

How to

Customize the Filter Window

Tools: Designer

Duration: 25 minutes

Skill Level: Medium

Summary: How to use the Filters window and how to customize it.

Integra SP

88 Wood Street London
EC2V 7RS
United Kingdom

www.altio.com

tel: +44 (0) 20 8528 1045

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Introduction

Since the version 5.4 of AltioLive, users can create filters at runtime to filter the data displayed in an application.

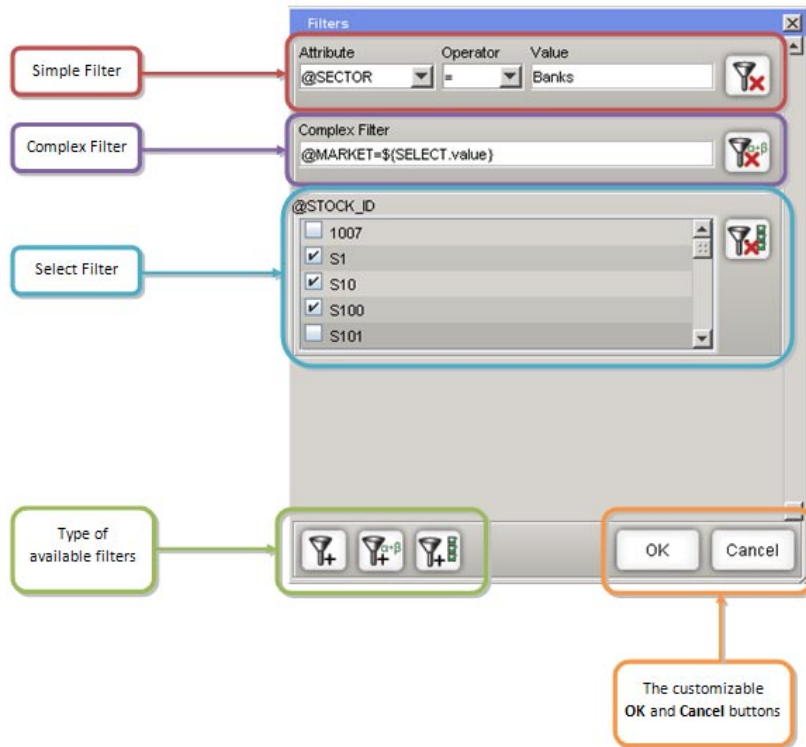
The filters functionality provides a highly flexible mechanism to save and load filter details, some example scenarios are:

- **Security profiles:** a backend system does not provide security restrictions on data but there is a requirement to restrict data made available to the end user. A solution developer can apply both context based routing and filters to ensure only data allowed for users is displayed. This is achieved by binding all controls to a single control (the data source) and then applying a filter to the data source. A solution developer would retrieve user data and load the appropriate filter for the user profile. In this scenario it would not be possible for a user to modify their filters.
- **User Preferences for filter:** sometimes users may wish to have saved versions of filters that they can manage and apply to a user interface. A screen can be implemented so that users can save and load filters from it. Extending this concept a solution developer could implement shared filters which groups of people can use.

This guide explains step by step how to:

- Create a simple application allowing users to create filters at runtime.
- How to change the Look and feel of the Filter window.
- How to set which type of filters are made available to the end user.

The default Filter window:



Creating a simple application that allows users to set filters at runtime

The **Designer** provides a suite of tools to create the interface an end-user will see. We will add a list to a window as well as a few other controls to allow a user to apply a filter to that List.


Launching the Designer


1. From **AltioLive Studio**, create a new project.
2. Right-click on the project node and select **View Designer** in the context menu.

The **Designer** is started in a new browser window.

Setting Static Data

We need some data to populate the list. As it is only data example, you can enter some XML manually directly from the **Designer**. To do so:

1. Copy the XML that can be found in the [Appendix](#) at the end of this document.
Please note: You may need to copy and paste the XML in a simple text editor (such as Notepad for Windows) to get rid of the formatting.
2. From the **Designer**, click on the **File | Edit Static Data** menu item.
3. From the **Enter XML window**, paste the XML then click on the **OK** button.
4. Click on **the Show Datatypes Window**  icon in the menu bar.



5. Click on **the Import from current data...** icon  located on the left side of the **Datatypes** window.
6. The **Datatypes** window should now display the **STOCKS** element under the **DATA** node.
7. Expand the **STOCKS** and **STOCK** nodes to display the available data attributes.

Now the link between the data and the user interface is fully completed. Using Static Data allows integrating sample data to an application quickly without having to use and set Service Functions.

Designing the User Interface



To create and set the user interface, you will need the **View Explorer** and the **Properties** windows. To display them, simply click on **View | Explorer** and **View | Properties** menu items.

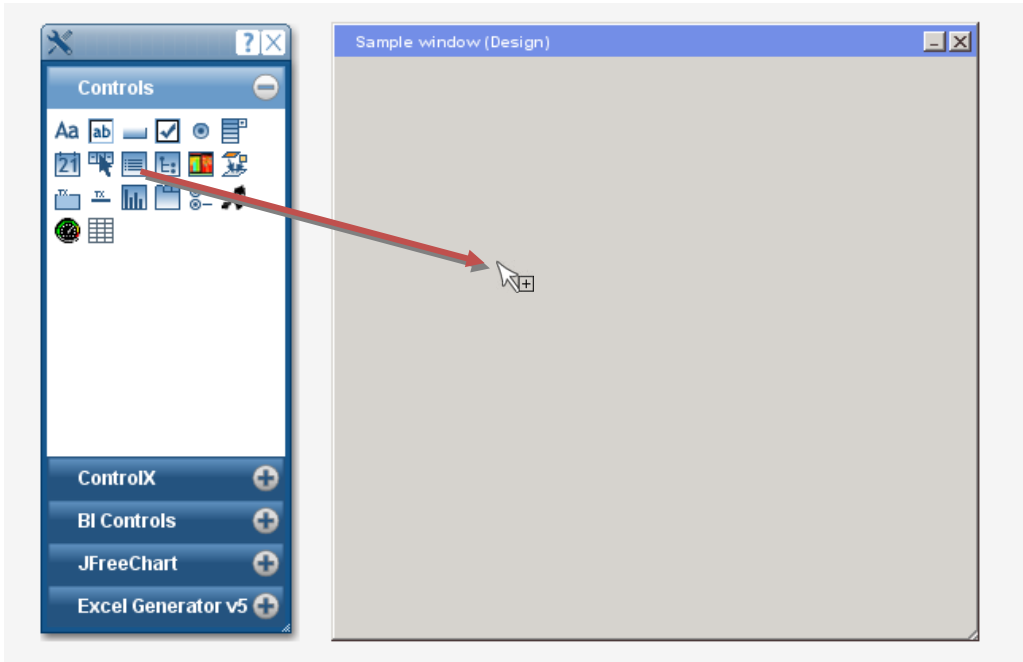
You can also display them with their icons in the menu bar:


-  , to display the **View Explorer** window,
-  , to display the **Properties** window.

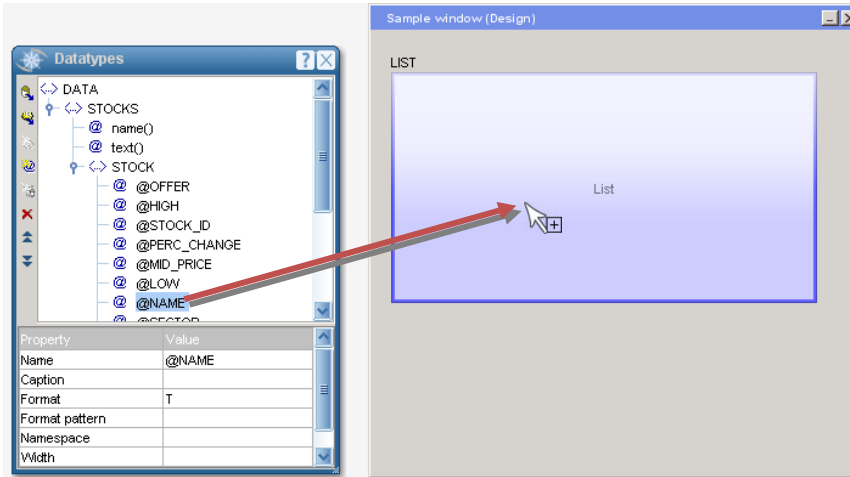
Adding and setting a List

1. From the **View explorer**, expand the **Windows** node. By default, a window is already created.
2. To display a preview of this window, double-click on it.

3. We now need to show the **Control Palette** in order to add a list to this window. To do so, click on the **Show Control Palette** icon .
4. From the **Control Palette**, drag the **List** icon  and drop it onto the window:



5. We now need to associate data to the List. Click on the **Show Datatypes Window** icon .
6. From the **Datatypes** window, expand the **STOCKS** and **STOCK** nodes.
7. Drag the attribute **@NAME** onto the List.




You will see that the column-heading **NAME** appears in the list control.

8. In the same way, drag and drop the attributes **@SECTOR**, **@MARKET** and **@MID_PRICE** onto the list. The names of the columns appear on the list as the attributes are dragged across.

9. Resize the window and the List so that all the columns are displayed.

We now need to add a button to show the Filters window. This window allows a user to filter the list data at runtime.


Adding a button to display the Filters window

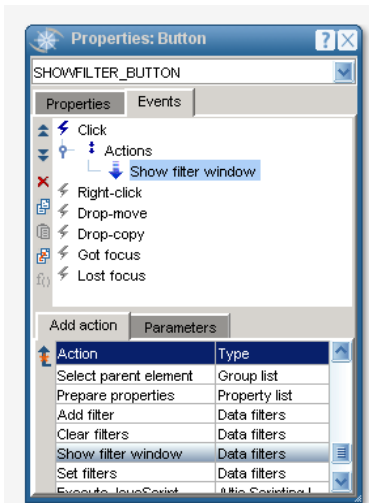
1. From the **Control Palette**, drag the **Button** icon  and drop it onto the window.
2. From the **View Explorer** Window, select the **Button**.
3. From the **Properties** window, set its properties as follows:


Property	Value	Comments
▼ General		
Name	SHOWFILTER_BUTTON	
Caption	Show Filters	

The **Show Filters** button needs further settings as we need to add a **Show filter window** action to be triggered when the user clicks on the button. To do so:

4. Still with the button selected, from the **Properties** window, go to the **Events** tab.
All the available events for this control are displayed.
5. Select the **Click** event.



- From the **Add action** tab, a list displays all the available events for this control. Select the **Show filter window** action.
- Click on the **Add action** icon . You should get a window similar to the one below:



- Now click on the **Parameters** tab and set the **Control** property to the **LIST**. This specifies on which control the filter(s) will be applied to.
- Save  the Application.

Running a preview of the application

You can now click on the **Run** button to see a preview of your application and ensure that it works properly.

1. Click on the **Run** icon  displayed in the menu bar.
2. The list should be populated with data. It is a simple list of stocks that displays for each stock its **name**, to which **sector** and **market** it belongs to and its **middle price**.
3. Click on the **Show Filters** button. The **Filters** window should open.
4. From the **Filters** window, click on the **Add simple filter** button .
5. From the **Attribute** drop-down menu, select the **@MARKET** data attribute.
6. From the **Operator** drop-down menu, select **=**.
7. From the **Value** text field enter **LONDON**.
8. Click on the **OK** button.
9. The List should now only display the stocks of the LONDON market.

Currently the filter window uses a default display: the buttons are using a default look and feel and the user can add any existing filter types: Simple, Complex and Select. We are going to see how we can create and customize our own filter window by changing the **view.xml** file.

Creating your own Filters window from the view.xml file

The default **Filters** window is defined in the file called **altiodefaut.xml**. In order to customize the **Filters** window, we can create a copy of this window directly into the application's view. Once this is done, we will then be able to edit and customize the copy of the **Filters** window directly with the Designer.

Creating a copy of the default Filters window

10. Go to the Altio installation folder. The default location is: **C:\Program Files\AltioLive5.4Enterprise**.
11. Go to **tomcat\webapps\altio54\WEB-INF\classes\defaults**.
12. Under the **defaults** folder, open the file called **altiodefaut.xml**. This is an xml file which defines all the default windows, window styles, font styles,.. for AltioLive.
13. In this file, locate the **<WINDOWS>** element. Under this element all the default windows for AltioLive are defined, including the **Filters** window.

- Under the <WINDOWS> element, locate the <def:WINDOW> element with a **NM** attribute of “**al_STANDARDFILTERS**” on line 169. This is the **Filters** window.

```
164     <ACTGETFONTS />
165   </ACTIONRULE>
166 </ACTIONRULES>
167 </def:WINDOW>
168
169 <def:WINDOW NM="al_STANDARDFILTERS" CAPTION="Filters" H="400" W="375" MULTI="N" DE
170 <PANEL>
171 <com.altio.client.controlx.LayoutPanel H="357" W="350" DATA="{windowelement
172 <CHILDPANE NH="SIMPLEFILTERPANE" CAPTION="Filter" MINIMUMHEIGHT="57" MINIM
```

The WINDOW element

The NM attribute

The al_STANDARDFILTERS value attribute

- Copy the whole content of the **WINDOW** element (from line **169** to line **266**).

You have copied the xml definition of the **Filters** window. We now have to paste it in the application’s view.

Pasting the Filters window into your application’s view

- Go to the Altio installation folder. The default location is: **C:\Program Files\AltioLive5.4Enterprise**.
- Go to **tomcat\webapps\altio54\WEB-INF\classes\apps**.

3. Under the **apps** folder, locate your application folder (it has the same name as your application).
4. Under your application folder, open the **views** folder and open the **view.xml** file.
5. In this file, locate the **<WINDOWS>** element. Under this element all the windows of your views are defined. You should see the window we have created earlier in the Designer:

```
22 </IMAGEMAP>
23 <WINDOWS>
24 <WINDOW NM="WINDOW" CAPTION="Sample window" STARTUP="Y" X=
25 <PANEL>
26 <LIST NM="LIST" CAPTION="LIST" H="255" W="370" X="10"
27 <COL NM="NAME" CAPTION="NAME" W="100" DATAFLD="@NAME
<COL NM="SECTOR" CAPTION="SECTOR" W="100" DATAFLD="@
<COL NM="MARKET" CAPTION="MARKET" W="100" DATAFLD="@
<COL NM="MID_PRICE" CAPTION="MID_PRICE" W="75" DATAF
</LIST>
<BUTTON NM="SHOWFILTER_BUTTON" CAPTION="Show Filters"
<ACTIONRULES TRIGGER="CLICK" DESC="Click">
<ACTIONRULE>
<ACTSHOWFILTERWINDOW CONTROL="LIST" FILTERWINDOW
</ACTIONRULE>
</ACTIONRULES>
</BUTTON>
</PANEL>
</WINDOW>
</WINDOWS>
<FONTSTYLES>
```

The **WINDOWS** element holding the definition of each window of the application

The **WINDOW** element defining the window that we created earlier in the Designer.

Where to insert the copied Filters window

- Under the **<WINDOW>** element, just before **</WINDOWS>**, paste the xml you copied.
- Note that the xml element we pasted is not called **<WINDOW>** but **<def:WINDOW>**. Delete **def:** from the start-tag and the end-tag.
- Then change the **NM** attribute value of the Filters window to a customized name for example: **MYCUSTOMFILTER**.

You should now have an xml file similar to the one below:

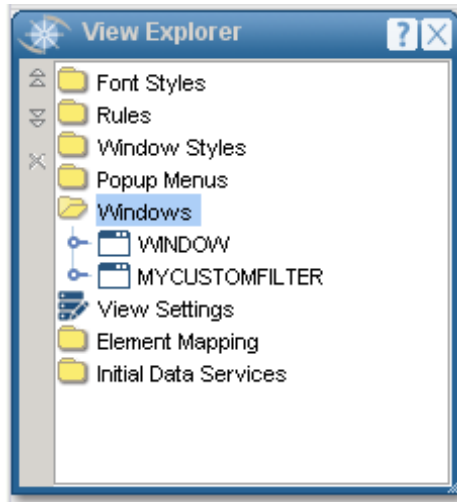
The Filters window when just pasted (after step 6):	The Filters window after steps # 7 and 8:
<pre></PANEL> </WINDOW> <def:WINDOW NM="al_STANDARDFILTERS" CAPTION="Filter" > <PANEL> <com.altio.client.controlx.LayoutPanel > <CHILDPANE NM="SIMPLEFILTERPANE" CAPTION="Filter" > <SELECT NM="ATTRIBUTESELECT" CAPTION="Attribute" > <OPTION VALUE="" /> </SELECT> <SELECT NM="OPERATORSELECT" CAPTION="Operator" > <OPTION VALUE="" /> </SELECT> </CHILDPANE> </com.altio.client.controlx.LayoutPanel > </PANEL> </def:WINDOW></pre>	<pre></PANEL> </WINDOW> <WINDOW NM="MYCUSTOMFILTER" CAPTION="Filter" > <PANEL> <com.altio.client.controlx.LayoutPanel > <CHILDPANE NM="SIMPLEFILTERPANE" CAPTION="Filter" > <SELECT NM="ATTRIBUTESELECT" CAPTION="Attribute" > <OPTION VALUE="" /> </SELECT> <SELECT NM="OPERATORSELECT" CAPTION="Operator" > <OPTION VALUE="" /> </SELECT> </CHILDPANE> </com.altio.client.controlx.LayoutPanel > </PANEL> </WINDOW></pre>

- Save the **view.xml** file and go back to AltioLive.

Using the Custom Filters window instead of the default one

Setting the “Show Filters” button to display the customized Filter window.

1. Restart the **Designer** and expand the **WINDOWS** node. You should now see two windows:
 - the window we created directly from the designer and
 - a new window, **MYCUSTOMFILTER**: the window we have added directly from the **view.xml** file.



2. Expand the **WINDOW** node and select the **SHOW_FILTER** button.
3. From the **Properties** window, click on the **Events** tab.
4. Expand the **Click** event and the **Actions** node.
5. Select the **Show filter window** action and click on the **Parameters** tab.
6. From the **Filter window** property, select **MYCUSTOMFILTER**.

Next time the **Show Filter** button will be pressed, our own **Filters** window will pop up instead of the default one.

Customize the Filters window

As you can now select the Filters window from the Designer you can:

- Apply a customized look and feel to the **Filters** window (by applying a window style, font style or changing the settings of the components of the **Filters** window).
- Choose which filters the user can use (by default all three filters types are available: **Simple**, **Complex** and **Select**). If you do not want one of these filters to be available, you can delete the button that allows the user to apply the filters.

Here is an example of how you can customize the **Filter** window:

1. From the **Designer**, right-click on **Font Styles** in the **View Explorer** window.

2. Select the **New Font Style** option in the contextual menu.
3. Under the **Font Styles** node, select **FONTSTYLE1**.
4. From the **Properties** window, set it as follows:

Property	Value
▼ General	
Size	11
Color	0xCCCCCC
Background color	0x006633

5. From the **View Explorer** window, right-click on **Window Styles**.
6. Select the **New Window Style** option in the contextual menu.
7. Under the **Window Styles** node, select **WINDOWSTYLE1**.
8. From the **Properties** window, set it as follows:

Property	Value
▼ General	
Name	FILTER_STYLE
Skin	al-expea
▼ Button controls	
Control Font style	FONTSTYLE1

9. From the **View Explorer**, expand the **Windows** node and select **WINDOW**.
10. From the **Properties** window, expand the **General** properties and from the **Window Style** property select **FILTER_STYLE**. Repeat this step for the **MYCUSTOMFILTER** window.
11. From the **MYCUSTOMFILTER** window, expand the panel called **al_FILTERCONTROLPANELCONTAINER**.
12. Under the **al_FILTERCONTROLPANELCONTAINER**, select the **OK** button, and set it as follows:

Property	Value
▼ Position/Size	
X Coordinate	205
Y Coordinate	5
Width	70
Height	25


▼ Appearance	
Opaque	Y
Up image	<i>Select the blank option</i>

13. Still under the `al_FILTERCONTROLPANELCONTAINER`, select the **Cancel** button, and set it as follows:

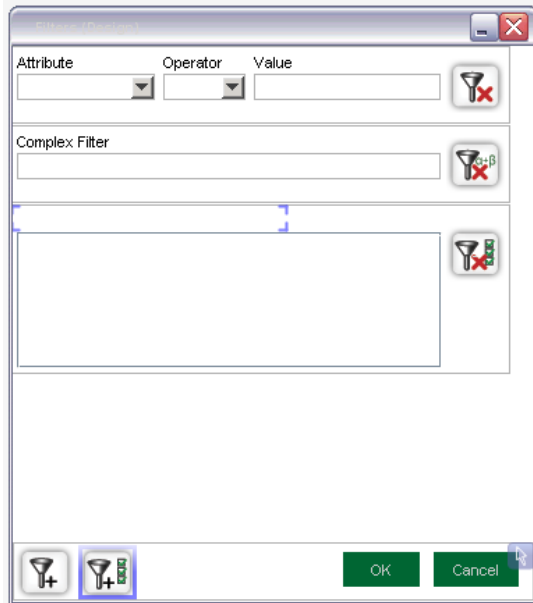
Property	Value
▼ Position/Size	
X Coordinate	290
Y Coordinate	5
Width	70
Height	25

▼	Appearance	
	Opaque	Y
	Up image	<i>Select the blank option</i>

Now let's say we do not want the user to be able to apply Complex Filters. To do so we just have to delete the button to add Complex Filters:



14. From the **View Explorer** window, expand the **MYCUSTOMFILTER** node. All the controls held in the window are displayed.
15. Select the **ADDCOMPLEXFILTER** button and click on the delete button  in the **View Explorer** window.

16. Reposition the remaining buttons as shown below:



Running a preview of the application

You can now click on the **Run** button to see a preview of your application and ensure that it works properly.

1. Click on the Run icon  displayed in the menu bar.
2. Click on the **Show Filters** button.
3. The customized **Filters** window should be displayed: the **OK** and **Cancel** buttons should be green and the **Add Complex filter** button should not be displayed:
4. From the **Filters** window, click on the **Add simple filter** button .
5. From the **Attribute** drop-down menu, select the **@MARKET** data attribute.
6. From the **Operator** drop-down menu, select **=**.
7. From the **Value** text field enter **LONDON**.
8. Click on the **OK** button.
9. The List should now only display the stocks of the LONDON market.

Appendix

<STOCKS>

```
<STOCK OFFER="155" HIGH="0" STOCK_ID="S6" PERC_CHANGE="-0.3" MID_PRICE="666" LOW="0" NAME="Egg Wi" SECTOR="Banks"
PENCE_CHANGE="-0.5" CLOSE="154" EPIC="EGG" MARKET="NIKKEI" BID="152" OPEN="0"/>
```

```
<STOCK OFFER="771.5" HIGH="792" STOCK_ID="S7" PERC_CHANGE="4.2" MID_PRICE="-777" LOW="725" NAME="Halifax Grp" SECTOR="Banks"
PENCE_CHANGE="31" CLOSE="738" EPIC="HFX" MARKET="HANGSENG" BID="766" OPEN="725"/>
```

```
<STOCK OFFER="877" HIGH="881" STOCK_ID="S8" PERC_CHANGE="-0.3" MID_PRICE="888" LOW="873" NAME="HSBC Holdings" SECTOR="Banks"
PENCE_CHANGE="-3.5" CLOSE="880" EPIC="HSBA" MARKET="DJONES" BID="875.5" OPEN="881"/>
```

```
<STOCK OFFER="709" HIGH="710.5" STOCK_ID="S9" PERC_CHANGE="-0.7" MID_PRICE="-999" LOW="704" NAME="Lloyds-TSB" SECTOR="Banks"
PENCE_CHANGE="-5" CLOSE="713.5" EPIC="LLOY" MARKET="NIKKEI" BID="708" OPEN="704"/>
```

```
<STOCK OFFER="1360" HIGH="1365" STOCK_ID="S10" PERC_CHANGE="0" MID_PRICE="111" LOW="1310" NAME="Nat West Bank" SECTOR="Banks"
PENCE_CHANGE="0" CLOSE="1344" EPIC="NWB" MARKET="HANGSENG" BID="1348" OPEN="1365"/>
```

```
<STOCK OFFER="513" HIGH="519" STOCK_ID="S11" PERC_CHANGE="-1.8" MID_PRICE="-222" LOW="511.5" NAME="Northern Rock" SECTOR="Banks"
PENCE_CHANGE="-9.5" CLOSE="521" EPIC="NRK" MARKET="AMEX" BID="510" OPEN="517.5"/>
```

```
<STOCK OFFER="1613" HIGH="1638" STOCK_ID="S12" PERC_CHANGE="-1.8" MID_PRICE="333" LOW="1598" NAME="Royal Bank of Scotland"
SECTOR="Banks" PENCE_CHANGE="-30" CLOSE="1642" EPIC="RBOS" MARKET="NIKKEI" BID="1611" OPEN="1638"/>
```

```
<STOCK BID="940" OFFER="942" PENCE_CHANGE="-14" OPEN="931" MID_PRICE="941" NAME="Stand.Chart." SECTOR="Banks" CLOSE="955"
LOW="929" PERC_CHANGE="-1.4" MARKET="HANGSENG" EPIC="STAN" HIGH="952" STOCK_ID="S13"/>
```

```
<STOCK BID="430.25" OFFER="432" PENCE_CHANGE="-5.5" OPEN="430" MID_PRICE="431.25" NAME="Ald.Domecq" SECTOR="Beverages"
CLOSE="436.75" LOW="427.75" PERC_CHANGE="-1.2" MARKET="NASDAQ" EPIC="ALLD" HIGH="432" STOCK_ID="S14"/>
```

```
<STOCK BID="482" OFFER="490" PENCE_CHANGE="0" OPEN="0" MID_PRICE="486" NAME="Barr (AG)" SECTOR="Beverages" CLOSE="486" LOW="0"
PERC_CHANGE="0" MARKET="NIKKEI" EPIC="BAG" HIGH="0" STOCK_ID="S15"/>
```

```
<STOCK BID="382" OFFER="390" PENCE_CHANGE="2.5" OPEN="386" MID_PRICE="386" NAME="Bulmer (HP) Hdg" SECTOR="Beverages"
CLOSE="383.5" LOW="386" PERC_CHANGE="0.6" MARKET="HANGSENG" EPIC="BULM" HIGH="386" STOCK_ID="S16"/>
```

```
<STOCK BID="24" OFFER="26" PENCE_CHANGE="0" OPEN="0" MID_PRICE="25" NAME="Burn Steward Dist" SECTOR="Beverages" CLOSE="25"
LOW="0" PERC_CHANGE="0" MARKET="WSTREET" EPIC="BRS" HIGH="0" STOCK_ID="S17"/>
```

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```
<STOCK BID="708" OFFER="709.5" PENCE_CHANGE="-7" OPEN="715" MID_PRICE="709" NAME="Diageo" SECTOR="Beverages" CLOSE="716"
LOW="702" PERC_CHANGE="-0.9" MARKET="NIKKEI" EPIC="DGE" HIGH="715" STOCK_ID="S18"/>
<STOCK BID="610" OFFER="650" PENCE_CHANGE="0" OPEN="0" MID_PRICE="630" NAME="Glenmorangie A" SECTOR="Beverages" CLOSE="630"
LOW="0" PERC_CHANGE="0" MARKET="LONDON" EPIC="GMGA" HIGH="0" STOCK_ID="S19"/>
<STOCK BID="32" OFFER="35" PENCE_CHANGE="0" OPEN="0" MID_PRICE="33.5" NAME="Merrydown" SECTOR="Beverages" CLOSE="33.5" LOW="0"
PERC_CHANGE="0" MARKET="DJONES" EPIC="MYW" HIGH="0" STOCK_ID="S20"/>
<STOCK BID="117" OFFER="122" PENCE_CHANGE="0" OPEN="0" MID_PRICE="119.5" NAME="Nichols" SECTOR="Beverages" CLOSE="119.5" LOW="0"
PERC_CHANGE="0" MARKET="NIKKEI" EPIC="NICL" HIGH="0" STOCK_ID="S21"/>
<STOCK BID="495" OFFER="498.5" PENCE_CHANGE="1" OPEN="495" MID_PRICE="497" NAME="Scot & Newcastle" SECTOR="Beverages"
CLOSE="496" LOW="494.5" PERC_CHANGE="0.2" MARKET="LONDON" EPIC="SCTN" HIGH="497" STOCK_ID="S22"/>
<STOCK BID="470.5" OFFER="474.5" PENCE_CHANGE="2.5" OPEN="470" MID_PRICE="472.5" NAME="South African Breweries" SECTOR="Beverages"
CLOSE="470" LOW="469.5" PERC_CHANGE="0.5" MARKET="AMEX" EPIC="SAB" HIGH="473" STOCK_ID="S23"/>
<STOCK BID="122" OFFER="123" PENCE_CHANGE="0" OPEN="0" MID_PRICE="122.5" NAME="Acambis" SECTOR="Pharmaceuticals" CLOSE="122.5"
LOW="0" PERC_CHANGE="0" MARKET="NIKKEI" EPIC="ACM" HIGH="0" STOCK_ID="S24"/>
<STOCK BID="110" OFFER="113" PENCE_CHANGE="0" OPEN="0" MID_PRICE="111.5" NAME="Alizyme" SECTOR="Pharmaceuticals" CLOSE="111.5"
LOW="0" PERC_CHANGE="0" MARKET="LONDON" EPIC="AZM" HIGH="0" STOCK_ID="S25"/>
<STOCK BID="142" OFFER="145" PENCE_CHANGE="0" OPEN="143.5" MID_PRICE="143.5" NAME="Antisoma" SECTOR="Pharmaceuticals"
CLOSE="143.5" LOW="143.5" PERC_CHANGE="0" MARKET="NASDAQ" EPIC="ASM" HIGH="143.5" STOCK_ID="S26"/>
<STOCK BID="3183" OFFER="3195" PENCE_CHANGE="9" OPEN="3175" MID_PRICE="3189" NAME="AstraZeneca" SECTOR="Pharmaceuticals"
CLOSE="3180" LOW="3158" PERC_CHANGE="0.2" MARKET="STOCKHOLM" EPIC="AZN" HIGH="3198" STOCK_ID="S27"/>
<STOCK BID="530" OFFER="537" PENCE_CHANGE="-1.5" OPEN="0" MID_PRICE="533.5" NAME="Bioglan Pharma" SECTOR="Pharmaceuticals"
CLOSE="535" LOW="0" PERC_CHANGE="-0.2" MARKET="LONDON" EPIC="BGP" HIGH="0" STOCK_ID="S28"/>
<STOCK BID="18" OFFER="19" PENCE_CHANGE="-0.5" OPEN="18.5" MID_PRICE="18.5" NAME="Br.Biotech" SECTOR="Pharmaceuticals" CLOSE="19"
LOW="18.5" PERC_CHANGE="-2.6" MARKET="WSTREET" EPIC="BBG" HIGH="18.75" STOCK_ID="S29"/>
<STOCK BID="1925" OFFER="2050" PENCE_CHANGE="-22.5" OPEN="1987.5" MID_PRICE="1987.5" NAME="Cambridge Antibody"
SECTOR="Pharmaceuticals" CLOSE="2010" LOW="1987.5" PERC_CHANGE="-1.1" MARKET="NIKKEI" EPIC="CAT" HIGH="1987.5" STOCK_ID="S30"/>
</STOCKS>
```

Document Information

Integra SP – Altio

Telephone: +44 (0) 20 8528 1045 Internet: www.altio.com

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