

# Volume Profile

## Introduction

The Volume Profile indicator constructs a price / volume profile of the trading activity for an instrument over a specified time period. The indicator plots the profile as a vertical histogram, i.e. showing the volume at specific price levels.

The indicator generally utilizes a lower-timeframe data stream which is loaded separately (and in the background) to the main chart. For example, for a 4 hour chart (where each candle / bar represents 4 hours duration), the Volume Profile indicator can construct a profile using 1min bars (or 5min, 15min, etc.). Obviously, the smaller the timeframe used, the more detailed the profile will be.

The shape of the profile consists of peaks and valleys, which are known as High Volume Nodes (HVNs) and Low Volume Nodes (LVNs) respectively. The highest volume node on the profile is also usually referred to as the Point Of Control (POC).

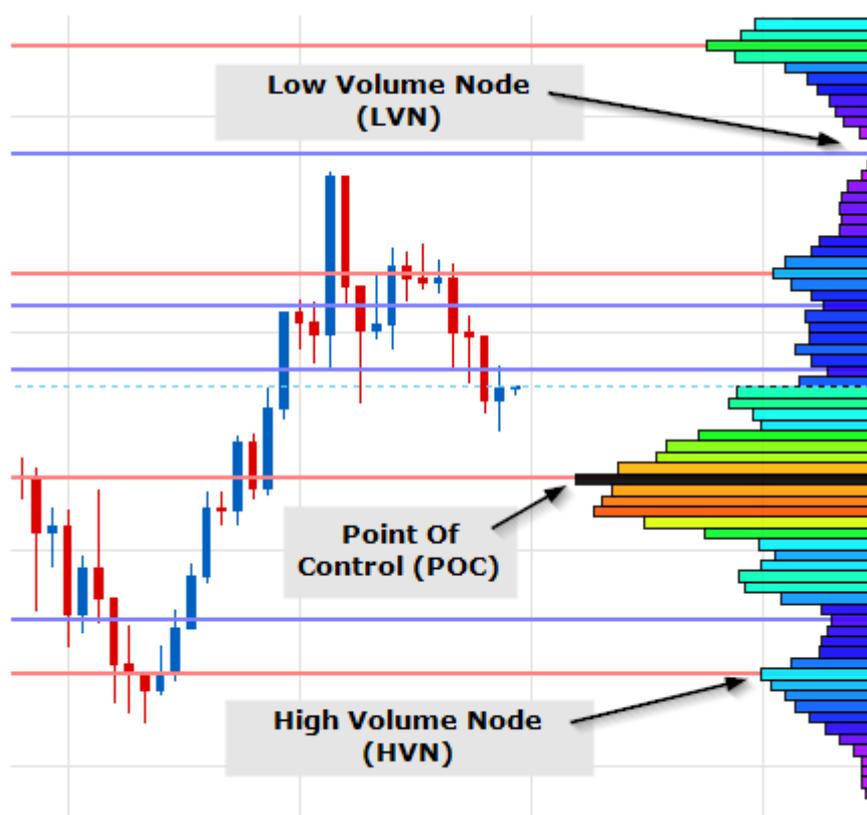


Figure 1 : Anatomy of a Volume Profile chart

HVNs often act as “magnets” attracting price to it. They represent areas of previous price acceptance. LVNs show areas of price rejection. Both HVNs and LVNs can act as support / resistance to future price movement.

The Volume Profile indicator automatically detects the best HVN and LVN levels, which are then be drawn to the chart as horizontal lines. See Figure 2 and Figure 3 for example.

The time period used to construct the profile can be easily specified in a number of ways, including the whole chart, specific start / end dates, “N-hours/days/weeks back”, current week”, etc.

The indicator works on any timeframe. However, please note that there is an upper limit to the amount of data that can be loaded (currently 15000 bars, or 5000 ticks). For example, 15000 bars of 1min data is approximately 10 days; 15000 bars of 5min data is approximately 52 days, etc. This limit only applies to how much data can be loaded when “back-filling” a chart (e.g. when it is added to the chart); the indicator can continue to collect live data beyond that limit.

## **Installation**

Please use the provided installer.

This software is for MarketScope 2.0 charting/trading application. There are no special hardware or software requirements. If your PC will run the MarketScope 2.0 software then you should be good to go. A good performance internet connection is recommended.

## **User Guide**

The indicator uses some terminology commonly used by Market Profile traders. A small glossary of terms can be found towards the end of this document.

## Input Parameters

### Calculation Parameters

Calculation parameters	
Resolution	1.0
Period	m5
Profiling style	Tick volume
Profiling mode	Normal
Number of bars/hours/days/w	10
Time format	Chart
Specified start date/time	
Specified end date/time	
Value Area percentage	70.0
HVN and LVN detection window	10

Display options

Colours and effects

Appearance

**Resolution:** This is the size of the “statistical bins” which are used to collate the price action data. The value is in pips. This value should not be too small relative to the time-frame and instrument used, otherwise it creates too many “statistical bins” which can be computationally and graphically expensive.

**Period:** This is the bar size used to create the profile. For performance reasons, there is a limit on how much data can be loaded by indicators (currently 15000 bars, or 5000 ticks). For example, 15000 bars of 1min data is approximately 10 days; 15000 bars of 5min data is approximately 52 days, etc. This limit only applies to how much data can be loaded when “back-filling” a chart (e.g. when it is added to the chart); the indicator can continue to collect live data beyond that limit.

**Profiling style:** This can be ‘Tick volume’ or ‘TPO count’. The ‘Tick volume’ mode will use the bar’s tick volume value to weight its contribution to the profile, with higher volume bars having a larger contribution to the profile. The ‘TPO’ mode generates a profile based purely from the price bars, with each bar having equal weighting.

**Profiling mode:** This can be “Normal”, “N-bars/hours/weeks back”, “Specified start/end”, “Current day/week/month/year” and “Previous day/week/month/year”.

When set to “Normal” the indicator will profile the whole chart.

When set to “N hours/days/weeks back”, the start date/time for constructing the profile is set to “N” bars/hours/days/weeks back from the current date & time, where “N” is specified in the “Number of bars/hours/days/weeks back” field.

When set to “N-bars back”, the indicator constructs a “rolling profile” of the last “N” bars, i.e. each time a new bar is printed on the chart the indicator constructs a profile of last “N” bars.

When set to “Specified start/end”, the start date and end date can be specified in the input parameters. If the start date is not specified, then the start of the chart is assumed. If the end date is not specified, then the end of the chart is assumed.

When set to “Current day/week/month/year” the profile is generated from the start of the current day/week/month/year. When set to “Previous day/week/month/year” the profile is generated from the previous day/week/month/year.

**Number of bars/hours/days/weeks back:** This is the number of bars used for the “N-bars/hours/days/weeks back” mode.

**Time format:** This can be Chart, Local, UTC or EST. It refers to the time setting used for the start/end times (below). The option of Chart will use whatever the current chart is set to (which is controlled by TradingStration II option). Local will use the PC’s local time, and UTC and EST will use Coordinated Universal Time and Eastern Standard Time respectively.

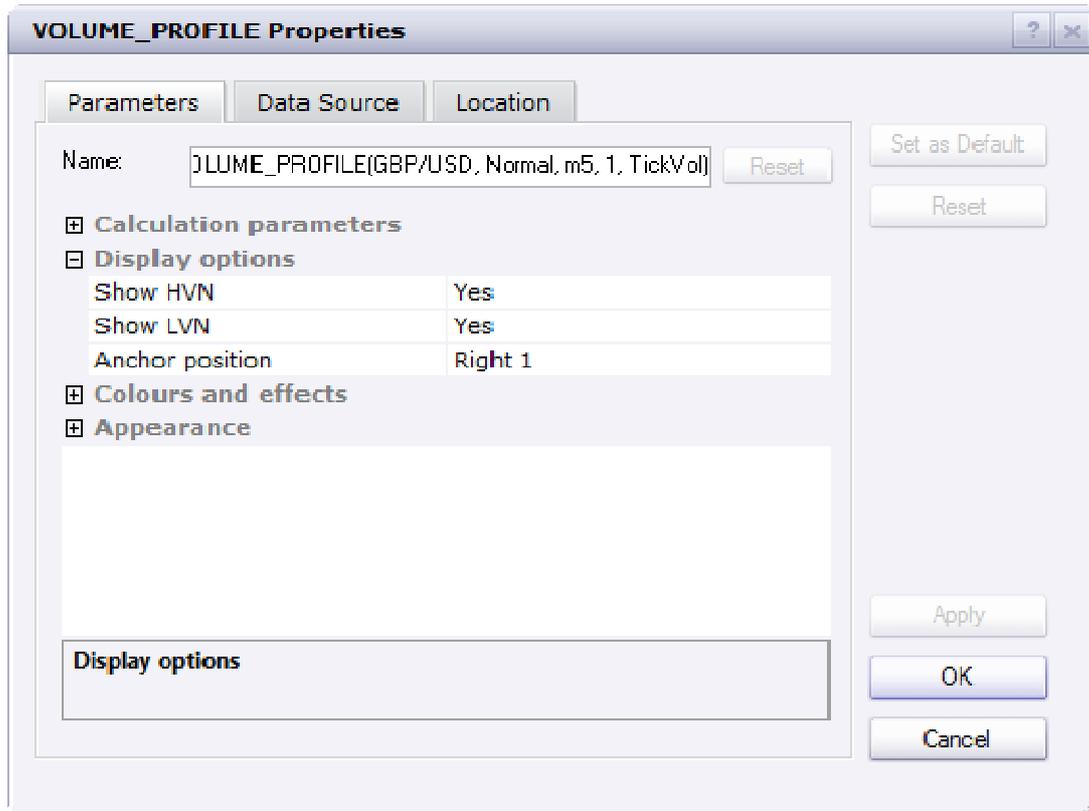
**Specified start date/time:** The start date/time for constructing the profile can be specified when using the “Specified start/end” option. If it is left blank, then the start of the chart is used. The format is YYYY/MM/DD hh:mm. The time part (hh:mm) is optional.

**Specified end date/time:** The end date/time for constructing the profile can be specified when using the “Specified start/end” option. If it is left blank, then the end of the chart is used. The format is YYYY/MM/DD hh:mm. The time part (hh:mm) is optional.

**Value Area percentage:** The percentage used for Value Area calculation. The default is 70% which is approximately 2 standard deviations of a normal distribution. This value is only used for the “Value Area” colouring effect.

**HVN and LVN detection window:** This parameter specifies the window size for the automatic detection of HVNs (High Value Nodes) and LVNs (Low Value Nodes). The value is in pips.

## Display Options



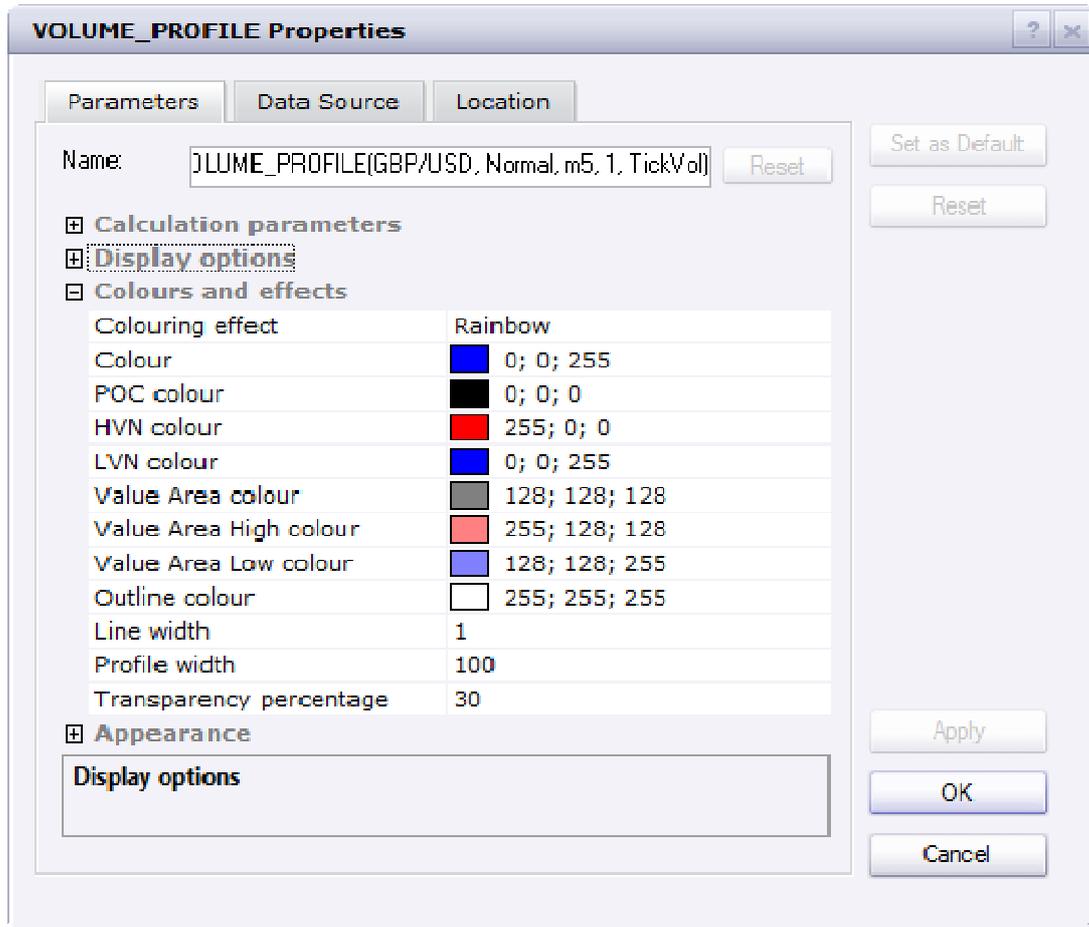
**Show HVN:** This can be Yes or No. When set to Yes the HVNs (High Value Nodes) will be displayed, as lines on the profile.

**Show LVN:** This can be Yes or No. When set to Yes the LVNs (Low Value Nodes) will be displayed, as lines on the profile.

**Anchor position:** This can be Left 1, Left 2, Left 3 or Right 1, Right 2, Right 3. It relates to whether the profile is locked to the left or right hand edge of the chart. The position number (1, 2 or 3) allows multiple instances to be used (see Figure 4 for example).

NOTE: the actual position depends on the "Profile width" setting. For example if "Profile width" is 50 pixels, then "Right 1" will start on the right hand edge, "Right 2" will start 50 pixels from the right hand edge, and "Right 3" will start 100 pixels in from the right hand edge.

## Colours and Effects



**Colouring effect:** This can be Plain, Shaded, Faded, Rainbow, Value Area or Invisible. It is used to set the colouring of the profile graphics. If the effect is Plain then the graphics are just drawn with the specified colour. If the effect is Shaded, then the graphics are shaded from the selected colour to black. If the effect is Faded, then the graphics are faded from the selected colour to white. If the effect is Rainbow, then the graphics are coloured with a “temperature” hue which varies from purple (cold) to red (hot); higher values (TPO count or volume) have “hotter” colours and lower values (TPO count or volume) have “cooler” colours. The Value Area option colours the graphics according to the Value Area (with separate colours for the area above and below the Value Area). The Invisible colouring effect hides the actual profile graphic, but any HVNs or LVNs are still visible.

**Colour:** The base colour of the profile.

**POC colour:** The colour of the Point Of Control (POC).

**HVN colour:** The colour for High Volume Node lines (HVNs).

**LVN colour:** The colour for Low Volume Node lines (LVNs).

**Value Area colour:** The colour of the Value Area.

**Value Area High colour:** This colour is used for the area above the Value Area.

**Value Area Low colour :** This colour is used for the area below the Value Area.

**Outline colour:** This is the colour of the outline of the bars for the profile. When this is set to “White”, the outline is not drawn at all.

**Line width:** The width used for the HVN and LVN lines.

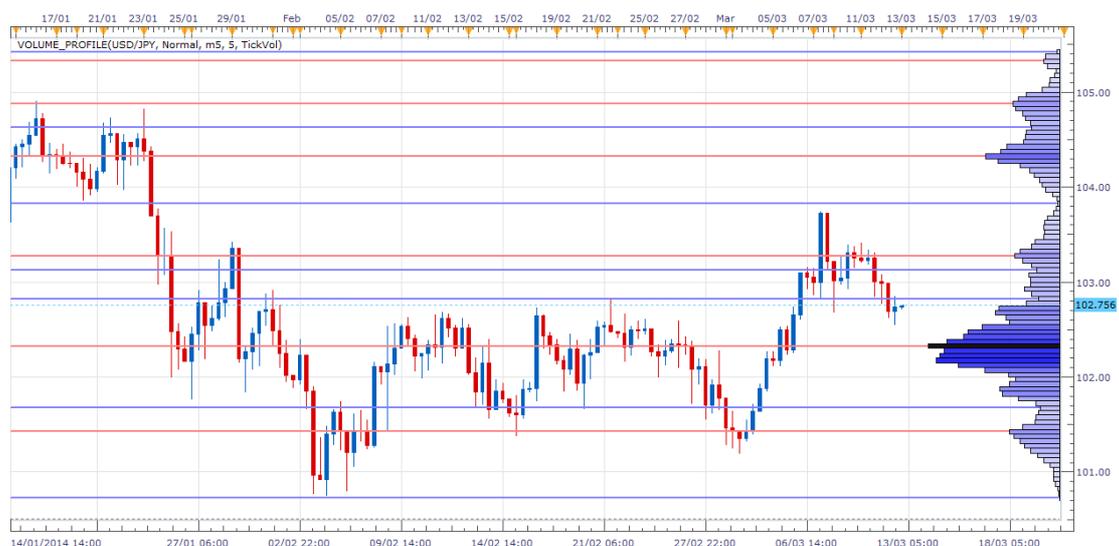
**Profile width:** This is the maximum width of the profile (measured in pixels).

**Transparency percentage:** The transparency of the profile.

## Screenshots



**Figure 2 : Volume Profile using the “Rainbow” colouring effect, and showing the High Volume Nodes (HVN) and Low Volume Nodes (LVNs)**



**Figure 3 : Volume Profile using the “Faded” colouring effect, and showing the High Volume Nodes (HVN) and Low Volume Nodes (LVNs)**



**Figure 4 : Multiple instances of Volume Profile added to a chart, here showing the profiles for the “Current Day”, “Current Week” and “Current Month”**

## ***Glossary of Terms***

<b>Term</b>	<b>Description</b>
High Value Node (HVN)	An HVN is a price area of high TPO count or volume. The market traded for a long time at this level. These can act as magnets, attracting price to them. Once rejected, they will often act as support or resistance when the price re-visits the area.
Low Value Node (LVN)	An LVN is a price area of low TPO count or volume. The market did not trade for very long time at this level. These often form support or resistance levels when the price re-visits the area.
Point Of Control (POC)	The POC is the highest traded price in a profile. This can be based on TPO count, or volume. When based on volume, the POC is usually referred to as the VPOC.
Time Price Opportunity (TPO)	In a traditional Market Profile, the trading day is divided into 30 minute periods, called TPO's (Time Price Opportunities). However, in general the term just means that the instrument traded at a certain price level.
Value Area (VA)	Area where 70% of all trades take place, centred around the POC.
Value Area High (VAH)	The VAH is the high of the Value Area.
Value Area Low (VAL)	The VAL is the low of the Value Area.

## ***Further Information***

Additional information can be found on my blog (<http://robocod.blogspot.co.uk/>).

## ***Support***

Should you have any problems with installation or use of this indicator, then please email [sjdcknsn@gmail.com](mailto:sjdcknsn@gmail.com) with a description of your problem or query.

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