Quant
Market Making Agressivity
Panel

Introduction :

This new "Quant" tool is based on the measure of the slope of the market depth data, and of the Market Making Agressivity (MMA and CMMA value).
I have called it, the MMA Panel, because it's one of the only tool that I use which is matching with all the data I need to see in only one window.
The way to display the volume and the liquidity is lightly different than the other Quant tools and it's now more easy to read and understand.
There is now two differents and main alerts which are displayed into this Quant MMA Panel version :

- The HFT Buy/Sell Momentum alert
- The Offer/Bid Depth Momentum

I'm using this Quant MMA Panel directly on the 5 prices or 10 prices change per bar chart, but it can also be used successfully on a 1 second time frame chart, or on a 1 minute time frame chart.

Short describe :

On this new version of the Quant MMA Panel, you should be familiar with the main key features.
Let's start and describe it.

1) The delta volume profile :
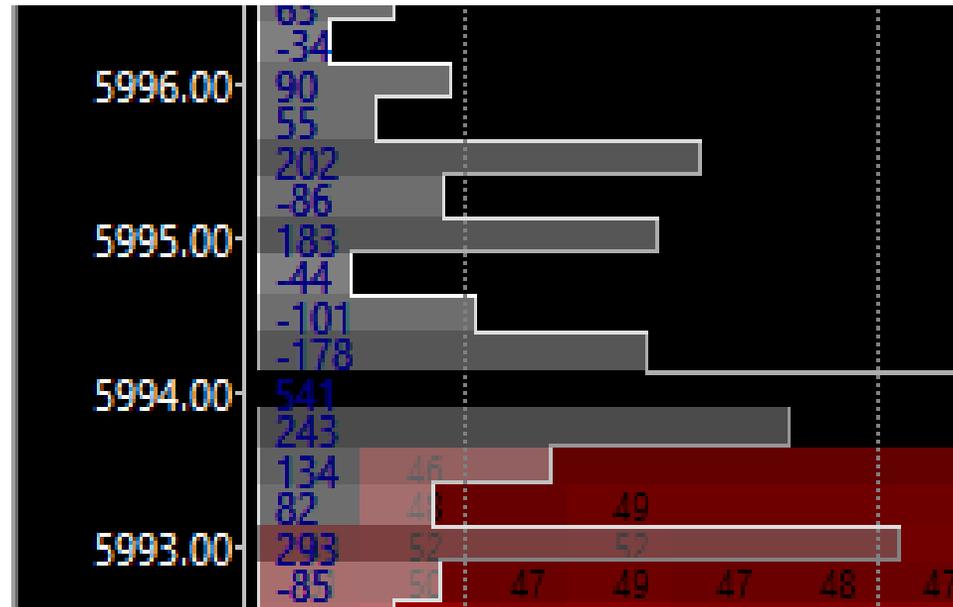
▪ On the left side of the Quant MMA Panel window, you can find it displayed in hologram draw style.

▪ Each bar are colored by a grey shade logic depending on the value of the delta volume cumulated on each price level.

▪ So when you have a large amount of delta volume (positive or negative) you will see a big bar (a peak) : it means that the market orders flow has hitten strongly on this price level.

▪ If this big amount of delta volume is negative, it means that the market orders flow has hitten more on the bid side than on the offer side : it means that you have more sell market orders sold and filled on this price area, than the bought market orders amount.

▪ If this big amount of delta volume is positive, it means that the market order flow was more bullish than bearish on this price level : it means that you have more market orders bought, than market orders sold.

▪ Also, on a market making view, we can consider that each big amount of delta volume is matching with a big amount collected or distributed by the market maker on this given price.

▪ At the opposite, when you have a delta volume amount which is near to the zero value, it means that the market maker is probably flat on this price level.

▪ Finally, we can say that the large peak profiles are showing some large market making exposure (opened) or large market making distribution (inventory exited) ; and we can say that the valley profile is showing some price area where the market maker is flat.

2) The HeatMap :
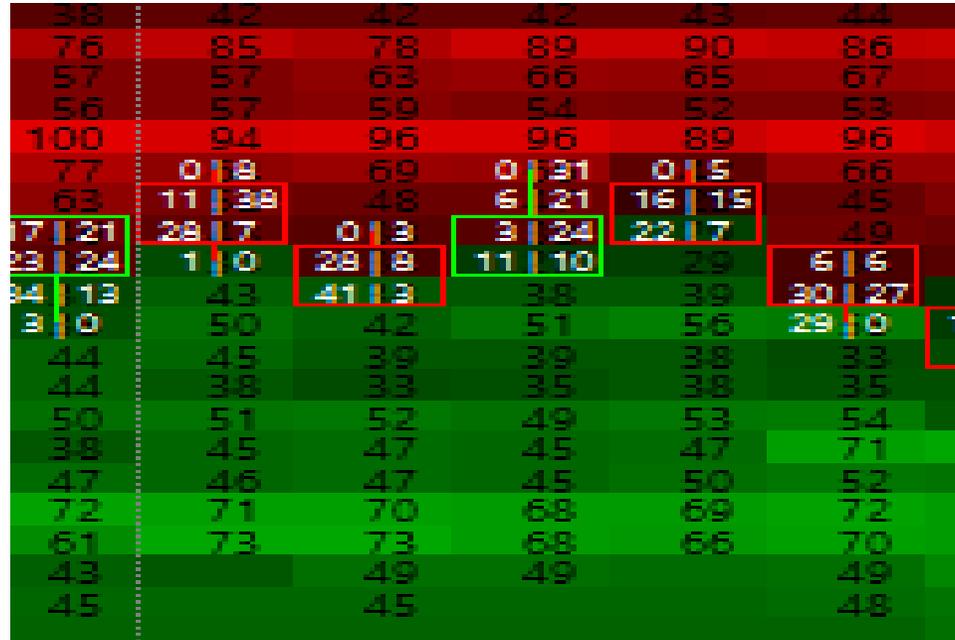
- On the first region of the Quant MMA Panel, you can find your traditionnal orderbook heatmap, with a footprint of the market orders flow which is printed in each price candle stick bars overlayed on the chart.

- It's very simple to understand it : each black quantities are showing an amount of limit orders displayed and available on the price level.

- These black quantities are set on a green case for the limit orders available on the bid side ; and set on a red case for the limit orders available on the offer side.

- Each white quantity are showing the volume filled (market orders flow) for each price.

- The white left quantity is the volume sold (which has hitten the bid) and the white right quantities is the volume bought (which has lifted the offer).

- If the candle stick bar is going higher than the previous candle stick bar, these new candle stick bar will be colored in green.

- If the candle stick bar is going lower than the previous cancle stick bar, these new candle stick bar will be colored in red.

3) The DOM Panel :
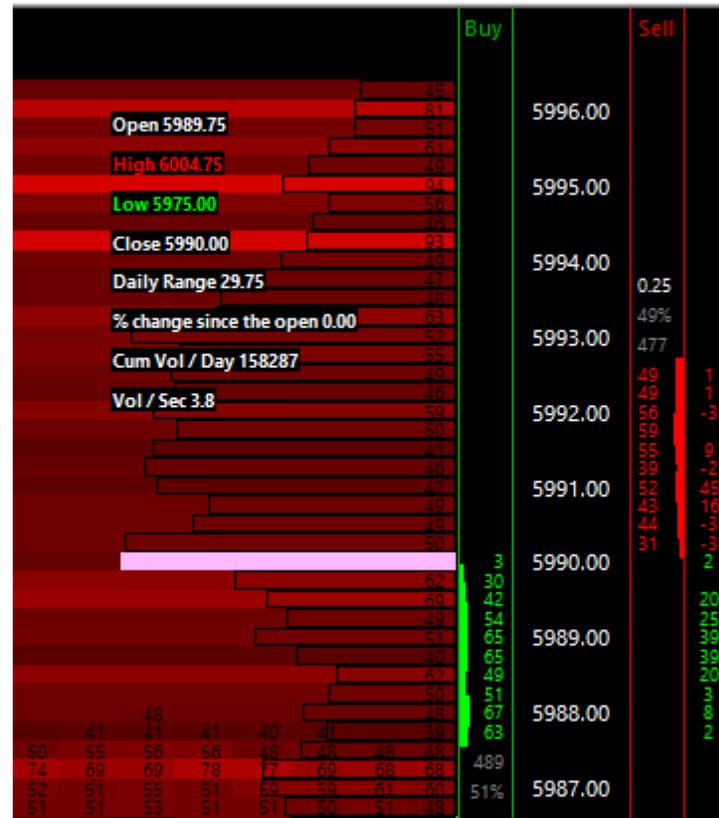
- At the right side of the first region of the Quant MMA Panel, you can notice a price bar, with the market depth data of the orderbook.

- You have the column of the bid side, and the column of the offer side.

- A third column has been added to show the delta calculated between all limit orders added and removed.

- If you have a positive delta value, it means that some limit orders has been added (compared to the previous market depth state).

- If you have a negative delta value, it means that some limit orders has been removed (compared to the previous market depth state).

- The volume profile shown at the right side is standard and showing the total volume cumulated at the market for each price level (Bid and Ask volume filled summed).

4) The CDV Panel :
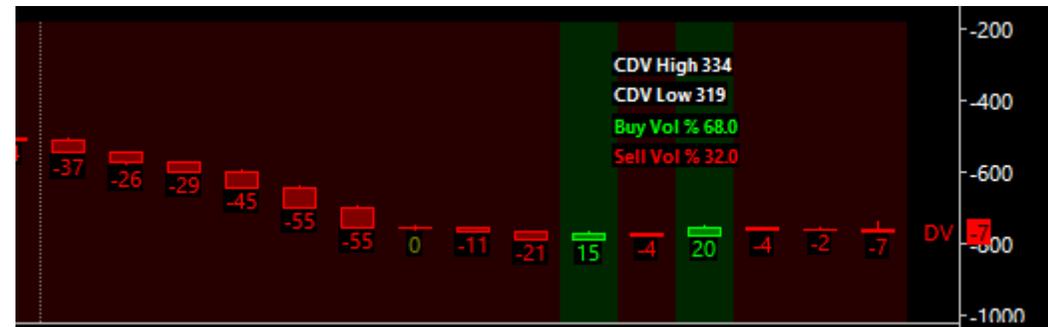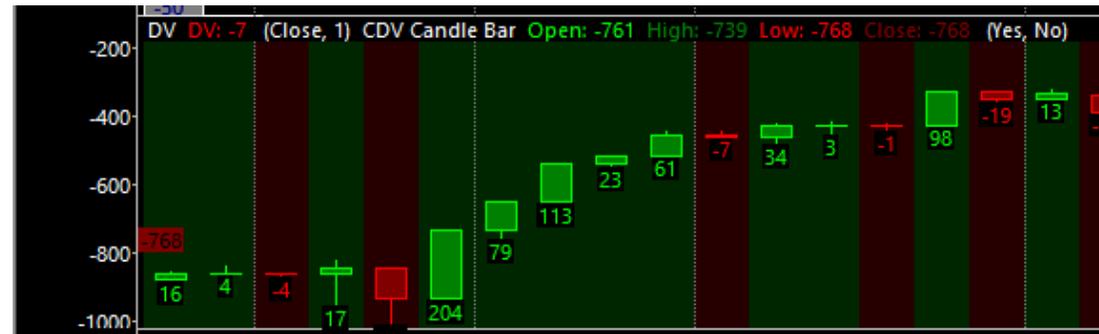
- On this second region of the Quant MMA Panel, you can find the Cumulativ Delta Volume value which is displayed as a candle stick bar.

- For each new bar, you can measure the amount of the delta volume of the bar which is written in number in green or in red, depending on the sign of the result (- or +).You also have the scale of the cumulative delta volume value and the percentage of the bought market orders, and the sold market orders filled at the market.

- On the background, you have a coloring method which is set depending on the delta volume of the bars (green for a positive delta volume, and red for a negative delta volume).

- I find that it's better to read the old blue CDV line directly into a new region under the main price graph, because it's better to read these two values (price and CDV) on a separate region, on different scales.It's better to be able to compare each others value together.

- The goal is to define some CDV and Price divergence.

- Why will we look for that? Just because it's a good way to measure the volume price impact, and to determine how many does it cost to moove the price higher/lower.

- It's very very important to measure that, because it let you see which is the weakest side, and which is the strongest side, for real! For sur. It's show the truth of the market execution measured by the volume price impact.

5) The Total Ask Depth region :
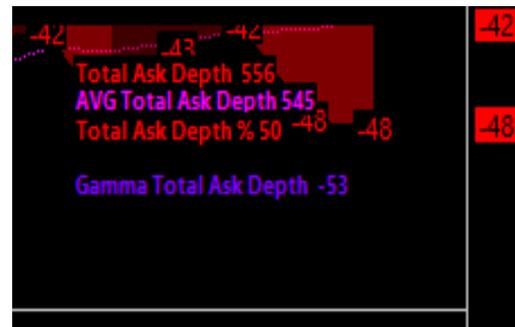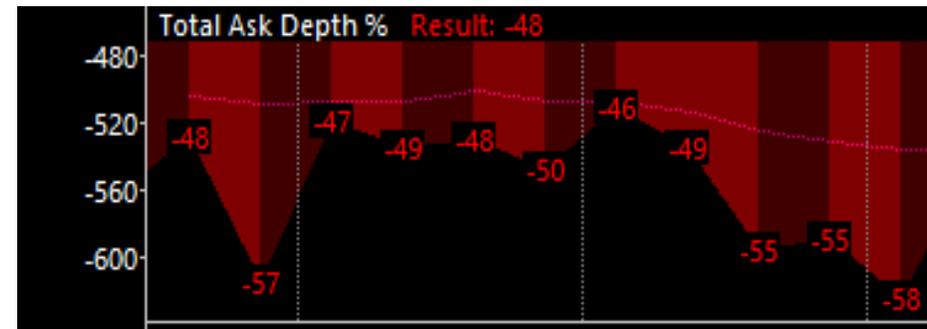
- This total ask depth value displayed in histogramm is now calculated directly in percentage of the total depth summed on the bid side and on the offer side.

- So it means that the Total Ask Depth and the Total Bid Depth will always equal to 100%.

- It's better to measure the market depth data in histogramm directly compared to the other side of the market depth. You can notice quickly the maximum value visible, and the minimum value, and the current value.

- The purple line displayed in dot style is a moving average line based on the total ask depth (calculated on a period of 20 bars) ; it let you see if the market depth offered is smaller or bigger than the average value offered on the last time.

- Usefull to detect some anormal market depth activities, and to measure it to the normal value.

- I have also calculated a Gamma Total Ask depth value displayed into the panel at the right side of the region. This value is showing the degree of variation of the total ask depth by doing a delta between the current total ask depth and the previous total ask depth value.

- This Total Ask depth value is calculated for the 20 best levels of the Ask side.

6) The CMMA Panel :

- This Panel is very usefull because it let you compare the price action (the white dot line style) with the famous CMMA value.
- For each new MMA value registered, you have a new CMMA value which is printed on the CMMA line.
- The background is colored depending the MMA value.
- If you have a current negative MMA value, the background will be colored in red.
- If you have a current positive MMA value, the background will be colored in green.
- The goal of this panel is to measure and to look for some price action/ CMMA or MMA value divergence.
- It's very powerfull indicator that let you see how the market maker is fighting against the orderflow, and how this fight is impacting the price action as a result.
- For example, when you see the price action is going up and a CMMA line which is going down, you know that you have a market maker which is starting to fight against the market orders flow.
- This fight against the market orders flow is showing to you some anormal execution : For example some buy market orders (bought) filled lower than the previous or the current best offer price, or some sell market orders (sold) filled higher than the previous or the current best bid price.
- This process is acting by a market making manipulation in order to move the price where they want to.
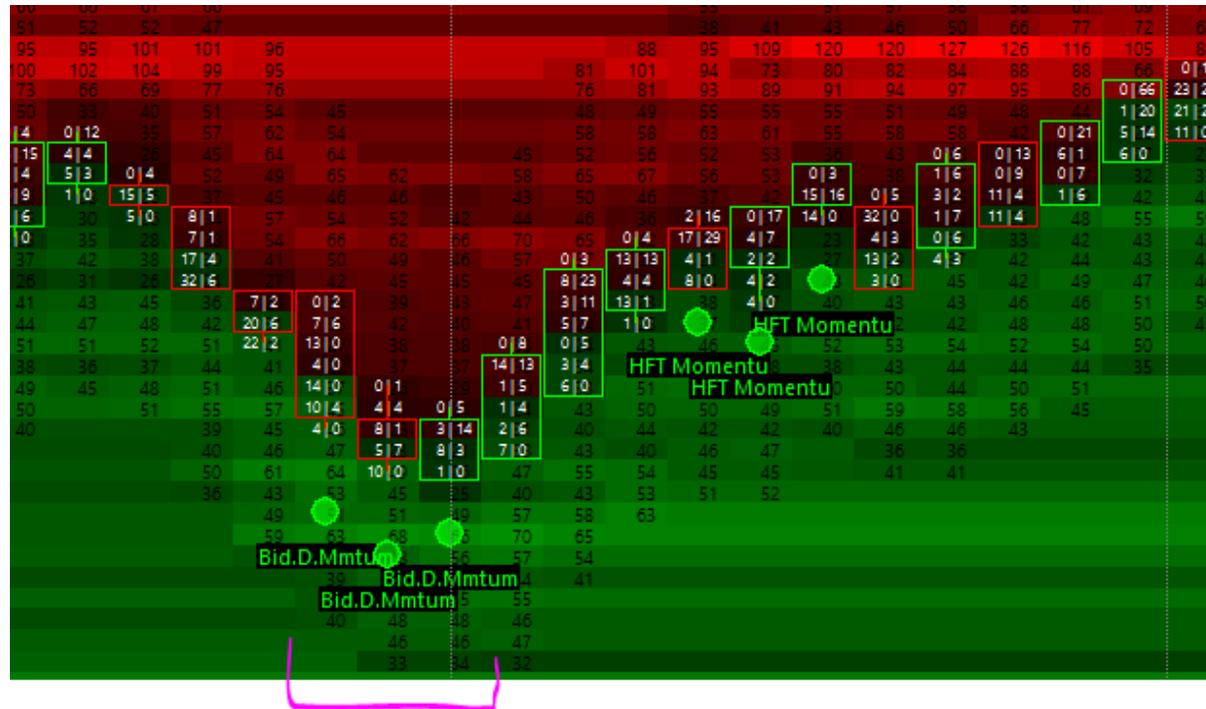
Quant
Market Making Agressivity :
The Alerts

1) The Offer.D.Mmt Alert & the Bid.D.Mmt Alert :
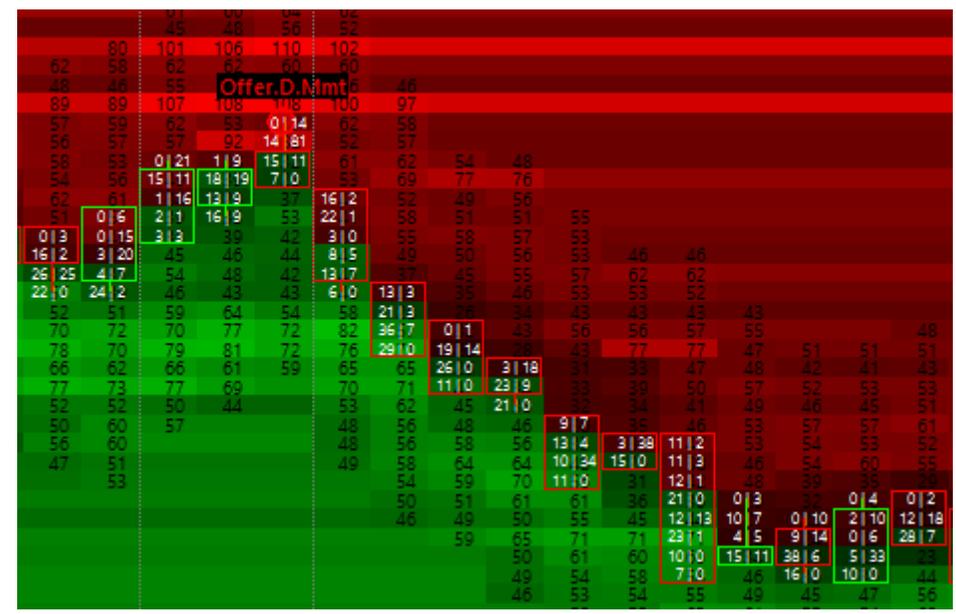

- This Offer.D.Mmt Alert is the abreviation of the " Offer Depth Momentum" term. It means that on this price bar sequence, you have a good and strong momentum tracked on the offer side of the orderbook. This strong depth momentum is defined by a serie of positive slopes into the total ask depth.

- The Bid Depth Momentum alert is triggered when you have a large momentum seen into the total bid depth with a good slope which is growing more and more and more on a price bar sequence.

- Basically, when you will have a total ask depth value which is bigger than the previous total ask depth value, and if this total ask depth value is also bigger than the t-2 previous total ask depth value, and if these t-2 previous total ask depth value is bigger than the t-3 previous total ask depth value, the Offer depth momentum alert will be triggered and it will be displayed on the chart by these kind of Total Ask depth draw style
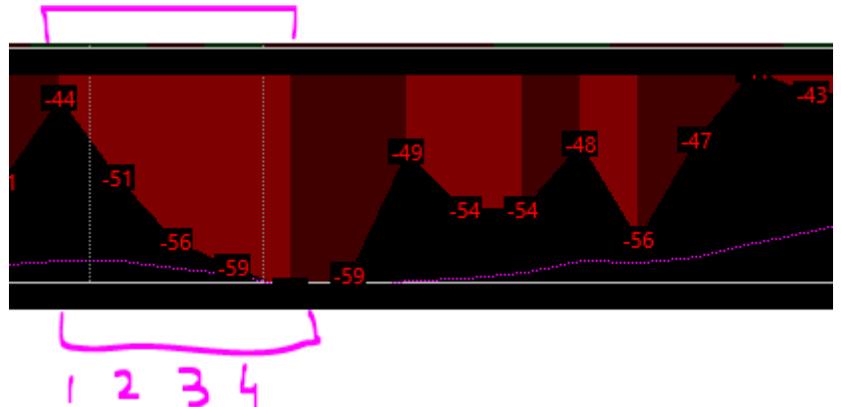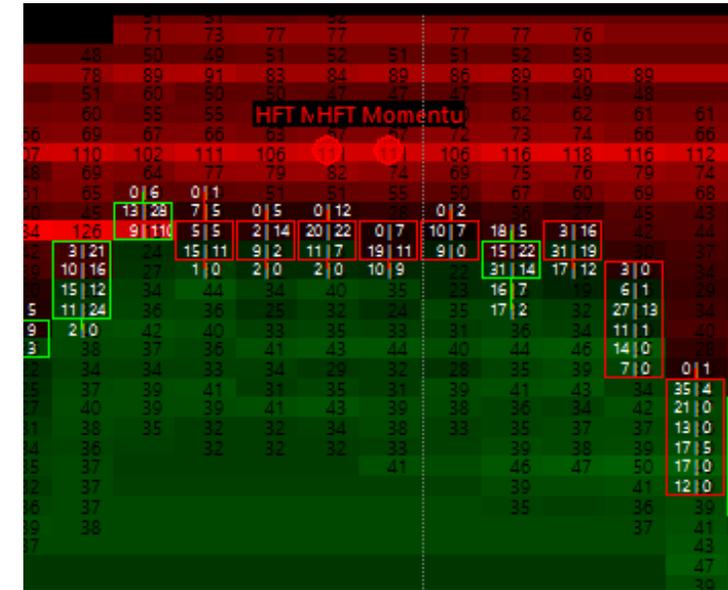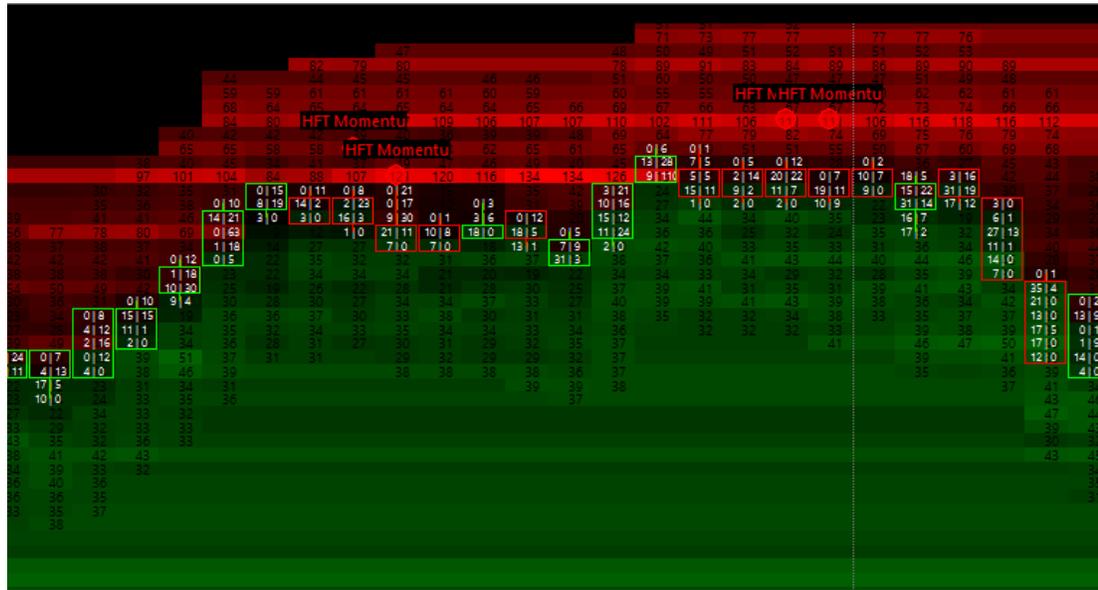
- Another example of the **Bid Depth Momentum** alert triggered on a price bottom :

- The Total Quant Bid depth which is matching with these Bid Depth Momentum alerts triggered during this price move, just before the bottom.
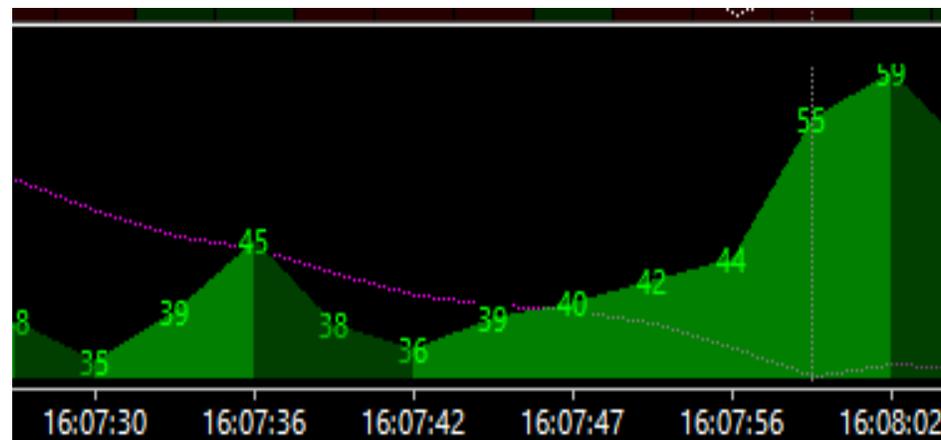
2) The HFT Momentum Alert :

- This new Alert is based on the MMA and the CMMA value both.

- This HFT momentum alert is triggered when you have a strong momentum on the MMA value.

- For example when you have a MMA value which is bigger, and bigger, and bigger than the previous MMA value registered, you know that the market maker is fighting stronger and stronger against the orderflow by filling some market orders with a positive slippage, in order to push the price to the wanted direction.

- It's an alternative way to measure the MMA and the CMMA value, which is this time not based on the amount of the MMA or the CMMA value, but simply with the slope of these values, in order to define a kind of momentum, about the market making agressivity.

- It's very important to be aware of which are the exact price levels, and the exact time where/when the market maker was dominating the market orders flow, because when you are able to plot this kind of price/MMA divergence with this alert, you are able to understand the market making game.

- Another example of the **HFT momentum Alert** :