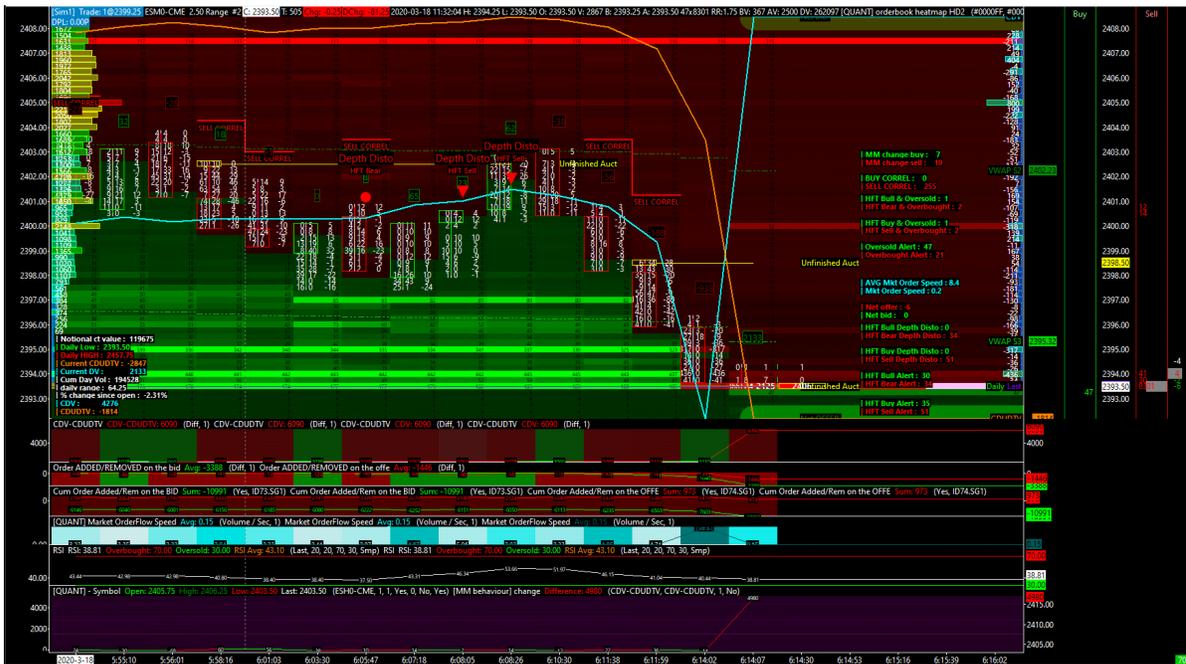


QUANT SPREAD TRACKER V5 USER GUIDE :

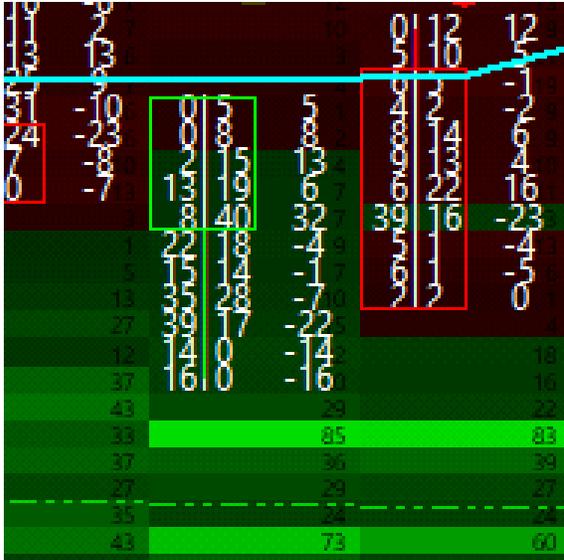
SUMMARY :

- 1) General description
- 2) What is new
- 3) how to use it and custom it



1) General Description :

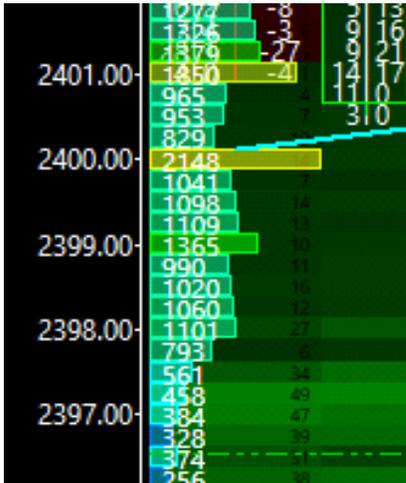
A) on the region 1, you can find the classic price range bar (candle stick price range bar) in green and red with the white quantities displayed inside. These white quantities are the market orders amount. On the right side, you have the buy market orders ; on the left side you have the sell market orders. The third column is the delta volume value per price. It is also displayed for each candle stick price bar.



Just below these candle stick price, you will see some black quantities into green rectangle ; it is the number of bid limit orders available on each bid price level of the orderbook.

Just above these candle stick price, you will see some black quantities into red rectangle ; it is the number of offer limit orders available on each offer price level of the orderbook.

On the left side of the quant spread tracker tools, you can find a standard volume profil ; in each horizontal bar, you can read a quantities in whyte color ! This quantities is the total amount of volume transacted on this price level. (It is ask volume + bid volume which are cumulated by price).



On the right side of the quant spread tracker tools, you can find a delta volume profil ; it is a specific profil which wil display the delta volume value, cumulated for each price level !

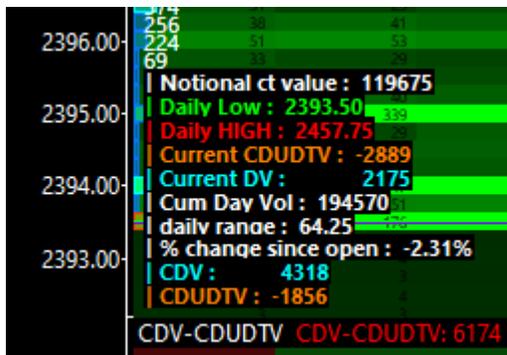
In each horizontal bar, you will see a whyte quantities which could be positive or negative; it's

the delta volume value (cumulated by price).

It is usually used to define the important key price level where you have a big horizontal spike ! this big horizontal spike are showing a big market interest cumulated into the same direction ! In this case, you can keep in mind that, it's showing the market making accumulation price level (by analogy).



On the left side, you have the statistical pannel available to show to you the market data relative to the nature of the contract you are studying. You can find here the basic you need to know quickly ; as the CDV value, CDUDTV value, the % of price change since the open, the LOD, the HOD, etc.



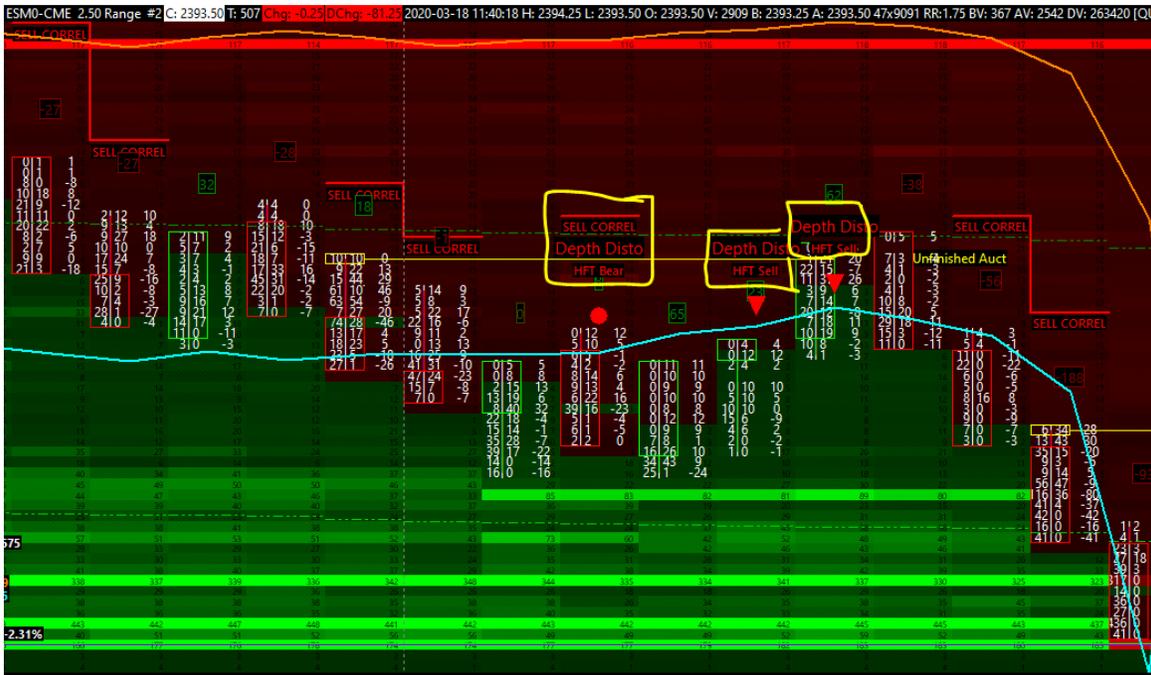
On the right side, you have the statistical pannel available to show to you the market data relative to the HFT activities and HFT events. It's also important to keep a eye on it, in order to get the pulsation of the market, in term of HFT activities. (globally : electronic market making mainly).



The Different HFT alerts triggered when you have a specific HFT event which is detected on the dom heatmap. You can refer to the paper relative to the HFT alerts if you need more details about it.

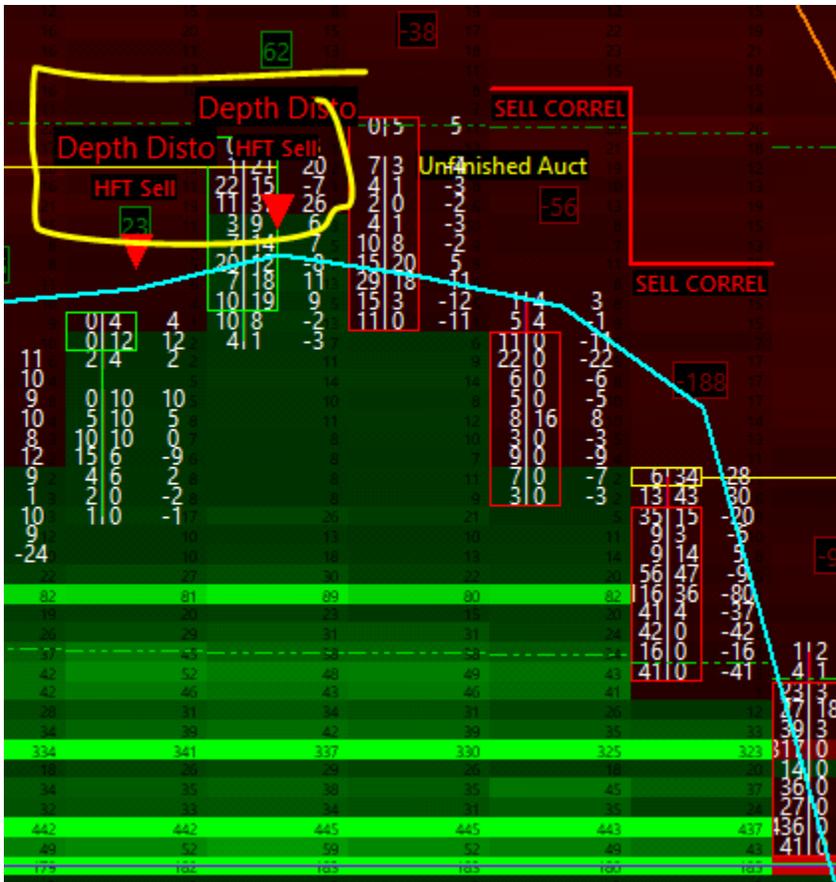
It's always interesting to studie, especially when you can detect some cluster triggered at the exact same time, or on consecutives price bar. It's always a real pressure detected through the HFT dimension.

For example here on the emini ES from CME :

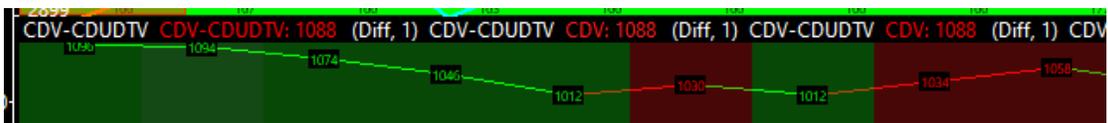


An example of HFT cluster triggered :

HFT Sell + Sell Depth distortion (x2) on two consecutive price bar (10 tick range bar here) :



B) on the region 2, you will find the classic "market making behaviour" region, caculated with the famous (CDV-CDUDTV) delta !



When this line is pushed down, it means that you have less buy market orders than uptick volume! In this case, the background will be colored in green ! It's a bullish market making sequence.

When this line is pushed up, it means that you have more buy market orders, than uptick volume ! in this case, the background will be colored in red ! It's a bearish market making sequence.

you can read the market making in a very short term time frame like this ! (by sequence)

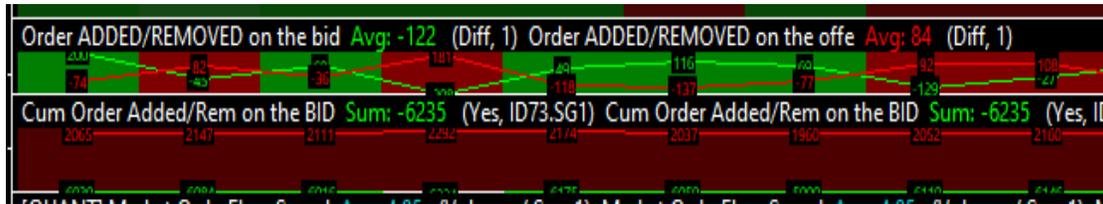
or

you can read the market making in a longer term (day trading) ; by reading only the value !

this value is calculated "since the open". When this value is positive, it's a bearish market

making since the open. When this value is negative, it's a bullish market making since the open.

C) on the region 3 & 4, you will find a view of the limit orders adding/removing process !



Here you have two line ! a red one and a green one.

The green line will show to you the number of limit orders added and/or removed on/from the bid side of the orderbook. When this green line is pushed up, it means that you have more limit orders added on the bid, than limit orders removed from the bid.

When this green line is pushed down, it means that you have more limit orders removed from the bid, than limit orders added on the bid.

The red line will to you the number of limit orders added and/or removed on/from the offer side of the orderbook. When this red line is pushed up, it means that you have more limit orders added on the offer, than limit orders removed from the offer.

When this red line is pushed down, it means that you have more limit orders removed from the offer, than limit orders added on the offer.

On the region 3, this calculation is done for each new price bar ! On the region 4, this calculation is done with an accumulation since the open.

D) On the region 5, you will get the market data relative to the orderflow speed ! The timestamp of this indicator is now based on the milli second (0.001 second) with the Rithmic data feed.

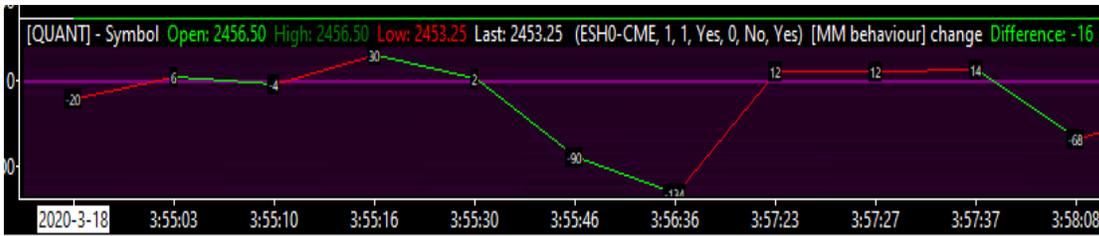


In the background you can see blue heatmap ! This blue heatmap is strictly based on the speed value recorded for each price bars.

The higher the speed of the market order flow, the darker the blue colour of the heatmap will be.

The lower the speed of the market order flow, the lighter the blue colour of the heatmap will be.

E) On the region 6, you will see the RSI indicator which is refreshed on each new price bar displayed on the chart.



On this region 7, you will see two main information :

--> the purple dom heatmap which will show to you and refer on the main dom key price levels registered and highlighted

--> the green/red line which is based on the market making change.

By market making change, i mean the powerness of the market making behaviour change !

To measure it, i will calculate a new delta between the current CDV-CDUDTV and the previous CDV-CDUDTV ; and i will display this new delta calculated with this red/green line.

The goal here is to have a view of the POWER of the market making behaviour ! Not only the direction in short term or the direction since the open ! But the effective power and strenght of its behaviour !

2) What's new on this Quant Spread Tracker VERSION 5 ?

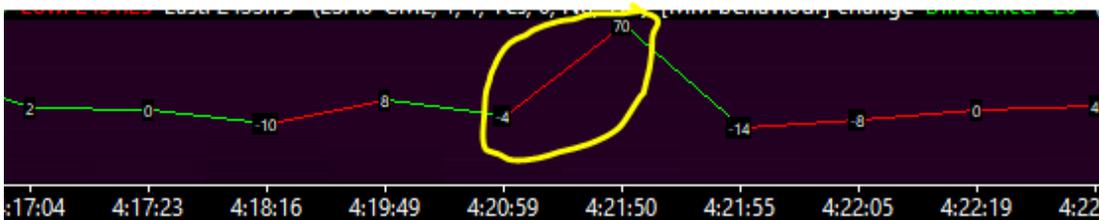
First of all you have the addition of the region 7 which wil add a new dimension into the market making behaviour studie !

Indeed, with this new calculation, we will consider the real strenght of the market making behaviour because we will have a new important information !

The real effective power of the market making behaviour.

It could be used to define and anticipate some extreme value that we can see when the market making behaviour is becoming obvious and particularly aggressive.

Let's now focus on an example recorded on the emini ES :

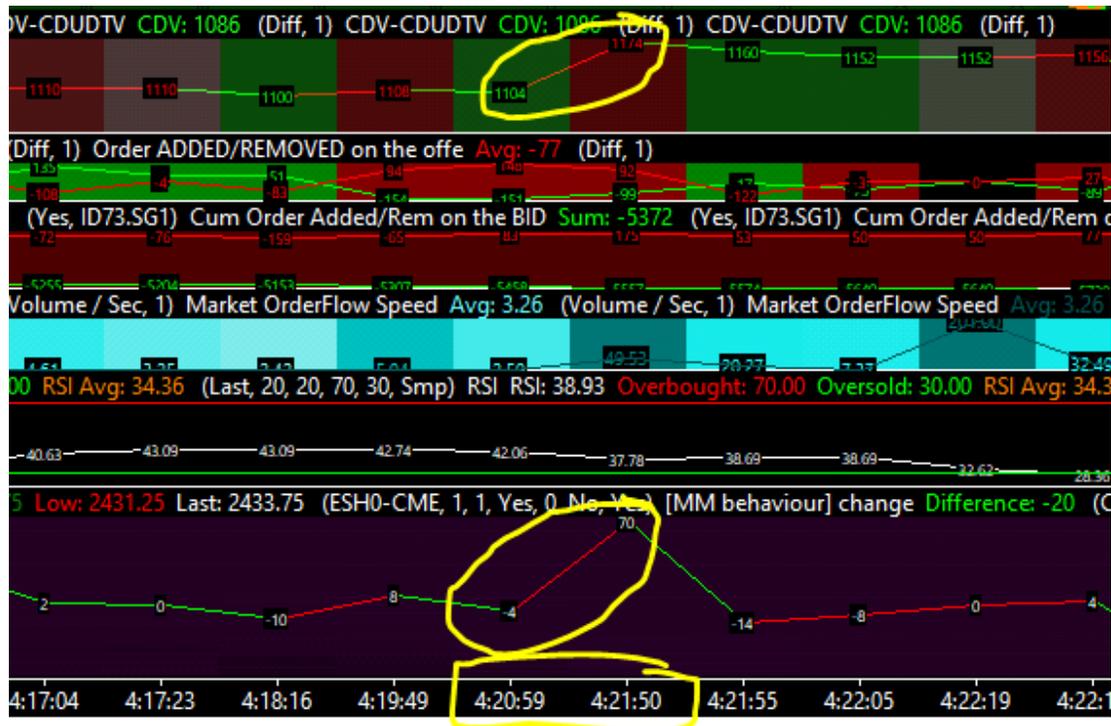


Here you can see a big strenght relative to the market making behaviour.

Indeed, our indicator comes from -4 to +70 !

When we compare this variation to the other variation, we can clearly see that was big.

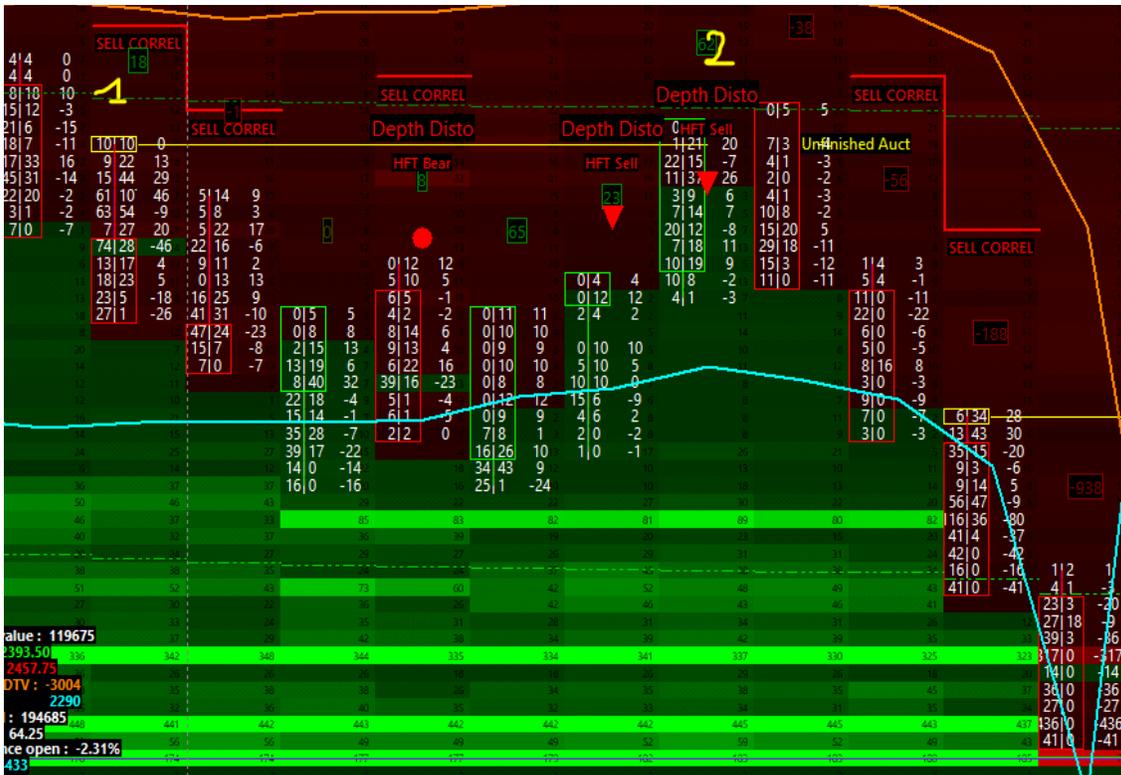
It could be seen as an acceleration of the market maker on the south to push the price lower.



it was recorded between 4.20.59 AM CET to 4.21.50 AM CET.

Secondly, you will see a new auction detector which has been integrated on the region 1 !

It's called "unfinished auction".



On the first hand, you will see an "unfinished auction" which will be tracked and circled in yellow in a little yellow rectangle on the price level detected.

This unfinished auction process means that the auction is not finished on this price levels. These price area are usually revisited, because the market maker love to revisit this special price area because they know that some business are resting here.

It's business that could be done !

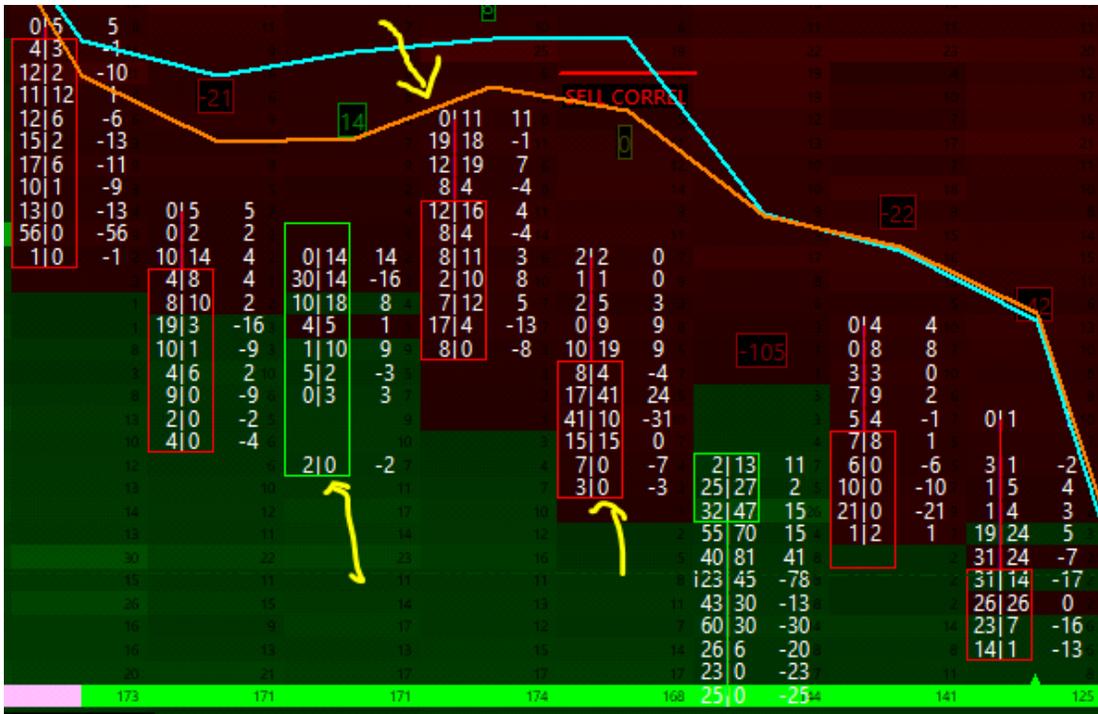
When the unfinished auction is detected, the indicator will create a yellow horizontal line in order to inform you that you have a price area where the auction is not completed entirely.

It could revisited quickly soon. When it is, you have the "unfinished auction" yellow text label which will be dispayed and printed on the chart, and you will see the yellow horizontal line which will be stopped ! (auction finished)

For more detail about this concept, i suggest to you to read this explanation just below :

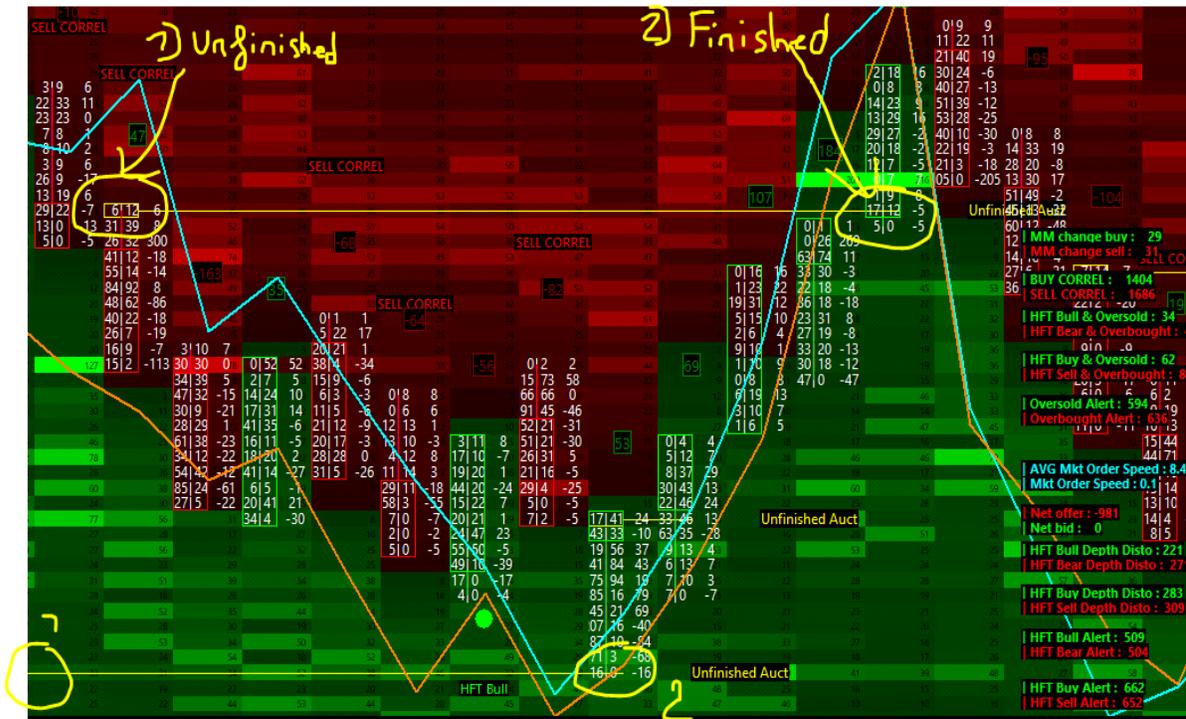
And now note that the majority of the bars have zero bid values at the high level and zero ask values at the low level. Moreover, some bars do not have zero values at extreme points.

you can see it on the chart below :



The bars, which have zero values from one of the sides at the extreme points, characterize a finished auction. The upward price movement takes place when all orders are taken at the ask price and orders are posted at the bid prices. As a rule, there are no bid trades at the candle's high and no ask trades at the candle's low.

In the event the extreme price level in a bar contains both buys and sells, it tells us that the auction has not been finished. Such a situation is called an unfinished auction, the sign of which is the availability of bid trades at the high level or availability of ask trades at the low level of a candle.

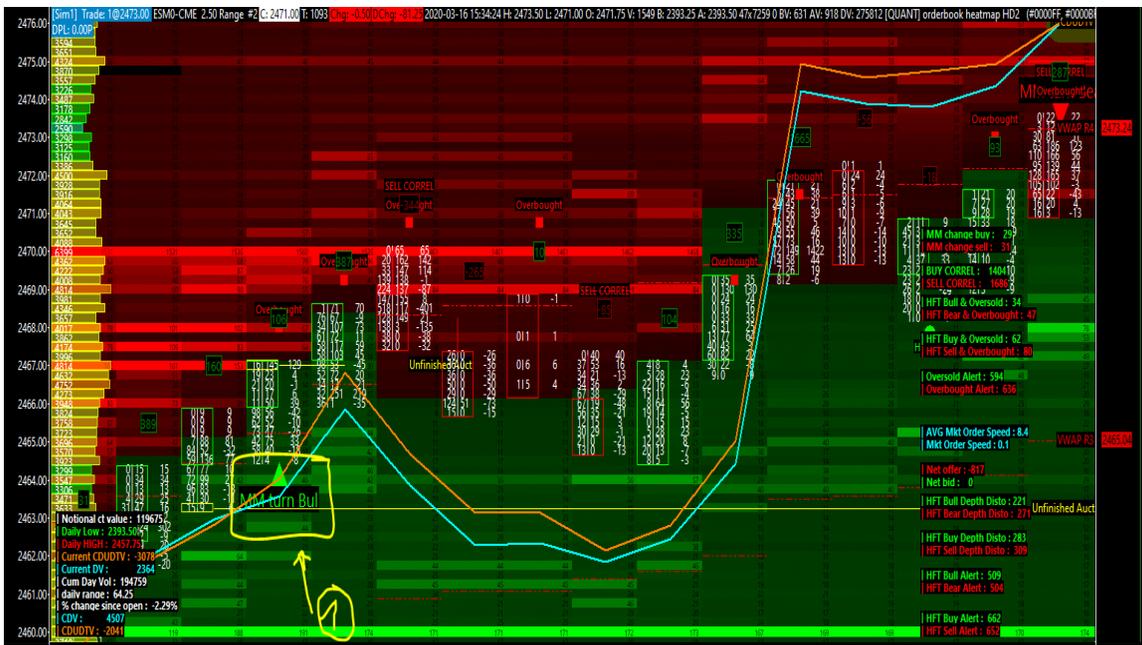


What an unfinished auction means ?

Availability of an unfinished auction could mean that the price movement has not yet been exhausted and there is a high probability that the price would come back to this level soon.

Thirdly, i have also added a new alert which will be strictly based on the market making behaviour turning point !

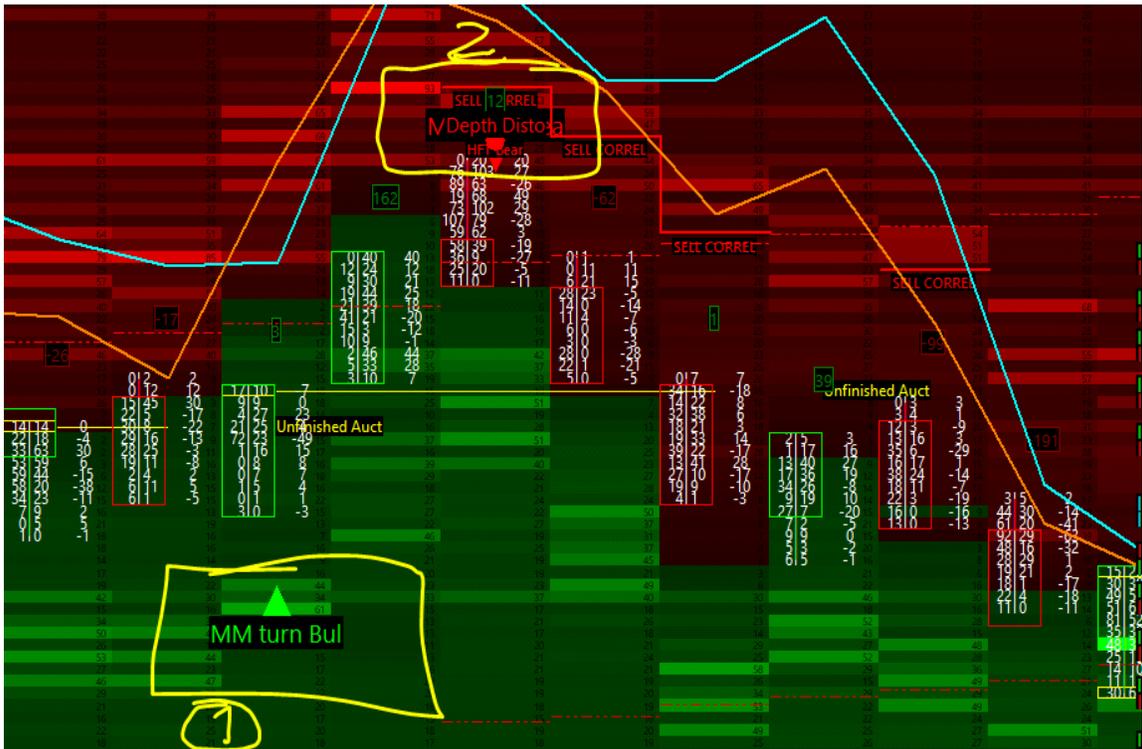
I have named it "MM turn Bu" for " Market Maker is turning bullish" ; printed in green. and " MM turn Be" for " Market Maker is turning bearish" ; printed in red.



Usually, the MM turn alert will be triggered more frequently at the open of the market and/or when we have some volatile market !

Always interesting to study in order to understand the different market making turning point sequence.

Here an other example seen on the emini ES (SP500 futures from CME) :



For example here we can see in 1) the MM turn bullish alert which is triggered, then few minutes after that, we can see in 2) the MM turn bearish alert which is triggered ! Then we have a nice price rejection to the south.

It's interesting to notice that : in the case 2), we have a cluster between :

- > HFT bear alert triggered
- > Sell depth Distortion alert
- > SELL CORRELL alert
- > MM turn bearish alert

All of these HFT alerts, triggered into the same and unique price bar.

Very very interesting moment here in 2) ! Especially when you see that you have an unfinished auction price level which has been highlighted just before, and which is waiting to be revisited just below. It will be done three price bar after the signals triggered in 2).

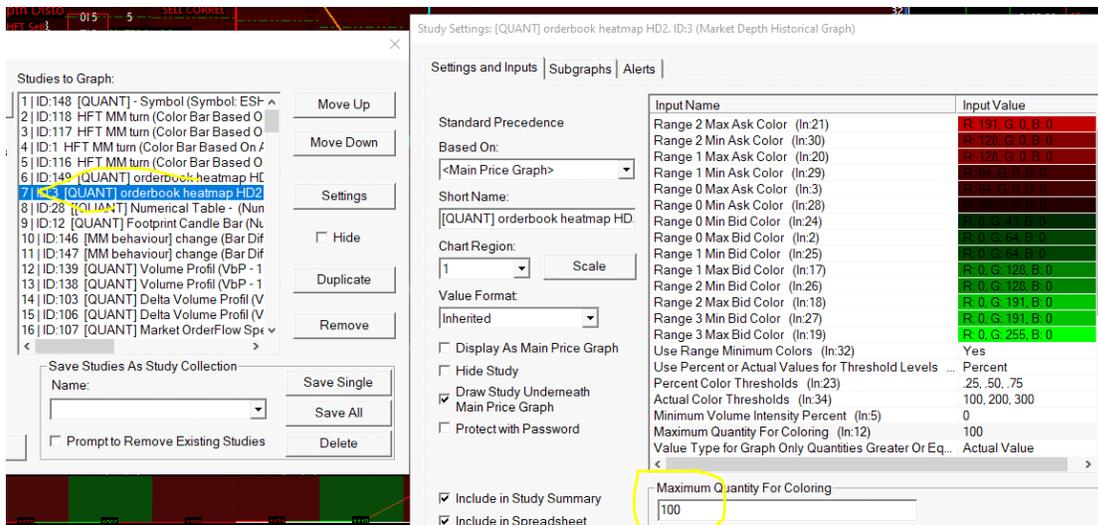
Naturally, i have reported the number of market making turning point into the HFT alerts counter pannel on the right side of the quant spread tracker ! It's a good barometer to understand the state of the stress of the market making activities.



3) How to use it and customm it ?

A) how to change the brightness of the DOM heatmap in region 1?

- > right click on the quant spread tracker
- > click on studies
- > double click on : 7 | ID3 [QUANT] orderbook heatmap HD2
- > change the quantity on the input12 named "maximum quantity for coloring"



---> click on apply and ok and apply and ok to validate the choice.

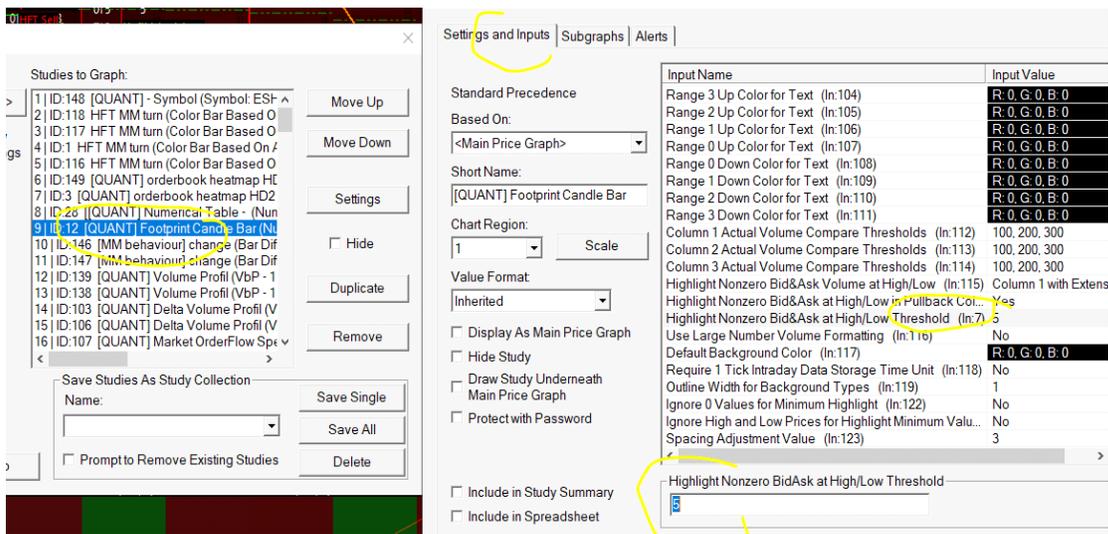
B) how to change the sensibility of the unfinished auction detector ?

---> right click on the quant spread tracker

---> click on studies

---> double click on : 9 | ID12 [QUANT] Footprint Candle Bar

---> change the quantity on the input7 named "Highlight Nonzero Bid&Ask at High/Low Threshold" from 5 to a bigger quantity if you need to see less un finished auction ; or to a smaller quantity if you need to see more un finished auction.



---> click on apply and ok and apply and ok to validate the choice.

C) how to change the brightness of the DOM heatmap in region 7 ?

---> right click on the quant spread tracker

---> click on studies

---> double click on : 6 | ID149 [QUANT] orderbook heatmap HD3

---> change the quantity on the input12 named "maximum quantity for coloring"

Input Name	Input Value
Range 0 Max Ask Color (In:3)	R: 255, G: 0, B: 255
Range 0 Min Ask Color (In:28)	R: 255, G: 0, B: 255
Range 0 Min Bid Color (In:24)	R: 255, G: 0, B: 255
Range 0 Max Bid Color (In:25)	R: 255, G: 0, B: 255
Range 1 Min Bid Color (In:25)	R: 255, G: 0, B: 255
Range 1 Max Bid Color (In:17)	R: 255, G: 0, B: 255
Range 2 Min Bid Color (In:26)	R: 255, G: 0, B: 255
Range 2 Max Bid Color (In:18)	R: 255, G: 0, B: 255
Range 3 Min Bid Color (In:27)	R: 255, G: 0, B: 255
Range 3 Max Bid Color (In:19)	R: 255, G: 0, B: 255
Use Range Minimum Colors (In:32)	Yes
Use Percent or Actual Values for Threshold Levels ...	Percent
Percent Color Thresholds (In:23)	25, 50, 75
Actual Color Thresholds (In:34)	100, 200, 300
Minimum Volume Intensity Percent (In:5)	250
Maximum Quantity For Coloring (In:12)	250
Value Type for Graph Only Quantities Greater Or Equal To (In:12)	Actual Value
Graph Only Quantities Greater Or Equal To (In:8)	0
Extend Last Known Depth (In:4)	Yes
Number of Minutes to Extend Last Known Depth (0 for ...)	0
Show Quantity Numbers (In:6)	None

---> click on apply and ok and apply and ok to validate the choice.

D) how to change the symbol instrument on the region 7 ?

---> right click on the quant spread tracker

---> click on studies

---> double click on : 1 | ID148 [QUANT] - Symbol

---> change the symbol instrument in the input1

Input Name	Input Value
Symbol (In:1)	ESH0-CME
Price Multiplier (In:2)	1
Volume Multiplier (In:3)	1
Fill Blanks with Last Value (In:4)	Yes
First Date to Load (In:5)	0
Align Futures Contract Daily Bars Independent of Ye...	No
Do Not Update Last Bar with Latest Price from Data...	Yes

---> click on apply and ok and apply and ok to validate the choice.

Thank's for your intention !

I would be glad to get your feedback, your comment, notification, and other question that you can bring to me !

Always a pleasure to share more knowledge.

Nico

YOUTUBE : <https://www.youtube.com/channel/Uckwbm2Jw6q1qbb28azfO3hA/videos>

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TWITTER : <https://twitter.com/NicooooooFX>

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