

What's New in BullCharts



www.bullcharts.com.au

Version 4.0

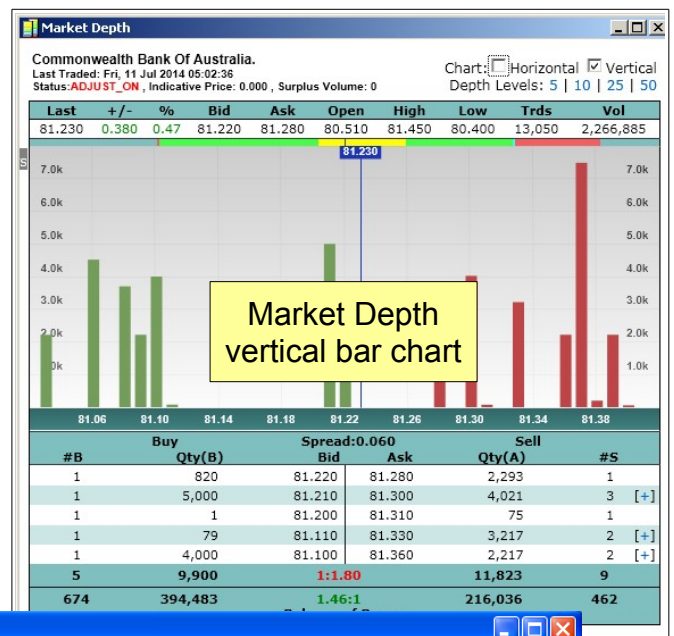
Welcome to the latest revisions to Australia's BullCharts charting software — version 4.0. This version runs on Windows XP, Windows 7 and Windows 8 (both 32-bit and 64-bit).

Whilst at first glance this new version of BullCharts looks basically the same as the previous version 3.9, there are no less than 40 changes, updates or enhancements. A number of these are significant changes — some of which will be readily apparent to regular users and intraday users, with other changes not so obvious.

Just some of the major new features include:

- Detailed Watchlist
- Market Depth revisions (for Windows 7 and above)
- New “report” window pane to display key stock data.

This document provides an overview of all the changes in this new Version 4.0. Also refer to past “What's New” documents for a list of the changes in other recent versions.



Code	Last	%Mv	BuyPrice	QuanAsk	SellPrice	QuanBid	High	Low	Volume	Status	TradedTime
BHP ▲	37.580	0.454	37.510	250	37.590	266	37.660	37.180	5,459,665	ADJUST_ON	17:02:35
CBA ▲	81.230	0.470	81.230	79	81.450	80.400	81.450	80.400	2,266,885	ADJUST_ON	17:02:36
STO ▼	14.000	-0.498	14.000	5,859	14.100	13.930	14.100	13.930	1,974,273	ADJUST_ON	17:02:42
TLS ▲	5.330	0.756	5.330	110,658	5.340	36,577	5.350	5.290	18,384,069	ADJUST_ON	17:02:41

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General

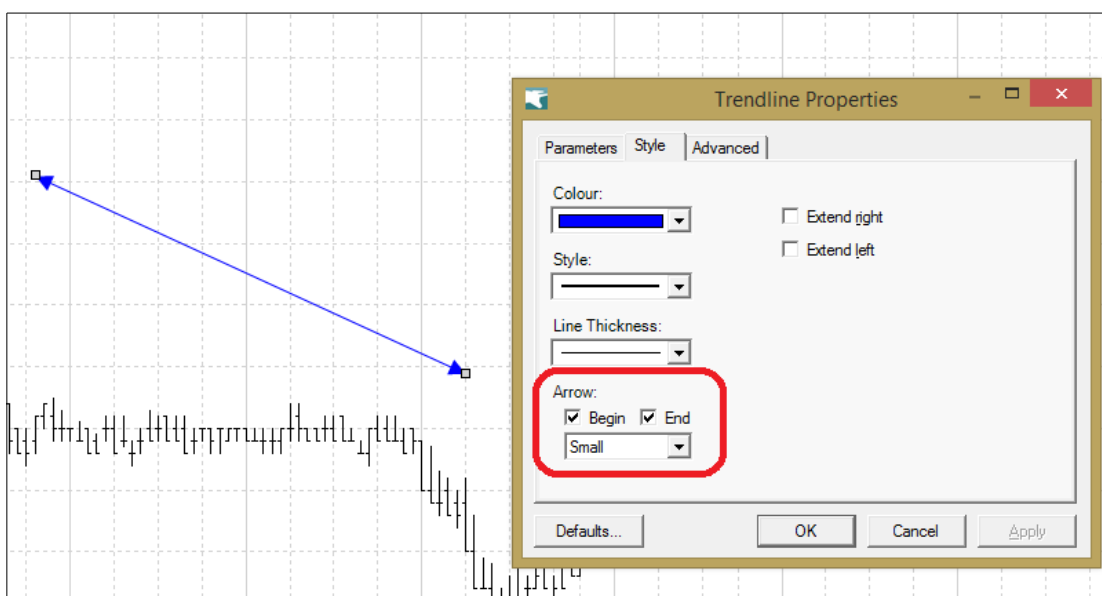
This section describes a number of the general changes and enhancements to BullCharts.

Arrow heads on the Line Interval tool

The standard **Line Interval** drawing tool now has additional style features added. An arrow head can be applied to one or both ends, and the arrow head size can be adjusted.

To add a line interval with arrow head(s) to the chart:-

- Apply a **line interval** to the chart as normal.
- Double click on the line to open “Trendline Properties” (or right-click on the item on the chart and select “Trendline Properties” from the drop-down menu).
- Under Arrow section, make the required changes.



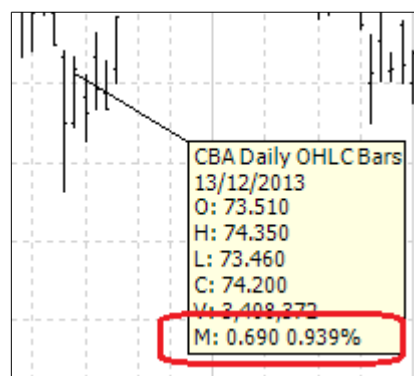
Price movement values in tooltip box

When hovering the mouse cursor over a price chart, a chart tooltip is displayed (see screen shot). This tooltip shows some price data for the date in question. One extra data item has been added to this tooltip to indicate the **Movement** in price in this period. If looking at a daily chart, then the data refers to the movement in price for that day (likewise for a weekly chart, etc.). The two values are the dollar amount, and the percentage amount. On an index chart, the movement is simply in index points.

Note: You need to hover the mouse cursor directly over a price bar or candle, or over the line if using a line chart.

Note: If you cannot see tooltips when hovering the mouse cursor over the price, it may be turned off in the Tools Preferences section.

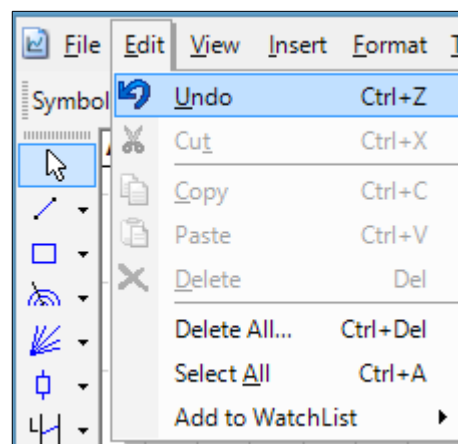
Refer to the menu option: **Tools > Preferences > “Show chart tooltips when moving mouse over it”**.



Edit Undo function

As with many software packages, when making changes to a document, or spreadsheet, or whatever, it is usually possible to “undo” the latest change. This is now also possible in BullCharts.

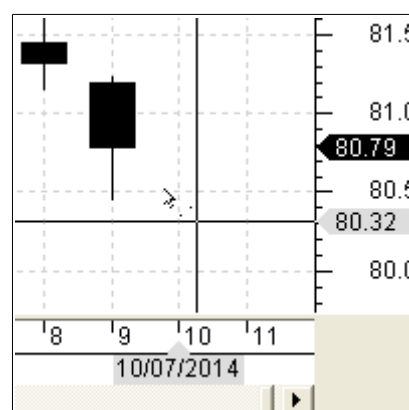
For instance, you might have accidentally deleted some trend lines, or comment, or other chart tool from your price chart. Simply use the menu item: **Edit > Undo**, or use the function key sequence: **Ctrl+Z** (ie. the Control key and the letter z).



Cross-hair cursor — colours improved

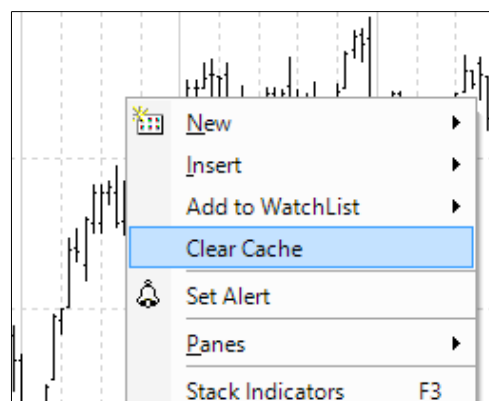
When using the **cross-hair cursor**, the price value is indicated on the right axis, and the date value on the time axis. Some users found it difficult to read these values. The contrast between the text and the background for these have been improved — black text on light grey background. The price “tag” on the right hand axis is unchanged (still white text on black background).

Note: You can enable the cross-hair cursor using the menu option: **View > Crosshair**, or using the shortcut key combination: **Ctrl+Shift+X**.



Clear data cache

There might be an occasion where the chart looks a little strange due to the data that is held in the BullCharts cache (eg. for foreign stocks/indexes). This option will clear the cache for the currently viewed security. Access it by right-clicking on the price chart, and select the option from the drop-down menu. If this option is not visible in the drop-down menu, then there is no relevant cache data.



Weekly bar now always shown on Monday

In the past, whenever Monday was a holiday, the relevant bar on the weekly chart was displayed a little offset. This is now fixed so that the week always starts on Monday, and the weekly bars are always evenly spaced.

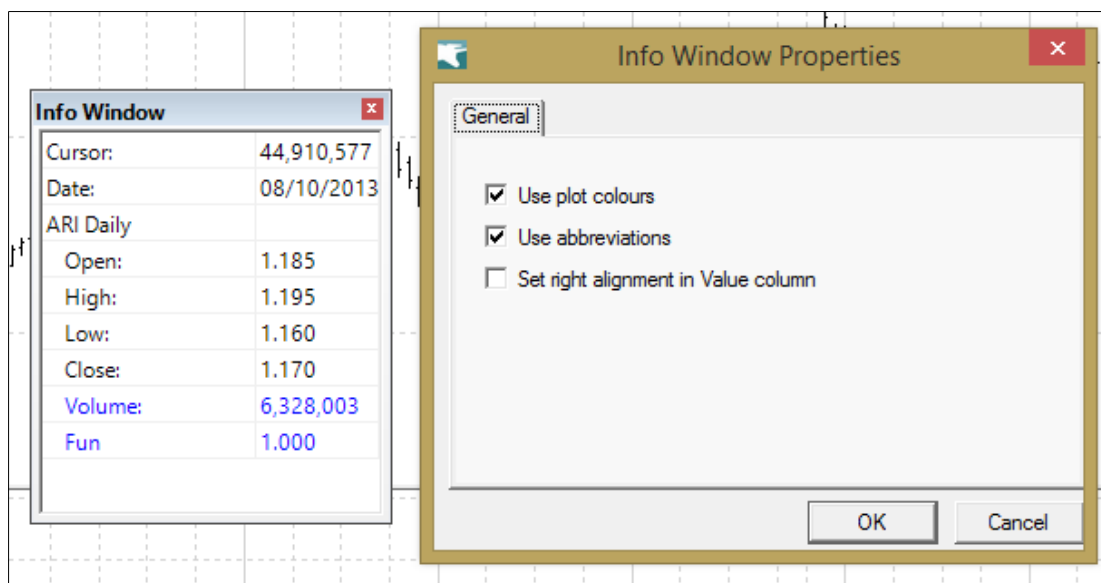
Space to right of chart — settable for each security

It is now possible to automatically store the amount of space to the right of the chart for each individual security. This option is available in the IntelliCharts settings from menu option: **Tools > Preferences > IntelliCharts > Save Time Axis Settings** (for each security).

Price Info Window — now has customisable properties

The **Price Info Window** information panel can be opened to display the price and volume values, and the values of any displayed indicators. This Info Window tool now has **properties** that can be adjusted by the user (see screen shot below for details). To access the properties dialogue box, first display the Price Info Window panel*, then right-click near the middle of the Info Window and choose **Info Window Properties** from the drop-down menu. The property options (shown in the screen shot below) include:

- **Use plot colours or not** — If this is turned off, then all items in the Price Info Window list will be in black. If turned on (to use the **plot colours**), then any colours that have been applied to indicators on the chart will also be used for the corresponding entry in the Info Window list.
- **Use abbreviations or not** — If enabled, this will display additional information for the entries in the info list.
- **Set right alignment in Value column** — The item values shown in the right hand column of the Info Window can be shown left-aligned or right-aligned (in the sample they are left-aligned). One of these might be useful for some information items, while the other might be useful for other items. For example, the volume (if displayed) could be a very large number compared to the price, or the indicator values. This option will set the right-alignment either on or off.



Also note that the Price Info Window can be re-sized by dragging any edge up, down or sideways.

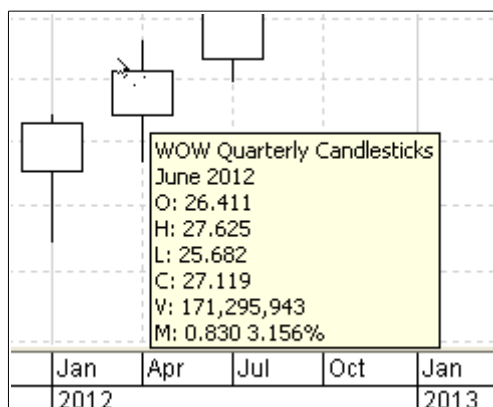
* — To display (or hide) the **Price Info Window** panel, either use the menu options: **View > Panels > Price Info Window**, or use the toolbar button (see screen shot at right).



Quarterly chart tooltip revision

When hovering the mouse cursor over a quarterly price chart, the tooltip now displays the last month of the quarter — March, June, September or December. This is in keeping with the standard quarterly notations where people say, for example, “for the June quarter”, referring to the quarter that ends in June.

The sample shown at right indicates that the quarterly candle shown above the month “April” on the time axis corresponds to the quarter than ends in June.



Refresh the indicator & scan lists without restart

It is important to understand that each of the BullCharts **scans** and **indicators** (as well as the **templates** and **watchlists** etc.) are stored as discrete files on the computer's disk, outside the BullCharts software environment. It is possible to manually manipulate these files, and copy or delete them to/from the disk. You can add additional ones using Windows Explorer outside of BullCharts, or you can save an additional scan or indicator file that is downloaded, or received by email. [To see which directories these items are stored in, use the BullCharts menu option: **Tools > Preferences > Files (tab)**.]

When the BullCharts program starts running, it looks in the relevant directories on the disk to see which **scan** files and **indicator** files are available to it. BullCharts stores a list of these internally for quick display in the appropriate pane in the **Control Panel** (eg. in the **BullScan Manager** pane). Once running, BullCharts does not re-check to see what files are currently available in these directories. If you add an additional scan file or indicator file to the directory, then they won't be displayed in the Control Panel.

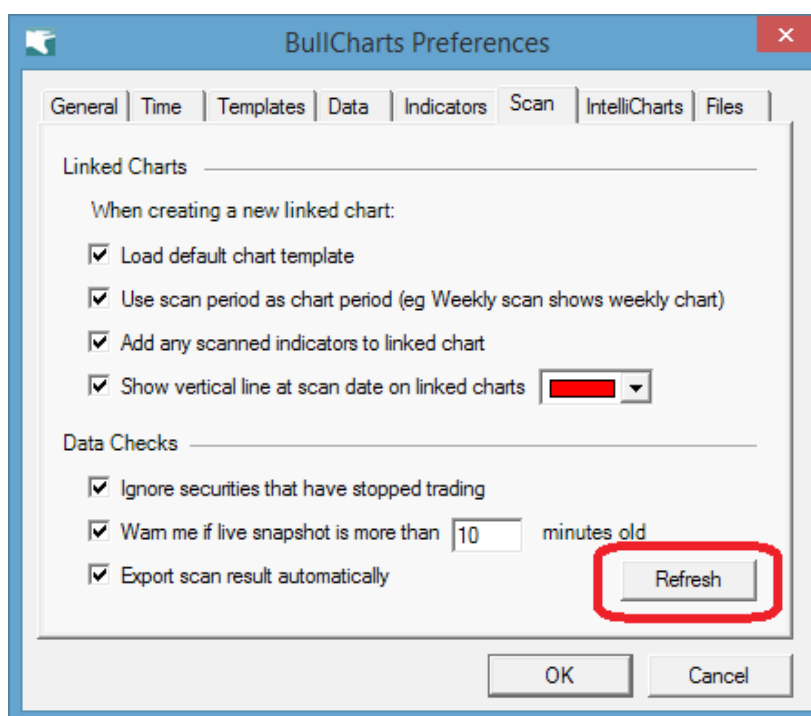
In the past, making changes to these files outside of BullCharts meant having to close BullCharts and start it again so it would read the directory listing again.

This version of BullCharts now includes a “Refresh” option to get BullCharts to refresh its internal list of the **Custom Scan** files and **Custom Indicator** files.

The screen shot at right shows the Refresh button on the “Scan” tab; but there is a similar button on the “Indicators” tab.

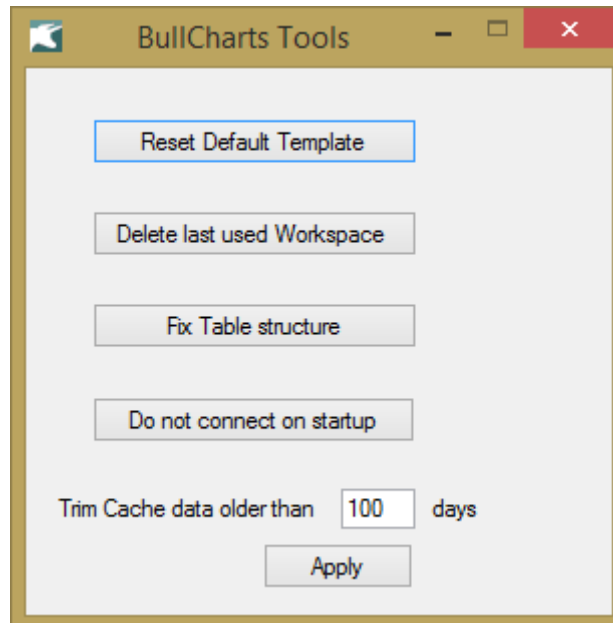
This refresh will only “add” missing items to the lists. It will not remove items that have been manually deleted from disk.

Note: Both the **Workspaces** and **Watchlists** already have a Refresh option (right-click on each in the **Security Manager**).



Intraday data — storing intraday chart data for longer

It is now possible to keep intraday (minute) charts for up to 65 days, using the option in BullTools. (NOTE: The BullTools feature is to be used with much caution.)



Note: To be able to retain and display this intraday chart data, it is necessary to display the data in order to have the data downloaded and stored in your local cache. Then it can be retained for the period specified. Also note that “clearing the cache” for a security will also clear the intraday data.

Watchlist enhancements

There are several enhancements to the watchlists feature, including two significant ones:

- **NewsWatch** — a summary list of recent news for all stocks in one watchlist.
- **Detailed Watchlist** — for a more detailed view of the stocks in a watchlist (including price data).

Colour the watchlist entries & new hotkeys

The **coloured watchlist entries** feature was added in an earlier version. For entries in a watchlist, the entries can be assigned one of six colours. See example in first screen shot at right.

To apply a colour to a watchlist entry, right-click on the watchlist entry and choose the “Select Colour” option from the drop-down menu.

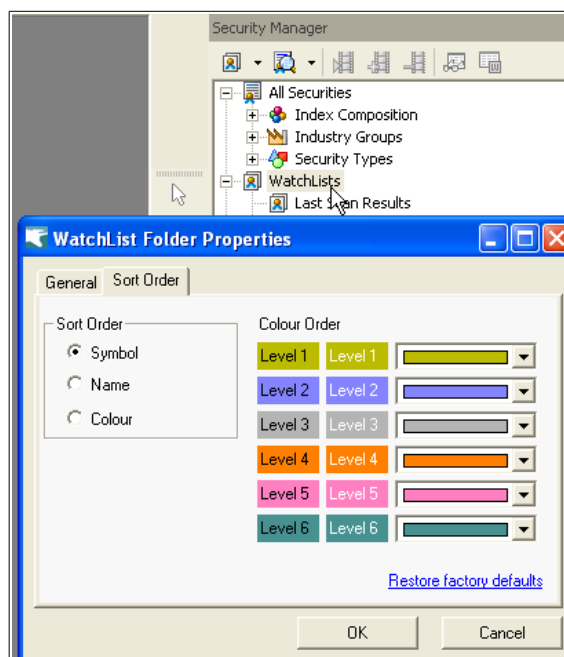
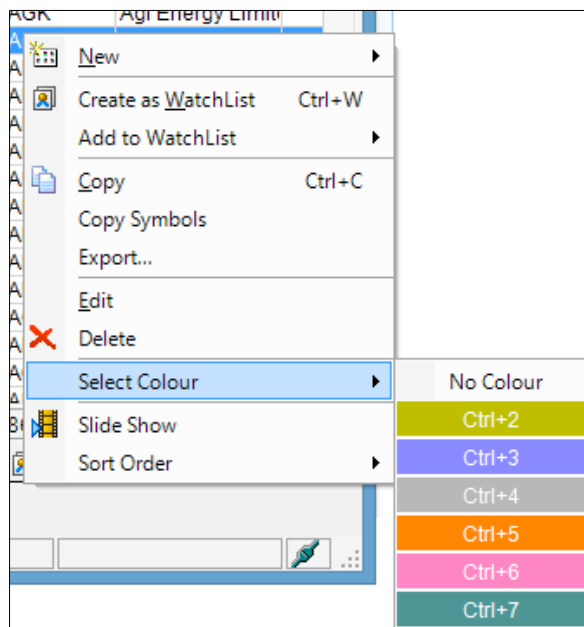
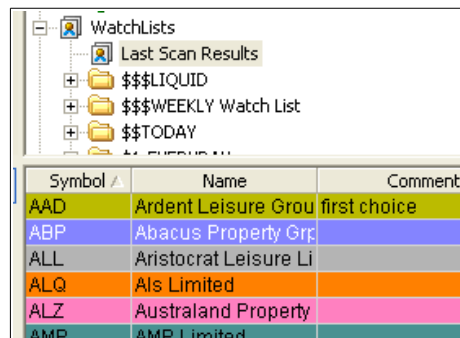
Hotkeys for coloured entries

With Version 4.0 of BullCharts, hot keys have been assigned to these colours so that a colour can be applied to a watchlist entry using the hotkey, instead of having to right-click and select from the drop-down menu.

The hotkeys utilise the Control key on the keyboard, in conjunction with a numeric key. To apply a colour to a watchlist entry, click once on the watchlist item to “select it” (or navigate to it in a watchlist using the keyboard arrow keys), then simply hold down the Control key and tap the desired number keyboard key. Note that the keys on the numeric keypad do not have any effect — it is the row of number keys across the top of the keyboard from 1 to 7. The number one key will remove any applied colour.

Changing the default colours

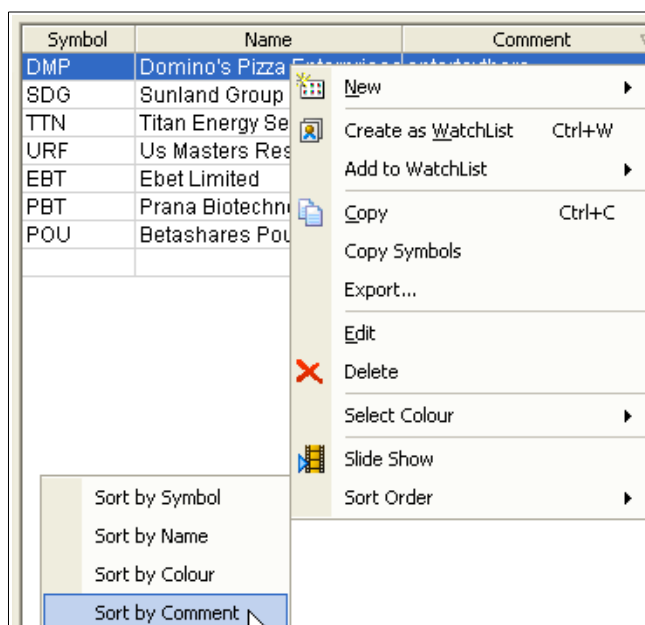
To change the default colours, first left-click on the “Watchlists” item in the Security Manager window (see the second screen shot at right), then right-click on this item and select “Properties” from the drop-down menu. Then select the “Sort Order” tab.



Using and sorting the "Comment" field in watchlists

The **watchlists** feature in BullCharts had an additional column included in a recent version — to display a text **Comment** that you might want to associate with a particular entry in a particular watchlist.

A minor change with version 4 enables you to sort the watchlist by the information in the "Comment" column. Either right-click on the watchlist and choose "Sort by Comment" from the drop-down menu (as indicated in the screen shot at right), or click on the column header itself (on the word "Comment" in the column header), and a small triangle will indicate the sort sequence — ascending or descending. Click on this a second time to reverse the sort sequence (this also applies to things like the columns in the Scan Results Table after a running a scan).



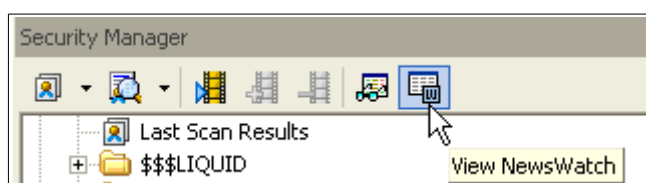
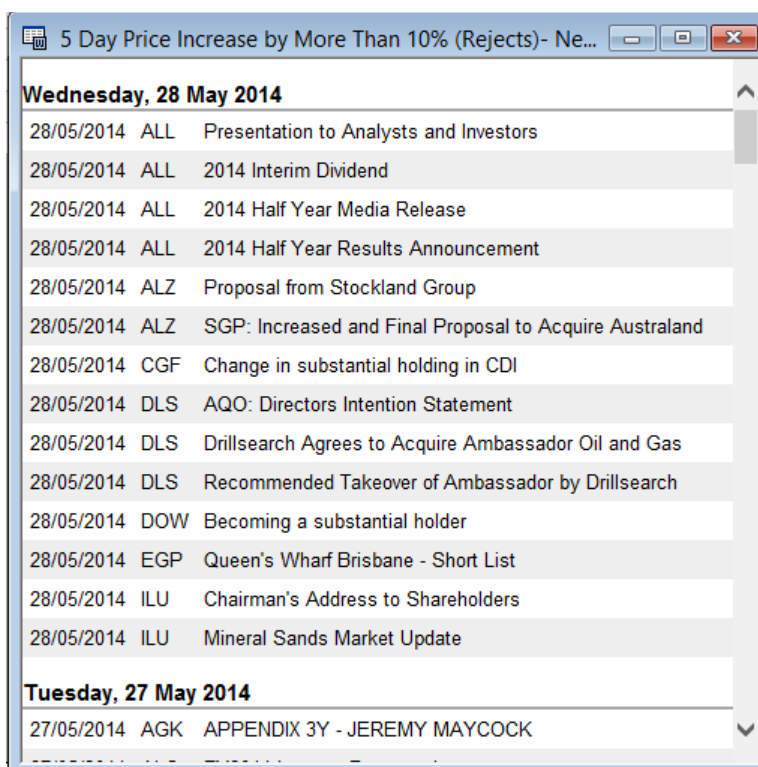
NewsWatch — news for all stocks in a watchlist

The **NewsWatch** feature displays a new window pane with a list of recent company announcements for all stocks in any one watchlist, as shown in the screenshot below. In this sample, the Watchlist name is shown in the title bar of the window:

"5 Day Price Increase by More Than 10% (Rejects)". If the window pane is maximised, then this will not appear.

There are two ways to generate this NewsWatch list:

1. Right-click on any watchlist and from the drop-down menu select: "View NewsWatch"; or
2. View the contents of the desired watchlist (click once on the watchlist to "select" it), then click on the Security Manager toolbar button (as shown in adjacent screen shot).



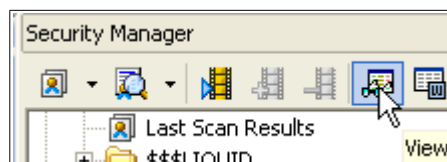
Detailed Watchlist — price details

The Detailed Watchlist feature will display a new window pane, relevant to all stocks in any one watchlist. For live data users the information displayed is a dynamically refreshing list of key price data as shown in the screen shot below. Clicking on any column heading will sort the list by the contents of that column.

Code	Last	%Mv	BuyPrice	QuanAsk	SellPrice	QuanBid	High	Low	Volume	Status	TradedTime
ACR ▲	1.570	2.951	1.565	1,551	1.575	1,034	1.590	1.500	755,628	OPEN	12:02:40
BHP ▼	39.040	-0.153	39.040	1,880	39.050	1,395	39.120	38.870	1,655,382	OPEN	12:02:40
CBA ▲	82.340	0.415	82.340	436	82.350	364	82.380	81.920	358,744	OPEN	12:02:48
NAB ▲	34.835	0.418	34.830	6,169	34.840	12,211	34.850	34.620	1,329,222	OPEN	12:02:51
TLS ▲	5.440	0.184	5.430	260,682	5.440	687,592	5.465	5.430	5,298,450	OPEN	12:02:39

There are three ways to generate this Detailed Watchlist:

- Double-click on a watchlist in the Security Manager; or
- Right-click on any watchlist and from the drop-down menu select: "View Detailed Watchlist"; or
- View the contents of the desired watchlist (click once on the watchlist to "select" it), then click on the Security Manager "View Detailed Watchlist" toolbar button (as shown in adjacent screen shot).



Detailed Watchlist — EOD data plan

For users on the EOD data plan, the Detailed Watchlist option will display as in the screen shot below.

Code	Last	%Mv	BuyPrice	QuanAsk	SellPrice	QuanBid	High	Low	Volume	Status	TradedTime
AMP ▲	5.390	1.126	0.000	0	0.000	0	5.430	5.295	6,497,042	EOD	18:00:00
ANZ ▲	33.350	0.573	0.000	0	0.000	0	33.500	32.960	6,113,267	EOD	18:00:00
BHP ▲	37.580	0.454	0.000	0	0.000	0	37.660	37.180	5,459,665	EOD	18:00:00
BXB ▲	9.160	0.659	0.000	0	0.000	0	9.195	9.050	3,591,865	EOD	18:00:00
CBA ▲	81.230	0.470	0.000	0	0.000	0	81.450	80.400	2,266,885	EOD	18:00:00

Detailed Watchlist properties

The Detailed Watchlist window pane is customisable.

The screen shot at right shows the drop-down menu (right click any where on the window pane).

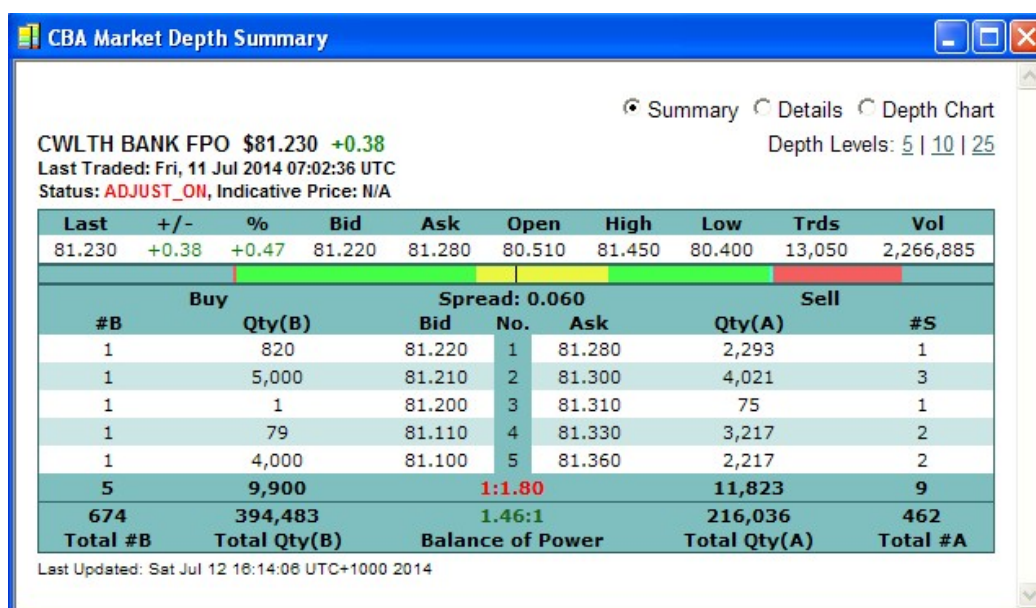
Code	Last	%Mv	BuyPrice	QuanAsk	SellPrice
AAD ▲	2.635	0.190	2.630	34,583	2.640
ABP ▲	2.530	1.200	2.520	36,391	2.530
ALL ▲	5.			8,423	5.420
ALQ ▼	8.				
AMP ▼	5.				
ANN ▲	19.			2,649	19.040
ANZ ▲	33.			6,925	33.530
AQA	3.			126,453	3.400
ARP ▲	12.			287	12.280
AWC ▲	1.			140,336	1.410
BHP ▲	37.790	0.559	37.780	5,678	37.790

Dynamic Market Depth — bar charts

The Market Depth facility and screen(s) (for live data subscribers) have been updated for later versions of Windows (ie. Windows 7 onwards). This is not available in Windows XP. For Windows XP, the existing market depth screen is unchanged, and none of the following applies.

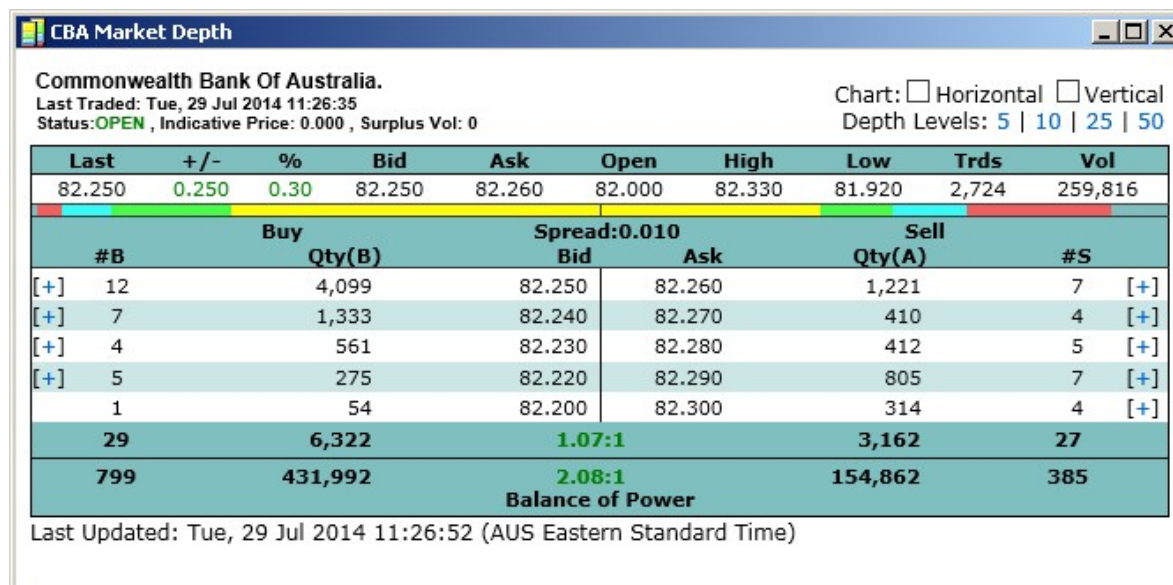
Market Depth in Windows XP

The Windows XP version is unchanged and continues to display the market depth table as in the screen shot below. Note that both a “Summary” view and a “Details” view are available. A “Depth Chart” version (horizontal bar chart) is also available. It is also possible to display either 5, 10 or 25 depth levels (only 5 levels are displayed in this screen shot). Note that every second bar is shaded to aid readability. Hovering the mouse cursor over one buy or sell price level shows the relevant cumulative quantity.



Market Depth in Windows 7 and 8

The Windows 7 equivalent of the above is shown in the screen shot below. Note the two “Chart” options: Horizontal, and Vertical. Also the four different Depth Levels — 5, 10, 25, and 50. Note that every second bar is shaded to aid readability.



Expand/collapse depth details

The first thing to spot in the revised (Windows 7, 8) market depth screen are the expand/collapse indicators down the left edge and the right edge of the window pane, as in the adjacent screen shot.

In this example, a number of sellers are offering quantities of stock for sale at the ask price of \$81.94, \$81.95, \$81.96, etc.

The column headed "#S" indicates the number of sellers offering stock at each price level. The sample shows 8 sellers offering at \$81.94. By clicking on the [+] symbol to expand the list, or the [-] symbol to collapse the list, we can view or hide the quantities offered for sale by each seller.

Ask	Qty(A)	#S
81.940	866	8 [-]
81.940	685	
81.940	7	
81.940	39	
81.940	39	
81.940	27	
81.940	6	
81.940	59	
81.940	4	
81.950	2,062	4 [+]
81.960	1	1
81.970	1,870	8 [+]
81.980	3,786	7 [+]

Expand/Collapse Depth details

Market Depth — horizontal bar chart

The screen shot below is the same as the Windows 7 version above, except that the "Chart — Horizontal" option is ticked. This displays horizontal coloured bars to indicate the total quantities at each price level.

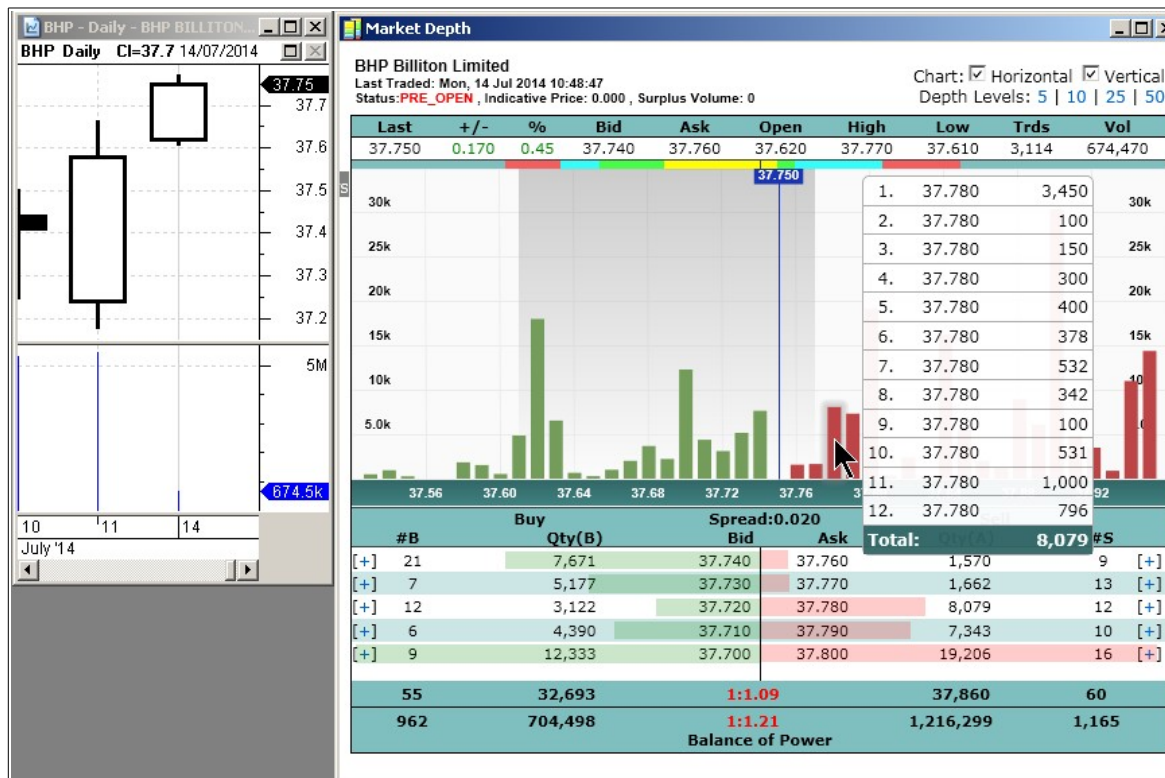
Last	+/-	%	Bid	Ask	Open	High	Low	Trds	Vol
82.250	0.250	0.30	82.250	82.260	82.000	82.330	81.920	2,727	259,830
			Spread:0.010						
#B	Buy Qty(B)		Bid	Ask		Sell Qty(A)	#S		
[+]	12	4,087	82.250	82.260		1,225	8	[+]	
[+]	8	1,340	82.240	82.270		410	4	[+]	
[+]	4	561	82.230	82.280		412	5	[+]	
[+]	5	275	82.220	82.290		2,405	8	[+]	
	1	54	82.200	82.300		1,794	5	[+]	
30		6,317	1.00:1		6,246		30		
800		431,987	2.07:1		156,346		387		
Balance of Power									

Last Updated: Tue, 29 Jul 2014 11:27:11 (AUS Eastern Standard Time)

In this screen shot, note the [+] symbols on some lines, which indicate that information shown at that price level is a summary version, showing the aggregated volume for the bids, or the asks, at that price level. Clicking on this [+] symbol will expand to show all the market participants at that price level.

Market Depth — vertical bar chart

The special screen shot below shows the dynamic market depth chart with both the horizontal bars, and vertical bars, options enabled. It also includes a candlestick chart to the left, showing two full daily candles. This image was captured in the early morning before trading for the day. There are several useful observations from this image.



1. The candle chart to the left includes the complete daily candle for 14 July.
2. The single vertical line down the market depth (vertical bars) indicates the **last traded price** (\$37.750). In this example before trading opens for the day, it is the close price the previous day (compare to the candle chart). During the trading session, this vertical line is the very last traded price.
3. The lightly shaded grey area running down the vertical bar chart portion of the market depth indicates the **price range**. Again in this example it is for the previous day, and its extremes match the values on the candlestick chart — Low \$37.61 and High \$37.77. During a trading session, this shaded area indicates the high and low for the current trading session.
4. The vertical bars indicate the volume at each price level.
5. By hovering the mouse cursor over one of the vertical volume bars, a pop-up window displays all the individual orders sitting in the market at that price point. In this case, with the cursor sitting on the vertical bar at the \$37.78 price level, the twelve sell orders are shown, for a total of 8,079 shares.

Indicative price levels during Pre-Open

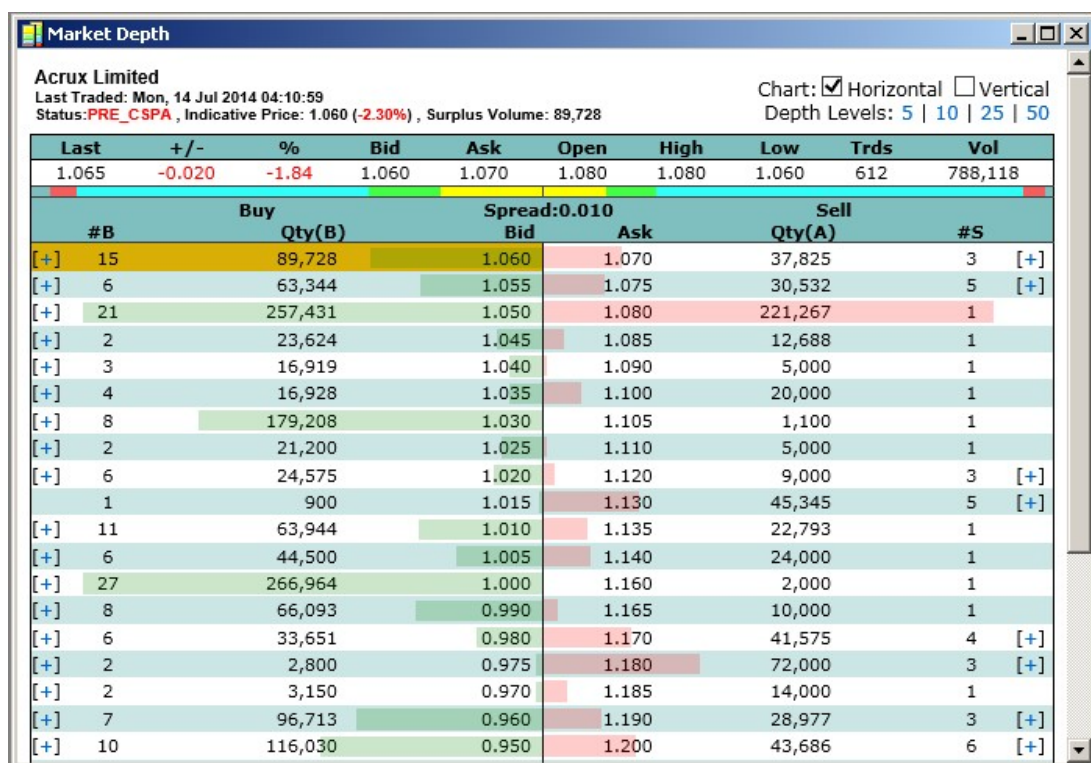
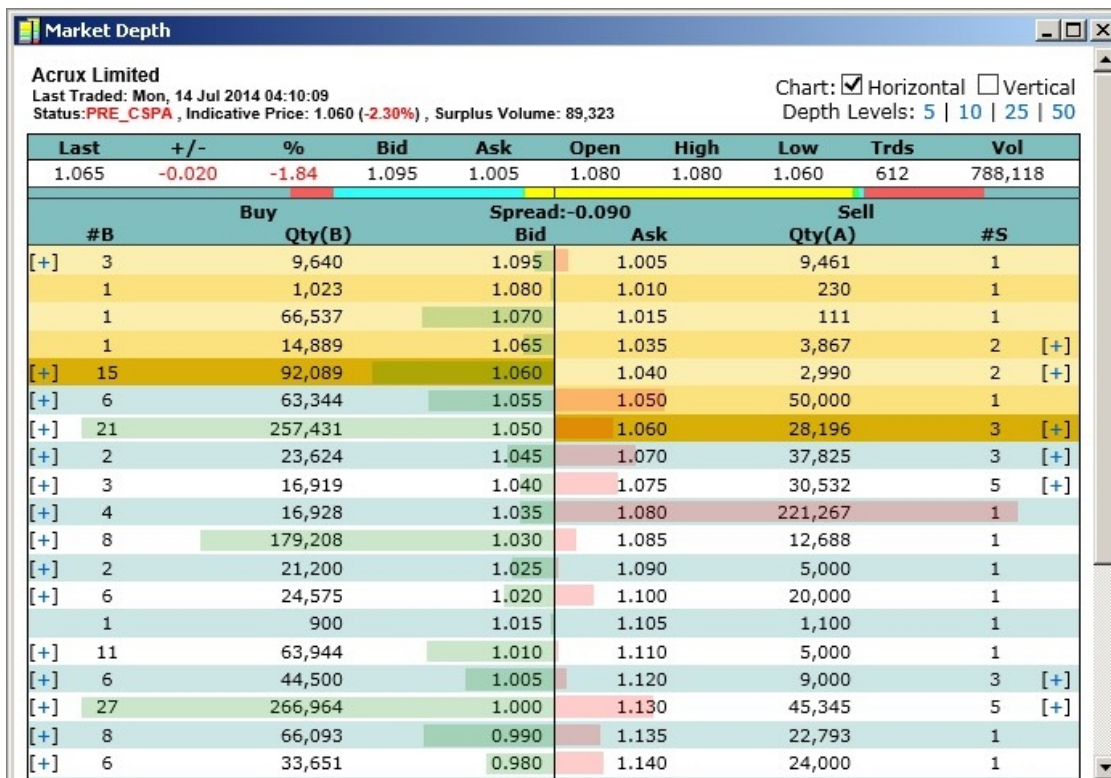
During the market pre-open phase (the lead up to the 10am open), the price labels in the market depth screen can change colour to indicate indicative pricing (see example in the screen shot below).

- When the indicative price is greater than 0, the price label turns yellow to indicate that it is the indicative price.
- On the Buy side, if any bid prices are greater than or equal to the indicative price, they turn yellow to indicate “Indicative” depth levels.
- On the Sell side, if any ask price is less than or equal to the indicative price, they turn yellow to indicate “Indicative” depth levels.



Indicative price levels during the 4pm match-out

Similar to the Pre-Open above, the 4pm match-out that takes place at 4:10pm utilises the yellow colouring of the horizontal bars as shown in the screen shot below. The first image shows the market depth just before 4:10pm, with the orders to be matched indicated in yellow. The second image shows the same screen a short while later, after the 4:10pm match-out, with a number of orders matched. Of course, this display automatically refreshes during the 10 minute period as more orders enter the market, or some are removed.



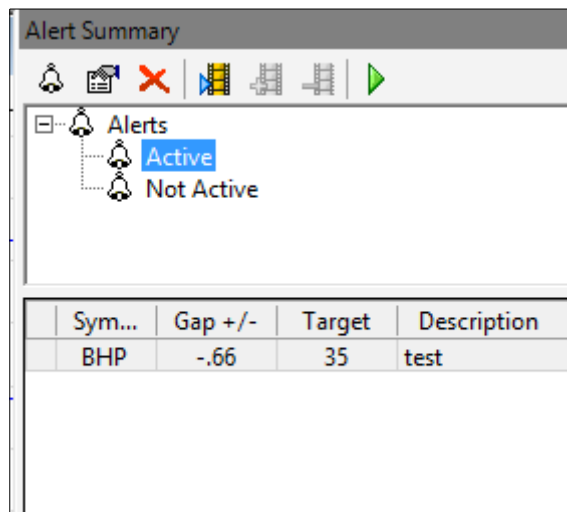
Alerts (on price and volume)

The Alerts feature has been included in BullCharts for some time, and the “Alert Trend line” (a sloping alert line for price or volume) was included recently. There is now an additional enhancement to the Alerts feature.

Note that the Alerts feature includes: Alert Summary window (in the Control Panel), and the Alert History window and Alert Manager window from the menu options.

Description column displayed in Alert Summary window

When creating, or adjusting, an alert there is a “Description” field in which some text can be entered for future reference. This text description is now displayed in the Alert Summary window pane (in the Control Panel).



Use BullCharts while Alert Scan runs

Depending on the number of alerts that are set, and the speed of the computer, the Alert Scan can take quite some time. While the Alert Scan is running it is now possible to continue using other BullCharts features without having to wait for the Alert Scan to finish.

BullScan — enhancements

Some key changes have been made to the BullScan feature as follows.

Scan Rejects — including scan results data

When a BullCharts scan runs, the Scan Results Table has had two tabs — the “Scan Results” tab, and the “Rejects” tab.

The Rejects tab lists all the securities that were rejected based on scan criteria, or dates, etc., and the Reason for Rejection.

This list of rejects now also includes the same columns as the “Scan Results” table.

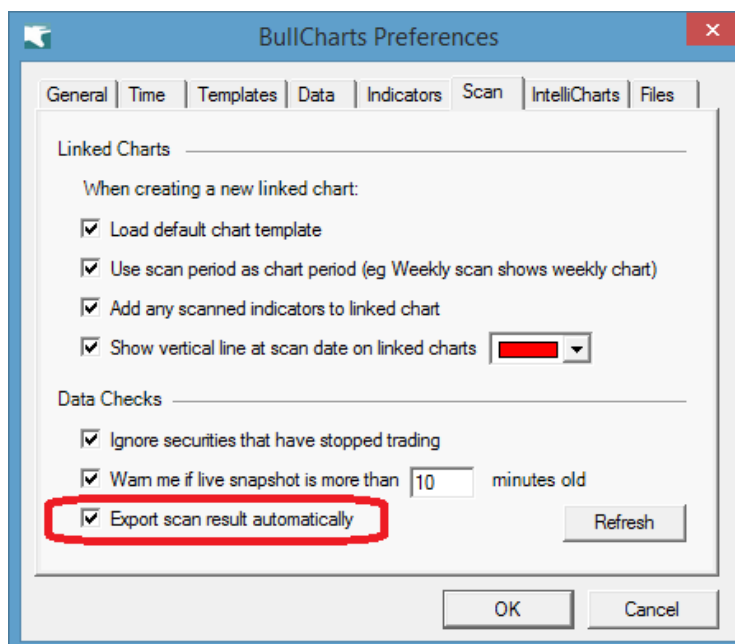
In addition to this, you can right-click on the

Symbol	Reason for Rejection	MA	Close
AAC	Rejected by filter.	923,823.152	1.270
AAI	Rejected by filter.		13.500
AAJ	Rejected by filter.		0.024
AAK	Rejected by filter.		0.001
AAKXE	No bars were fo		
AAL	Rejected by filter.		0.002
AAP	Rejected by filter.		0.012
AAR	Rejected by filter.		0.014
AARDA	Data is out of d		
AAT	Rejected by filter.		1.287
AATDA	No bars were fo		
AAU	Rejected by filter.		0.040
AAX	Rejected by filter.		0.585
AAY	Rejected by filter.		
AAYDA	No bars were fo		

list and a number of menu options are available from the drop-down menu.

Auto-export the scan results to CSV

The results of a scan can now be automatically exported as a CSV file. The export location is the folder: C:\Program Files\BullSystems\BullCharts\export. (This folder location is adjacent to the Custom Scans, Indicators, Templates, etc. folders. You can find these using the menu option: **Tools > Preferences > Files (tab)**).



Copy the Scan Date vertical line to other chart windows

After running a BullCharts scan, and viewing the Scan Results Table, you can double-click on a security in the table to produce a price chart of the stock. The chart will automatically include any indicators that were quoted in the scan criteria.

Now you can right-click on the Scan Date vertical line, and from the drop-down menu select "Copy", then on another price chart window right-click and "Paste" to have this chart element replicated onto the second window on the correct date.

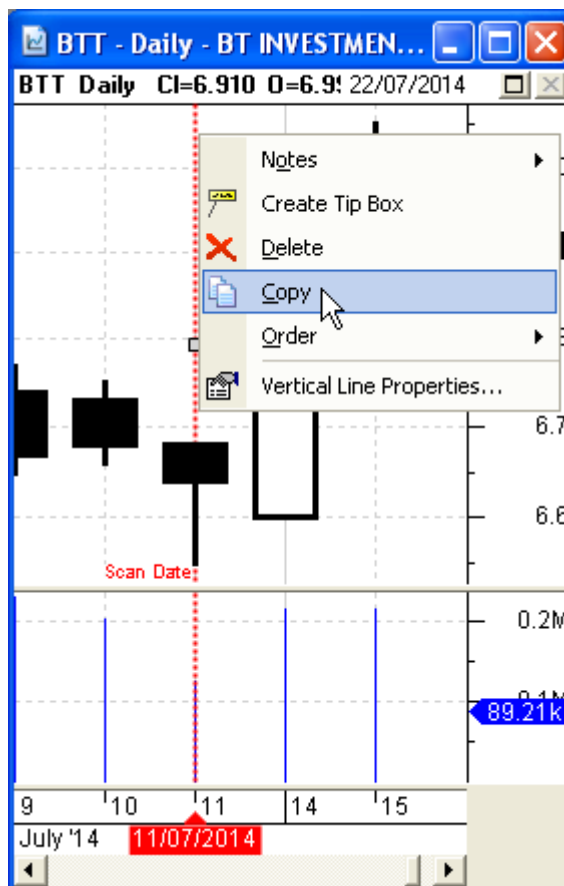


Chart indicators — new and updated

There are several new (or revised) standard indicators now included in the “Indicators” folder. Remember that any custom indicators are stored in a separate folder (find the folder location using the menu option: **Tools > Preferences > Files**). The indicator files are of the type “bss” (eg. filename Heikin-Ashi.bss).

The new or revised indicators are listed here with more details below.

- Ex-Dividend Date Vertical Line;
- Save default settings for indicator Markers;
- Indicator ribbon pane height is adjustable;
- Fundamental Data (indicator) report.
- Auto-insert date in indicator using cursor date;
- Heikin-Ashi revisions;
- Double Tops and Double Bottoms indicator;
- Ichimoku indicator — the cloud correctly projects forward;

Ex-Dividend Date — vertical line

This new chart indicator places a vertical line on the chart at the current ex-dividend date — regardless of whether the date is past, or future. Note that the “current” ex-dividend date will be the latest one that has been notified, and many companies don't advertise their ex-dividend date until rather close to the actual date.

Key style features of the vertical line are customisable (solid, dashed or dotted, and colour).

This is classified as an indicator even though the result is a single vertical line down the chart.



Save default settings for indicator Markers

When customising the markers on indicators, it is now possible to also save the changed markers as the default settings.

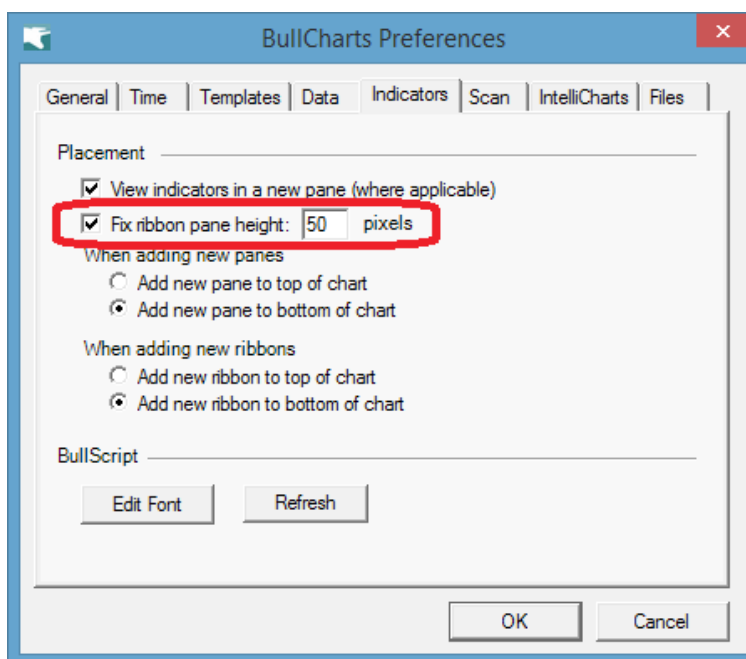
Indicator ribbon height — adjustable

One key feature of BullCharts is the collection of indicator ribbons that can be placed across the chart (either at the bottom or the top).

[To see a list of all available indicator ribbons, choose the menu option **Insert > Indicator**, and under the “Category” drop-down choose “All Ribbons”.] The height of all of these ribbons can now be adjusted.

The value for *ribbon pane height* can be changed down to 5, or up to a maximum of 50. A smaller value will enable more information to be displayed and more easily viewed on screen.

From the menu option **Tools > Preferences > Indicators** (tab), note the new option as shown in the adjacent screen shot.



Fundamental Data (indicator) report

There are up to about 20 fundamental data items stored in the BullCharts database for each security. These can be used in scan criteria, and in custom BullScript. The same data items can also be displayed in a pop-up window that can be positioned anywhere around the screen, or moved to another monitor.

For a detailed list of the possible attributes that can be used to refer to the fundamental data values shown in this report, see the section “Fundamental Report attributes — explained”, on page 24 below.

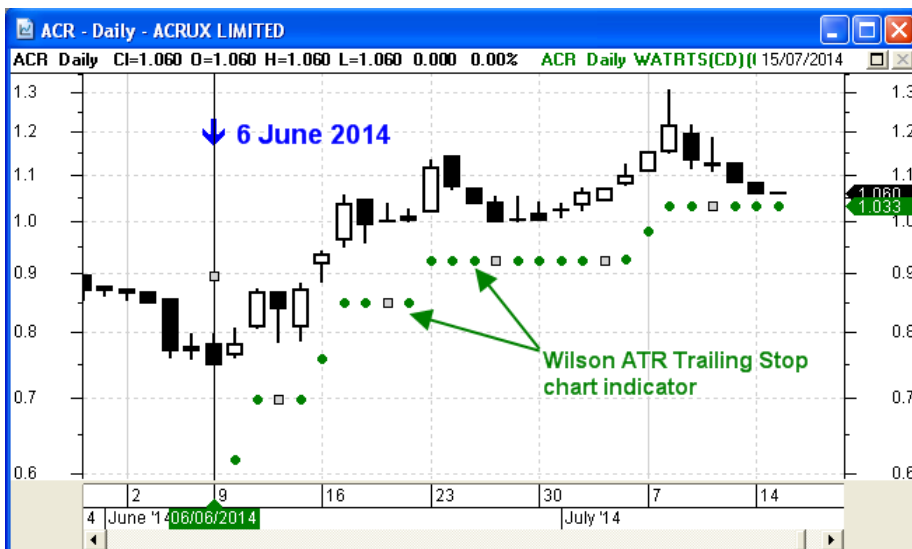
BHP Daily Fundamental data	
LastPrice	38.085
TotalIssue	3,211,691,105
AssetBacking	16.040
NetTangibleAssets	16.040
EarningsPerShare	3.140
DividendPerShare	1.291
CurrentDividendAmount	0.647
FrankedPercent	100.000
GrossDividendAmount	1.844
AnnualDividendPerShare	1.291
MarketCap	122,317,255,734
EarningsYield	8.246
PERatio	12.127
DividendYield	3.390
DividendCover	2.433
ExDate	03/03/2014
DividendPayableDate	26/03/2014
IndustryCode	15104000
Sector	Materials
IndustryGroup	Materials

Auto-insert date in indicator using cursor date

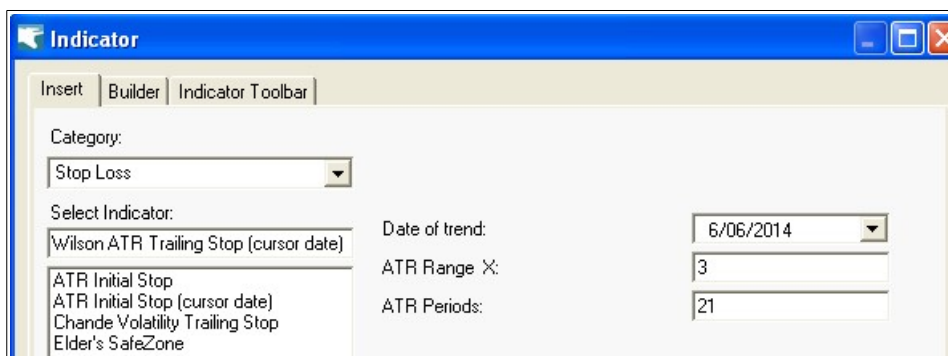
There are some chart indicators in BullCharts that have a date as an input parameter. A number of these are categorised as “Stop Loss” type indicators. With some of these indicators, the date parameter is intended to be the start of the latest uptrend, which can vary from stock to stock, and from time to time. So it is useful to be able to automatically enter a date, rather than type it in every time you insert the indicator. A good example of this is shown in the price chart at right.

Now you can set the date automatically as follows.

When viewing a price chart, and you want to insert an indicator on the price chart, simply right-click at a point along the chart at the date that is to be used as the input parameter in the indicator. In the sample chart shown above, right-click on the date 6th June, and choose Insert



Indicator from the drop down menu. This date is then automatically entered as the required date, as shown in the next screen shot above.



Heikin-Ashi candlesticks — enhanced colour codes

The underlying script code that defines the Heikin-Ashi candles indicator has been updated so that the user can now change the candle colours in the BullScript code (using the Indicator Builder feature).

Previously, this indicator included the *linestyle* statement:

```
[linestyle=candle]
```

Now, this statement has additional parameters. The format of the revised statement is:

```
[linestyle=candle; candlemode=3; color=black; color2=green; color3=red;]
```

For an explanation of these parameters, see the section “Candlemode linestyle — controlling candle colours” on page 23 below.

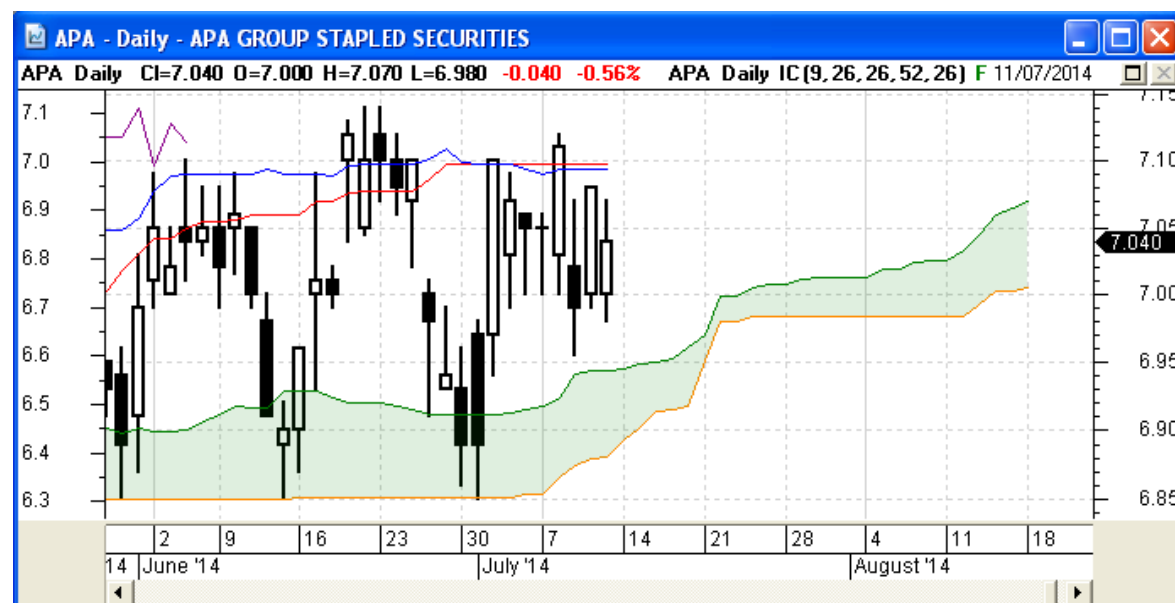
Double Top & Bottom chart patterns

This new indicator looks for two extremes of price on the chart (ie. peaks and troughs) at about the same price level over a time period. If it finds price movements that could potentially be classified as a Double Top chart pattern, or Double Bottom chart pattern, then the price peaks (or troughs) are flagged on the chart. An amount of interpretation and discretion is required with the results. See sample screen shot.



Ichimoku indicator — displays accurate cloud

The Ichimoku indicator has been updated to correctly offset the cloud (First/Second Senkou span) forward by 26 bars. [The indicator has been updated to achieve this using the `hozshift` function in BullScript.]



BullScript enhancements

A number of enhancements have been made to BullScript as follows.

Candlemode linestyle — controlling candle colours

The `linestyle` type “*candle*” now has the parameter: `candlemode`. This is explained as follows:

```
[linestyle=candle; candlemode=3; color=black; color2=green;
color3=red;]
```

Where each element is explained as follows:

`candlemode=0` — Applies just one colour to the candles (and white). The candle body outline colour, and any applied fill colour, will be just one colour as specified with the `color=` parameter. In the example above, this is specified as

“`color=black;`” and so the body outline and any fill colour will be black.

`candlemode=1` — This mode utilises three colours, which are applied based on the price change since **previous**.

`candlemode=2` — This mode utilises three colours, which are applied based on the price change since **open**.

`candlemode=3` — This mode utilises three colours, which are applied based on: High, Lower Trend.

Report window and report attribute

When an indicator contains the **report attribute**, the indicator will open an **indicator report window** which can display the latest values for the indicator results, or the security details. An example of this is the **Fundamental Report** indicator (mentioned in the section “Fundamental Data (indicator) report” on page 20 above).

This new feature is actually rather significant. For example, you might want to step through the stocks in your watchlist, and not only view the price chart, but also see some key items like: last close price, EPS, PE, Market Cap and the Ex-Dividend Date (as in the screen shot at right).

This Report attribute now enables this.

This new feature is now implemented in the new Fundamental Data report. More details about the script implementation of this are included in the next section below.

Key points to note:

1. All pre-defined variables and user's variables need to be in the format:
`<<variable_name>>`
2. User's variables need to be defined as follows (for example):
`[name=YourVariableName]`
`H-L;`



Fundamental Report attributes — explained

The script shown in the box below is the complete content of the (new) Fundamental Data Report indicator. To explain the content, consider the following explanation looking at just some of the statements from that script: The complete listing for the Fundamental Report is shown on the next page to indicate the valid values.

Ref	Explanation for each statement	
1	<code>[name=LastPrice]</code>	This statement specifies the name for the “plot” that is defined in the following lines. We are naming this plot: “LastPrice”. Also, this text is stored within the variable that is called “name”.
2	<code>c ;</code>	Entering the letter “c” here (representing the close price), tells BullCharts to generate a plot of the close price. followed by a semi-colon character.
3	<code>[report="<<name>>"; reportcontents="</code>	This specifies that the following portions of the script are specifying a “report”, where the title of the report is in the variable that we declared above, called “name”. This will appear in the title bar of the report that will be displayed on screen. The contents of the report follow, starting with the double quotes “ character which appear at the end of this line. This double quote character is the opening quote and will have a closing quote at the end.
4	<code><<security.ExDate>> <<security.TotalIssue>></code>	These are two script variables whose values are available for reference within the script code. These two lines simply state to display their values.
5		(several statements have been omitted here)
6	<code><<security.IndustryGroup>> <<security.SectorIndex>></code>	The same comment as above for script variables (in ref 4).
7	<code>; "]</code>	This semi-colon character indicates the end of the list of items, and is the instruction to “plot” or “display” the items above. The double quotes character “ is the closing quote that completes the pair (for the quote that was entered above at ref 3), followed by the right hand square bracket which completes the specification for the “report” that was commenced above.

The graphic below is the complete BullScript code for the new Fundamental Data (indicator) report. Note the use of the variables to refer to the various fundamental data items.

Fundamental Data report — the complete script

```
[name=LastPrice]
c;

[report="<<name>>" ;reportcontents="
<<LastPrice>>
<<security.TotalIssue>>
<<security.AssetBacking>>
<<security.NetTangibleAssets>>
<<security.EarningsPerShare>>
<<security.DividendPerShare>>
<<security.CurrentDividendAmount>>
<<security.FrankedPercent>>
<<security.GrossDividendAmount>>
<<security.AnnualDividendPerShare>>
<<security.MarketCap>>
<<security.EarningsYield>>
<<security.PERatio>>
<<security.DividendYield>>
<<security.DividendCover>>
<<security.ExDate>>
<<security.DividendPayableDate>>
<<security.IndustryCode>>
<<security.Sector>>
<<security.IndustryGroup>>
<<security.SectorIndex>>
;
"]
```

To create a customised version of this with a lot fewer items displayed, simply use the Indicator Builder function to firstly copy this indicator, then edit the copy and simply remove the lines that are not required.

New indicator Markers in BullScript

Markers can be drawn on indicators such as the cross-over points in the Moving Average Cross-over indicator (shown in the screen shot below right). Sample script to do this (in this indicator) is shown below:

```
{ Markers }
[name=Above; linestyle=marker;
marker=type1; tooltip="Short MA
passed above Long MA"]
if (n1<n2, cross(res1,res2),
cross(res2,res1));

[name=Below; linestyle=marker;
marker=type2; tooltip="Short MA
passed below Long MA"]
if (n1<n2, cross(res2,res1),
cross(res1,res2));
```

This script in this particular indicator results in the price chart shown in the accompanying screen shot. Note that the script that produces this marker with the text "Above" and the marker "icon" of the number "1" is: "marker=type1".

Additional marker icons can now be drawn on the price chart using the relevant "type" from the table below. The colours of each icon can be changed as with other on screen items.



The "marker" icons in BullCharts and available in BullScript

type0	0	type7	7	type15	✓	type22	☺
type1	1	type8	8	type16	↖	type23	☹
type2	2	type9	9	type17	↗	type24	🔒
type3	3	type10	10	type18	↙	type25	🕶
type4	4	type11	←	type19	↘	type26	💣
type5	5	type12	→	type20	✕	type27	☠
type6	6	type13	↑	type21	☺	type28	🔑
		type14	↓			type29	➔

Bug fixes and minor changes

Several bug fixes and very minor changes have been made as follows.

EOD data download information display

When downloading End of Day data for several days, the informational window pane used to list all of the days for which data was downloaded and could run from the top to the bottom of the screen. Now the information display only provides a summary, and the informational message that it completed.

Dilution factor problem

When a security symbol is changed, and the dilution factor = 1, BullCharts now ignores the data.

BullScript scans and the future function

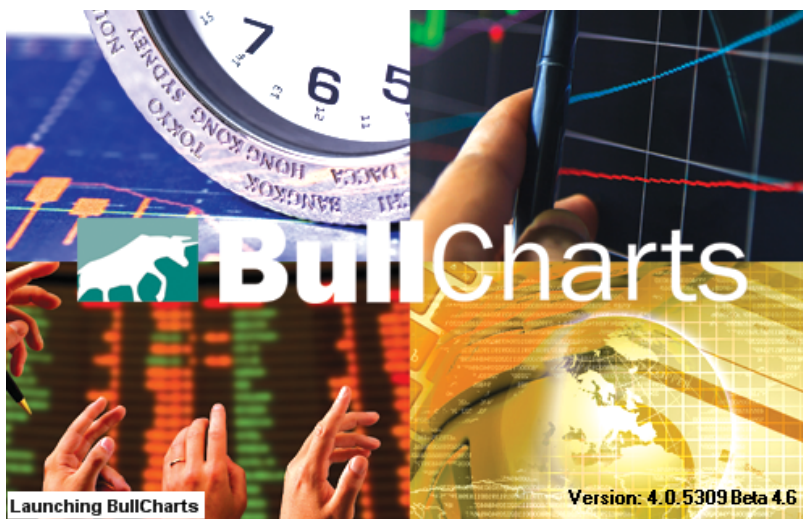
BullCharts could not scan BullScript that contained a future function. Now resolved.

Holidays on intraday charts

Changes have been made so as to not display holidays on intraday charts.

Splash page information on start up

When the BullCharts program starts up, depending on the speed of the computer, it can take a short while to load lists of available indicators, scans, watchlists, etc, into memory for quick access later. The new splash page that is displayed on start up now includes small informational messages (in the lower left corner) to indicate the progress during the software loading process, so the user won't wonder if anything is actually happening.



Swedish decimal point fixed

The Swedish decimal point issue (a comma instead of a decimal point dot) on alerts has been fixed.