities with order management and a couple of sources for real-time data. As such the view is an amalgamation of GUI elements found in several other views. In order keep the footprint of the view at a minimum some of the GUI elements (e.g. tables, panels) have been simplified and only include information that is crucial to the trading process. Furthermore the layout of the view can not be changed (no custom styling, no additional columns in tables) and the view can not be expanded to the full size of the containing worksheet.

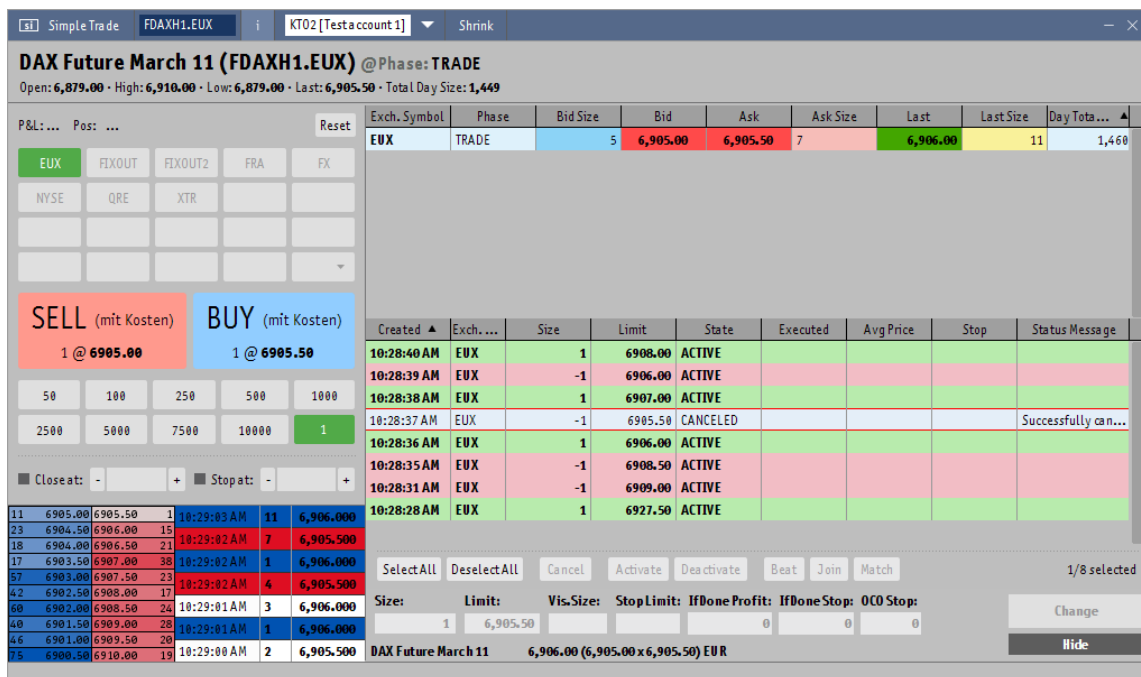


Figure 4.49: The Simple Trade View

### 4.31.1 Title Bar Elements

- *InstrumentExchange Picker* – (described on page 29). In this view the *InstrumentExchange* is entered directly from the title bar. Most panels/sections of the view will display information relevant only to the selected *InstrumentExchange*.
- *InstrumentExchange Info Switch* – (described on page 29).

- *Account Picker* (described on page 27).
- Shrink button – When clicked it effectively reduces the *Simple Trade View* footprint by hiding some areas of the view.

#### 4.31.2 Usage and Layout

The *Simple Trade View* consists of five main areas. These are:

- Quick Trading area – Located in the top left part of the view. Offers order entry functionality mostly equivalent to that of the *Quick Trading View* (described on page 73). The main difference is the addition of quick-select exchange buttons as well as an extended set of quick-select size buttons.
- Mini Market Depth area – Located in the bottom left part of the view. Shows the top ten ranks of market depth data for the *InstrumentExchange*. As with the *Level 2 View* (described on page 49), bids are shown on the left and asks on the right. The prices of the ranks are shown in the centre, sizes toward the outside. The background colours of the cells are adjusted according to the sizes of those cells – the larger a rank is, the brighter its background colour will be. This aids in quickly getting an overview of the market. It should be noted that click trading in this area is disabled in the context of the *Simple Trade View*.
- Mini Time & Sales area – Located to the right of the market depth area. Shows the trades occurring in the selected *InstrumentExchange*. The area provides a subset of the functionality provided by the *Time & Sales View* (described on page 48).
- All Exchanges area – Located to the right of the Quick Trading area. Provides most of the functionality offered by the *All Exchanges View* (described on page 44). Intended as an information tool to enable quick reactions in Arbitrage-Trading.
- Order Management area – Occupies most of the bottom right part of the view. Offers a small subset of functionality provided by the *Order Book View* (described on page 59) and the *Order Line* (described on page 85). All order entry functionality has been stripped from this area. Only order modifications and cancellations are enabled.

To operate the view a user needs to first enter an *InstrumentExchange* in the relevant picker. Depending on available data the view will then be populated with information relevant to the selected *InstrumentExchange*. Once the view is populated with data entering an order can be as simple as clicking on Buy/Sell in the Quick Trading area. This will create an order with default size and limit values for the selected *InstrumentExchange*. Default order size is 1 and the default limit follows the real time bid/ask prices received from a data feed relevant to the selected *InstrumentExchange*. Just like in the *Quick Trading View* current order parameters are displayed in the Buy/Sell in text with the standard format

"size @ limit" (e.g. 1 @ 15.00 indicates a size of 1 and a limit of 15.00). To change order parameters before entering an order the user can utilise quick-select buttons for changing the *Exchange* and the order size. To change the limit the user has to hover the mouse cursor over a Buy/Sell area and use the mouse scroll to adjust the limit up or down. It should be noted that once the mouse cursor leaves a Buy/Sell area the order limit will revert to the default value (which is the last Bid/Ask tick received for the *InstrumentExchange*). Created orders will be shown in the Order Management area. This is also where modifying order parameters after the order has been created is done. Changing order parameters, cancelling orders and generally manipulating orders is possible through the *Order Line* (described on the next page), the *Order Manipulation Menu* (described on page 94) and the manipulation buttons (described on page 60) under the order book table.

## Chapter 5

# Orders

### 5.1 Order Line

The *Order Line* is used for creating and changing orders and may be displayed in any *view* with an *Order Line Switch*, as well as in any *desktop*. It is the most powerful method of order entry, allowing control over all available order options.

The *Order Line* and click trading are treated as independent order entry forms. Click trading is described in depth on page 98.

The *Order Line* is green if a buy order is being entered. Red indicates a sell order. When changing an existing order, the *Order Line* is always grey.

To create or change an order after specifying your desired options, click on the Buy/Sell/Change button to the right of the *Order Line*. Depending on your *Price Check* settings, you may be asked for confirmation before the order is created or changed. See "Price Check" on page 102 for more information.

### 5.2 Order Elements

The arrangement of the *Order Line* elements can be configured; in this section we will describe them in the order of the default configuration. Please refer to "Order Line" on page 100 to learn about configuration of the *Order Line*.

- Buy/Sell — When creating new orders, you can click on the Buy and Sell tabs to choose whether a buy or sell order will be created. When changing an existing order, the active tab indicates whether you are modifying a buy or a sell order, and cannot be changed.

- **Symbol** – The ISIN, *MSPID* or symbol of the *Instrument* you want to create an order for. You can append a dot followed by an *Exchange* symbol (e.g. DTE.XTR) to immediately specify the desired *Exchange*.

- **Size** – The size of your order. If you specify a size with a sign, the *Order Line* switches to a buy order (for "+") or a sell order (for "-") when you exit the size field.

Pressing the up or down arrow keys on your keyboard will increase or decrease this value by the size step for the *InstrumentExchange* specified, as configured the *Size Group settings* (see "Size Groups" on page 97). If no *Size Group* is configured for the *InstrumentExchange*, the value will increase or decrease by the lot size of the *Exchange*. If no *InstrumentExchange* is specified, the value will increase or decrease by 1.

- **Limit** – The limit price of your order. To send a market order, leave this field empty or enter "0".

Pressing the up or down arrow keys on your keyboard will increase or decrease this value by the price step for the *InstrumentExchange* specified, as configured in the *Size Group settings* (see "Size Groups" on page 97). If no *Size Group* is configured for the *InstrumentExchange*, the value will increase or decrease by the minimum price step of the *InstrumentExchange*. If no *InstrumentExchange* is specified, the value will increase or decrease by 0.01.

- **Exchange** – The *Exchange* to which the order will be sent. Once you have filled in the **Symbol** field, you will be able to select from all *Exchanges* that have an *InstrumentExchange* with the symbol or ISIN you specified.

- **Route** – The *Exchange* subsystem or subdestination (e.g. Midpoint book for Xetra or ECN for NASDAQ) to which the order will be sent. Only routes available for the selected *Exchange* will be shown.

- **Account** – The account for which the order is designated. You can only select accounts to which you have access.

- **Activation** – Inactive orders will only appear in your book – but will not be sent to any *Exchange*. You can activate the order later from the *Order Book View*.

- **Stop/Discr.** – The order type, as described in detail on page 88.

- **Stop Limit/Discr.Limit/Trail Offset/DynaLimit** – A price parameter for the order type specified in the **Stop/Discr.** field. The label of this field changes depending on the order type selected (see "Order Types" on page 88).

- **IfDone Profit/IfDone Stop** – Price offset parameters for entering IfDone profit or stop orders. See "IfDone Orders" on page 90 for more information.

- **IfDone MOC** – Indicates whether an IfDone Market-On-Close order should be generated. See "IfDone Orders" on page 90 for more information.

- **OCO Stop** – A price offset parameter for entering OCO stop orders. See “One-Cancels-the-Other Orders” on page 89 for more information.
- **IOC/FOK** – The execution type, as described on page 92. Execution types not supported for the selected *Exchange* will be shown in red.
- **Vis. Size (Visible Size)** – The visible size of the order. The size of your order shown by the *Exchange* to other participants will be, at most, the visible size specified. Please be aware that this may result in many partial fills and can be disadvantageous for your price/time position. The availability of this feature depends on the particular *Exchange*. Orders with visible sizes are also known as “iceberg orders”. In this context, the visible size is often referred to as the “peak”.
- **Valid Phase** – The phase in which the order should be valid (e.g. only in the closing auction). This feature's availability and the phases which are available depend on the particular *Exchange*.
- **Valid Until** – The date on which, after the day's trading, your order will expire if it has not already been cancelled or completely filled. Please be aware that the maximum time for which an order can be valid varies by *Exchange*. By default the MX<sup>pro</sup> Client will set this field to the current date.
- **Comment** – This free-form text field allows you to specify a comment to be associated with the order.
- **Strategy** – For use in strategy trading (also known as algorithmic trading). Where supported by the *Exchange* or introducing broker, the strategy to use for the order. The available strategies depend on the *Exchange* or introducing broker – you should consult their documentation for more information about the availability and mode of operation of the various strategies. Depending on the selected strategy, a number of parameters may be available to fine-tune its operation. These can be entered in the fields listed below, the precise meaning of each of which depends upon the strategy in question.
  - **StrExStyle** – The execution style of the strategy – a setting for how aggressively the strategy should be executed.
  - **StrStart** – The time at which the strategy should begin.
  - **StrEnd** – The time at which the strategy should end.
  - **StrMinVol** – A minimum volume associated with the strategy.
  - **StrMaxVol** – A maximum volume associated with the strategy.
  - **StrTrigger** – A trigger for the strategy.

## 5.3 Order Types

In MX<sup>pro</sup> you can choose from an extensive collection of types which perform automated order handling:

### 5.3.1 Stop Market Order (Stop)

An order which is not to be executed until the market price reaches a defined price, known as the stop price. When this occurs, it becomes a market order. Not all *Exchanges* support this order type.

Enter 0 (zero) in the `Limit` field and your stop price in the `Stop Limit` field.

### 5.3.2 Stop Limit Order (Stop)

An order which is not to be executed until the market price reaches a defined price, known as the stop price. When this occurs, it becomes a limit order. Not all *Exchanges* support this order type.

Enter your limit price in the `Limit` field and your stop price in the `Stop Limit` field.

### 5.3.3 Discretionary Order (Discr.)

A discretionary order hides your intention to sell or buy at a certain price. Enter the limit you want to be visible to the market in the `Limit` field. Enter your discretionary price – the limit at which you are actually willing to trade – into the `Discr.Limit` field.

*Example (sell order)*

Current market is 10.20 to 10.50. You enter a sell order with a limit of 10.60 and a discretionary limit of 10.30. Your order is immediately sent to the *Exchange* with a limit of 10.60. A buy order enters the market with a limit of 10.40, and the server lowers your sell price to 10.40 to match the buy order – if the order doesn't get filled completely, the server raises the limit back to its original price (here 10.60). The server repeats this process until the order is completely filled.

### 5.3.4 Trailing Stop Order (T.Stop)

A stop order that has its stop limit continually adjusted to maintain a maximum offset (the "trailing offset") from the last traded market price. For a buy order, the stop price is lowered when the market price lowers. For a sell order, the stop price is raised when the market price



rises. Market price movement in an unfavourable direction does not cause the stop price to change. The limit is never changed.

Enter your limit in the `Limit` field – 0 (zero) for a stop market order – and the trailing offset in the `Trail Offset` field. The trailing offset determines the maximum distance of the stop price above (for buy) or below (for sell) the market price. It also determines the offset from the market price at which the stop price will initially be set.

Please be aware that trailing stop can cause many consecutive order changes in fast moving markets.

### 5.3.5 DynaBeat Order (DynaBeat)

DynaBeat keeps your order in the highest rank of the market (within a given price range). It adjusts your order's limit whenever a new order enters the market with a limit that beats yours, and whenever your order is the only one in its rank and its limit becomes more than one tick away from the rank below. The `Limit` field determines the initial limit of the order as well as the lowest (for buy) or highest (for sell) limit to which the order may be changed. The `DynaLimit` field determines the highest (for buy) or lowest (for sell) limit to which the order may be changed.

You can specify a minimum size for the DynaBeat function by entering it after the price in the `DynaLimit` field, separated by a "/" (for example, "10.90/100"). Orders below this size will not trigger a limit change. By default, orders of any size can trigger a change. In illiquid markets, other participants can abuse this to artificially raise your limit. Specifying a minimum size limits the scope for this abuse.

Please be aware that DynaBeat can cause many consecutive order changes in fast moving markets. The MX<sup>pro</sup> Server may be configured to limit the rate at which these changes occur. The default configuration allows a maximum of one change every 3 seconds, and a maximum of 2000 changes in total.

*Example (buy order)*

The market is 10.50 to 11.00. You enter your DynaBeat buy order with a limit of 10.60 and a `DynaLimit` of 10.90. Your order is immediately sent to the *Exchange* with a limit of 10.60. An order enters the market with a limit of 10.61; your order is changed to 10.62 to beat the higher-ranking order. The highest bid (other than your own) then changes to 10.60; your order limit is reduced to 10.61. A new order enters the market with a limit of 10.61. As this is the same rank as your own order, it does not affect your order's limit; your order has a higher price-time priority.

### 5.3.6 One-Cancels-the-Other Orders (OCO)

One-Cancels-the-Other orders (known as OCO orders) allow the entry of a pair of orders. Upon complete execution of one of the pair, the other order will automatically be cancelled

by MX<sup>pro</sup>. If one of the orders is partially executed, the other order will have its size reduced correspondingly. To request that the system create an OCO pair, enter a price offset in the OCO Stop field. The system will then create your order as specified by the remainder of the *Order Line* normally. In addition, it will create a Stop Market order with the stop limit set to the limit (as specified in the Limit field) plus the offset specified in the OCO Stop field.

#### *Example*

You have a position of 100, bought at 14, which you wish to sell at 15. To avoid any excessive losses, though, you want to close the position immediately if the price drops to 13. You enter a sell order. In the Size field, you enter 100. In the Limit field, you enter 15. The Stop Limit field, you leave empty. In the OCO Stop field, you enter -2. The system creates two orders: a (sell) limit order with size 100, limit 15 and a (sell) stop market order with size 100, stop limit 13. Your first order is partially executed, you sell 75 at 15. The system reduces the size of the stop market order by 75, to 25. The price thereafter drops to 13, and the stop market order is triggered, resulting in an immediate execution of 25 at 13. The system cancels the limit order.

### **5.3.7 IfDone Orders**

IfDone orders are orders which are entered upon execution of an order (effectively the reverse of OCO orders). Upon partial execution of the entered order, MX<sup>pro</sup> automatically creates another order. There are three sub-types of IfDone orders: IfDone Profit, IfDone Stop and IfDone MOC. Any combination of the three can be used simultaneously – in this case, the IfDone orders will be created as OCO orders. IfDone Profit orders are limit orders, with the opposite side to the entered order (that is to say, if the entered order is a Buy order, the order generated as a result of IfDone Profit will be a Sell order). IfDone Stop orders are stop market orders, again with the opposite side to the entered order. IfDone MOC orders are "Market On Close" orders, again with the opposite side to the entered order. Note that MX<sup>pro</sup> does not currently deactivate the IfDone Profit and IfDone Stop legs when the closing auction begins – as such, care should be taken, as it is possible for one of these orders to be executed in addition to the IfDone MOC leg.

The limits of IfDone Profit and IfDoneStop orders can be specified in two ways – relative or absolute. For relative values, the limit is the first price at which the entered order is executed, modified by the value entered in the IfDone Profit or IfDone Stop field. (If the original order was a buy, the IfDone Profit limit is the execution price plus the offset and the IfDone Stop stop limit is the execution price minus the offset. If the original order was a sell, the IfDone Profit limit is the execution price minus the offset and the IfDone Stop stop limit is the execution price plus the offset.) For absolute values, the limit is the value entered in the IfDone Profit or IfDone Stop field.

Relative limits are entered by prefixing the number with R, e.g. R0.12. Absolute limits are entered by prefixing the number with A, e.g. A1.23. If a number is entered without a prefix, MX<sup>pro</sup> will attempt to determine whether it was intended to be absolute or relative. In cases

where this can't be clearly determined, a dialog will appear asking for confirmation of what was intended.

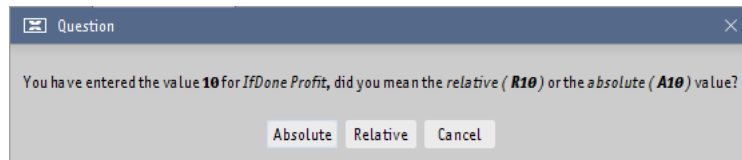


Figure 5.1: The dialog that appears if MX<sup>pro</sup> cannot determine whether an IfDone offset is relative or absolute

#### *Example with relative offsets*

You wish to buy 100 for (at most) 14, which you wish to sell again should the price rise by 1. To avoid any excessive losses, you want to close the position immediately if the price drops by 1. In any event, you wish to close your position at the end of the day. You enter a buy order. In the Size field, you enter 100. In the Limit field, you enter 14. The Stop Limit field, you leave empty. In the IfDone Profit field, you enter R1. In the IfDone Stop field, you enter R1. You check the IfDone MOC checkbox. The system creates a single limit order, size 100, limit 14. This is then partially executed, buying 75 at 13.80. The system now creates three additional orders, one a sell order with size 75, limit 14.80, the second a stop market sell order with size 75 and stop limit 12.80 and the third a market sell order restricted to the closing phase of the *Exchange*.

Later, the remaining quantity of the first order is executed, buying 25 at 14. The system modifies the three additional orders, increasing the size of all three to 100. It does not modify the limits of the orders.

Later still, the sell order with limit 14.80 is partially executed, selling 60 at 15. The system reduces the size of the stop market order and the MOC order by 60 to 40.

Finally, the remainder of the sell order with limit 14.80 is executed, selling a further 40 at 15. The system cancels the stop market order and the MOC order.

#### *Example with absolute offsets*

You wish to buy 100 at 14, which you wish to sell again should the price reach 15. To avoid any excessive losses, you want to close the position immediately if the price drops to 13. You enter a buy order. In the Size field, you enter 100. In the Limit field, you enter 14. The Stop Limit field, you leave empty. In the IfDone Profit field, you enter A15. In the IfDone Stop field, you enter A13. The system creates a single limit order, size 100, limit 14. This is then fully executed, buying 100 at 13.80. The system now creates two additional orders, one a sell order with size 100, limit 15, the other a stop market sell order with size 100 and stop limit 13.

## 5.4 Execution Types

### 5.4.1 None

None of the restrictions below will be applied to the order.

### 5.4.2 IOC (Immediate Or Cancel)

The order will be either partially or totally filled with any remaining balance immediately cancelled. The difference between fill-or-kill (FOK) orders and IOC orders is that an IOC order may be partially executed. IOC does not work with advanced order types.

### 5.4.3 BOC (Book Or Cancel)

If the order would be immediately filled (whether fully or partially) by an existing order on the *Exchange*, it will instead be cancelled. This is the opposite of IOC.

### 5.4.4 FOK (Fill Or Kill)

An order with this execution type will be cancelled if it cannot be completely filled immediately. FOK does not work with advanced order types. Note that partial executions are still possible; the only condition is that the whole order be filled, not that it be filled in a single execution.

### 5.4.5 Hidden

The order's presence in the *Exchange's* book will not be visible to other exchange participants. (If filled, it will result in a last tick as normal.)

### 5.4.6 Manual

The order will receive some sort of manual attention. The precise meaning of this restriction depends on the *Exchange* or receiving broker.

## 5.5 Order cancellation dialog

If an entered order is immediately cancelled, whether by MX<sup>pro</sup> itself, the *Exchange* or any other step on the order's way to the *Exchange*, an order cancellation dialog will be shown,

giving a brief description of the order and the reason that the order has been cancelled. This avoids the phenomenon that an unexpectedly rejected order seems to “disappear” if all visible *Order Book Views* are showing only active orders.

## 5.6 Order Menus

There are two types of *Order Menu*: The *Order Creation Menu* and the *Order Manipulation Menu*.

### 5.6.1 Order Creation Menu

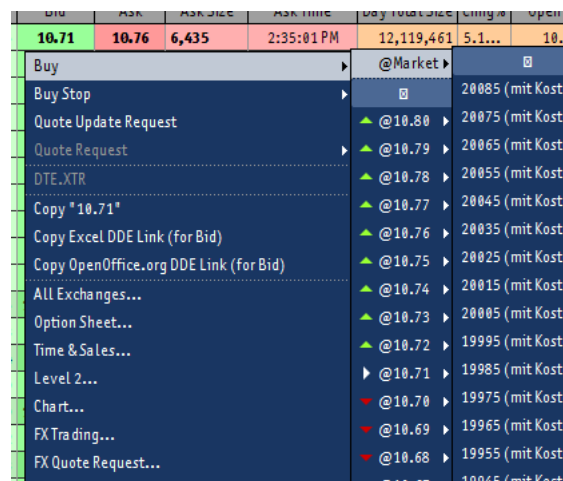


Figure 5.2: The order creation menu

The *Order Creation Menu* is accessible from the *Quote Sheet View* by right-clicking on a quote in a bid or ask cell where you do not already have an order. If you right-click on a bid, the menu will open in “buy” mode; if you right-click on an ask, it will open in “sell” mode. The following options are available:

- Buy/Sell – Creates a buy or sell order. A sub-menu will appear allowing you to select the limit price or Market, followed by another sub-menu listing showing a list of sizes. An order will be created with the options specified and the account selected in the title bar as soon as you click on a size. The sizes shown are dependent upon those set in the *Size Group settings* (described on page 97).
- Buy Stop/Sell Stop – Creates a buy stop or sell stop order. A sub-menu will appear allowing you to select a size for the order, followed by a sub-menu for the stop price (displayed with a leading slash, e.g. /33.20), and finally a sub-menu to select the

limit price or Market. An order will be created with the options specified and the account selected in the title bar as soon as you click on a limit price. As above, the sizes shown are dependent upon those set in the *Size Group settings*.

- Quote Update Request – Sends a quote update request to the *Exchange* (where supported).
- Quote Request – Opens a *Quote Request View* with the size specified in the sub-menu, but does not immediately send the request. See “Quote Request View” on page 70 for information about the *Quote Request View*.

### 5.6.2 Order Manipulation Menu

If you right-click on one of your own orders in a *Quote Sheet View* or *Order Book View*, the *Order Manipulation Menu* will appear. You can choose to Cancel the order or to change it with Change Price, Change Size or Change Both. You can Activate or Deactivate the order. You may also choose to Beat, Join or Match your order against the market; see “Order Manipulation Buttons” on page 60 for more information. Below the order manipulation items in the menu appears a brief summary of the order, for example [123456] – 100 DTE.XTR @ 15.00 or [123456] + 200 BEI.XTR @ Market. The number in square brackets is the order’s ID. This is followed by a + or – indicating a buy or sell order, the *InstrumentExchange*’s symbol, the *Exchange*’s symbol and the order’s limit (or Market for a market order). Clicking on this summary will show a window with the complete status of the order.

## Chapter 6

# Settings

### 6.1 Settings

The `Settings | General...` item in the *Desktop Menu* opens a window with a variety of configuration options. These options are grouped into several tabs, each of which is described in this chapter.

### 6.2 Hotkeys

Using hotkeys, you can define keystrokes which will be available in *desktops* to immediately create or modify an order.

`Keep selection after hotkey use` determines whether the selected order or *InstrumentExchange* in a *view* is deselected after a hotkey action has been performed upon it.

Click on `Add` to create a new hotkey, or select an existing hotkey to modify it. Click on `Remove` to delete the selected hotkey. The following hotkey options are available:

- **Binding** — The key or key combination that will trigger the hotkey action. To configure, click in the `Key` field and press the desired key combination on your keyboard. Note that in order to use a number or letter as the key to trigger the hotkey action, it must be used in combination with the `Ctrl`, `Shift` or `Alt` keys. `Ctrl+A`, `Ctrl+Shift+T` and `F1` would therefore be valid combinations, whilst just `A` on its own would not.
- **Action** — The action for the hotkey to perform. You can define a hotkey to create a new `Buy` or `Sell` order, `Change` the limit price of an order, or `Cancel`, `Activate` or `Deactivate` an order. Orders are always created with the account selected in the title bar of the active *view*.
- **Size** — For a `Buy` or `Sell` action, the size with which to create the order. For other

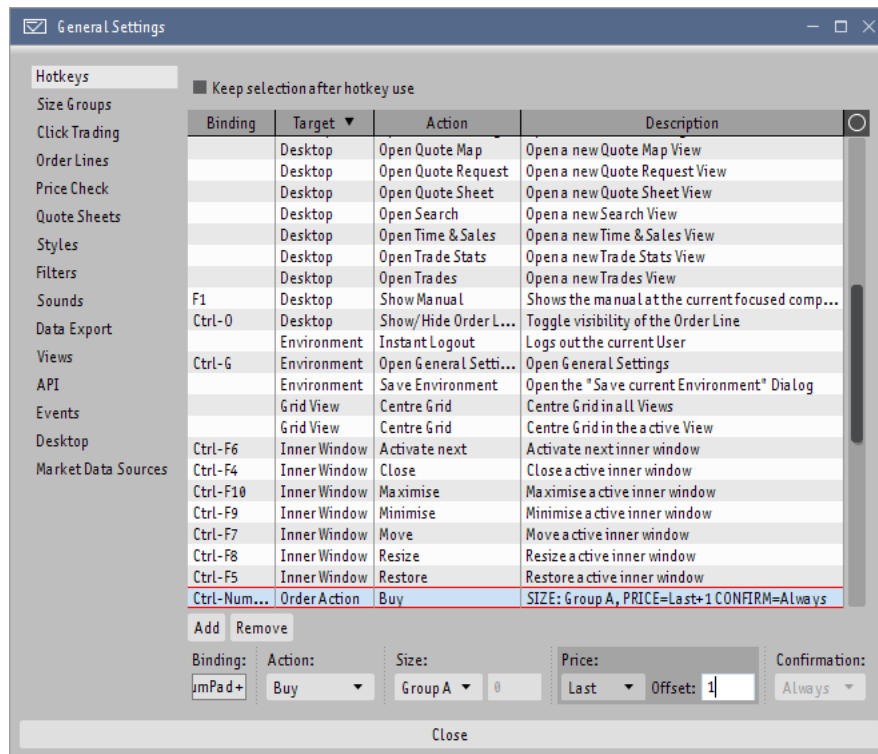


Figure 6.1: The hotkey settings

actions, this item is disabled. You can choose to use a size group or specify a size explicitly.

- **Price** – For a Buy or Sell action, the limit price with which to create the order. For a Change action, the price to which the order's limit should be changed. For other actions, this item is disabled.

You can base the price on the current Last, Bid or Ask quote for the *InstrumentExchange*, or – for a Change action – the order's current Limit price. Each of these prices can have a positive or negative offset specified – as either a value or a percentage – which will be added to the base price.

You can also set the price to Market or – by selecting 0 in the combo box – to an explicit value.

- **Confirmation** – When to warn you about the action the hotkey will perform.
  - Always – you will always be asked to confirm the action.
  - Normal – you will only be asked to confirm the action under the conditions specified in your *Price Check* settings. See "Price Check" on page 102.
  - Never – you will never be asked to confirm the action, regardless of your *Price Check* settings.



### 6.2.1 Using hotkeys

For a hotkey with a Buy or Sell action to function, a *Quote Sheet View* with a single *InstrumentExchange* selected must be active in the current *desktop*.

The selected *InstrumentExchange* will be used as the basis for the created order.

For a hotkey with a Change, Cancel, Activate or Deactivate action to function, an *Order Book View* with a single order selected must be active in the current *desktop*. The selected order will have the hotkey action performed upon it.

Hotkey actions can be triggered by pressing the configured key, or selecting the corresponding menu item in Views | Hotkeys in the *Desktop Menu*. Note that this sub-menu is not visible until you have at least one hotkey configured.

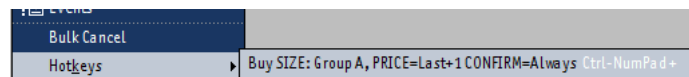
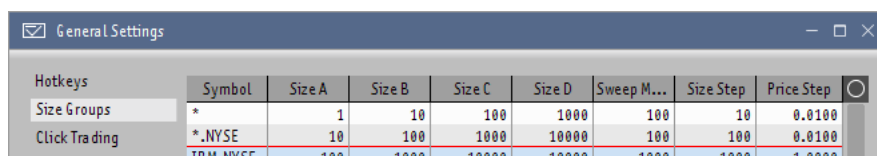


Figure 6.2: The hotkeys menu

Depending on your settings, the selected *InstrumentExchange* or order may be deselected after the use of a hotkey. A hotkey will only trigger once each time a key is pressed. Holding the hotkey down will not trigger multiple actions.

## 6.3 Size Groups

A screenshot of the 'General Settings' dialog box. The 'Size Groups' tab is selected, showing a table with columns: Symbol, Size A, Size B, Size C, Size D, Sweep M..., Size Step, and Price Step. There are three rows of data.

Symbol	Size A	Size B	Size C	Size D	Sweep M...	Size Step	Price Step
*	1	10	100	1000	100	10	0.0100
*.NYSE	10	100	1000	10000	100	100	0.0100
TRM.NYSE	100	1000	10000	100000	1000	1000	1.0000

Figure 6.3: The size group settings

Size groups allow you to configure various values that are used throughout the MX<sup>PRO</sup> Client when performing certain operations related to specific *InstrumentExchanges*.

- **Symbol** — Specifies which *InstrumentExchange(s)* the configuration will apply to. You can enter either:
  - A specific *InstrumentExchange* (e.g. BMW.XTR). The configuration is only applicable for exactly that *InstrumentExchange*.
  - An *Exchange* (e.g. \*.XTR). The configuration is applicable to all *InstrumentExchanges* on that *Exchange* (where not overridden by a specific *InstrumentExchange* configuration).

- A default for all *Exchanges* (\*). The configuration is applicable to all *InstrumentExchanges* (where not overridden by either of the above).

Size groups inherit from less specific but related size groups when values are unspecified. For example, if a DTE.XTR size group exists but doesn't have *Size A* configured, *Size A* from the \*.XTR size group will be used. If there is no \*.XTR size group – or it does not have *Size A* configured – the *Size A* from the \* (default) size group will be used if it exists.

- *Size A-D* – These four values allow you to pre-define sizes for use with hotkeys (see “Hotkeys” on page 95) and click trading (see “Click Trading” on this page).

For click trading, you can select which of the sizes to use by holding down the shift and/or control keys while clicking:

- *Size A* – used when no keys are held down.
- *Size B* – used when only the control key is held down.
- *Size C* – used when only the shift key is held down.
- *Size D* – used when both the control and shift keys are held down.
- *Sweep Max Size* – The maximum size with which to create “sweep” orders. This value is used when clicking on a cumulative bid or ask cell in a *Quote Sheet* (see “Bid Cum, Ask Cum” on page 43).
- *Size Step* – The value by which to change the size field in the *Order Line* when pressing the up and down arrow keys on your keyboard (see “Size” on page 86).
- *Price Step* – The value by which to change the limit field in the *Order Line* when pressing the up and down arrow keys on your keyboard (see “Limit” on page 86).  
This value is also used as an offset from the bid or ask price when middle-clicking on the bid or ask price/size cells of a *Quote Sheet* (see 6.4).

## 6.4 Click Trading

Click trading allows you to create and cancel orders by simply clicking in a cell in the *Quote Sheet View*.

Please use the click trading functionality with care, noting that with a single click, it is possible to enter or cancel orders. Note that this tab may be disabled. Contact your sino trader if in doubt.

Click trading can be used to:

- Directly create orders
- Fill out the *Order Line* with details ready for an order to be sent

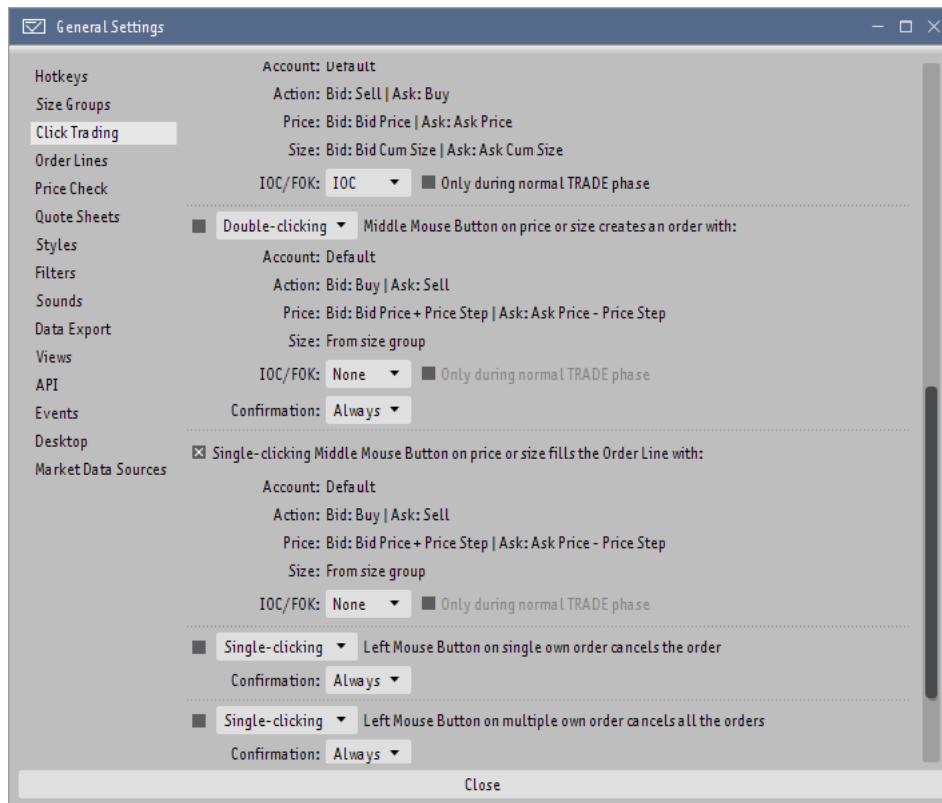


Figure 6.4: The click trading settings

- Cancel orders

Each click trading action is only enabled if the corresponding tick box is ticked; when unticked, the mouse action described will have no effect.

Click trading always happens with either the Left Mouse Button or the Middle Mouse Button (the Right Mouse Button is used to access the shortcut menu). Actions which directly create orders can be performed by single, double or triple clicking, or turned off entirely. The default is for these actions to be turned off. Actions which fill out the order line are always performed by single clicks. Note that if the click trading settings are so configured that a single click should both create an order and fill out the order line, the order-creation action will take precedence. If one of your own orders is displayed in the column when you click, no order will be created and the *Order Line* will not be filled out (the order will be cancelled if you have cancellation enabled, though).

The Left Mouse Button actions can be used on the Bid and Ask columns (including Bid Time, Bid Size, etc.) as well as on the Bid Cum and Ask Cum columns. These actions always act on the price shown in the respective Bid, Bid Cum, Ask or Ask Cum column at the time of the click.

The Middle Mouse Button actions apply only to the Bid and Ask columns (and Bid Size, etc.), not to the Bid Cum or Ask Cum columns. This is because they apply the Price Step from the *Size Group* configured for the *Instrument* to the price shown before creating an order or filling out the *Order Line* (see "Price Step" under the *Size Group settings* on page 97 for more information).

Each action which creates an order or fills the *Order Line* can be configured to set the IOC (Immediate-Or-Cancel) flag, the FOK (Fill-Or-Kill) flag or no flags (None). See "Execution types" on page 92 for more information about IOC and FOK. By selecting *Only* during normal TRADE phase, you can specify that the FOK or IOC flag should only be set when the *InstrumentExchange* is in a normal trading phase (i.e. not before- or after-hours trading, auctions, etc.).

There are two actions related to order cancellation: clicking on a cell for which there is one of your own orders, and clicking on a cell for which there is more than one of your own orders.

For each action, you can select whether you want to be asked for confirmation before it is performed:

- *Always* — you will always be asked to confirm the action.
- *Normal* — you will only be asked to confirm the action under the conditions specified in your *Price Check* settings. See "Price Check" on page 102.
- *Never* — you will never be asked to confirm the action, regardless of your *Price Check* settings.

Note that for order creation, the size and volume limits in the *Click Trading* section of the *Price Check* tab are always effective, regardless of the confirmation mode you choose.

## 6.5 Order Lines

The *Order Line* tab allows you to define any number of named styles for the *Order Line*. These styles define:

- Which *Order Line* elements will be visible and the order in which they will appear.
- Which *Exchanges* will be visible in the *Exchange* selector and the order in which they will appear.
- Whether, when clicking on an order, the *Order Line* will start in *Cancel* mode or in *Change* mode. When starting in *Cancel* mode, any change to the order's properties (Size, Limit, etc.) will change the *Order Line* to *Change* mode. Pressing Enter will cancel the order.

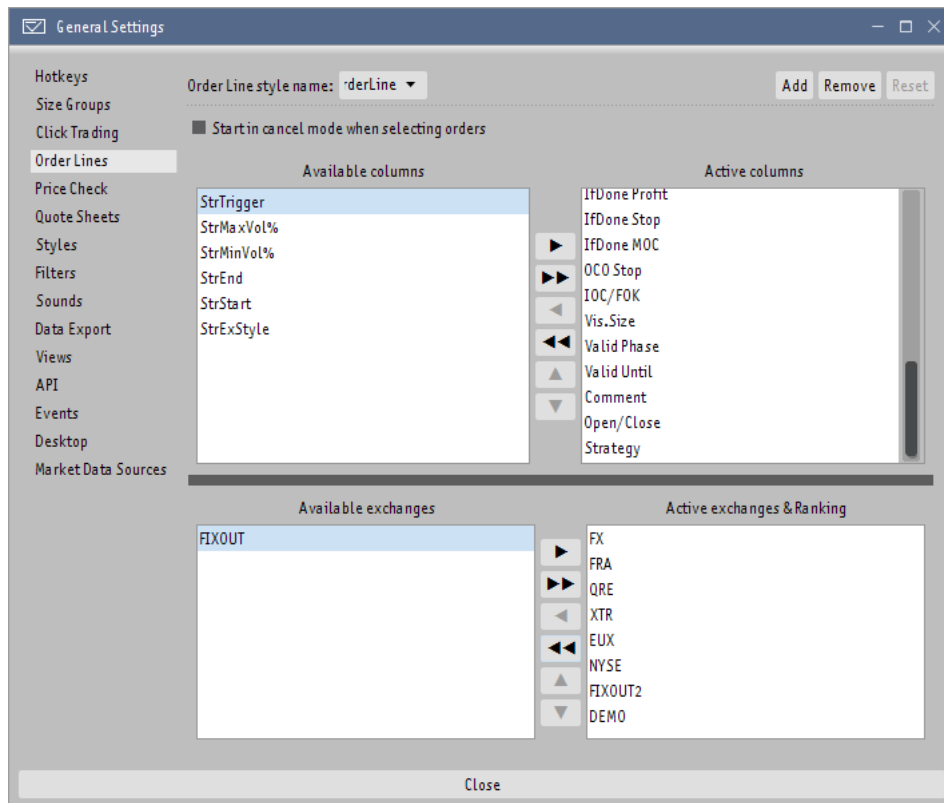


Figure 6.5: The order line settings

To create a new *Order Line* style, click on Add. You can change the name of any style except Default directly within the Order line style name selector. You can revert the configuration of the default style to the MX<sup>PRO</sup> Client's standard settings by selecting it and clicking on Reset.

The Active columns list shows all the *Order Line* elements that will be shown in *Order Lines* with this style. You can drag elements between this list and the Available columns list to show or hide them. The top-to-bottom order of elements in the Active columns list determines the left-to-right order of elements in *Order Lines* using this style. Any elements below the More element will be hidden in these *Order Lines* until the More button is pressed. Note that the Symbol, Size, Limit and Exchange elements are mandatory and cannot be removed from the Active columns list.

The Available exchanges list shows the *Exchanges* that will not be visible in the Exchange selector of an *Order Line* with this style. You can drag *Exchanges* between this list and the Active exchanges & Ranking list to show or hide them. The order of the *Exchanges* in the Active exchanges & Ranking list reflects the order in which they will be shown in the Exchange selector when more than one *Exchange* is available for the given symbol. Note that you can choose an *Exchange* that is not normally visible by specifying it explicitly in

the Symbol field (e.g. "DTE.XTR").

To specify the style to use in an existing *Order Line*, right-click on the *Order Line* and select the desired style from the Style sub-menu that appears.

See "Order Line" on page 85 for more about the *Order Line*.

## 6.6 Price Check

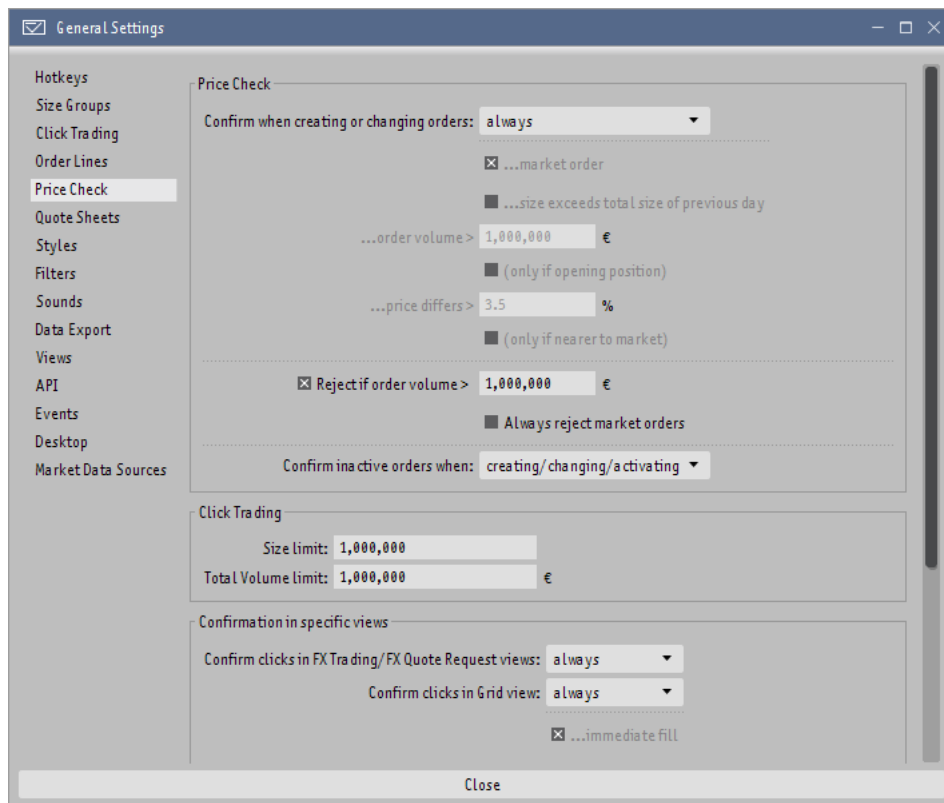


Figure 6.6: The price check settings

The Price Check tab allows you to configure various limits on creating, changing and cancelling orders. These settings cannot relax the limits set up by your broker or risk manager.

### 6.6.1 Price Check

Here you can determine when you want to confirm the creation of (or changes to) an order. Note that these settings can – according to your preferences – be overridden by hotkeys and click trading.

## Confirmation

The `Confirm when creating or changing orders` selector determines the behaviour when creating or changing orders. The options are as follows:

- `always` – Every order creation or change must be confirmed.
- `only when...` – Only orders that would meet any of the conditions below will require your confirmation.
- `never` – Orders will never require confirmation.

The confirmation options that are considered in “`only when...`” mode are described below. If any of the following conditions are met, the order creation or change will require your confirmation.

- `...market order` – The order is a market order.
- `...size exceeds total size of previous day` – The order's size would be greater than the total traded size of the relevant *InstrumentExchange* on the previous day.
- `...order volume >` – The order's size multiplied by its price would exceed the specified amount in the system currency. A currency conversion is performed at the current exchange rate if necessary. If (`only if opening position`) is ticked, this setting will only be active for opening orders and no volume limit will be applied to closing orders.
- `...price differs >` – The order's price differs from the current reference price by the given percentage or more. If (`only if nearer to market`) is ticked, the confirmation is triggered only if the order price is above the market price for a buy order, or below the market price for a sell order.

## Rejection

The two “rejection” fields determine when an order creation or change will be rejected. If either of the conditions are met, a dialogue box will appear informing you that the order creation/change was not allowed, and no further action will be taken. Note that these conditions apply even if you have set `Confirm when creating orders` to `never`. However, like the confirmation conditions, they may be overridden by hotkeys or click trading. Also note that these checks are entirely independent of any limits that may have been set by your clearer or risk manager.

- `Reject if order volume >` – The order's size multiplied by its price would exceed the specified amount in the system currency. A currency conversion is performed at the current exchange rate if necessary.
- `Always reject market order?` – The order would be a market order.

## When to confirm

By default, price checks will be applied when creating, changing or activating an order. This can lead to multiple price check warnings when creating an inactive order

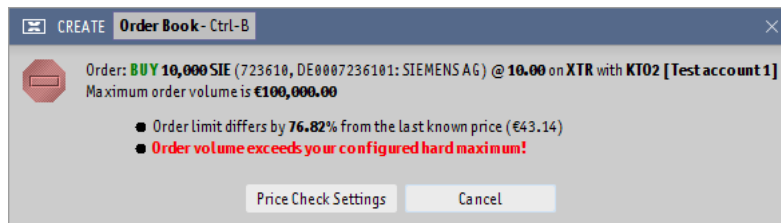


Figure 6.7: The order rejection dialog

and subsequently activating it, or when repeatedly activating and deactivating orders. By changing the setting `Confirm inactive orders when to creating/` or `activating`, these multiple warnings can be avoided. The appropriate setting will depend upon your trading style. For maximum security, we recommend that you retain the default setting.

## 6.6.2 Click Trading

When performing a click trading action (see “Click Trading” on page 98), the order’s size will be adjusted so that the values specified here are not exceeded. These values also affect the *Order Menu*. Note that for *Views* with specific settings (described in “Confirmation in specific views” below) the view settings will take precedence over these settings.

- **Size limit** – Any order entered through click trading that would have a size greater than that specified will automatically have its size reduced to the specified value. *Order Menu* actions that would result in an order exceeding this size limit will be disabled.
- **Total Volume limit** – Any order entered through click trading with a volume (size multiplied by price) greater than that specified will automatically have its size reduced so that the volume fits within the limit. *Order Menu* actions that would result in an order exceeding this limit will be disabled. Setting this value to “0” (zero) will disable the check.

## 6.6.3 Confirmation in specific views

This section allows you to specify whether clicks in the *FX Trading View*, *FX Quote Request View* and *Grid View* require confirmation or not. Note that for these *Views*, these settings take precedence over the normal settings described in “Click Trading” above.

For the *FX Trading View* and *FX Quote Request View*, you can choose between `always` and `never`.



For the *Grid View*, an additional *only when...* option is available. If this option is selected and *...immediate fill* is selected, clicks will only be confirmed if an immediate fill would result (if *...immediate fill* is not selected, order creation clicks will not be confirmed). Note that if set to *Always* or *only when...*, cancellation clicks in the *Grid View* will also request confirmation.

#### 6.6.4 Cancellation

##### Manual cancellation

Here you can specify when you want to confirm the cancellation of an order, as well as the appearance and behaviour of the panic button (described separately below).

You can choose to require confirmation every time you cancel one or more orders (*always*), only when you cancel more than a specified number of orders at a time (*only when...*), or *never*. Note that these settings can – according to your preferences – be overridden by hotkeys and click trading.

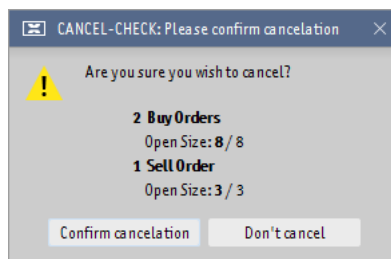


Figure 6.8: The order cancellation dialog

##### The Panic Button

The *Panic Button* appears in the title bar of *desktops*, allowing you to cancel all your active orders regardless of the *view* in which you are currently working. The *Panic Button* will only be visible in *desktops* if you tick *Enable ``Cancel all Orders'' panic button?*.

Triggering the cancellation requires a triple-click on the *Panic Button*. If *...and always show a warning when it is used?* is ticked, you will be required to confirm a dialogue box before the cancellation is performed.

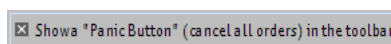


Figure 6.9: The settings for the Panic Button

##### Automatic cancellation

By ticking *Automatically attempt to cancel all orders on disconnect?*, you can request that the system automatically attempt to cancel all your active orders

should you for any reason become disconnected from the MX<sup>pro</sup> servers. If you become disconnected and have not reconnected within the specified timeframe, the system will attempt to cancel all active orders which were entered under your username. Note that only one attempt to cancel is made – if the order cannot be cancelled at the time of the attempt, it will remain active.

## 6.7 Quote Sheets

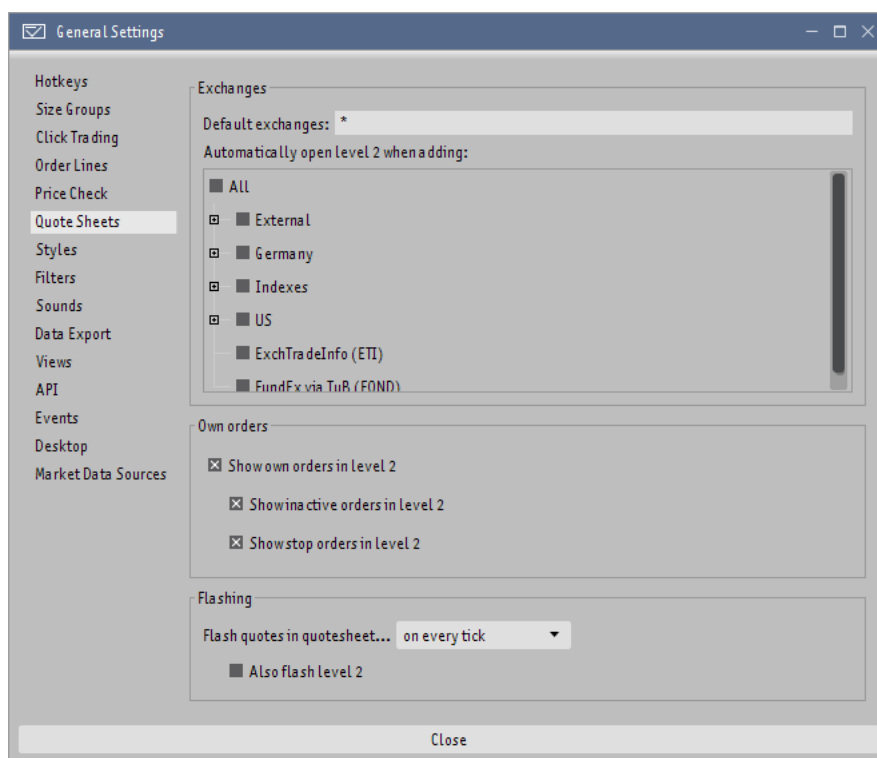


Figure 6.10: The quote sheet settings

The `Default exchanges` field allows you to specify a list of *Exchanges* that will be considered when entering a symbol without an *Exchange* in a *Quote Sheet*. To specify that all *Exchanges* should be considered, enter an asterisk (\*). Otherwise enter the desired default *Exchanges* as a comma-separated list, e.g. "XTR,EUX".

This setting has no effect on the *Exchanges* with which an *Instrument* is added to a *Quote Sheet* from the *Search View*.

The tree allows you to specify that when *InstrumentExchanges* for certain *Exchanges* are added to a quote sheet, they should automatically be shown with the market depth opened.

The next three options allow you to specify whether your own orders will be indicated among

quotes in the *Quote Sheet View* and *Level 2 View*:

- **Show own orders in level 2** – This option determines whether your orders will be indicated at all. If it is not selected, the two options below will have no effect.
- **Show inactive orders in level 2** – This option determines whether your inactive orders will be indicated. This option has no effect if **Show own orders in level 2** is deselected.
- **Show stop orders in level 2** – This option determines whether your stop orders will be indicated. This option has no effect if **Show own orders in level 2** is deselected.
- **Flash quotes in quotesheet...** – There are three options for the flashing effect shown in *Quote Sheets* when a tick arrives:
  - **never** – No flashing will occur.
  - **on every change only** – Quotes will flash only when the price has changed.
  - **on every tick** – Quotes will flash when either the price or size has changed.
- **Flash level 2, too?** – If you select this option, market depth quotes will also flash. This option has no effect if **Flash quotes in quotesheet...** is set to **never**.

## 6.8 Styles

In the **Styles** tab you can create and edit styles. *Styles* allow you to personalise the appearance of tables within *views* by configuring the colours, fonts, formatting and other properties.

For every type of *view* that has a table there is a style with the same name in the style tree, with the **Default** style as its parent. These styles are shown as **<Default>** in the *Style Picker* of the associated *views*, and are also the basis of the **<New>** style (see “*Style Picker*” on page 28). You can create new styles by selecting the style corresponding to the desired *view* type and clicking on **Add...**, then specifying a name.

The selected **Theme** determines the properties of cells that have not been explicitly set by the user. Currently only the built-in **<Default>** theme is available.

**Horizontal lines** and **Vertical lines** separate the rows and columns of a table, respectively. You can explicitly turned them **On** or **Off** for a style, or set them to be the same as configured in the parent style (**<Inherit>**).

Cell styles are split into three groups of cells: **Standard cells**, **Column cells** and **Special cells**.

The **Standard cells** group is always present, and contains properties for **Normal** and **Selected** cells. The **Normal** properties are used for cells in the **Column** and **Special cells** groups

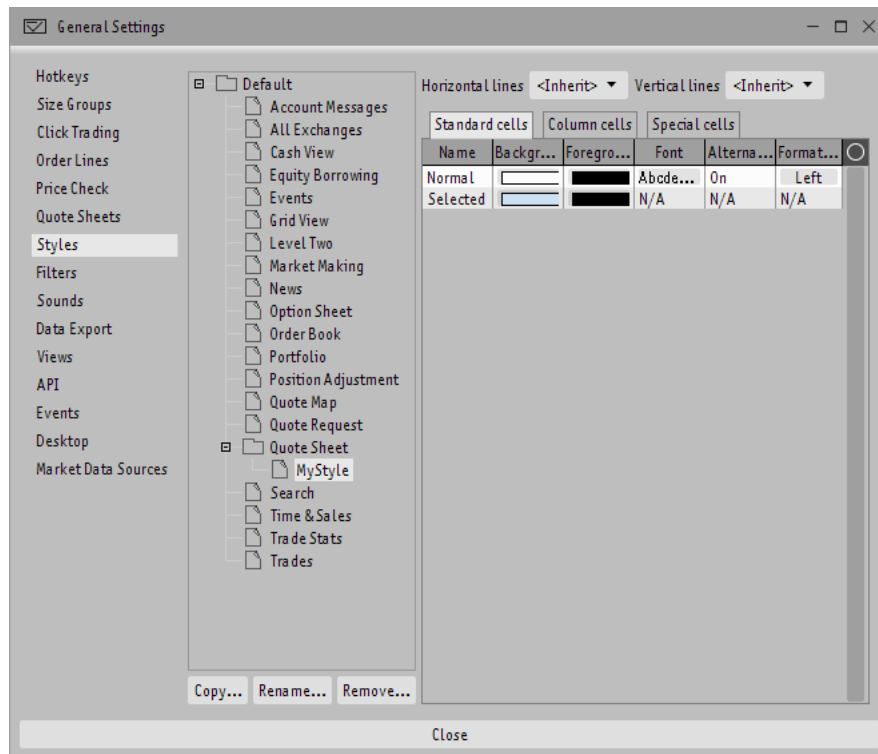


Figure 6.11: The styles settings

where the property has not been overridden by the theme, or explicitly set by you. The *Selected* properties determine how cells will look in rows that you have selected (see “Selecting Table Rows” on page 34).

The *Column cells* group is present in all but the *Default* style, and contains properties for each column that is available in the related *view* type. For *view* types that support it, you can also configure whether a column is shown at all (*Visible*) and determine the order in which columns are displayed by dragging and dropping.

The *Special cells* group is present for *view* types that display some cells in an alternative way based on specific conditions, and contains properties for each type of special styling.

Styles “inherit” properties from their parent style unless they are explicitly set. For example, if you set the foreground colour of *Normal* cells in the *Default* style, that colour will be used as the foreground colour of *Normal* cells in all the styles under it where that colour has not been explicitly changed.

Each property editor gives you the option of “inheriting” that property, which is the initial behaviour. If you have changed several properties and want them to inherit from the parent style again, you can quickly achieve this by right-clicking in the cell table to access the inheritance menu. Click on *Inherit selected* to set all properties of the selected cells to inherit, or *Inherit all* to set all properties of all cells in the group to inherit. These menu

items are disabled when every property they would affect is already set to inherit.

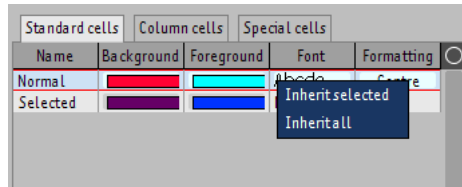


Figure 6.12: Reverting styles to their default settings using “Inherit”

### 6.8.1 Adding a New Style

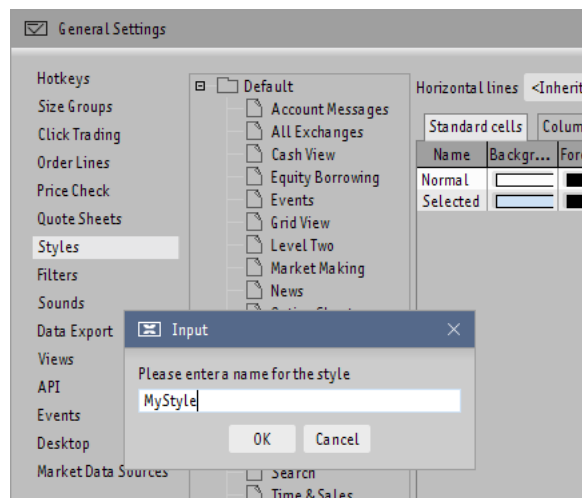


Figure 6.13: Adding a new Quote Sheet style

To add a new style, select the *view* type that you wish to configure and click on the Add... button in the lower left.

Name your style. In our example, we have selected Quote Sheet and named our style “MyStyle”.

Your style will now appear selected in the style tree as a child of Quote Sheet, allowing you to immediately configure its appearance.

Please be aware that your style will only be active if you have switched to the style in the sheet using the *Style Picker* (see “Style Picker” on page 28).

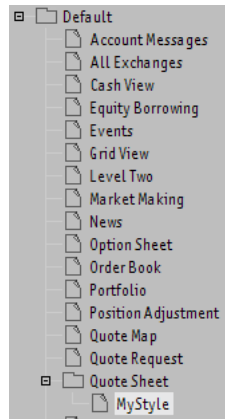


Figure 6.14: The MyStyle style appears in the tree after it's been added

## 6.8.2 Changing the Column Order

You can change the order of columns in a *style* by simply dragging and dropping them within the `Column cells` group. *Views* using the style, and having "From Style" ticked in their column selector, will display the visible columns from left to right in the top to bottom order in which they appear in the style.

To re-position a column, first select it.

Now drag and drop the column to where you would like it to be positioned.

Note that column ordering is not inherited. When you create a new style, the column ordering and visibility is copied from the parent. Later changes to these properties in the parent, however, will not affect the new style.

## 6.8.3 Changing a Font

In this example we will demonstrate how to set a font for Bid and Ask cells in a new *Quote Sheet View* style, and a different font for all other cells.

First, choose your font for `Normal` cells under the `Standard cells` tab.

In our example we have clicked on the `Font` property for `Normal` cells and selected `Tahoma` in size 14. After clicking on `Okay` and switching to the `Column cells` tab, we can see that the font we selected has been inherited.

All `Column` cells now have `Tahoma` as their font.

We will now change the font for the Bid and Ask columns to `Monospaced` with size 18.

Note that all other cells will still be set to `Tahoma 14`.

Should you be unhappy with your change, you can tick the `Inherit` box in the font editor

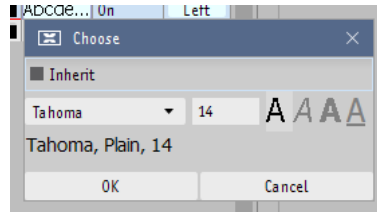


Figure 6.15: Changing the font to Tahoma 14

Standard cells		Column cells		Special cells	
Name	Backgr...	Font	Alterna...	Formatt...	Visible
Symbol		Abcde.	On	Left	☒
Name		Abcde..	On	Left	☒
MSPID		Abcde..	On	Left	☒
ISIN		Abcde..	On	Left	☒
RIC		Abcde..	On	Left	☒
Exch. ...		Abcde..	On	Left	☒
Phase		Abcde..	On	Left	☒
Last Time		Abcde..	On	Left	☒
Last		Abcde.	On	Right...	☒
Last Size		Abcde.	On	Right, S	☒
Flags		Abcde..	On	Left	☒
T		Abcde..	On	Left	☒
Bid Co...		Abcde..	On	Right	☒
Bid Time		Abcde..	On	Centre	☒
Bid Size		Abcde.	On	Right, S	☒
Bid		Abcde.	On	Cent...	☒
Bid Src		Abcde..	On	Left	☒
Bid Trend		Abcde..	On	Left	☒
Ask Tr...		Abcde..	On	Left	☒
Ask Src		Abcde..	On	Left	☒
Ask		Abcde.	On	Cent...	☒
Ask Size		Abcde.	On	Left, S	☒
Ask Time		Abcde..	On	Centre	☒
Ask Co...		Abcde..	On	Right	☒
Day To...		Abcde..	On	Right, S	☒

Figure 6.16: All column cells using Tahoma

to revert to the usual inheritance behaviour.

#### 6.8.4 Changing Colours

In the following screenshot we have clicked on the Background property for Normal cells in the Standard cells tab.

This change will affect all cells in the style – and any child styles – that are set to inherit, unless the property is overridden by the theme. Backgrounds that you have already set will not be altered by this change.

The Opacity slider is only enabled for the Selected configuration in the Standard cells group.

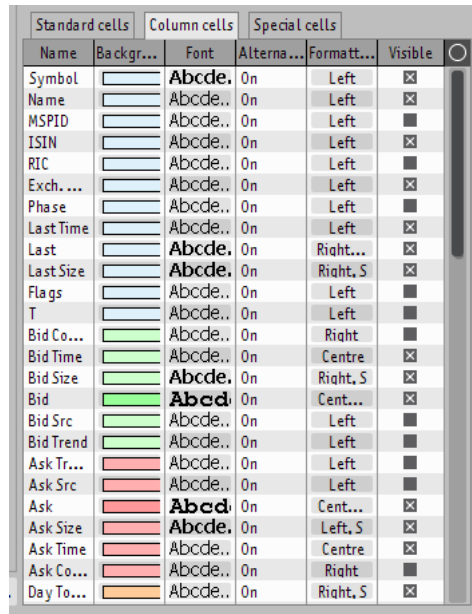


Figure 6.17: The Bid and Ask cells changed to use Monospaced 18

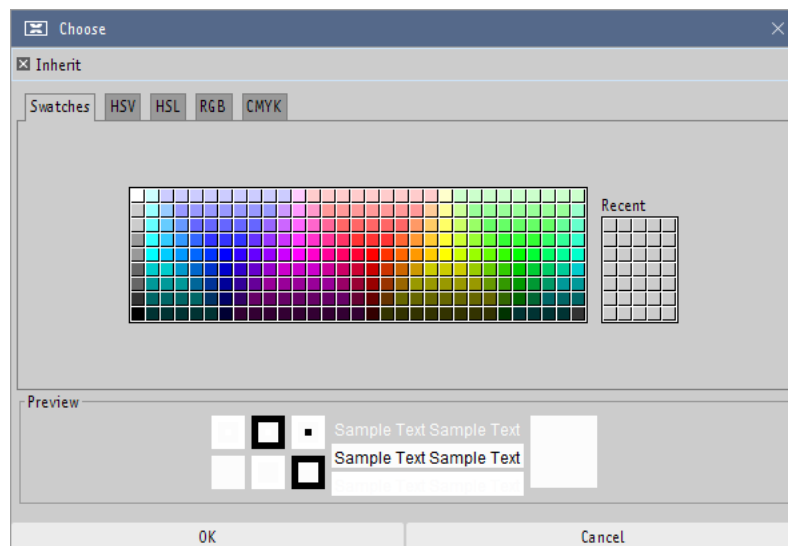


Figure 6.18: Colour selection dialog

### 6.8.5 Changing Alternation of Cells

Alternation is used to achieve a visual separation of lines. When enabled, every second row (or logical group of rows, such as each *InstrumentExchange* in a *Quote Sheet*) will be a shade darker than usual.



You can choose to explicitly turn this effect On or Off, or to inherit the property as usual.

## 6.8.6 Formatting Cells

Formatting gives you the opportunity to choose the preferred alignment of text in cells.

Columns that contain numbers (e.g. Bid, Ask or Last) have extended formatting options available:

- For all number cells, you can select whether you would like to use a separator between groups of digits for large numbers.
- For numbers that can have a fractional component, you can also specify the maximum and minimum numbers of fraction digits.

## 6.9 Filters

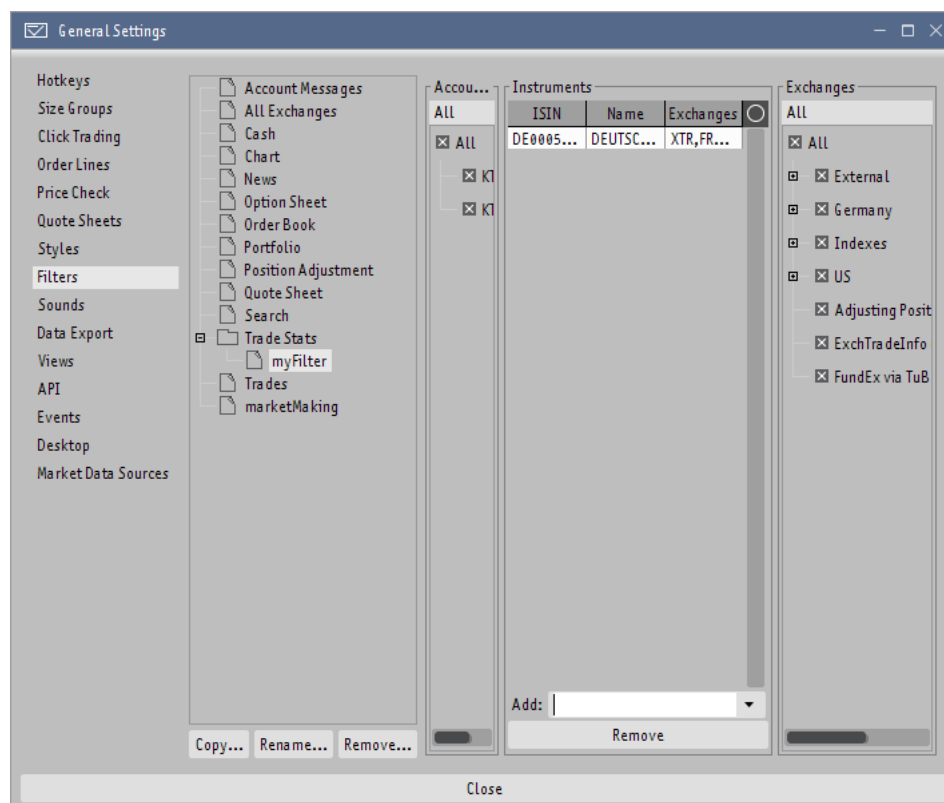


Figure 6.19: The filter settings

The *Filter Settings* are designed to pre-configure filters for certain *views*.

You can create multiple filters for your *views* and select them using the *Filter Picker* (see "Filter Picker" on page 27).

On the left is a tree listing filters for each type of filterable *view*. The filters with the same name as a *view* type act as the default for that type of *view*. You can create named filters for each type of *view* by clicking Add... with the appropriate default filter selected.

### 6.9.1 Example

Here we will step through the creation and configuration of a filter for *Order Book Views*.

First, we add a new *Order Book* filter by selecting *Order Book* in the tree and clicking on Add....

We then name our filter "working orders". As we want this filter to only show active orders, we deselect all order states except *Active* and *Unknown*. Since we want to see active orders with and without partial fills, both *Executions* and *No executions* are selected.

We have deselected *Other users* and *RTD sync user* so that only orders created by our user are shown. This is only relevant in an environment where multiple users have access to the same account.

To activate your filter for a given *Order Book View*, select the filter via its *Filter Picker*.

Once you have selected the *working orders* filter, all cancelled, filled and inactive orders will disappear from the *view*.

The filter will stay active until you select another from the *Filter Picker*.

## 6.10 Sounds

This tab contains an option to mute all sounds played by the client, whatever their cause.

## 6.11 Data Export

Data Export allows you to export data about one or more (potentially many) orders to files or the clipboard, in a format you define. This allows you to integrate your MX<sup>pro</sup> trading more tightly with other tools for analysis, back-office functions or similar. To do this, you must first define the formats you wish to export. The Data Export settings allow you to do this. Once the formats are defined, they will appear within the *Export order data* menu in the *Order Book View*.

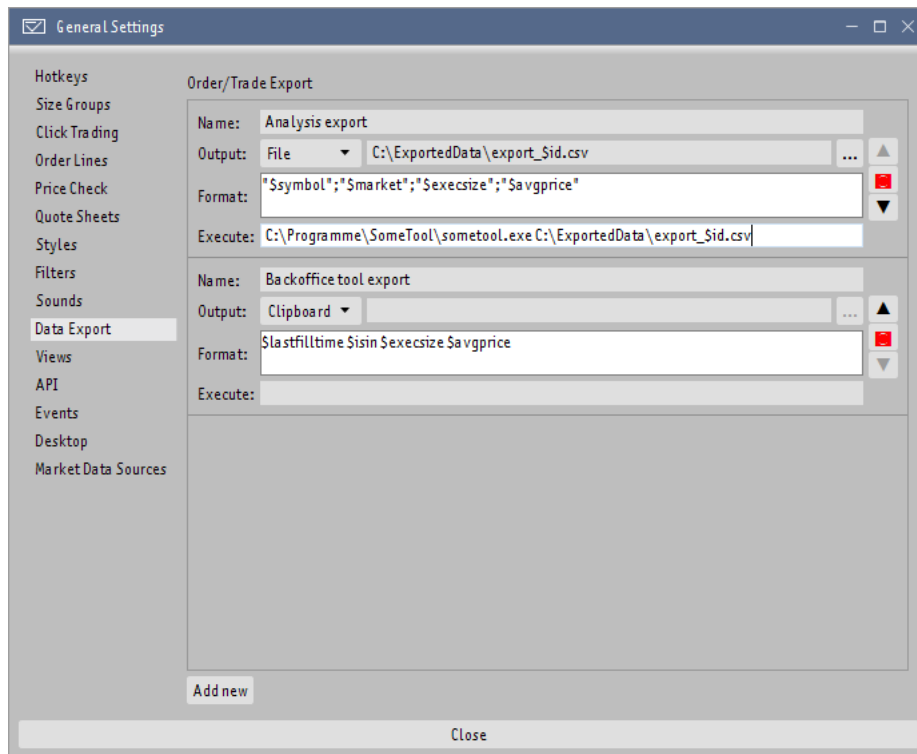


Figure 6.20: The data export settings

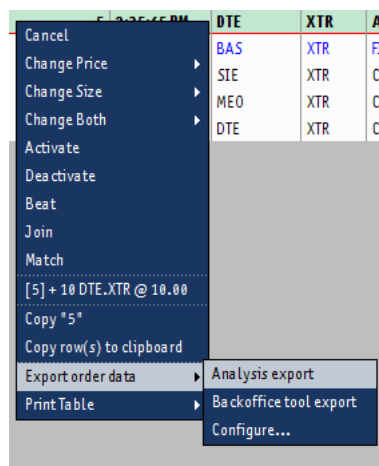


Figure 6.21: The data export menu within the *Order Book View*

The main part of the settings is a list of the defined formats (initially empty). To define a new format for export, first click the **Add new** button below the list. A new format will be added to the list. You should give your format a **Name**. The format will be shown with this name in the **Export order data** menu in the *Order Book View*. On the next row, you can

select whether the export should be to a file or to the clipboard. If it's to a file, you can enter the filename in the box to the right. You can then define the format of the data to be exported. Finally, if you wish, you can enter a program to be executed whenever this export action has been selected. This might, for example, be a backoffice application which will pick up the exported data and process it.

Using the three buttons to the right of each entry in the list, you can move the entry up or down within the list (thereby changing its position within the `Export order data` menu) or delete the format.

### 6.11.1 Substitutions

The filename, format and execute settings may each contain *Substitutions* (described on page 130). The available *Substitutions* are:

- `$id` – The order's ID.
- `$symbol` – The symbol of the order's *InstrumentExchange*.
- `$exchange` – The *Exchange* to which the order was sent.
- `$isin` – The ISIN of the *Instrument* for which the order was placed.
- `$buysell` – B or S depending on whether the order is a buy or sell order.
- `$execsize` – The total size of all executions which the order has received. For an order without executions, this will be 0.
- `$avgprice` – The volume-weighted average price of all executions which the order has received. For an order without executions, this will be 0.
- `$lastfilltime` – The time at which the most recent execution of the order was received. For an order without executions, this will be empty.
- `$$` – A dollar symbol.

## 6.12 Alerts

Note that this functionality may not be present (or supported) depending on the configuration of your installation. For more information, contact your sino trader.

The *Alert* Feature allows you to monitor multiple *Instruments* on several *Exchanges* and get an *Alert* if the stock hits self-defined boundaries.

Common *Alerts* are a stock having a daily volume which is twice as high as its average daily volume, or a cheap stock having a strong momentum up.

The *Alerts* are calculated and triggered by the server, they are independent of your MX<sup>pro</sup> client being open.

The *Alert Settings* allow you to configure which alerts interest you and how you should be notified about them. The *Alert* system has some pre-defined *Alerts* on a limited set of *Instruments* and *Exchanges*. You can clone the *Alerts* and use your own parameters.

### 6.12.1 ActionGroup

For each individual alert you can configure an action. The following actions are currently available:

- — — — — No action will be taken
- Alert Website — The *Alert* will be shown on your personal *Alert* website
- Email — You will receive an e-mail with the alert

More actions will be made available in the future.

### 6.12.2 Website

*Alerts* are shown on a web page. The link is <https://alerts.sino.de>. Your login is your current MX<sup>pro</sup> username and password.

Your *Alert* website lists all *Alerts* from the current day with the most recently triggered at the top. If you click on an *Alert* name, a detailed explanation of the alert will be displayed.

If you click on an *Instrument*, the selected *Instrument* will open in your active MX<sup>pro</sup> client, in a new *Quote Sheet*. The new sheet will be named *Alerts*.

There are chart links, which open the *Chart View* with the selected *Instrument*.

You can configure the website, specifying how the *Instrument* should be displayed in your MX<sup>pro</sup> client:

- At the top or at the bottom of the *Quote Sheet*.
- On one exchange or on all exchanges
- For *Chart View* (and *Quote Sheet*, if you selected "One Exchange" above):
  - On the home *Exchange* of the *Instrument*.
  - On a fixed *Exchange*.

### 6.12.3 Cloned Tasks

In this section, we must distinguish between *Tasks* and *Alerts*:

- *Task* – One row in the table, which causes a group of one or more *Instruments* to be monitored. One *Task* can trigger several *Alerts*.
- *Alert* – One message, which covers exactly one *Instrument*.

You can clone *Tasks* by using the **Clone** button at the bottom of the window. You own any clones that you make – they can only be seen by you. You can adjust various parameters of your clone.

### 6.12.4 The General tab

The following are the **General** parameters:

- **Task Name** – a name for the *Task*. This must be unique and at most 20 characters long.
- **Description** – a description of the *Task*, which may contain *Variables* (click the **Help** button for help with *Variables*).
- **Message** – the message for each *Alert*, which may contain *Variables* (click the **Help** button for help with *Variables*).
- **Lifecycle / Revalidation** – how often *Alerts* for this *Task* will be sent. You can choose from the following options:
  - **Once** – for each *Instrument*, there will not be more than one *Alert* (until the *Task* is stopped and restarted).
  - **Once per Day** – at most one *Alert* per *Instrument* per day.
  - **per Interval** – after the *Alert* for an *Instrument* is triggered, it will not be triggered again until the end of the interval you configure.

### 6.12.5 The Instrument & Exchange tab

The **Instrument & Exchange** tab contains the following parameters:

- **Instrument** – which *Instrument* or *Instruments* should be monitored.
  - **Single Instrument** – an ISIN or Symbol can be entered. Once you click away from this field, the *Instrument's* name is displayed.

- **Instrument Group** – you can select one of a predefined group of *Instruments* (often based on indices or similar). After selecting a group, the description of the group is shown if you hover over the selector with the mouse.
- **Exchange** – here you can choose which *Exchanges* should be monitored. Not all *Exchanges* are available for *Alerts*. More *Exchanges* will be available in future.
  - **Single Exchange** – Select the *Exchange* to be monitored.  
If you selected **Single Instrument** under **Instrument** above, only the *Exchanges* where this *Instrument* is traded are shown.
  - **Exchange Group** – Select a group of *Exchanges* to be monitored.
- **Task Type** – this parameter can not be configured, it appears for informational purposes. It shows whether *Alerts* are triggered for a given *Instrument*, based on information summarized from that *Instrument's* different *InstrumentExchanges*, or whether individual *Alerts* are triggered for each *InstrumentExchange*.

#### 6.12.6 The Parameters tab

The content of the **Parameters** tab varies depending on the type of *Task* being cloned. Each available parameter for the *Task* is described on the tab and shown with its **Minimum**, **Maximum** and **Default** values.

Some *Tasks* do have parameters which cannot be changed. The **Parameters** tab shows only the changeable parameters, but you will find the detailed description of all parameters to each *Task* on the website.

When using the save button, the *Task* is validated before sending it to the server. If validation fails, a message is displayed at the bottom of the window.

### 6.13 Contact

Here, you can configure how you should be contacted when certain events occur. Currently, the only option available is to set the e-mail address to which any e-mailed *Alerts* will be sent. See "*Alerts*" on page 116 for more information.

### 6.14 Views

In this tab, you can change the behaviour of certain view types. The **Default account** setting affects any *View* which contains an *Account Picker*. It selects the account which should appear by default in the *Account Picker*.

Two options are available for the *Grid View*:

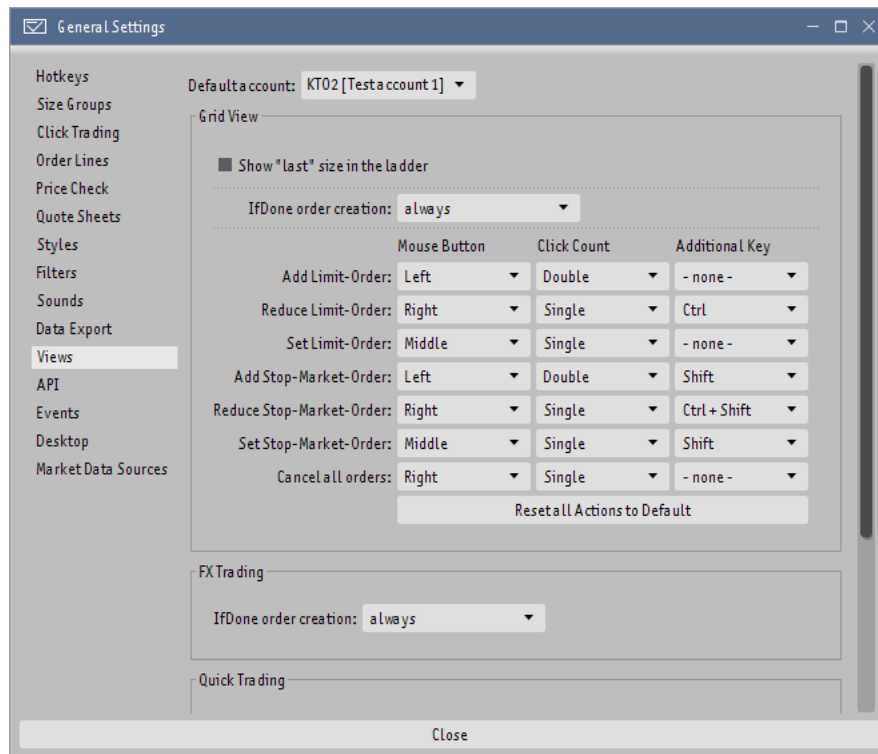


Figure 6.22: The View settings

- IfDone order creation – whether the *Grid View* should always create IfDone orders (as specified using the Close at and Stop at text fields) or should only create them for orders which open or extend a position.

## 6.15 API

The settings in this tab control the behaviour and capabilities of the API.

### 6.15.1 Connections

- Accept API connections? – specifies whether the API should be activated at all. Note that if the API is not active, the DDE and RTD interfaces to Microsoft® Excel® will not work, as they use the API.
- Only accept connections from: – specifies which internet addresses should be able to connect to the API. Addresses should be separated by a semicolon. Specifying only part of an address will allow all hosts whose address begins with that part to connect (for example, specifying 192.168.1. would allow all addresses from 192.168.1.1 up to



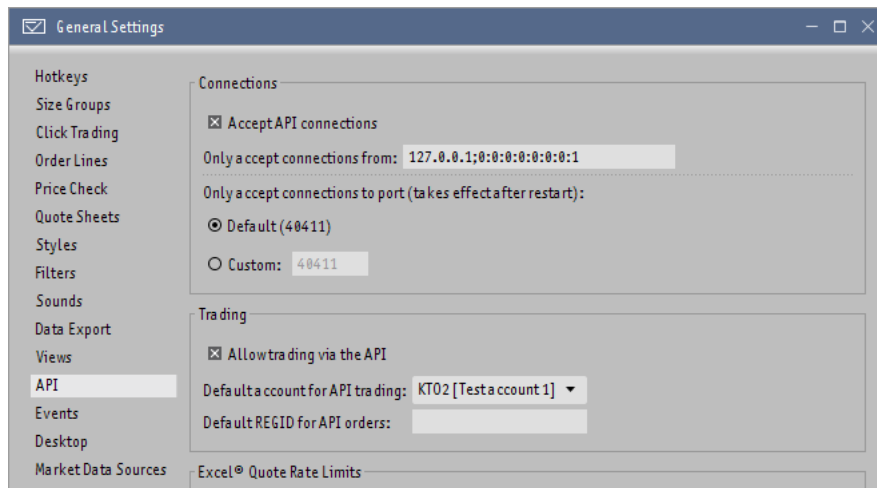


Figure 6.23: The API settings

192.168.1.254). If you only want to allow connections from the computer where you're running the MX<sup>PRO</sup> client, specify 127.0.0.1 in this field. If this field is left empty, no connections will be accepted.

- Only accept connections to port (takes effect after restart): – specifies the a port in addition to the internet address. The default port where the client accepts API connections is 40411. This can be changed by selecting the Custom: option and entering the desired port in the adjacent text field.

### 6.15.2 Trading

- Allow trading via the API? – specifies whether API clients should be allowed to enter, change and cancel orders and quote requests. If you only use the API (or the Excel® DDE or RTD interfaces) for viewing quotes, you can deactivate this option. Note that your server administrator may prevent you from manipulating orders or quote requests via the API irrespective of whether this option is selected or not.
- Default account for API trading – specifies which account the API should use if it receives a new order or quote request from a client which does not specify an account.

### 6.15.3 Excel® Quote Rate Limits

- Maximum ticks per second via DDE specifies the maximum number of ticks per second which should be delivered to Microsoft® Excel® via DDE. Limiting the number of ticks sent can be useful if complex calculations are taking place based on the received data. If too many ticks are sent, the system may be unable to keep up with the

required calculations. A value of 0 indicates that no limit is set. Any other value limits to that number of ticks per second. Note that when ticks are limited, all ticks for one *InstrumentExchange* are nonetheless sent together. This avoids situations where an updated "Bid" tick might be sent without the corresponding "Ask" tick also being sent, which might lead to the impression that the book were crossed – it can however lead to the number of sent ticks being (very slightly) above the given setting.

- Maximum ticks per second via RTD specifies the maximum number of ticks per second which should be delivered to Microsoft® Excel® via RTD. This setting is equivalent to that for DDE. This setting will only appear if the MX<sup>pro</sup> RTD interface is installed.

## 6.16 Events

Within the *Events* settings, you can configure how MX<sup>pro</sup> reacts to various *Events*. An *Event* might be a trade, a change in a quote, a news item, or a change to an order. As a result of an event, you can choose to add a message to the *Ticker* (described on page 18), to play a sound or to show a dialog. It's likely that more sources of events and more possible actions will be added in future versions of MX<sup>pro</sup>.

There are two elements to the configuration of an *Event*: *Conditions* and *Actions*. The available *Actions* are the same no matter what type of *Event* is involved, but the available *Conditions* depend on the type of *Event*. For each type of *Event*, you can add as many different *Events* as you like. Each of these *Events* can have different *Conditions* and different *Actions*. The *Conditions* for each type of *Event* are described below. *Actions* are described on page 128. *Substitutions* are described on page 130.

To add an *Event*, first select the type of *Event* you'd like to add (*Exchange*, *News*, etc.) from the tree, then click the *New...* button. MX<sup>pro</sup> will ask for a name for your new *Event* setting. This name will appear in the "Event occurred" dialog (described on page 129) as well as in the *Cause* column of the table in the *Events View*. You can rename an existing *Event* setting with the *Rename...* button and remove an *Event* setting with the *Remove...* button.

MX<sup>pro</sup> has a number of predefined *Event* settings. If you've changed one of these settings and would like to revert to the default behaviour, click on the *Restore defaults...* button. A dialog will appear asking which of the default *Event* settings you'd like to restore. Select the desired settings, then click *Restore*.

### 6.16.1 Exchange Events

*Exchange Events* are triggered when an *Exchange* becomes active or inactive. If connectivity to a given *Exchange* is interrupted for any reason (e.g. after the end of the *Exchange's* trading day), the *Exchange* will become inactive. Similarly, when connectivity to an *Exchange* becomes available, the *Exchange* will become active. The available conditions are:

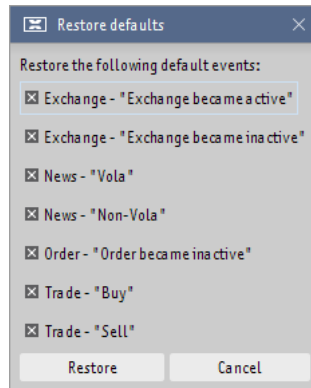


Figure 6.24: The Restore Defaults dialog

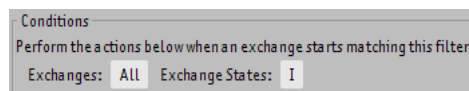


Figure 6.25: Conditions for *Exchange Events*

- *Exchanges* – Which *Exchanges* this *Event* should trigger for.
- *Exchange States* – Whether the *Event* should be triggered when one of the *Exchanges* becomes active (A) or inactive (I).

The available *Substitutions* are:

- `exchange.name` – The *Exchange's* name, e.g. Xetra Frankfurt
- `exchange.country` – The *Exchange's* country, e.g. DE
- `exchange.id` – The *Exchange's* ID in MX<sup>pro</sup>, e.g. XTR

### 6.16.2 News Events

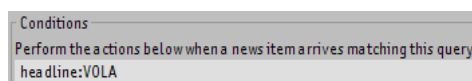


Figure 6.26: Conditions for news *Events*

News *Events* are triggered when a news item arrives. There is only one condition available, but it can match many different aspects of the news item. The condition uses the Lucene query language, described on page 133. The available fields (all of which except `body` are default fields) are:

- `prio` – The priority of the news item, as defined by the provider, e.g. 0, 1, etc.
- `products` – The news item's product, e.g. DJN-DN, ADE, VOLA-XTR, etc.
- `source` – The source of the news item, e.g. CEF, EUREX-XEUR, DJ, etc.
- `keywords` – Keywords associated with the news item, as sent by the provider, e.g. QUOTEREQ, VOLA, OIL, etc.
- `isins` – The *ISIN(s)* of the *Instrument(s)* associated with the news item, as sent by the provider, e.g. DE0005557508, DE0005200000, etc.
- `country` – The country code of the country or countries associated with the news item, as sent by the provider, e.g. DE, US, etc.
- `headline` – The headline of the news item
- `body` – The body of the news item

The available *Substitutions* are:

- `news.country` – The news item's country, as sent by the provider e.g. DE
- `news.source` – The news item's source, e.g. CEF
- `news.headline` – The news item's headline, e.g. A headline about DTE.XTR
- `news.headline_raw` – The "raw" version of the news item's headline. This is the headline as delivered from the provider, and may contain tokens that are subsequently translated by MX<sup>pro</sup> for better readability, e.g. A headline about {SYMB:DE0005557508}

### 6.16.3 Order Events

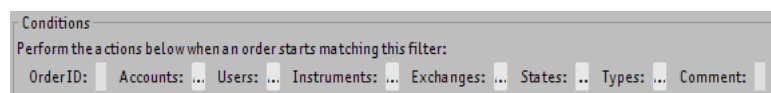


Figure 6.27: Conditions for order *Events*

Order *Events* are triggered when an order starts matching a given filter. For example, an *Event's* filter might have *States* set to *Executions* (and *No executions* not set). When an order received its first (partial or full) execution, the *Event* would be triggered. Further subsequent executions of the same order would not retrigger the *Event*.

The available conditions match the filters available in the *Order Book View*. A list of those filter elements is given on page 60. The filter elements themselves are described on page 30.

The available *Substitutions* are:

- `order.account` – The account associated with the order, e.g. ACC1
- `order.id` – The ID assigned to the order by MX<sup>pro</sup>, e.g. 12345
- `order.size` – The most-recently requested size of the order, e.g. 100. Note that this request may not yet have been confirmed by the destination *Exchange*.
- `order.limit` – The most-recently requested limit of the order, e.g. 12.34. Note that this request may not yet have been confirmed by the destination *Exchange*. For market orders, zero is shown.
- `order.user` – The MX<sup>pro</sup> username of the user who entered the order, e.g. user1
- `order.instrument_exchange.id` – The ID of the *InstrumentExchange* associated with the order, e.g. DE0005557508.XTR
- `order.instrument_exchange.exchange.name` – The name of the *Exchange* to which the order was sent, e.g. Xetra Frankfurt
- `order.instrument_exchange.exchange.country` – The country code of the *Exchange* to which the order was sent, e.g. DE
- `order.instrument_exchange.exchange.id` – The MX<sup>pro</sup> ID of the *Exchange* to which the order was sent, e.g. XTR
- `order.instrument_exchange.symbol` – The complete symbol of the order's associated *InstrumentExchange*, e.g. DTE.XTR
- `order.instrument_exchange.instrument_symbol` – The symbol of the order's associated *InstrumentExchange* without the *Exchange* component, e.g. DTE
- `order.instrument_exchange.msapid` – The *MSPID* of the order's associated *InstrumentExchange*.

#### 6.16.4 Quote Events

Conditions

For each of these InstrumentExchanges:

Symbol	Inst.Symbol	Name	MSPID
...	...	...	...

Perform the actions below when the following condition:

ASK PRICE < Value: 9.00

is true

Related Account:

KT02[Test account 1]

Figure 6.28: Conditions for quote Events

Quote *Events* are triggered every time that a quote matching the specified condition arrives for one of the listed *InstrumentExchanges*. For example if the *InstrumentExchanges* DTE.XTR and BEL.XTR are listed, the condition is set to LAST PRICE, <, Value:, 20 and a quote arrives for DTE.XTR with a last price of 10, the *Event* will trigger.

The list of *InstrumentExchanges* works exactly as does the *Quote Sheet View* (described on page 36). Below the list, a simple comparison can be entered, based on values from the quote (LAST PRICE, BID SIZE, etc.), or a fixed value (Value:). The *Event* triggers when the first value is equal to (=), greater than (>), less than (<), greater than or equal to (≥) or less than or equal to (≤) the second value. The account is used (for *Instruments* such as FX *Instruments*) in applying appropriate margins to the quote.

The available *Substitutions* are:

- instrument\_exchange.id – The ID of the *InstrumentExchange* that triggered the *Event*, e.g. DE0005557508.XTR
- instrument\_exchange.exchange.name – The name of the *Exchange* on which the *InstrumentExchange* that triggered the *Event* is listed, e.g. Xetra Frankfurt
- instrument\_exchange.exchange.country – The country code of the *Exchange* on which the *InstrumentExchange* that triggered the *Event* is listed, e.g. DE
- instrument\_exchange.exchange.id – The MX<sup>PRO</sup> ID of the *Exchange* on which the *InstrumentExchange* that triggered the *Event* is listed, e.g. XTR
- instrument\_exchange.currency – The trading currency of the *InstrumentExchange* that triggered the *Event*, e.g. EUR
- instrument\_exchange.symbol – The complete symbol of *InstrumentExchange* that triggered the *Event*, e.g. DTE.XTR
- instrument\_exchange.instrument\_symbol – The symbol of the *InstrumentExchange* that triggered the *Event*, without the *Exchange* component, e.g. DTE
- instrument\_exchange.mspid – The *MSPID* of *InstrumentExchange* that triggered the *Event*.
- instrument\_exchange.ric – The RIC of the *InstrumentExchange* that triggered the *Event*.
- instrument\_exchange.instrument.name – The name of the *Instrument* associated with the *InstrumentExchange* that triggered the *Event*, e.g. Deutsche Telekom
- instrument\_exchange.instrument.id – The ISIN of the *Instrument* associated with the *InstrumentExchange* that triggered the *Event*, e.g. DE0005557508
- instrument\_exchange.instrument.type – The type of the *Instrument* associated with the *InstrumentExchange* that triggered the *Event*, e.g. Stock

- `last.price`, `last.size`, `last.flags` — The price, size and associated flags of the most recent quote for the *InstrumentExchange* that triggered the *Event*.
- `bid.price`, `bid.size`, `bid.flags` — The price, size and associated flags of the most recent bid price for the *InstrumentExchange* that triggered the *Event*.
- `ask.price`, `ask.size`, `ask.flags` — The price, size and associated flags of the most recent ask price for the *InstrumentExchange* that triggered the *Event*.
- `open.price`, `open.size`, `open.flags` — The price, size and associated flags of the day's opening price for the *InstrumentExchange* that triggered the *Event*.
- `high.price`, `high.size`, `high.flags` — The price, size and associated flags of the day's highest price for the *InstrumentExchange* that triggered the *Event*.
- `low.price`, `low.size`, `low.flags` — The price, size and associated flags of the day's lowest price for the *InstrumentExchange* that triggered the *Event*.
- `pre.price`, `pre.size`, `pre.flags` — The price, size and associated flags of the previous day's closing price for the *InstrumentExchange* that triggered the *Event*.

### 6.16.5 Trade Events

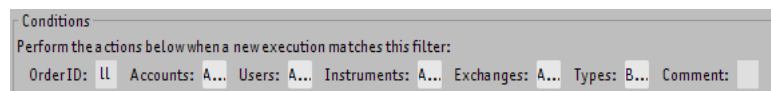


Figure 6.29: Conditions for trade *Events*

Trade *Events* are triggered when a trade occurs. The available conditions match the filters available in the *Trades View*. A list of those filter elements is given on page 62. The filter elements themselves are described on page 30.

The available *Substitutions* are:

- `order....` — All of the `order.` fields are defined in the same way as for order events (described on page 124).
- `exec.size` — The size of the trade (in terms of number of units traded, not monetary value), e.g. 100. Note that this number is always positive, no matter whether the trade was a buy or a sell.
- `signed_exec_size` — The size of the trade (in terms of number of units traded, not monetary value), e.g. 100. For buy trades, this number will be positive. For sell trades, it will be negative.
- `exec.fees` — If available, the fees charged for the trade, e.g. 1.23
- `exec.price` — The price at which the trade took place, e.g. 4.56

### 6.16.6 Actions

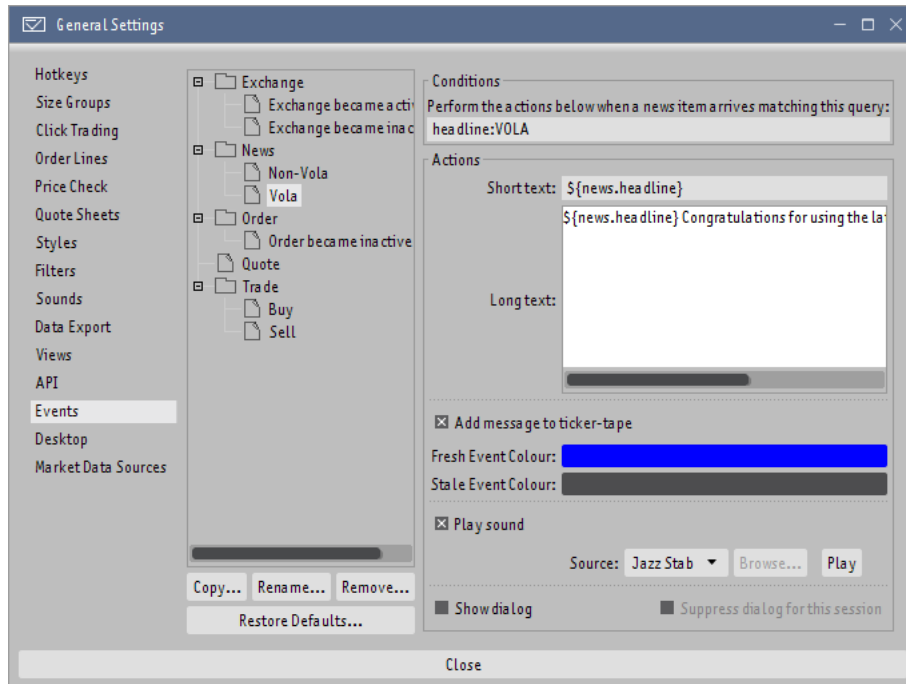


Figure 6.30: An *Event* with actions

Whenever an *Event* of any kind is triggered, any of a number of actions can be taken. In any case, the *Event* will also be visible in the *Events View*, even if no actions are defined. Depending on the type of action, text can be associated with the *Event*. This text is subject to *Substitutions* (described on page 130). The available substitutions depend on the type of *Event* and are described within the sections describing each type of *Event*. The defined *Short text* will appear in the table at the top of the *Events View*. The defined *Long text* will appear in the lower area of the *Events View* when the *Event* is selected from the table.

The three types of action are:

- **Add message to ticker-tape** – If this action is selected, the defined *Short text* will be shown in the *Ticker* found at the bottom of each *Desktop*. The text will initially appear in the colour defined under *New Colour*. After a few seconds, the colour will gradually fade to the colour defined under *Old Colour*. The defined *Long text* can be seen in a tooltip by holding the mouse cursor over the item in the *Ticker*.
- **Play sound** – Plays a sound when the *Event* is triggered. Under *Source*, you can select from one of the predefined sounds delivered with MX<sup>PRO</sup>, or you can select *File:* and then use the *Browse* button to select a sound file from your own computer. (This sound should be a WAV file.) The *Play* button can be used to test the selected sound.



- **Show dialog** – Selecting this action will result in the “Event occurred” dialog (described on the current page) being shown when the *Event* is triggered.

### 6.16.7 The “Event occurred” dialog

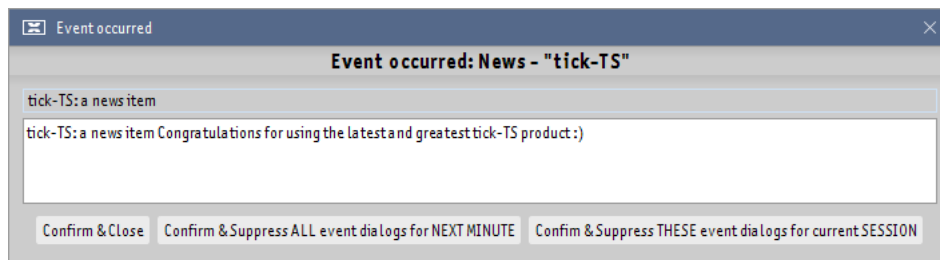


Figure 6.31: The “Event occurred” dialog

The “Event occurred” dialog appears when an *Event* is triggered for which the **Show dialog** action is selected. The text at the top of the dialog indicates the type of *Event* that has occurred (e.g. *News*, *Order*, etc.) and the name of the *Event* setting which triggered the dialog. Below that appears the *Event*’s **Short text** and further below, the *Event*’s **Long text**.

Three buttons appear at the bottom of the dialog, all of which will close the dialog, but in different ways:

- **Confirm & Close** – This will close the dialog without having any effect on the appearance of further dialogs
- **Confirm & Suppress ALL event dialogs for NEXT MINUTE** – This will close the dialog and will ensure that no other dialogs appear for the next minute. Note that even if a completely different type of *Event* occurs, based on a different setting, for which a dialog would normally appear, no dialog will be shown. This can be useful in busy periods to avoid being distracted. *Events* that may have been missed can be subsequently reviewed in the *Events View*.
- **Confirm & Suppress THESE event dialogs for current SESSION** – This will close the dialog and will prevent this particular *Event* setting from showing any more dialogs until the next time that you start MX<sup>pro</sup>. Note that other *Event* settings for the same type of *Event* may still cause a dialog to be shown – for example, if you suppress dialogs from one *Event* setting for news *Events*, dialogs would still be shown if any other news *Events* you have defined were triggered.

## 6.17 Substitutions

The *Data Export settings* and the *Event Settings* make use of *Substitutions*. *Substitutions* are a way of specifying a piece of text as a setting without knowing exactly what content it will have when it is used. An example *Substitution* would be entering `Order: ${order.id}` as the short text of an order *Event*. If the *Event* was triggered for an order with the ID 12345, then the displayed text would be `Order: 12345`. If the *Event* was later triggered for another order, 12350, the text this time would be `Order: 12350`. In other words, *Substitutions* act as a kind of placeholder, allowing things to be set up in advance and appear correctly later.

The *Substitutions* attempt to format values in an appropriate way. If you're happy with the standard formatting of the values, you need read no further. If you'd prefer more flexibility about the output, you can use the formatting functionality of the *Substitutions*. The available formatting options depend on the type of value being formatted.

### 6.17.1 Strings

For strings (sequences of characters – anything that's not a number and not a date or time) you can specify replacements for certain values. To take an example, if you have an order *Event* which outputs the order's account (ACC1 or ACC2, say) using `${order.account}`, but instead of ACC1 and ACC2 you'd prefer to output Cust and Prop, you would specify `${order.account|ACC1=Cust|ACC2=Prop}`. Similarly, you could change the representation of the *Exchanges* which are output:

`${order.exchange.id|XTR=100|FRA=200}` would result in 100 and 200 being output where otherwise XTR and FRA would have been output.

### 6.17.2 Numbers

For numbers, you can specify how you would like the number to be formatted – how many decimal places it should have, an alternative format for negative numbers, etc. As an example, if you have an order *Event* and would like the order's limit to be shown with four decimal places, you would enter `${order.limit|0.0000}`. 1.2345 would then be shown as 1.2345, 1.2340 would be shown as 1.2340 and 1.23456 would be shown as 1.2346. To specify that at least one and as many as four decimal places should be shown, you would enter `${order.limit|0.0###}`. 1.0000 would then be shown as 1.0, 1.0001 would be shown as 1.0001 and 1.00005 would be shown as 1.0001. In each case, the numbers will be output using the decimal separator which would normally be used in your locale – e.g. a comma in Germany or a dot in the United States. You can choose to output the numbers using a different locale. To output the numbers in the US locale no matter what the locale is on the machine where MX<sup>pro</sup> is run, you might enter `${order.limit|us,0.0000}`. The

output would then always use a dot irrespective of what would normally be used.<sup>1</sup>

### 6.17.3 Dates and Times

For dates and times, you can specify how the date and time should be formatted – whether the date should be shown, whether the time should be shown, whether seconds should be included, etc. To specify in the *Data Export settings* that only the hours and minutes of the last fill time should be shown, you would enter `${lastfilltime|HH:mm}` which might output 09:45. The same time with seconds and hours without leading zeroes would be specified as `${lastfilltime|H:mm:ss}` which might output 9:45:03. To include a date and time zone, you would enter `${lastfilltime|dd.MM.yyyy HH:m:s z}`, which might output 13.01.2009 09:45:03 CET.<sup>2</sup>

### 6.17.4 Default Values

For all types of value, you can specify a default value for the case that no other value is available. To take an example, in the *Data Export settings*, you might specify `${lastfilltime,00:00}`. This would result in the last fill time being output as normal, but 00:00 being output if the order had no fills. This can be combined with formatting as described above, in which case the default must come first. For example, to show the lastfilltime as hours and minutes and use 00:00 if the order has no fills, you would enter `${lastfilltime,00:00|H:m}`.

## 6.18 Desktop

Three settings are configurable:

- Show worksheet close (X) and add (+) buttons – Selected by default. If the check box is unselected the close/add worksheet buttons will not displayed.
- Show a "Panic Button" (cancel all orders button) in the toolbar – Check box unselected by default. The panic button functionality is described 3.2.2.
- Show toolbar items as – Three options available Icons and text (default), Text only and Icons only.

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<sup>1</sup>The MX<sup>pro</sup> formatting of numbers is based on Java's DecimalFormat. For full information about the facilities offered by DecimalFormat, see Oracle's documentation at the address <http://download.oracle.com/javase/6/docs/api/java/text/DecimalFormat.html>

<sup>2</sup>The MX<sup>pro</sup> formatting of dates and times is based on Java's SimpleDateFormat. For full information about the facilities offered by SimpleDateFormat, see Oracle's documentation at the address <http://download.oracle.com/javase/6/docs/api/java/text/SimpleDateFormat.html>

## **6.19 Market Data Sources**

In order to get quotes for markets, you have to subscribe to a Market Data Provider and login with the provided credentials. To enable a Market Data Source, please check the checkbox next to the enable label. Insert your credentials and press the Test Button. Note: Once logged in, market data is available for every workstation you sign in with your TBMX credentials.

If you have any questions about market data, please contact our sales team via email: [sales@tick-ts.de](mailto:sales@tick-ts.de) or phone: +49 (0)211 781767-67.

## Appendix A

# Lucene query language

The Lucene query language<sup>1</sup> is used by MX<sup>pro</sup> in the *Events View* (described on page 80) and the *News View* (described on page 77). In its simplest form, the Lucene language can be used as you would use a normal internet search engine: some text is entered and MX<sup>pro</sup> makes a best effort to divine the meaning of that text and act appropriately. It's also capable of much more, though.

### A.1 Terms

A *term* can be either a single word, or multiple words surrounded by quotation marks. For example, Deutsche Telekom would be treated as two *terms* and would match anything containing both "Deutsche" and "Telekom" (including "Telekom Deutsche" and "Deutsche random text Telekom"). In contrast, "Deutsche Telekom" would be treated as a single *term* and will only match the exact text "Deutsche Telekom".

### A.2 Fields

To be more specific about what the query should match, you can add *field* names to your *terms*. By doing so, you can say where you expect the given *term* to appear. If you don't specify a *field*, the *term* will match against any of the *default fields* appropriate to the query. In every place that the Lucene query language is used within MX<sup>pro</sup>, the appropriate section of this handbook lists the available *fields* and also which of those fields are *default fields*.

To specify a field, give the name of the field, then a colon, then your term. Some examples:

- type:Trade

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<sup>1</sup>This description of the language is based on the more technical description found at [http://lucene.apache.org/java/2\\_0\\_0/queryparsersyntax.html](http://lucene.apache.org/java/2_0_0/queryparsersyntax.html).

- `cause:``My event''`
- `headline:VOLA`
- `body:``some text here''`

### A.3 Wildcards

Your *terms* can contain *wildcards*. These can be used to match any characters. There are two types of *wildcard*: `?` and `*`. `?` will match a single character, whilst `*` will match any number of characters (including no characters at all!). You can include any number of *wildcards* in a *term*. Some examples:

- `?rade` – will match “trade” and “grade” but not “parade” or “comrade”.
- `*rade` – will match “trade”, “grade”, “parade”, “comrade”, etc. but not “ride”, “pride” or “erode”.
- `*r?de` – will match “trade”, “grade”, “parade”, “comrade”, “ride”, “pride”, “erode” etc. but not “arcade” or “interlude”.
- `*r*de` – will match “trade”, “grade”, “parade”, “comrade”, “ride”, “pride”, “erode”, “arcade”, “interlude”, etc.

### A.4 Operators

You can add *operators* to a query to modify its behaviour. By default, a query for Deutsche Telekom will match items containing *both* “Deutsche” *and* “Telekom”. You can instead query for *either* of these things by using the query `Deutsche OR Telekom`. Note that `OR` must be capitalised. You can emphasise the default behaviour by adding `AND` (again, this must be capitalised): `Deutsche Telekom` and `Deutsche AND Telekom` are equivalent. If a particular word should be excluded, you can prefix it with a minus sign: `-Deutsche Telekom` would search for items that *do* contain “Telekom” but *don't* contain “Deutsche”.

### A.5 Grouping

You might want to use the default behaviour (equivalent to `AND`) for some *terms*, but use `OR` for other *terms*. You can do this by *grouping* these different *terms* together. To start a group, use an open bracket: `(`. To end a group, use a close bracket: `)`. Some examples:

- `(Deutsche OR Telekom) AND Blah` – This query will match items that contain “Blah” as well as one (or both) of “Deutsche” and “Telekom”. Note that AND could be omitted, as this is the default behaviour.
- `(Deutsche Telekom) OR Blah` – This query will match items that contain “Blah” *or* contain both “Deutsche” and “Telekom”.
- `(Alpha Bravo) OR (Charlie Delta)` – This query will match items that contain both “Alpha” and “Bravo”, or that contain both “Charlie” and “Delta”.

## A.6 Special characters

As can be seen above, some characters (such as brackets or asterisks) have special meanings in the context of a Lucene query. If you want to use these characters (without their special meanings) as part of your query, you can prefix them with a backslash. As an example, `\(Alpha\)` will match items containing “(Alpha)” (including the brackets). The complete list of special characters that should be treated in this way is:

- `+`
- `-`
- `&&`
- `||`
- `!`
- `(`
- `)`
- `{`
- `}`
- `[`
- `]`
- `^`
- `"`
- `~`
- `*`

- ?
- :
- \



## **Afterword**

In describing complex software such as MX<sup>pro</sup>, languages (and people) approach their limits. If after reading the manual, you have remaining questions, your sino Team will be happy to help you further.

Furthermore, the sino Academy offers seminars in various cities, which are (among other things) concerned with the usage of MX<sup>pro</sup>. Ask us: freephone 0 800 800 74 66 or [info@sino.de](mailto:info@sino.de). Or talk to your sino trader.

# Index

- About Window, 21
- Account Messages View, 70
- Account Picker, 27, 44, 50, 55, 69, 72–74, 76, 80, 83, 119
- Alert Settings, 117
- All Exchanges View, 44, 45, 83
- Black-Scholes, 47
- Cash View, 69
- Chart View, 24, 38, 55, 117
- Data Export settings, 60, 130, 131
- Desktop Menu, 95, 97
- ECNs Only Switch, 49
- Environment Restore Window, 20
- Equity Borrowing View, 66, 75
- Event, 80, 81, 122–130
- Event Settings, 18, 130
- Events View, 80, 122, 128, 129, 133
- Exchanges View, 76
- Filter Picker, 27, 35, 36, 44, 60–62, 69, 71, 78, 80, 114
- Filter Settings, 28, 114
- Full Depth Snapshot, 49
- FX Quote Request View, 38, 74, 104
- FX Trading View, 38, 71–73, 104
- General Settings Window, 21
- Grid View, 39, 49, 53, 104, 105, 119, 120
- InstrumentExchange Info Switch, 44, 45, 48, 55, 73, 74, 82
- InstrumentExchange Picker, 24, 25, 29, 44, 46–49, 55, 73, 82
- Level 2 View, 25, 38, 49, 51, 83, 107
- Login Window, 14, 18, 20
- midpoint, 86
- Network Status Light, 15
- Network Status Window, 15
- News View, 25, 44, 77, 79, 133
- Option Sheet View, 38, 46, 65
- Options Exchange Picker, 48
- Order Book View, 23, 24, 59, 80, 83, 86, 93, 94, 97, 114, 115, 124
- Order Creation Menu, 45, 93
- Order Line, 19, 24–26, 43, 45, 59, 64, 65, 76, 80, 83–86, 90, 98–102
- Order Line Switch, 26, 35, 36, 44, 46, 48, 49, 55, 60–62, 69, 71, 77, 82, 85
- Order Manipulation Menu, 24, 45, 59, 84, 93, 94
- Order Menu, 43, 93, 104
- Panic Button, 21, 22, 105
- Period Picker, 55
- Portfolio View, 43, 51, 63, 69, 80
- Position Adjustment View, 79
- Price Check, 72, 74, 85, 96, 100
- Quick Trading View, 24, 73, 83
- Quote Map View, 45, 46
- Quote Request View, 38, 70, 94
- Quote Sheet, 35–37, 39, 40, 42–46, 98, 106, 107, 112, 117
- Quote Sheet Picker, 36, 45
- Quote Sheet View, 23, 29, 35–37, 39, 41, 43, 45, 46, 93, 94, 97, 98, 107, 110, 126
- Range Picker, 28, 48, 50, 51, 55, 60–62, 78, 80, 81

Search Entry Field, 35  
Search View, 21, 35, 39, 106  
Simple Trade View, 82, 83  
Single Item Worksheet, 24, 25  
Size Group, 86, 100  
Size Group settings, 43, 86, 93, 94, 100  
Style Picker, 28, 36, 44, 46, 48, 49, 60–62,  
69–71, 76, 78, 80, 82, 107, 109  
Style Settings, 28, 34, 46  
Substitution, 116, 122–124, 126–128, 130  
  
Ticker, 18, 19, 122, 128  
Time & Sales View, 38, 48, 49, 83  
Trade Stats View, 62, 80  
Trades View, 61, 127  
  
View Task Bar, 23