

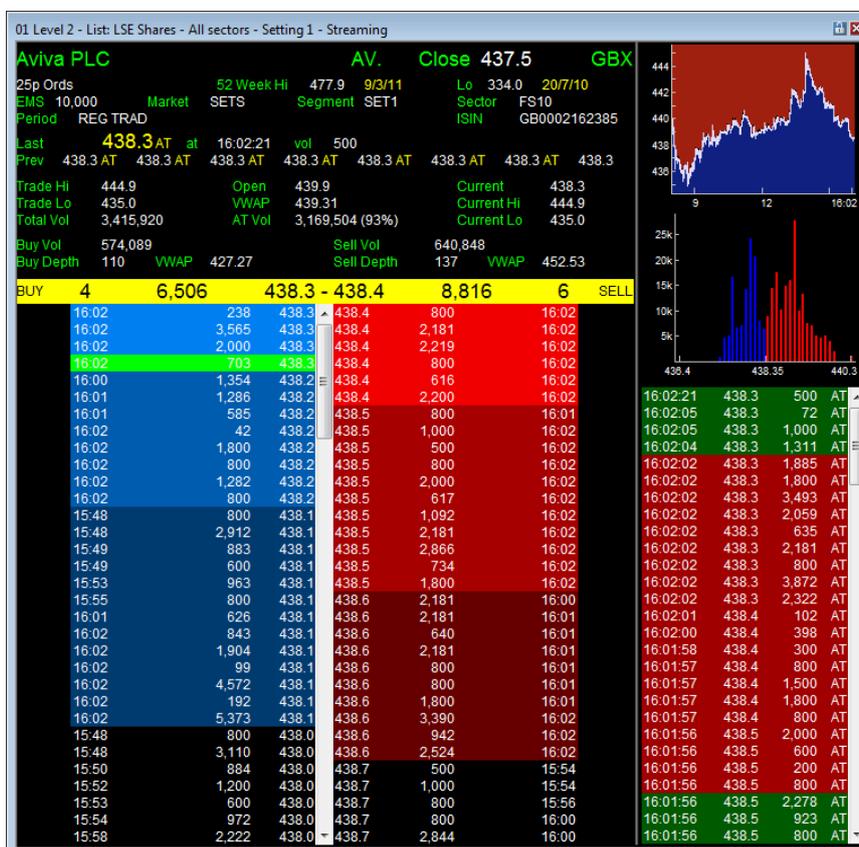
# Chapter 13 - Level 2

## What you will learn in this chapter:

- What you can learn from Level 2.
- How to use ShareScope's Level 2 view.
- How to customise the Level 2 view.
- How to save different configurations of the Level 2 view - called *Settings*.

## What is Level 2?

Level 2 is the term given to the full order book for a share. It is what City traders have on their screens. Whereas Level 1 data gives the best bid and offer for each share, Level 2 displays all the buy and sell orders for a share and a host of other information. It enables you to watch the price formation process in real-time.



ShareScope Pro includes Level 2 for all London-listed shares. Level 2 can also be added as an additional module to ShareScope Gold and Plus.

Most private investor trades are executed “at market”. That is, your broker quotes you a price (the best available) and executes it immediately. Traders with access to the order book can place buy or sell orders at any price. Your broker may provide the facility for you to enter such “limit orders” but these won’t necessarily appear in the order book.

ShareScope’s Level 2 is a display service – you cannot place orders. Some brokers will allow trading access to Level 2 (called Direct Market Access) but this is not for the faint-hearted or the novice.

You’ll notice on the screen shot above that you can also see a chronological list of the trades executed. Note that trades in many less liquid instruments such as small-cap stocks and ETFs may be executed on Plus Markets and will not therefore appear on the LSE Level 2 display. They will, however, appear in ShareScope’s **Trades & Quotes** view which shows LSE *and* Plus Markets trades.

Many traders think that Level 2 will open up a world of secret tricks and easy profits. It won’t. There is no magic to Level 2; some traders have developed strategies for trading using the information on the Level 2 screen but you will find very little information on these. Level 2 just gives you more information.

For example, the volume at the best bid or offer will usually be sufficient to fulfil a private investor's or trader's order. If you wanted to buy or sell a large volume of shares, however, visibility of the whole order book enables you to calculate the average price you would pay for them. Clearly, this is essential information for institutional buyers.

When you get a price for a stock from your broker it will sometimes be better than the best bid or offer (inside the spread). This is because, for less liquid instruments, your broker will electronically elicit quotes from a network of market makers who may be willing to offer a better price. You will be offered the best of these prices. On the Level 2 screen, the trade list enables you to see the actual prices being achieved.

You can also see bottlenecks in the order book - price points at which there are large volumes of shares. These may indicate important support or resistance points.

If you would like to understand Level 2 through the eyes of a City Trader, you may be interested to purchase our training DVD "Using Level 2 to Improve your trading" with Dominic Connolly.

Like all views in ShareScope, you can create multiple Level 2 **Settings** with different configurations.

### Yellow Strip

Understanding how the yellow strip relates to the prices your broker offers is essential. Look at the order book below:

10%	2	883	381.9 - 382.3	1,521	3	10%
11:32	447	381.9	382.3	500	11:31	
11:32	436	381.9	382.3	498	11:32	
11:31	548	381.8	382.3	523	11:32	
11:31	480	381.8	382.4	325	11:23	
11:32	520	381.8	382.5	325	11:27	
11:32	700	381.8	382.5	10,000	11:28	
11:24	2,091	381.7	382.5	700	11:29	
11:28	2,091	381.7	382.6	5,185	11:27	
11:30	549	381.7	382.6	657	11:30	
11:30	545	381.7	382.6	400	11:31	
11:32	642	381.7	382.7	1,000	11:30	

On the left hand side are the **Bids**. These are orders, placed by market participants, to **buy** shares. For example, the trader who placed an order at 11:24 wants to buy 2,091 shares at 381.7p each.

On the right-hand side of the order book are the **Offers**. These are orders to **sell** shares. For example, the trader who placed an order at 11:28 wants to sell 10,000 shares at 382.5p each.

The yellow strip displays the best bid and offer.

Most investors buy or sell **at market**. That is, you place an order with your broker who buys them for you at the best price available (once you've accepted the quote). Your broker buys your shares from a seller on the order book – in the lingo, he *fills* a sell order. Your broker does **not place a Buy order**.

In other words, you are buying at the **Offer**. Look at the yellow strip again: there are 1,521 shares available on offer at 382.3p each. The order book shows us that this **best offer** comprises three individual offers. If you place an order with your broker to buy 800 shares, he places a market order which will *fill* the first sell order for 500 shares and part-fill the next sell order (of 498 shares) to make up the 800 shares you want.

Similarly, when you sell your broker sells your shares to a buyer (you sell at the **Bid**).

So, for you, the buy and sell sides are reversed. The Bid is the highest price at which you can sell and the Offer is the cheapest price at which you can buy. Think of it this way: you have to buy high and sell low.

10%	2	883	You sell at: 381.9	You buy at: 382.3	1,521	3	10%
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As mentioned in the Introduction, your broker may allow you to place a **limit order**. This enables you to specify the price at which you wish to trade. This is the same as placing a buy or sell order on the appropriate side of the order book. (Your broker **may** place an order on the order book but it may be managed internally with other limit orders.) Of course, you are then dependent on someone filling your order so your order is unlikely to be executed immediately and may not be executed at all if the market price moves away from your order price.

## Subscribing to Level 2

Level 2 is a real-time data feed included in ShareScope Pro.

ShareScope Gold and Plus customers can add Level 2 as an additional module for £16 per month. This enables you to add a real-time feed to Gold and Plus.

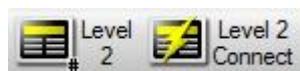
Call us on 0800 052 1515 if you would like to subscribe.

*Gold & Plus customers:* Once your account has been upgraded to Level 2, click on the Update data button, or press F9. A window now appears telling you that the Level 2 buttons will be installed on your toolbar. Click OK.

## Accessing the Level 2 view

Note that the Level 2 view is only relevant for instruments traded on the London Stock Exchange (shares, ETFs, investment trusts and other share types).

You should have two Level 2 buttons on your main toolbar:



Click on the **Level 2** button to display the Level 2 view. In ShareScope Plus and Pro this will appear in the active window.

Click on the **Level 2 Connect** button to start receiving the real-time Level 2 data. Plus & Pro users: note that this is separate to the intraday feed. You will also find this option on the **Comms** menu.

Another way to display the Level 2 view is to press the Hash (#) key. This will display the order book for the current instrument. Press the Hash key to return to the previous view.

To display the Level 2 view in a new window (Plus & Pro only), go to the **View** menu, select **New window** and then **Level 2**. By default the **LSE** list will be used as the underlying list because it includes all instruments with Level 2 data. If you want to change this to a smaller list (e.g. Exchange

traded funds), right-click in the window and use the **Change list** option. The maximum number of windows you can have connected to the Level 2 feed at any one time is 24.

Whilst in the Level 2 view, you can scroll through the underlying list of shares using the spacebar key, and you can search for other instruments in the underlying list – just like you can in most other views.

Plus & Pro users: you can link the Level 2 window to another window by right-clicking in the title bar of the window, selecting **Link window** and then the target window.

You can print the Level 2 screen by selecting **Print** from the File menu. Note that the charts and trades list on the right hand side of the screen (if displayed) will not be printed.

## Level 2 view

ShareScope's level 2 view has six main components:

The screenshot displays the Level 2 view for BP PLC. The main display shows a table of orders with columns for time, price, and volume. The order book shows a bid side (BUY) and an ask side (SELL). The price graph shows a line chart of the price over time. The volume graph shows a bar chart of the volume of shares traded at each price level. The trades list shows the last 50 trades. The order fill calculator is also visible in the top right corner.

**Order fill calculator**  
Calculates the average price you would pay if your order can't be fulfilled at the best price.

**Price graph**  
Displays a price graph for the last hour of trading or since market open.

**Volume graph**  
Displays the volume of shares available at each price level.

**Trades**  
Displays the last 50 trades.

**Main display**  
Includes data about the instrument, recent trades and the current order book.

**Order book**  
Displays the full depth of orders on the order book.

The only mandatory components are the **Main display**, which can be cut down, and the **Order book**. The **Order fill calculator** is the only component which isn't included in the default configuration.

Each component is described in more detail in the following sections. Note that hovering the mouse cursor over some items will reveal additional information.

## Level 2 Context Menu

There are two items specific to Level 2 available by right-clicking in the Level 2 screen or from the Level 2 menu at the top of the ShareScope screen:

- **Level 2 Design** allows you to customise the appearance of the Level 2 screen. You can also use **Ctrl + D** or the **Design** toolbar button.
- **Resize window to contents** changes the dimensions of the Level 2 window to fit the information displayed.

## Level 2 - Order Book

The London Stock Exchange operates three trading systems: SETS, SETSqx and SEAQ. The order book is different for all three.

### SETS

Instruments with sufficient liquidity trade on SETS. This is an electronic trading system on which orders are submitted by and matched (executed) automatically. The order book is displayed beneath the yellow strip. It consists of two columns showing buy orders on the left and sell orders on the right. The price, volume and time (or date) of each order is displayed.

BUY	2	95,332	458.45 - 458.5	36,893	1	SELL
16:30	42,017	458.45	458.5	36,893	16:34	
16:34	53,315	458.45	458.9	127,908	16:34	
16:31	386	458.4	459.1	655	16:30	
16:34	219,335	458.4	459.1	4,712	16:34	
16:30	60	458.3	459.1	76,814	16:34	
16:34	5,000	458.25	459.25	87,577	16:34	
16:31	4,225	458.2	459.25	264,536	16:34	
16:31	309	458.2	459.35	153,614	16:34	
16:33	4,105	458.2	459.4	42,147	16:30	
16:33	162,150	458.2	459.4	15,068	16:34	
16:30	1,180	458.15	459.55	1,181	16:30	
16:33	12,500	458.1	459.6	25,166	16:34	
16:34	155,592	458.1	459.65	48,951	16:29	
16:28	44,000	458.05	459.8	36,995	16:30	
16:30	32,536	458.05	459.8	9,775	16:34	
16:34	19,917	458.05	459.8	35,715	16:34	
16:34	12,568	458.05	459.8	49,900	16:34	
16:33	100,000	458	459.85	69,822	16:34	
16:29	49,129	457.95	459.9	21,775	16:34	

To see a summary of the order book, i.e. where only one line per price is displayed, double-click within the order book. A histogram indicates the relative number of shares available at each price (see example below). This can indicate bottlenecks in the order book – prices that are potential areas of support or resistance.

BUY	2	95,332	458.45 - 458.5	36,893	1	SELL
	2	95,332	458.45	458.5	36,893	1
	2	219,721	458.4	458.9	127,908	1
	1	60	458.3	459.1	82,181	3
	1	5,000	458.25	459.25	352,113	2
	4	170,789	458.2	459.35	153,614	1
	1	1,180	458.15	459.4	57,215	2
	2	168,092	458.1	459.55	1,181	1
	4	109,021	458.05	459.6	25,166	1
	1	100,000	458	459.65	48,951	1
	2	49,515	457.95	459.8	132,385	4
	2	5,060	457.8	459.85	69,822	1
	1	309	457.75	459.9	21,775	1
	1	44,000	457.7	460.05	496,005	1
	1	264,536	457.65	460.1	44,000	1
	3	100,638	457.6	460.25	105,203	2
	3	285,152	457.55	460.3	81,353	3
	3	212,436	457.5	460.45	116,061	3
	1	7,043	457.45	460.55	32,568	1
	1	1,967	457.4	460.65	349,785	3

In May 2012, the London Stock Exchange introduced the CPX trading period which allows trading at the closing price for a short period after the closing auction. This is for SETS stocks only. During this CPX period, the closing price will be displayed in the centre of the yellow strip. Orders are matched and executed immediately so you will only see volume (unmatched orders) on one side of the book. All non-qualifying orders (i.e. those which are not at or better than the closing price) will remain on the order book but will be greyed out. Trades executed during the CPX period will be assigned the PT trade type in the Level 2 trade list.

## SEAQ

Some AIM shares and fixed-income securities trade so infrequently that there wouldn't be enough orders to operate an electronic order book. In other words, there wouldn't be enough orders to maintain a market.

These securities trade on the SEAQ trading system where appointed market maker firms are obliged to provide quotes to buy or sell (up to) a specified volume of shares at a specified price. That is, they guarantee a market. SEAQ is entirely quote-driven and displays a quote book rather than an order book:

2	PEEL WINS 198.00 - 205.00 WINS						1		
07:31	WINS	25,000	▶	198.00	205.00	▶	25,000	WINS	07:31
07:41	PEEL	10,000	▶	198.00	208.00	▶	6,000	PMUR	07:32
07:32	PMUR	6,000	▶	193.00	208.00	▶	10,000	PEEL	07:41

Notice that the name of the market maker is displayed next to each quote. The name(s) of the market makers offering the best price is displayed in the yellow strip, rather than the volume of shares. You can double-click in the quote book to view the quote book as a single column which lists each market maker and their bid-offer spread.

When you request a quote from your broker for one of these shares, you may receive a slightly different price dependant on the volume of shares you require. For a small number of shares, below the guaranteed market size, you may get a better price; for a higher volume, you may get a less favourable price.

## SETSqx

SETSqx is a hybrid trading system for instruments with reasonable liquidity but which may at times require market maker quotes to maintain a market. Here, the order book is split into a quote book (top) and an order book (below). In the quote book, appointed market maker firms provide quotes just like on SEAQ. In the order book, electronic orders may be entered as on SETS. SETSqx is in continual auction with set uncrossing times at 08:00, 11:00, 15:00 and 16:35.

1		SING 47.50 - 48.50 CANA						1
07:55	SING	7,500	▶ 47.50	▲	48.50	▶ 7,500	CANA	07:52
07:50	WEST	3,000	▶ 47.25		49.00	▶ 7,500	WINS	07:52
07:53	EVO	7,500	▶ 47.00		49.00	▶ 7,500	LIBC	07:55
07:57	PEEL	3,000	▶ 46.00		49.00	▶ 3,000	NUMS	07:57
07:33	SCAP	3,000	▶ 45.50		50.00	▶ 3,000	RBCE	07:50
07:50	RBCE	3,000	▶ 45.00		50.00	▶ 3,000	PEEL	07:57
07:52	WINS	7,500	▶ 45.00		50.50	▶ 3,000	SCAP	07:33
07:55	LIBC	7,500	▶ 45.00		50.50	▶ 7,500	SING	07:55
BUY								SELL
		▲ 48.00 12,118 10:11						

Note that in the quote book, the time, identity, market size and price of each quote is displayed. By default, the quote book is sorted by price on each side of the book. Alternatively, you can double click in the quote book to list the market makers and their respective bid/offer spread (see below). The list is in chronological order starting with the earliest. Double-click to return to the split view.

1		SING 47.50 - 48.50 CANA						1
	SCAP		▶ 45.50 - 50.50	▶	03x 03		07:33	
	WEST		▶ 47.25 - 56.25	▶	03x 03		07:50	
	RBCE		▶ 45.00 - 50.00	▶	03x 03		07:50	
	CANA		▶ 43.50 - 48.50	▶	07x 07		07:52	
	WINS		▶ 45.00 - 49.00	▶	07x 07		07:52	
	EVO		▶ 47.00 - 51.00	▶	07x 07		07:53	
	SING		▶ 47.50 - 50.50	▶	07x 07		07:55	
	LIBC		▶ 45.00 - 49.00	▶	07x 07		07:55	

## Auctions

Auctions are periods when live trading is suspended but orders can be added to the order book. At the end of the auction, uncrossing occurs. The trading system electronically calculates the price at which the maximum number of shares can be traded and executes those trades. This price is called the uncrossing price. During an auction, the yellow strip turns pink.

Note that for uncrossing to occur, there must be buy orders at a higher price than the sell orders, or market orders on one or both sides of the book.

On SETS, trading of highly liquid shares is preceded by a ten minute auction (from 07:50 to 08:00am). At the end of the ten minutes, the order book for each share will be uncrossed any time within a 30 second period. The uncrossing price sets the open price for the day and trading commences.

For these shares, the trading day also ends with a closing auction from 16:30 to 16:35. Again there is a 30 second window at the end of the auction during which each order book will be uncrossed. This sets the closing price for the day.

Stocks on SETSqx, which can be either order- or quote-driven are in permanent auction with set uncrossing times during the day (08:00, 11:00, 15:00 and 16:35). SEAQ, the quote-driven system for very illiquid securities, has neither open trading nor auctions.

Unscheduled auctions can be triggered during the trading day for a stock in certain conditions.

### Customising the order book

There are a number of useful features which can help provide clarity to the order book. These can be found on the **Order book** tab of the **Level 2 design** dialog.

As afore-mentioned, you can double click in the quote book to display the bid/offer quotes by market maker. The first option on the **Order book** tab enables you to set this as the default option. Double-clicking in the quote book will then display the traditional bid and offer columns.

We have also discussed how double-clicking in the order book will aggregate orders with the same price. The following options relate to this **Summary order book**:

- **Show summary order book initially:** select this option to make the Summary order book the default option.
- **Show volume histogram in summary:** use this option to show/hide the volume histogram next to each summary order. Note: this option can only be selected if **Show order date/time** is enabled. The same information can be displayed in the Level 2 **Volume graph**.
- **Insert blank lines:** inserts a blank line at price levels with no orders. It enables you to see gaps in the order book. ShareScope uses the tick size set for each share by the exchange. Instruments may also have a variable tick size dependant on their price. Mouse over the currency in the top right of the Main display to reveal the current tick size.
- **Aggregate named orders:** market participants can attach a name to an order (like the market makers). Official LSE guidelines are to not aggregate named orders (thereby hiding the name) but you can use this option to do so if preferred.

All of the buy and sell orders on the order book are displayed by default. **Limit to orders within percentage of mid price** allows you to limit how many are displayed. Select a percentage for the **buy** and **sell orders** to show only those orders that fall within this range of the best bid and offer prices. The percentage selected is displayed on the yellow strip. The Buy/Sell Volume, Buy/Sell Depth and VWAP change to reflect the reduced number of orders displayed.

5%	4	10,279	458.75 - 458.9	6,661	6	5%
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**Note:** if **Insert blank lines** (see above) is selected, this option is automatically enabled with a maximum setting of 10%. This is because outlying prices (perhaps inadvertently entered) would cause an impractical number of blank lines to be inserted.

**Show order date / time** displays the date and time in the full order book view only (i.e. not in the summary order book). There is a further option to **show seconds** in the time. If the order was entered today, the time is shown, otherwise the date is shown.

**Draw horizontal separating lines** inserts lines separating each order book entry.

## Level 2 - Main Display

<b>BP PLC</b>		<b>BP.</b>		<b>Close 462.6</b>		<b>GBX</b>	
\$0.25 Ords		52 Week Hi	509.0	18/1/11	Lo	375.15	25/8/10
Spread	0.0%	Open +/-	▲ 0.55 (0.1%)	Close +/-	▲ 1.90 (0.4%)		
EMS	10,000	Market	SETS	Segment	SET0	Sector	FE00
Period	REG TRAD			ISIN	GB0007980591		
Last	<b>464.5</b>	AT	at	11:59:33	vol	562	
Prev	464.5	AT	464.5	AT	464.55	AT	464.55
Trade Hi	465	Open	463.95		Current	464.5	
Trade Lo	462.15	VWAP	464.02		Current Hi	465	
Total Vol	6,200,190	AT Vol	5,781,711 (93%)		Current Lo	462.15	
Buy Vol	1,123,908	Sell Vol	2,401,113				
Buy Depth	198	VWAP	443.78	Sell Depth	330	VWAP	508.23
BUY	2	3,550	464.5 - 464.65		1,000	1	SELL

Share information and trading statistics are displayed at the top of the Level 2 screen. This information is subdivided into a number of sections, each of which can be hidden if desired (see **Customising the Main Display**):

### Company name

This line includes the instrument name, EPIC, last close price and the currency.

<b>BP PLC</b>	<b>BP.</b>	<b>Close 462.6</b>	<b>GBX</b>
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### Share details

This line includes the share type, any activated flags, the 52-week price high and the 52-week price low, and the dates on which they occurred. Flags will only be displayed if enabled through the **Level 2 design** feature.

\$0.25 Ords		52 Week Hi	509.0	18/1/11	Lo	375.15	25/8/10
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### Price information

Here you will find the current spread\* to one decimal place (for FTSE 100 stocks, this may display as 0.0%), the difference between the current mid price and the day's opening price, and the difference from the last closing price.

Spread	0.0%	Open +/-	▲ 0.55 (0.1%)	Close +/-	▲ 1.90 (0.4%)
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\*The spread is the difference between the best bid and the best offer prices (the two prices displayed on the yellow strip).

### Market information

You'll find more technical information on this line. Each instrument will have an EMS (Exchange Market Size) for each exchange it is traded on. It is a measure of the average trade size and is used to calculate the minimum quotation volume for less liquid stocks. The Market, Segment and Sector relate to the subdivisions of the market defined by the London Stock Exchange for trading purposes. The Segment and Sector are unlikely to be of use to you. The Market is split into three groups based on liquidity: SETS, SETSqx and SEAQ (See **Level 2 – Order book** for more information).

EMS	10,000	Market	SETS	Segment	SET0	Sector	FE00
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**Period/ISIN**

Period tells you the current state of trading.

Period	REG TRAD	ISIN	GB0007980591
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There are 20-30 codes some of which are displayed outside of normal market hours. The most important are described below.

For liquid blue-chip stocks, on SETS, the trading day is split into four periods: the opening auction (OPEN AUC), regular trading (REG TRAD), the closing auction (CLOS AUC) and the closing price crossing period (CPX). If exceptional price action triggers an intraday auction, you will see AESP AUC. If a share is suspended from trading, you will see SUSP.

For SETSqx stocks, the order book is mainly in auction with periodic uncrossing (order fulfilment). For these stocks the Period will comprise two codes – the first for the quote book and the second for the order book. For the quote book, status will usually be MAND during which it is mandatory for market makers to provide a quote. In PRE-MAND or POST-MAND periods, market makers may enter quotes but do not have to. For the order book, the code will usually be PER AUC (periodic auction).

For SEAQ stocks, which are entirely quote driven, the Period will usually be MAND/ACTIVE.

**Auction remaining**

When an instrument is in auction, this field will display the time elapsed. You can also change this to display the time remaining (see **Customising the Main Display** below). This field isn't displayed for SETSqx stocks which are almost permanently in auction.

**Last trades**

The top line of this section displays the price, trade type, time and volume of the last executed trade. The bottom line displays the price and type of (up to) the last eight trades.

Last	464.5	AT	at	11:59:33	vol	562				
Prev	464.5	AT	464.5	AT	464.55	AT	464.55	AT	464.55	AT

**Summary data**

This section contains nine items of data relating to the day's trading:

<b>Open</b>	the opening (uncrossing) price of the day
<b>Current</b>	the current mid price
<b>Trade Hi</b>	the highest price trade of the day (all trades)
<b>Trade Lo</b>	the lowest price trade of the day (all trades)
<b>Total Vol</b>	the total volume of shares traded today
<b>Current Hi</b>	the highest price automatic trade (AT) of the day
<b>Current Lo</b>	the lowest price automatic trade (AT) of the day
<b>AT Vol</b>	the total volume of automatic trades today
<b>VWAP</b>	the volume-weighted average price per share traded (all trades)

For SEAQ stocks, where no automatic trades are executed, the **Mid**, **Mid Hi** and **Mid Lo** are given instead.

The **Standard layout** is shown below:

Trade Hi	465	Open	463.95	Current	464.5
Trade Lo	462.15	VWAP	464.02	Current Hi	465
Total Vol	6,200,190	AT Vol	5,781,711 (93%)	Current Lo	462.15

However, there is an **Alternative layout**:

Open	463.95	Total Vol	6,845,524	Current	463.85
Trade Hi	465	AT Vol	6,404,111 (94%)	Current Hi	465
Trade Lo	462.15	VWAP	464.03	Current Lo	462.15

And a **Timestamp layout**:

Open	463.95			Current	463.8
Trade Hi	465	08:52		Current Hi	465
Trade Lo	462.15	08:07		Current Lo	462.15
Total Vol	6,848,370		VWAP 464.03	AT Vol	6,405,792 (94%)

To use either of the latter two layouts, see **Customising the Main Display** below.

### Buy/sell stats

This section provides statistics on the current order book: the volume of shares, the number of orders, and the volume-weighted average price of unfulfilled orders for both sides of the order book.

Buy Vol	1,123,908			Sell Vol	2,401,113
Buy Depth	198	VWAP	443.78	Sell Depth	330
				VWAP	508.23

### Yellow strip

The yellow strip tells you the best bid and offer. As well as the price you can see the volume of shares available at this price and the number of orders at this price. In the screen shot below, the yellow strip is telling you that the best bid (buy) is comprised of two 3,550 shares at 464.5p

BUY	2	3,550	464.5 - 464.65	1,000	1	SELL
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If the best bid and/or offer is a quote the name of the market maker will be included. During an auction, the uncrossing price is displayed and the volume of shares that would be traded at that price.

During an auction the yellow strip turns pink and shows the indicative uncrossing price and indicative uncrossing volume. There are two alternative layouts for the "yellow strip" in auction. Alternative layout 1 shows the indicative uncrossing price and the bid and offer volumes at or better than this price. Alternative layout 2 is similar but displays the higher volume figure as the difference (e.g. +10, 982).

For how to select these alternative layouts, and the colours for normal trading, auctions and 'trading suspended', see **Customising the Main Display** below.

### Customising the Main Display

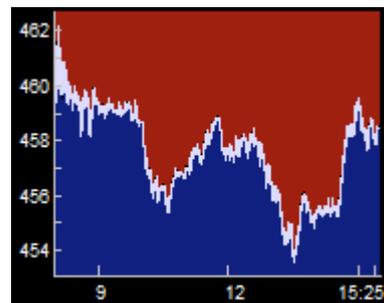
You can choose to hide any of the sections described above and you can customise the colour scheme. There also a number of options for how the information is displayed. Right-click in the Level 2 view and select **Level 2 design**. Then click on the **Main display** tab. The options should be self-explanatory and many are referenced in the section above, but note that there is an **Auto preview** tickbox. Click on this to preview the changes *without* having to click on **OK** and close the dialog. Alternatively, click on the **Preview** button.

Note that in this dialog you can also choose which other elements are included in the Level 2 view. Any changes you make are on a per-setting basis, e.g. Setting 1, Setting 2.

## Level 2 - Price Graph

By default, the Level 2 view includes a real-time price graph. The graph displays the bid and offer price lines. Double-click on the graph to limit the graph to the last hour of trading. Double-click again to return the full graph.

You can customise the Price graph, or hide it, using the options on the **Price graph** tab of the **Level 2 design** dialog.

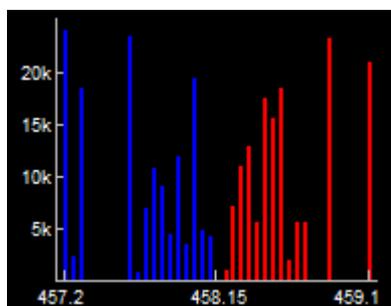


## Level 2 - Volume Graph

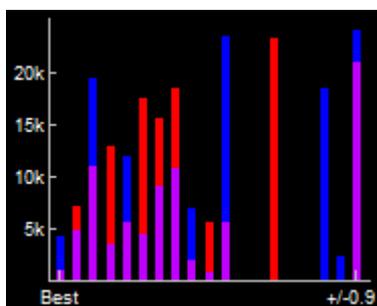
By default, the Level 2 view includes a volume graph. This displays the volume of shares available to buy or sell at each price level. Put another way, it shows you price levels which may represent a bottleneck – or a significant support or resistance level.

There are four ways to display the volume graph. You can customise the volume graph, or hide it, using the options on the **Volume graph** tab of the **Level 2 design** dialog.

The default format is the histogram shown below on the left. The mid price is displayed in the centre of the graph with the next 20 price levels for buy and sell orders either side of it. Double-click on the graph to “fold” it – overlay the bid and sell volume. Double-click again to “unfold” the graph.

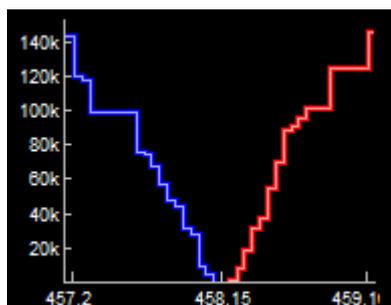


Histogram

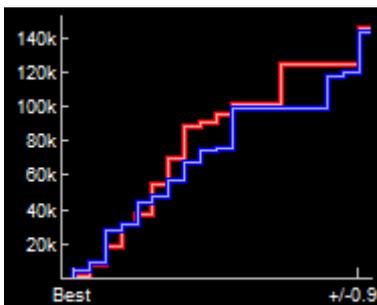


Histogram (Folded)

Alternatively, you can select a cumulative volume graph (see below left). It displays the highest-priced buy order and accumulates volume as the price falls. Conversely, it displays the lowest-priced sell and accumulates volume as the price rises. Double clicking on the graph switches between the folded and unfolded views.



Cumulative



Cumulative (Folded)

**NOTE:** During an auction, the display will use the unfolded format to indicate the uncrossing price. Also, buy and sell market orders are treated as being priced at positive and negative infinity respectively for the purposes of the cumulative graph.

You can also customise the colour scheme of the graph via the **Level 2 design** dialog.

## Level 2 - Trades

By default, a list of (up to) the last 50 trades are displayed in the Level 2 view with the most recent at the top. The time, price and volume of each trade are displayed. The main trade types are Automatic (AT), Ordinary or off-book (O) and Uncrossing trades (UT).

ShareScope attempts to determine whether the trades were buys or sells and they are colour-coded accordingly (green=buy; red=sell). Where it is not possible to determine this, they are coloured grey (Unknown).

Double-click on the trade list to combine orders executed at the same price and at the same time. An asterisk (\*) denotes combined trades. Mouse over the trade to reveal details of the aggregated trades. Double-click again to display each individual trade.

You can customise the trades list, or hide it, using the options on the **Trades** tab of the **Level 2 design** dialog. Most of the options are self-explanatory. Use the **Preview** button or **Auto preview** feature to see the effect of changes before committing to them.

## Level 2 - Order Fill Calculator

The **Order Fill Calculator** allows you to calculate the average buy/sell price of a given volume of shares, and the highest price per share you would pay. This is useful where the volume at the best bid or offer is much smaller than your likely order size.



Alternatively, you can enter the amount of money you wish to invest to find the number of shares you would acquire.

You can display this feature, and customise it, using the options on the **Order fill calculator** tab in the **Level 2 design** dialog.

The calculator is displayed in the top right corner of the Level 2 view. Press the grey button to toggle between **Buy** and **Sell** as required. In the field to the right of this button, enter the desired number of shares, or enter the amount you want to invest in the **Total value** field. ShareScope will populate the remaining fields.