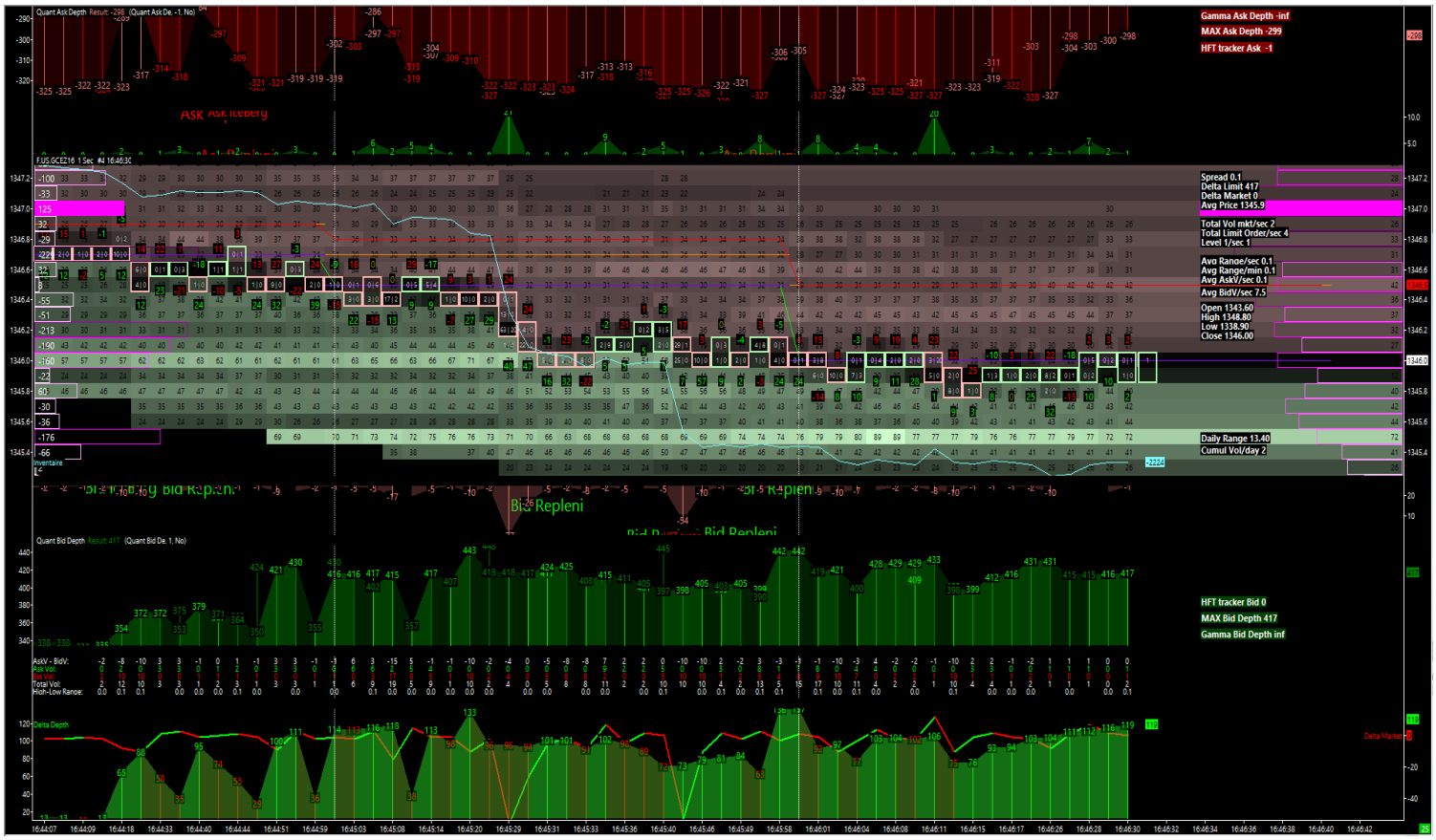
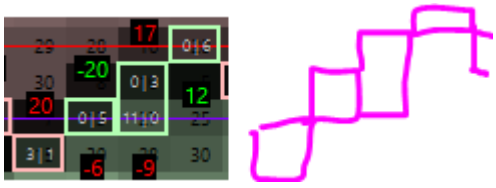
QuantMap V7 – with basic feature

In this document, we will describe all of the available feature in the QuantMap v7 with a short text for each element you can see on the tool.

We will take the GC contract for example :



1) the price movment or the price action :

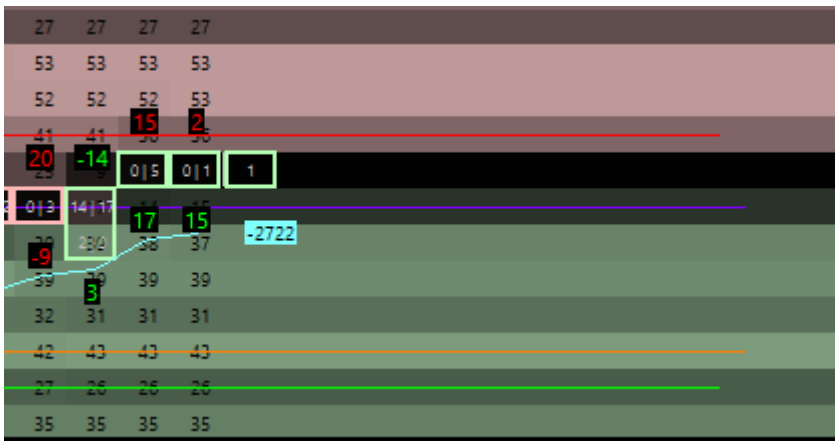


For each second (if your QuantMap is set in 1 second time frame), you will have a print of the price action which shows to you the price movment with light green or light red case. If the price is going up (compared to the last second), so the footprint case will be colored in green. If the price is going down (compared to the last second), so the footprint case will be colored in red.

You can change the coloring method if you need (according to volume, or delta for example). Inside these green/red boxes, you will find the volume (market contract sold/bought) which is executed at the best bid or at the best ask. These quantity of volume are written in whyte. At the right of the boxe, there is the Ask volume (bought contract) and at the left of the box, there is the Bid volume (sold market contract).

This volume (in whyte) is the volume you could see in the time and sales. It concerns the liquidity taking activities. It's the hitters ! The takers ! The liquidity takers !

2) The colored lines on the main price region :

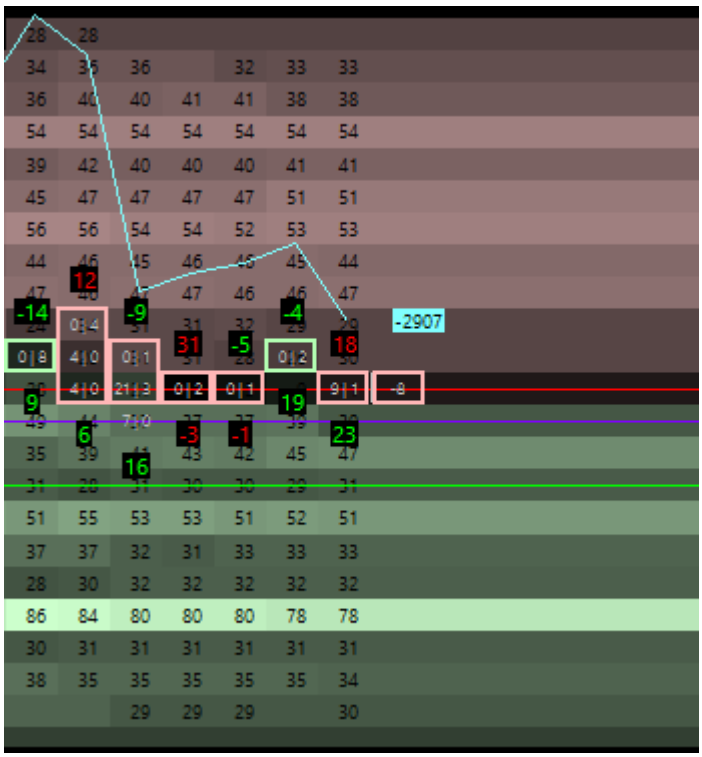


The cyan blue line is the cumulativ delta volume line ; it is called as « inventory » too. This line is showing to you the difference between the Ask volume and Bid Volume (takers) by cumulating each result of this difference, for each bar on your QuantMap. It's very important to considere this blue line because, we can use it for identify different and many market making activities and behaviour.

Very basic setups to use it could consist by tracking the moment, and the area, when the price is crossing the inventory ; because it's showing to you that there are many huge volume which are not matching with the price movment. Also, when your inventory is crossing the price higher, you will looking for sell entry ; and when your inventory is crossing the price lower, you will looking for buy entry.

The red line is the last top of the last minute of the QuantMap. The green line is the last bottom of the last minute of the QuantMap. These two red and green lines are very usefull to identify the stop running process below the bottom or above the top. Many fake out, and bull/bear trap comes on this area when the market volume and price action is sideways.

3) The colored and numerical heat map :



This HeatMap is a visual tool who let you know how many orders are available at the bid side, and at the ask side, for each price level, and for each bar of your QuantMap.

The particularity of these graphic heatmap is that you can make appear all the orders available at any time for any price. It's a real matrice of the liquidity action.

This HeatMap is updating the data received in real time, and with a 1 milli second refresh rate. Also when you have your QuantMap set in 1 seconde time frame, you will be able to save a snapshot of the last close depth for each second.

It's very powerfull to compare the market volume price impact with the available liquidity game of the orderbook.

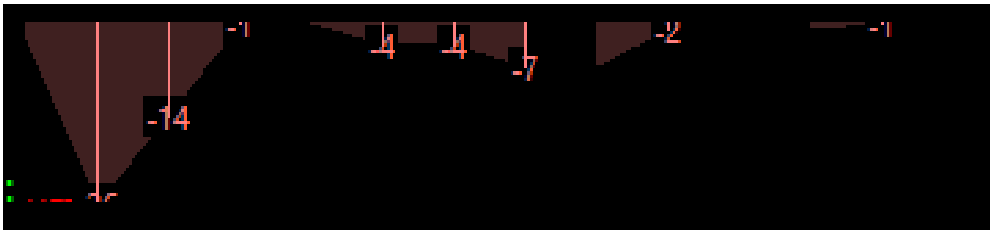
When a price level is hilighting with a high luminosity, it means that there is a big quantity in comparaison to the average of the quantity available on each price level of the orderbook.

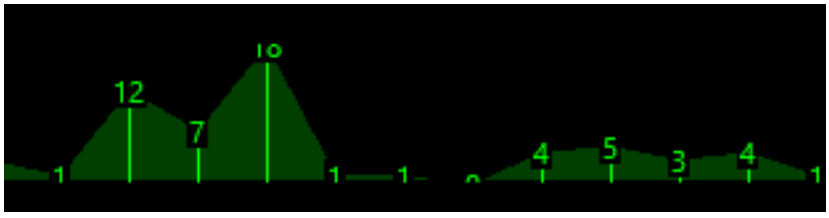
Also, the darkest color are for the smallest orders, and the lightest color are for the biggest orders. You can change these color logic, or these color if you want.

This HeatMap is very usefull to detect many liquidity pattern which are not visible through the orderbook with a human eyes.

You will be able to measure the force of weakness evolution, of any given price of the orderbook. It's showing to you the liquidity action. The limit order action. You will see it by a numerical view, and a visual view.

4) **<u>The market volume :</u>**



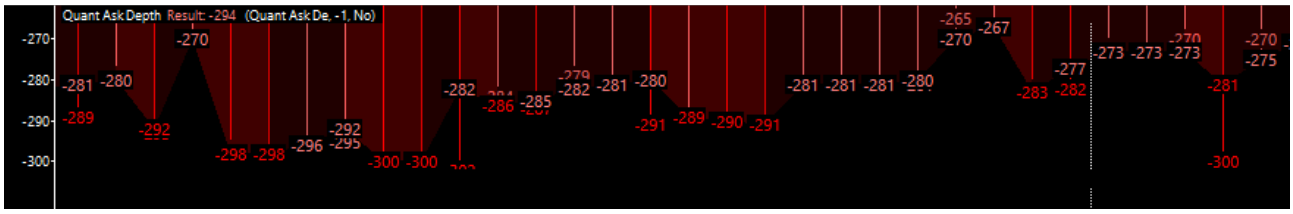


At the top of the heat map in red, and at the bottom of the heatmap in green, you will find an histogram which are printing the market volume executed for each bar of the QuantMap. Sold contract are in red, and bought contract are in green.

This view of the market volume is very good for illustrating the spike of volume ; showing big quantity executed in a very short time.

Also for each bar of market volume, you will get the amount of the quantity volume corresponding to the bar written with the same color of the volume bar.

5) The Quant Ask Depth and Quant Bid Depth :



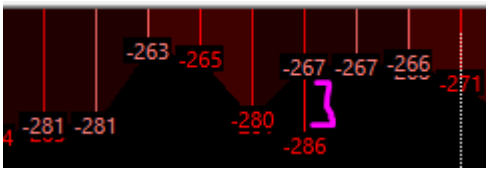
At the top, and the bottom of the central region of your QuantMap, you will see the Quant Ask depth in red, and the Quant Bid depth in green.

It's illustrating the total of all limit order available on the order book in red for the ask side, and in green for the bid side. All of these ask limit order of the ask depth are aggregated in one bar, and are updated for each second.

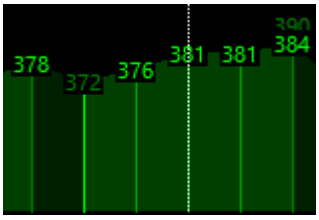
It's a really interesting tools for comparing the price action with the liquidity available. It will show to you how the liquidity is increasing or decreasing during the up or down price movment. Very usefull to compare the liquidity with the time too.

At the top of each Quant Bar, you will get a view of the numerical value of the Quant Bar, and will get the maximum value of the Quant Bar (during the Second).

Don't forget that these bar are a depth snapshot of the liquidity at the close of each second. All the change which are inside each second are detected by the Quant if they are printing new high value.



When the maximum value of the Quant Depth is different to the close value of it, you will be able to see it by tracking the line without filling. You will also see the two different amount (the close and the max) if these two amount are different each others.

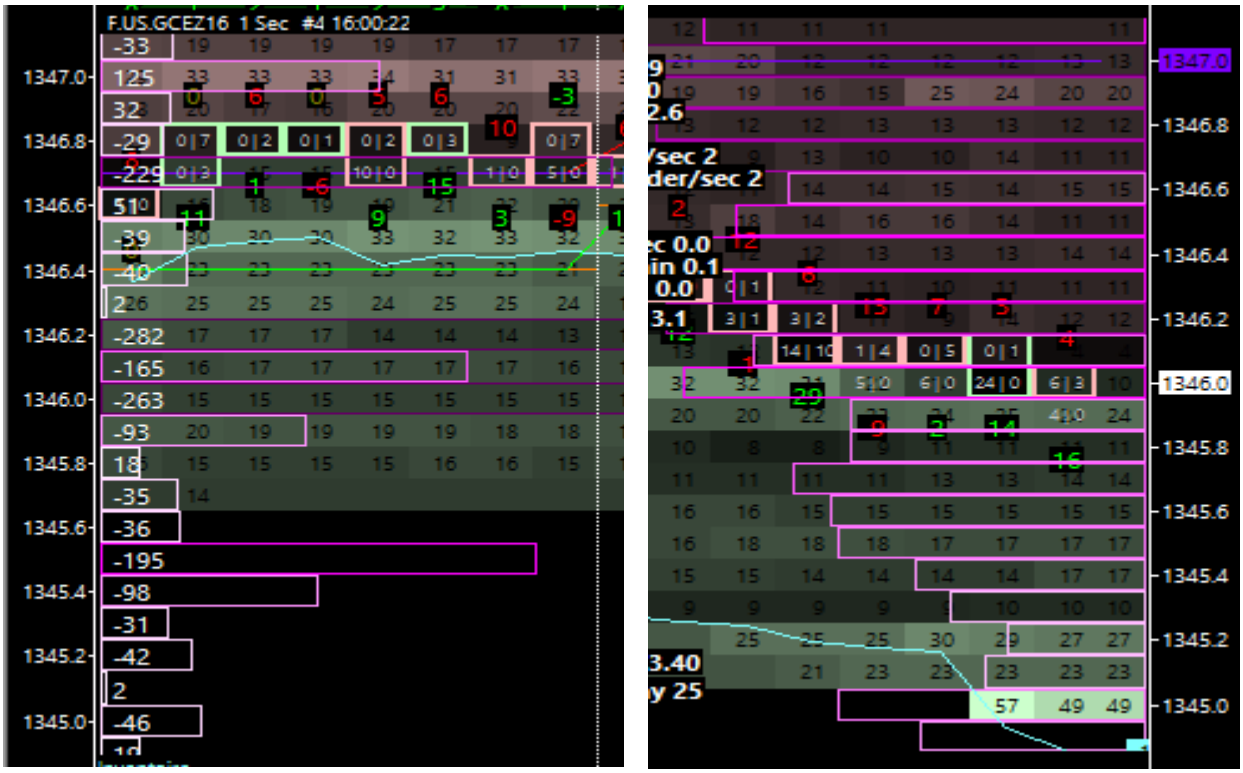


When liquidity is added, you will get a increase of the Quant Depth, so the color (for the Quant Bid depth) will be a lightest green (or a lightest red for the Quant Ask depth).

When liquidity is pulled, you will get a decrease of the Quant Depth, so the color (for the Quant Bid depth) will be a darkest green (or a darkest red for the Quant Ask depth).

It's a coloring method which is based on the slope of the liquidity of the orderbook.

6) The profil at the left/right of the QuantMap :



At the right side of your QuantMap, you will notice that there is a standard volume profil. It's a tipical volume profil as you can see anywhere. It reset his count to the start of each day, and his main function is to cumulate all of the market volume executed on each price level ; in order to see the pic and the valley.

The pic of volume are showing a big concentration of market volume interest on the price area/level. It's also called as « the fair price », the fair value. And the valley of volume are showing a little amount of market volume interest on the price area/level. It's also called as the rejected price. These key level could be interesting to identify in order to see how the market participant will react on it. It's often used as key level observation. You can also change the color or the size of the profil as you desire.

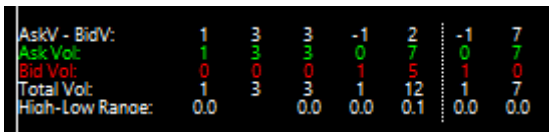
At the left side of your QuantMap, you will notice that there is an advanced profil. Indeed, it's advanced because it's not based on the market volume executed, but it's based on the delta volume. Also the pic of delta volume will show to you the price area where the market maker have made a big business ; and the valley area will show to you the price where the market maker is FLAT or not in risk on this price.

The pic area will show you the price level with a big absorption, it will be considered as key level for the market making algorithm who are working through the orderbook.

The amount that you can see on each price delta profil bar, is the delta volume amount for each price level, during the entire session day. When this amount is positiv, it means that the market volume is more buyer, so the market maker get a sell inventory.

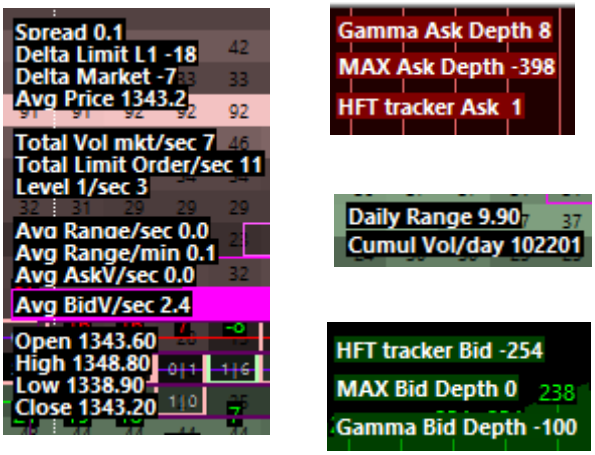
When this amount is negativ, it means that the market volume is more seller, so the market maker get a buy inventory. Keep in mind that the market maker will make all for getting flat of his position after the market close.

7) The numerical calculated values :



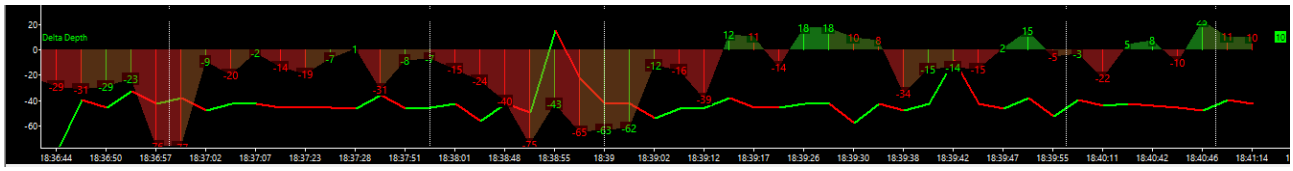
AskV – BidV : it mean Ask volume substracted by the Bid Volume. The Ask volume are the bought contract for the bar (executed contract). The Bid volume are the sold contract for the bar (executed contract).
The total volume is the sum of the Ask volume and the Bid volume for the bar.
The High-Low range is the high of the bar substracted to the bottom of the bar, in sort of getting the range of the bar. It's the price range bar.
All of these data are snapshoted for each bar, and are updating at 1 milli second refresh rate if needed by the feed. You can remove some, or add new one if you need.
Please be carrefull to make the difference between market volume (bought and sold contract executed) and available liquidity waiting for execution (limit order not executed).

8) The numerical pannel :



- The spread is the difference between the best ask and the best bid price.
- The delta limit is the difference between the best ask size and the best bid size.
- The delta market is the difference between the ask volume and the bid volume.
- The average price is the price which are the most traded during a price bar.
- The total volume mkt/sec is the speed of the market orderflow. (of the volume)
- The total limit order/sec is the speed of the limit order action (of the limit order flow)
- The level 1/ sec is the speed of the cotation.
- The Average range/sec is an average of the bar range for each second
- The average range/min is an average of the bar range for each minute
- The AskV/sec is the average market contract bought for each second.
- The BidV/ sec is the average market contract sold for each second.
- The open, the high, the low, and the close, is the OHLC of the previous day session.
- The Gamma Ask Depth is the quantity of ask limit order which are pulled/added in comparaison to the previous bar
- The Gamma Bid Depth is the quantity of bid limit order which are pulled/added in comparaison to the previous bar.
- The Max Bid Depth/ Ask depth is the value of the maximum Quant depth bar.
- The HFT tracker is the difference between the maximum value of the quant depth and the close value of the quant depth.

9) The delta depth region at the bottom of the QuantMap :



This element is a visual tool to read the Quant Ask depth and the Quant Bid depth together. It will let you show how the liquidity is providing by add/remove order process. On this visual tool, you will get 2 different element : the delta limit side, and the delta market side. These two element are overlayed the one on the other for a comfortable read.

The colored and filled histogramme in red/green color is showing to you the difference between the Quant Bid depth and the Quant Ask depth.

If this difference is positiv, so it means that there are more bid order than ask order on the orderbook for all level at the ask depth/bid depth.

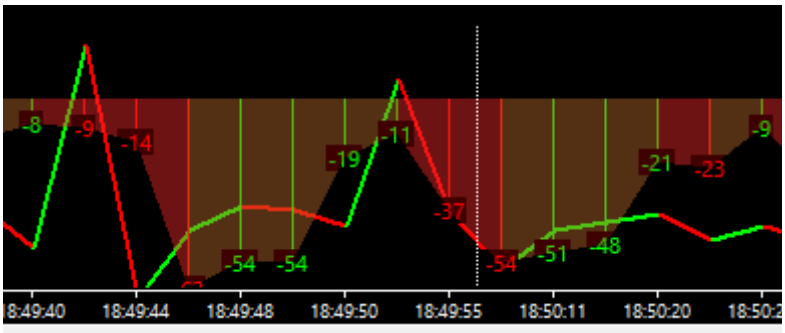
If this difference is negativ, so it means that there are more ask order than bid order on the orderbook for all level at the ask depth/bid depth.

Positiv value are colored in green (for buy pressure on the orderbook), therefore negativ value are colored in red (for selling pressure on the orderbook).

There is also a second coloring method for these Delta Depth in filled histogram : in fact when the Limit difference is increasing, there will be an additionnal green color on it (even if it's negativ) ; and when this Limit difference is decreasing, there will be an additionnal red color on it (even if it's positiv). The goal is to see this difference based on slope, and based on negativ/positiv.

It's very important to make the difference between these two coloring method on this element because it will illustrate to you the add/remove limit order process by a very good way.

To be more clear, we will take an example :



In this picture, you could see that the delta depth difference is remaining negativ during all the time range ; therefore, you can see that we are in a adding order process at the bid, and removing order process at the ask.

Even if there a more ask limit order than bid limit order, we are able to see the adding bid limit process, and the pulling ask limit process, before the delta depth becomes positiv.