MetaTrader 4 STS Finance: User Guide

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Working with charts

Chart Opening

A chart shows the price changes for a security with the time. Charts are necessary for performing of technical analysis, working of expert advisors and testing thereof. Up to ninety-nine charts can be opened in the terminal at the same time.

A new chart can be opened by executing of the "File — New Chart" menu, "Window — New Window" menu command, or by pressing of the [image] button of the "Standard" toolbar. The list of securities available will appear at performing of any of the above actions. Having selected the necessary symbol from this list, one can open its chart. New charts can also be opened from the "Market Watch" window, holding Ctrl and dragging the element of the list (the symbol) from the window into any point of the workspace of the terminal, or having executed the "Chart Window" command of the context menu. All new charts are opened with the DEFAULT.TPL template created during the terminal installation. This template cannot be deleted, but it can be modified.

History data used for drawing of charts are stored on the hard disk. At opening of a chart, the data are downloaded from the disk and the last missing data are spooled from the trading server. If there are no history data for the symbol on the hard disk, the latest 512 bars of history will be downloaded. To spool the earlier data, one has to move the chart to the desired area. After the chart has been opened, information about the current quotes starts to income to the terminal. Thus, the further price changes will be shown in the real-time mode. This information will be stored in the history file and used at the reopening of this chart in future.

Attention: The "Max. bars in history" and "Max. bars in chart" parameters are defined in the terminal settings. These parameters allow to control over the amount of history data displayed and stored on the hard disk.

Offline Charts

Client terminal allows to work with offline charts. These charts are opened on basis of data saved on the hard disk in HST format. They are not updated from the server. These charts turn out as very useful for working with non-standard securities or periods.

To open a new chart in offline mode, one has to execute the "File — Open Offline" menu command. Then, a symbol must be selected in the window that appears, and the "Open" button must be pressed. The OFFLINE.TPL template is applied to the chart automatically. At that, the "(offline)" inscription will appear added in the heading of the offline chart.

At testing of an expert, the data file in FXT format is created and used. It differs from a standard chart, but it can be opened offline.

Chart Setup

Appearance and properties of each chart in the terminal can be set up individually. To do so, one has to execute the "Charts — Properties…" menu command, the chart context menu command of the same name, or press F8. These actions result in appearing of the "Properties" window that can be used for setting of the color of various elements of the chart (the "Colors") tab:

- **Background** — chart background color;
- **Foreground** — color of axes, scales, OHLC line;

- **Grid** — chart grid color;
- **Bar Up** — bar up, shades and fringing of the Bull Candle body;
- **Bar Down** — bar down, shades and fringing of the Bear Candle body;
- **Bull candle** — color of the Bull Candle body;
- **Bear candle** — color of the Bear Candle body;
- **Line graph** — line chart and doji;
- **Volumes** — volumes and levels of open positions;
- **Ask line** — color of the Ask line;
- **Stop levels** — levels of stop orders (Stop Loss and Take Profit).

The changes made are automatically shown in the left part of the window in the preview chart. Except for manual setting of various color elements of the chart, one can choose pre-defined color diagrams in the field of the same name. There are three color diagrams available in the terminal: "Yellow on Black", "Green on Black", and "Black on White". After a color diagram has been chosen, the chart elements described above will change in the chart in the left part of the window. Custom color diagrams can be stored in templates.

Other chart settings can be defined in this window, as well. To do so, one has to switch to the "Common" tab and select the desired options:

- **Offline chart** — turn the chart offline. This option stops receiving and drawing of price data for the given chart. In future, after this option is disabled, price data will be drawn in the chart again. After the chart has been opened offline, (the "File — Open offline" menu command), this option will be enabled automatically.

- **Chart on foreground** — place the chart in the "foreground". If this function is enabled, all analytical objects will be placed "under" the price chart.
  This command is the same as that of "Charts — Foreground chart".

- **Chart shift** — shift the chart from the right border of the window to the shift mark. The chart shift mark (a gray triangle in the upper part of the window) can be moved with the mouse horizontally within 10 to 50% of the window size.

  This option can also be enabled with the button of the "Charts" toolbar or by the "Charts — Chart Shift" menu command.

- **Chart autoscroll** — allow/forbid to shift the chart to the left automatically after the new bar has started to form. If this option is enabled, the latest bar will always be shown in the chart.

  This option can also be enabled by the button of the "Charts" toolbar and by the "Charts — Auto Scroll" menu command.

- **Scale fix One to One** — fix the chart scale as "one to one" (the size of one pip of the vertical axis in pixels is equal to the distance between the bars axes in pixels). At that, the "Scale fix" option will be enabled automatically, and a scroll bar will appear at the right side of the window that allows to move the chart vertically. This mode is necessary for precise constructions.

- **Scale fix** — fix the current chart scale. If the scale has not been fixed, the chart will be automatically scaled vertically. This option disables automatic scaling and fixes the current scale. When this option is selected, the fields of additional scaling parameters "Fixed maximum" and "Fixed minimum" are activated.

- **Bar chart** — display the chart as a sequence of bars.

  This action can also be performed with the button of the "Charts" toolbar, by the "Charts — Bar Chart" menu command or by pressing of accelerating keys of Alt+1.

- **Candlesticks** — display the chart as a sequence of candlesticks.

  This action can also be performed with the button of the "Charts" toolbar, by the "Charts — Candlesticks" menu command, or by pressing of accelerating keys of Alt+2.

- **Line chart** — display the chart as a broken line that connects the points of bar close prices.

  This action can also be performed by the button of the "Charts" toolbar, by the "Charts — Line Chart" menu command, or by pressing of accelerating keys of Alt+3.

- **Show OHLC** — show/hide OHLC line. If this action is done, an additional data line will appear in the upper left part of the window. Except for symbol name and chart period, the latest bar prices are listed in it. Price are recorded in the following format: OPEN, HIGH, LOW and CLOSE (OHLC) — bar open price, the highest bar price, the lowest bar price, and bar close price, respectively. Thus, precise value of the latest bar can always be seen. This option influences the data line of sub-windows of indicators, as well.

- **Show Ask line** — show/hide Ask price level of the latest quote. Bars are drawn and shown only on Bid prices in the terminal. However, at opening of long positions and closing of the short ones, the Ask price is always used. It is not shown in the chart in any way, so it cannot be seen. To control one's trading activities more precisely, one can enable the "Show Ask line" parameter. After this command has been executed, an additional horizontal line will appear in the chart that correspond with the Ask line of the latest bar.

- **Show period separators** — show/hide period separators. Date and time of each bar are displayed on the horizontal axis of the chart. And this horizontal scale interval is the selected timeframe. The "Show period separators" option draws additional vertical lines in the chart that correspond with the larger period (timeframe) borders. So, daily separators will be drawn for charts with periods of M1 to H1, weekly ones — for H4, monthly ones — for D1, and yearly ones — for W1 and MN1.

- **Show grid** — show/hide grid in the chart window.
  The same actions can be performed by the chart context menu and "Charts" menu command of the same name, as well as by pressing of accelerating keys of Ctrl+G.

- **Show volumes** — show/hide the volume chart in the lower part of the window. This option does not function when the scale is fixed.
  The same actions can be performed by the chart context menu and "Charts" menu command of the same name, as well as by pressing of accelerating keys of Ctrl+L.

- **Show object descriptions** — show/hide object descriptions in the chart. If this option is enabled and there are descriptions of objects imposed into the chart available, they will be shown directly in the chart.

Chart Management

Charts allow to analyze price changes at the market and are used for graphical analysis, building of various indicators and line studies. Charts are a very valuable instrument for analyzing of financial markets, that is why a great attention is paid to them. Chart management means:

- **Chart Type**
  A symbol chart can be of three types:
  1. Bar Chart — the sequence of bars.

     To make a chart of this type, one has to press the button of the "Charts" toolbar, accelerating keys of Alt + 1, the corresponding option of the Charts Setup window, or execute the "Charts — Bar Chart" menu command.
  2. Candlesticks — the sequence of candlesticks.

     To make a chart of this type, one has to press the button of the "Charts" toolbar, accelerating keys of Alt + 2, the corresponding option of the Charts Setup window, or execute the "Charts — Candlesticks" menu command.

3. Line Chart — a broken line connecting the bar close prices.

    To make a chart of this type, one has to press the button of the "Charts" toolbar, accelerating keys of Alt + 3, the corresponding option of the Charts Setup window, or execute the "Charts — Line Chart" menu command.

- **Saving**
  The client terminal allows to save history data of the active chart as a text file in formats of "CSV", "PRN", and "HTM".
  To save them in one of these ways, one has to execute the "File— Save As" menu command or press accelerating keys of Ctrl + S. Besides, the chart can be saved as a picture in BMP or GIF format. To do so, one has to execute the "File—Save As Picture…" menu command. The same actions can be performed by the chart context menu command of the same name.

- **Print**
  To print the active chart in color, one has to flag "Color print" in the chart settings, then execute the "File — Print…" menu command, the chart context menu command of the same name, press the button of the "Standard" toolbar or accelerating keys of Ctrl+P. If the "Color Print" is disabled, or there is no color printer available, the chart will bee printed as black-and-white.

- **Full Screen**
  Execution of the "View — Full Screen" menu command or pressing of F11 will switch the chart to the full screen mode. Only chart windows, main menu and chart switching bar will remain in the display. One can return to the initial mode using the same command.

- **Attaching of MQL4 Programs**
  Before MQL4 starts to execute, it must be attached to the chart. To do so, one has to select the desired MQL4 program in the "Navigator" window and double-click on it or execute the "Attach to a chart" command of the context menu. The "Drag'n'Drop" technique can be used, as well.

- **Working with Indicators**
  Indicator is a mathematical manipulation with price and/or volumes of a security in order to forecast future price changes. Decisions about how and when to open or close a position are made on basis of signals from technical indicators. Indicators can be imposed into a chart by the "Insert — Indicators" menu commands or those of indicators managing sub-menu that can be opened by pressing of the button of the "Charts" toolbar. The "Drag'n'Drop" technique allows to impose indicators from the "Navigator" window into any open window, as well. The list of indicators imposed into the chart can be viewed in the "Data Window" by executing of the "Charts — Indicators List" menu command, the chart context menu command of the same name, or by pressing accelerating keys of Ctrl+I.

  More details about working with technical indicators can be found in the section of the same name.

- **Working with Objects**
  To analyze the market, one can impose various graphical objects into the chart. To do it, one has to use the "Insert" menu commands or buttons of the "Line Studies" toolbar. Line Studies, geometrical shapes, signs, and texts, are grouped in the menu.

  More details can be found in the "Graphical Objects" section.

- **Period Change**
  The client terminal allows to use nine different data periods, from a minute to a month long. This variety of periods is necessary for analyzing the market with technical indicators and line studies.

  The desired period of the chart can be chosen with help of the "Period" toolbar, the button of the "Charts" toolbar, the "Charts — Period" menu, or by executing of the chart context menu command.

- **Zooming**

  Charts can be zoomed horizontally, increasing or decreasing thereby the amount of bars shown in the screen simultaneously.

  To do it, one can use the buttons of / of the "Charts" toolbar, keys of "+"/"-", the commands of "Zoom In"/"Zoom Out" of the chart context menu and of the "Charts" menu.

  To zoom out a chart vertically, one can hold any point of vertical axis with the left mouse button and move it down. Double click on vertical axis or pressing of "5" in the keypad restores the scale.

  Besides, the chart can be zoomed precisely by defining of upper and lower borders in the Charts Setup window with the "Scale fix" option. The "Scale fix One to One" option of the same window allows to set the "one-to-one", i.e., one pip of vertical axis will correspond with one bar of the horizontal one.

- **Scrolling, Auto Scrolling, and Shifting of the Chart**

  Scrolling is moving of price data to the right/left in the chart that can be performed by cursory keys of the keyboard. Besides, the chart can be scrolled with F12 (the "Step by Step" mode — scrolling the chart by one bar to the left) or Shift+F12 (scrolling the chart by one bar to the right), or with the mouse: one moves the cursor to the right/left when holding the left mouse button pressed on any point of the chart. Using the fast navigation box, one can have shown the necessary area of the chart having specified the specific date and time. If the chart has been scrolled to the area where there are no price data, the missing bars will be downloaded automatically.

  If the chart scale has been fixed, it can be scrolled vertically, as well. To do so, one has to move the mouse up/down while holding the slider on the vertical scale. To get the chart back into the visibility range, one has to press "5" in the keypad or double-click in the area of the chart price scale.

  Auto scroll is intended for users to have the latest bars before their eyes constantly. If this option is enabled, the chart will be automatically scrolled to its end part. This function can be enabled by pressing of the button of the "Charts" toolbar or by the "Charts — Auto Scroll" menu command.

  The "Chart Shift" option shifts the latest bar from the right screen border to the chart shift mark. The chart shift mark (a gray triangle in the upper part of the window) can be moved horizontally with the mouse within 10 to 50% of the window size. The chart shift can be enabled by the button of the "Charts" toolbar or by the "Charts — Chart Shift" menu command.

- **Chart Positioning**

  Normally, the chart datum point is located in the left part of the window. The specific time bar is anchored to it that can be moved through scrolling or with the use of fast navigation box. When a timeframe is changed, there will be an attempt to calculate the new anchoring bar corresponding with that of the previously used timeframe. I.e., the timeframe that is the nearest to this given point will be shown at the left side of the window. The datum point (a gray triangle at the lower border of the chart) can be moved within the chart window using the mouse. It appears only if the "Auto Scroll" is disabled. This mechanism is convenient when analyzing a certain period of time for different timeframes.

  Attention: Positioning does not work if the "Auto Scroll" option is enabled.

- **Working with Templates**

  Templates represent the chart window parameters stored in the memory. The following is saved in a template: chart type, period, scale, all settings of line studies, technical and custom

indicators, and experts. Templates allow to unify the appearance of many charts easily and fast. The menu that manages templates can be called by the "Charts — Template" menu command,

the chart context menu command of the same name and the [icon] button of the "Charts" toolbar. The "Save Template…" menu command allows to store a new template, and that of "Remove Template" — to delete an existing one.

More details can be found in the "Templates and Profiles" section.

- **Working with Profiles**

  Profiles represent a convenient way of working with chart groups. At opening of a profile, each chart with all its settings will be found in the same place where it was when the profile was being stored.

  The menu that manages profiles can be opened by the "File — Profiles" menu command, by

  pressing of the [icon] button of the "Standard" toolbar, or by clicking with the mouse in the status bar containing the name of the current profile.

  More details can be found in the "Templates and Profiles" section.

- **Data Updating**

  Data must be updated if any errors or "holes" occur in the price chart. In order to update the price data, one has to execute the "Charts — Refresh" menu command or the chart context menu command of the same name. After all these actions have been performed, the missing bars will be downloaded from the server automatically and drawn in the chart.

Use of Mouse

The chart is directly managed with the mouse as follows:

- clicking with the left mouse button on any point in the chart window and holding of it with the subsequent horizontal moving of the cursor result in the chart scrolling;
- clicking with the left mouse button on the chart vertical scale and holding of it with the subsequent vertical moving of the cursor result in vertical chart scaling, and the double click with the mouse on the chart vertical scale will rescale the chart;
- clicking with the left mouse button on the chart horizontal scale (but not the fast navigation box) and holding of it with the subsequent horizontal moving of the cursor will result in the chart rescaling;
- clicking with the right mouse button on any point in the chart window results in calling of the chart context menu (described below);
- double-clicking with the left mouse button on elements of technical indicators (lines, signs, histogram bars, etc.) calls the setup window of the corresponding indicator;
- clicking with the right mouse button on elements of a technical indicator calls the context menu of the indicator;
- single or double, depending on the terminal settings, clicking with the left mouse button on an object (line studies, texts or arrows) will select the object;
- clicking with the left mouse button on the selected object and holding of it with the subsequent moving allows to move the selected object;
- Ctrl + clicking with the left mouse button on a selected trend line with the subsequent moving allows to draw a parallel trend line (create a channel);
- clicking with the middle mouse button in the chart window switches cursor to the "crosshair" mode;
- clicking with the right mouse button on a selected object will open its context menu;
- placing of cursor on the bar close price or on an element of an object or indicator will call the prompt.

Chart Management with Context Menu Commands

Some commands of the context menu are intended for chart management:

- **Expert Advisors** — sub-menu that manages expert advisors. Expert advisor is an MQL4 program that is executed with every new tick and allows to automate analytical and trading activities. Commands that manage the expert imposed into the chart are grouped in this menu, too. Using this sub-menu, one can change the expert properties, remove it, or start testing it. More details are given in the "Expert Advisors" section.

- **Remove Script** — remove an executable script. Script is a program written in MetaQuotes Language 4 (MQL 4) and intended for a single performing of some actions.

- **Indicators List** — window that manages technical indicators attached to the chart window. Technical indicator is a mathematical manipulation of the symbol price and/or volumes in order to forecast future price changes. On signals received from technical indicators, decisions are made about how and when to open or close a position.

- **Objects List** — window that manages graphical objects. Graphical objects are those objects in the terminal that are imposed manually. They are intended for analytical purposes.

- **Periodicity** — sub-menu that manages the chart periods.
  Periods of charts can also be managed by the "Charts" menu and toolbar commands of the corresponding names.

- **Template** — sub-menu that manages templates. Template is a set of chart window parameters that can be used for other charts.
  This sub-menu can also be called by the "Chart" menu command of the same name.

- **Refresh** — refresh history data. At that, all data missing within the available history and new ones will be downloaded.
  The same action can be performed by the "Charts" menu command of the same name.

- **Auto Arrange** — set the height of all indicators windows as default.
  The same action can be performed by pressing of accelerating keys of Ctrl+A.

- **Grid** — show/hide grid.
  The same action can be performed by the "Charts" menu command of the same name or by pressing of accelerating keys of Ctrl+G.

- **Volumes** — show/hide volumes chart.
  The same actions can be performed by the "Charts" menu command of the same name or by pressing of accelerating keys of Ctrl+L.

- **Zoom In** — zoom in the chart horizontally by one step.
  The chart can also be zoomed in by the "Charts" menu command of the same name, by pressing of "+" or the button of the "Charts" toolbar.

- **Zoom Out** — zoom out the chart by one step.
  The chart can also be zoomed out by the "Charts" menu command of the same name, by pressing of "-" or the button of the "Charts" toolbar.

- **Delete Indicator Window** — delete indicator window from the chart. Some indicators are drawn in special sub-windows and have their own scaling. This command allows to delete such a sub-window.
  More details about working with technical indicators can be found in the corresponding section.

- **Save As Picture** — save the chart as a picture (GIF or BMP).
  The same action can be performed by the "File — Save As Picture…" menu command.

- **Print Preview** — preview the chart image before printing.
  The same action can be performed by the "File — Print Preview" menu command or by pressing of the button of the "Standard" toolbar.

- **Print…** — print the chart. If the "Color print" option is checked in the program settings, chart can be printed in color.
  The same action can be performed by the "File — Print…" menu command, accelerating keys of
  Ctrl+P, or the [icon] button of the "Standard" toolbar.
- **Properties…** — call the charts setup window.
  The same action can be performed by pressing of F8.

Attention: The "Expert Advisors" sub-menu, as well as the commands of "Remove Script", "Indicators List", and "Objects List" are activated only if the corresponding objects have been imposed into the chart.

Charts Print

There are means to print out charts in the client terminal. A hart can be printed in black-and-white or in color. To print it in color, one has to enable the "Color print" option in the client terminal settings window. After that, the chart will be printed out in color if the printing device allows it. Otherwise, the chart will be printed out in black-and-white format.

The present printing device sometimes needs to be set up. To do so, one has to execute the File — Print Setup…" menu command. To make sure that all desired elements are included into the printing area, one can execute the "Print Preview" command of the same menu, the same command of the chart

context menu, or press the [icon] button of the "Standard" toolbar. The printing itself will be performed by the "File — Print…" menu command, by the same command of the chart context menu, by pressing of

the [icon] button of the "Standard" toolbar, or accelerating keys of Ctrl+P.

Deleted Charts

Some charts become useless at some stages of work, and they need to be deleted. This can be done by the "File — Close" menu command or by pressing of accelerating keys of Ctrl+F4. At that, the templates of deleted windows will be stored if "Save deleted charts to reopen" is enabled in the client terminal settings window. These templates can be used in future. So, if a chart has been deleted occasionally, it can be restored. To do so, one has to execute the "File — Open Deleted" menu command and select a symbol from the list. After that, the chart window of the selected symbol will be fully restored with all its settings and objects imposed into it.

Templates

A template is a set of chart window parameters that can be applied to other charts. The following can be stored in a template:

- chart type and color;
- color diagram;
- chart scale;
- OHLC line shown or hidden;
- the attached expert advisor and its parameters;
- the imposed custom and technical indicators with their settings;
- line studies;
- separators of days.

When a template is imposed into a chart, the stored settings, as they are, will be attached to the security and period. For example, one can create a template that includes indicators of MACD, RSI, and Moving

Average, and then use it for other charts. In this case, charts windows will have the same view for different symbols and periods.

Templates are stored in the /TEMPLATES directory as TPL files. A template created once can be used unlimited amount of times. A basic template (DEFAULT.TPL) is created during installation of the terminal. It will be applied automatically for creation a new chart window. In future, it can be changed by using of the active chart window properties.

To create a new template, one has to execute the "Charts — Template — Save Template…" menu command, the chart context menu command of the same name, or by pressing of the button of the "Charts" toolbar. As a result, a new template will be created on basis of the data of active chart window. The same actions must be performed to modify a template, but an existing template should be selected instead of entering of a new filename. To impose a template into the chart window, one has to select the desired file in the templates managing menu or in any available folder in the "Open" window that can be called by the "Charts — Template — Load Template…" menu command. The "Charts — Template — Remove Template" menu command and the chart context menu command of the same name allow to delete templates.

Attention: The "DEFAULT.TPL" cannot be removed.

Profiles

Profiles offer a convenient way of working with groups of charts. When a profile opens, each chart with its settings is placed exactly in the same location where it was before, at the profile saving. All changes in all chart windows of the given list are automatically saved in the current profile. The list of all chart windows of the current profile can be found in the "Window" menu. The name of the current profile is displayed in one of the status bar windows and checked in the profile managing menu. When the terminal is installed, the profile by default (DEFAULT) is created. Initially, four basic currency pairs are stored in it: "EUR/USD", "USD/CHF", "GBP/USD", and "USD/JPY".
Profiles are managed from a single menu that can be called by the "File — Profiles" menu commands, by pressing of the button of the "Standard" toolbar, or by clicking with the mouse button on the current profile name in the status bar window. To use another profile, one has to select the desired name from the list in this menu. At that, the new profile will be opened and become the current. The "Save Profile" command saves the current profile in its state by the moment of the beginning of the command execution under a new name. The new profile is a copy of the previous one and becomes the current. One can delete profiles using the "Remove Profile" command.

The "Next Profile" command and F5 open all available profiles one by one, and the "Previous Profile" and accelerating keys of Shift + F5 allow to search profiles in the reverse direction.

Attention: The current profile and that by default (DEFAULT) cannot be deleted.

A pre-defined profile can be assigned to a trade account in the client terminal. This profile must have a name that coincides with the number of the trade account. If there is a corresponding profile when switching to the given trade account, it will be opened automatically. If there is no pre-defined profile, the current profile will remain active.