

Building Custom Indicators

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Creating a Custom Indicator

In addition to the standard indicators provided, Custom Indicators can be displayed on your real-time charts. The *Alerts* application provides a special function for the purpose of creating Custom Indicators. To create an indicator, you first create one or more User Defined Functions (UDF) and then use these functions to create an indicator, which is then added to your list of selectable indicators.

Custom Indicators can be plotted in a separate section of the chart or in the Price Plot section of the Chart window. In addition to one-line indicators, several other formats can be selected for plotting on charts. A two-line indicator option is available which allows you to select a second UDF for plotting in conjunction with the first. An indicator representing the difference between two UDFs can also be created.

When you add a Custom Indicator to your indicator list, you designate the indicator format (one-line, two-line, etc.) and assign it a unique name of your choice. Support/resistance lines can also be specified.

Available indicator plot types are:

- One Line
- One Line with Support
- Two Lines
- Two Lines with Support
- One Line with Upper/Lower Limits
- Histogram
- Histogram with Plotted Line

The function also provides a screen that can be used to create your own color barometer rules (in the form of UDF's) for your Custom Indicators. This same screen can be used to create and specify optional rules for standard AIQ indicators.

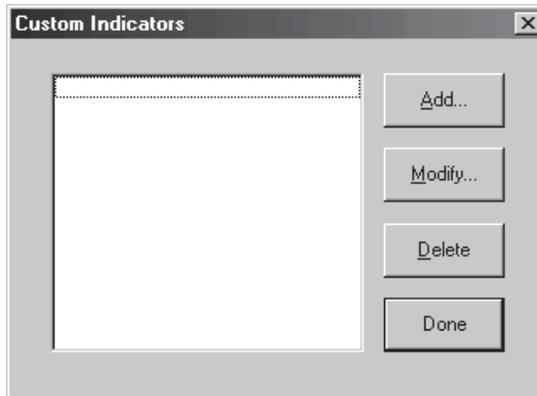
Custom Indicators are selected for display from the Indicator Panel in the same way that all of the standard indicators are displayed. Data values are computed and plotted for each time period. If the result is a date, a serial type date is plotted (number of days elapsed since 1/1/80).

There are no Constants for Custom Indicators.

Custom Indicators can be modified or deleted by means of the same function used for creating the indicators.

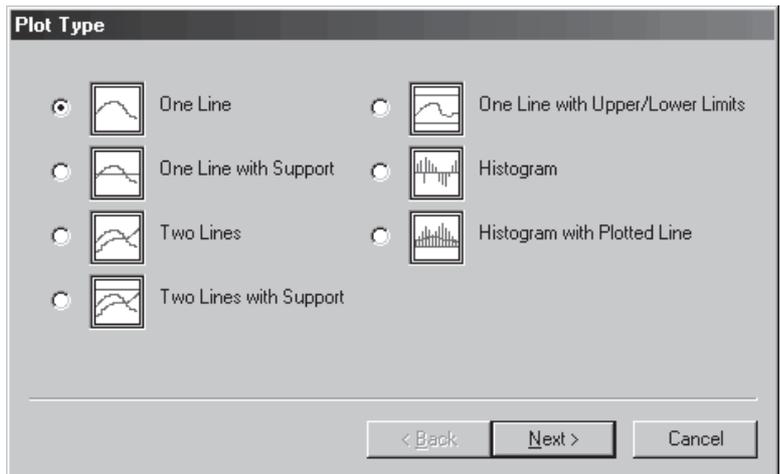
► *To create a Custom Indicator:*

1. From the **File** command on the menu bar, select **Indicator Properties**. Or select **Indicators** from the Right Mouse Click menu.
2. In the *Properties* dialog box, click the **Custom Indicators** command button. The *Custom Indicators* dialog box will appear. This dialog box displays a list of any indicators that have been previously created.



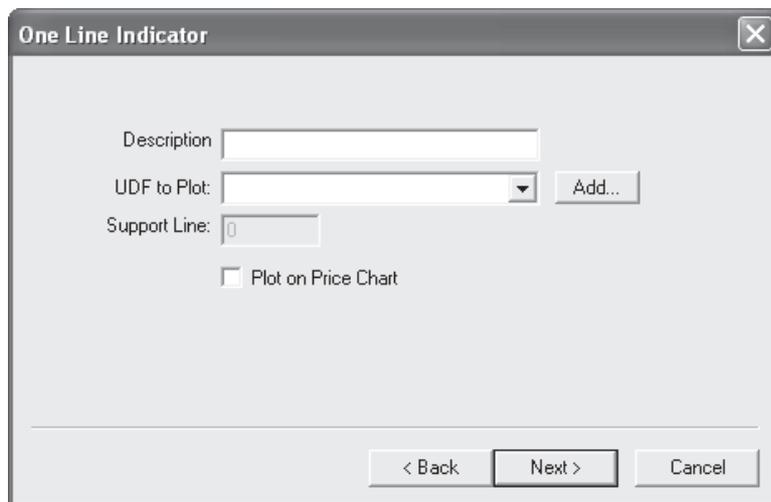
Custom Indicators dialog box

3. To create a new indicator, click the **Add** button. This displays the *Plot Type* dialog box.



Plot Type dialog box

- This dialog box allows you to choose the type of indicator plot for your new indicator. Seven different one and two-line plot types are available. Choose the type of plot that you want for the new Custom Indicator and click **Next**.
- The next dialog box differs depending on the plot type that you selected. Without making any entries, click the **Add** button located next to the *UDF to Plot* list box .

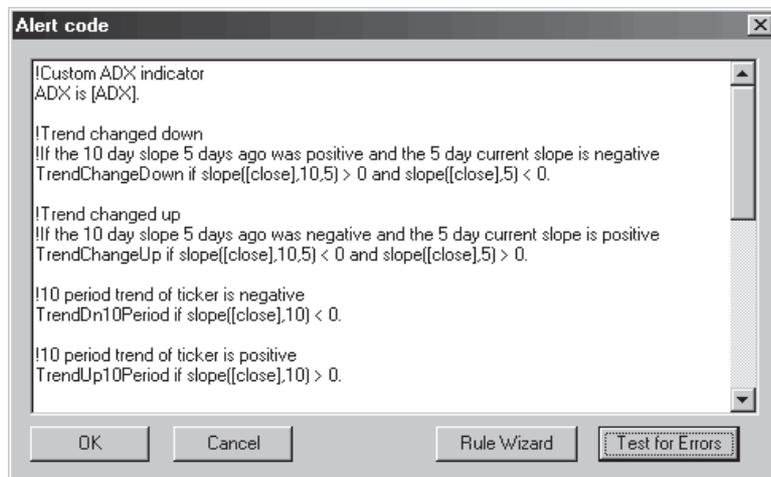


Dialog box used for creating a one-line indicator

- The *Alert Code* window is displayed. This window will now be used to enter the User Defined Function(s) required for the Custom Indicator.

Note

The Alert Code window may initially contain a number of coded rules, strategies, and UDFs that were provided with the system. These may be used as examples in creating your own rules and UDFs.



Alert Code window with User Defined Function entered

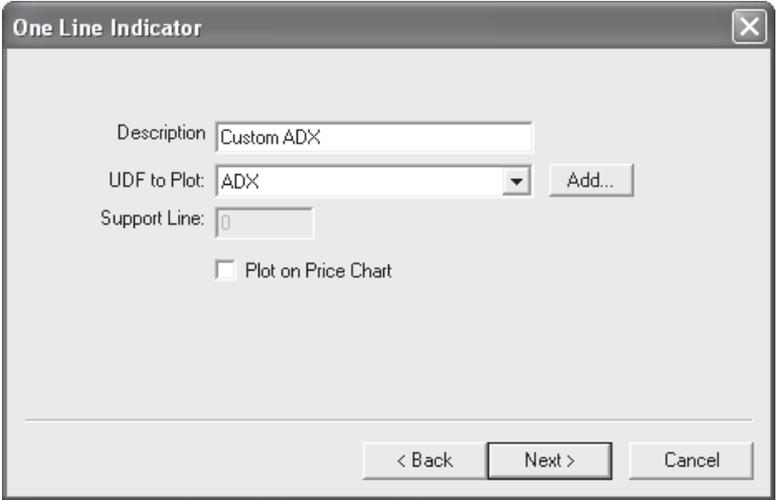
7. For each new User Defined Function you need to create, proceed as follows:

- Click an insertion point to create a new line and enter the code for the new function as follows:
 - Type the code defining the new function directly in the Alert Code window. The function must begin with the name followed by a space, the word *is*, another space, and the body of the function. A period must be placed at the end.
 - or -
 - Click the **Rule Wizard** button to display the *Rule Wizard* dialog box. Use the Rule Wizard (see documentation for Expert Design Studio in this manual) to create the function and click **OK** to return to the *Alert Code* window. The code for the new function will be entered at the previously specified cursor location.
 - Click **Test for Errors** to verify that the code is correctly entered.

Note

The functions used for a Custom Indicator are exactly equivalent to the User Defined Functions that may be created in EDS (see the documentation for Creating EDS Indicators for Charts in *Part 2. Expert Design Studio* in this manual.

8. Click **OK** to return to the previous dialog box. The actual dialog box depends on the Plot Type selected in step 4.



The screenshot shows a dialog box titled "One Line Indicator". It has a close button (X) in the top right corner. The "Description" field contains the text "Custom ADX". Below it, the "UDF to Plot:" label is followed by a dropdown menu showing "ADX" and an "Add..." button. The "Support Line:" label is followed by a text input field containing "0". Below that is a checkbox labeled "Plot on Price Chart" which is currently unchecked. At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

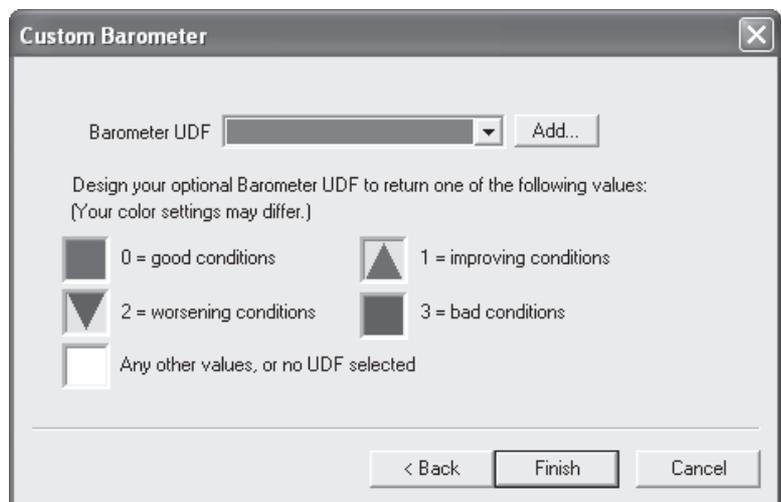
One-line indicator dialog box with Description entered and UDF selected

9. In this dialog box, do the following:

See next page.

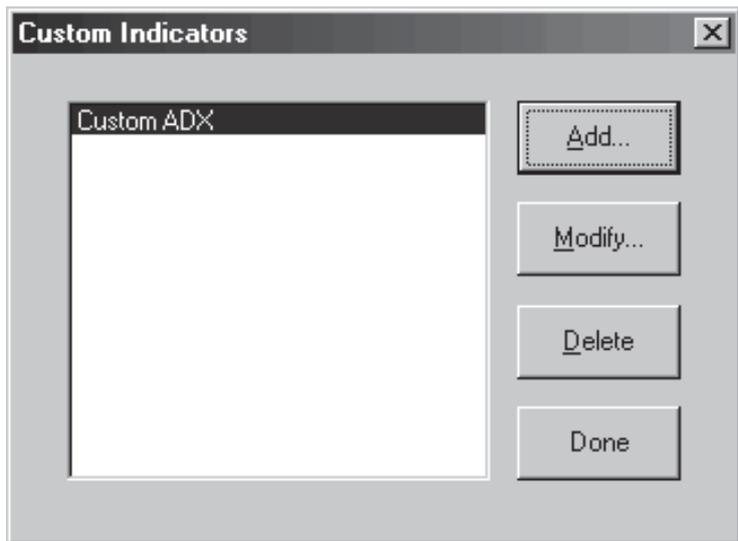
- In the box labeled *Description*, type a name for the new indicator.
- Click the arrow on the *UDF to Plot* list box to display a drop-down list of available functions. The function(s) created in step 7 will now appear in this list. From this list, select the function that you wish to plot for the indicator.
 - If a *Two Lines* plot is selected, you must select UDFs for lines #1 and #2.
 - If *Histogram with Plotted Line* is selected, you must select a UDF for the histogram and a UDF for the line.
- If the plot type includes a *Support Line* or *Upper and Lower Limit Lines*, enter the values for these lines in the designated boxes.
- For the *Two Lines* plot, you may choose to plot the difference between two UDF's by checking the box that specifies this option.
- For the *One Line* plot, you may choose to plot the indicator on the Price Chart section of the chart by checking the box that specifies this option.
- At any time, you may click **Back** to return to the previous screen or **Cancel** to close the function without saving the new indicator.

10. Click **Next** to move to the *Custom Barometer* screen. This screen may be used to create and specify special rules for determining the color and configuration of the color barometer for the indicator.



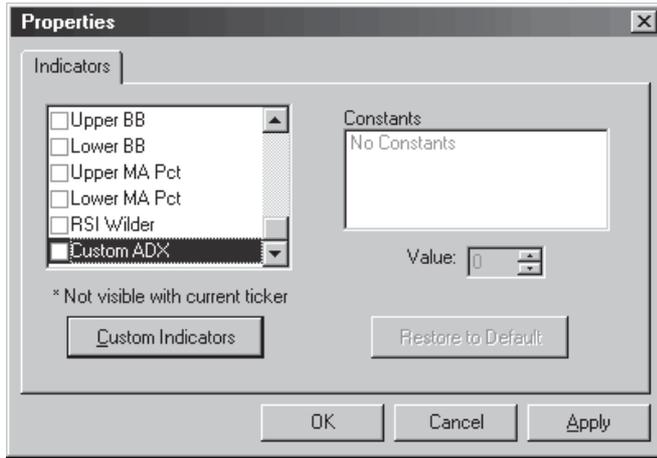
Custom Barometer dialog box

- To add an optional Barometer User Defined Function, proceed as follows:
 - Without making any entries, click the **Add** button located next to the Barometer UDF list box.
 - The *Alert Code* window will appear. This window will now be used to enter or create the User Defined Function(s) required for the Custom Barometer. Follow the procedure listed in Step 7 to enter the code defining the new function(s) directly in the Alert Code window.
 - When you have completed and tested the UDF code for the Custom Barometer, click **OK**.
 - The *Custom Barometer* dialog box will reappear. Use the Barometer UDF list box to select the name of the Barometer UDF that you just created.
11. To save the new indicator, click **Finish**. The *Custom Indicators* dialog box will reappear and will now list the name you assigned to the new Custom Indicator.

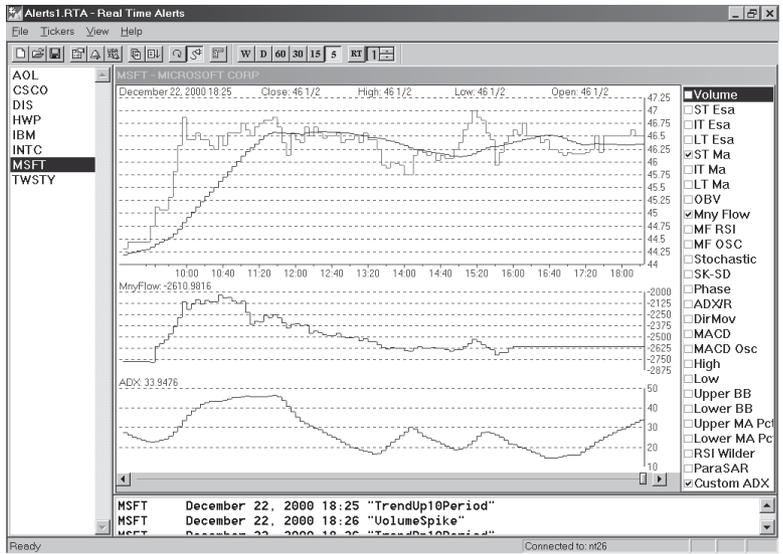


Custom Indicators dialog box with newly created indicator

12. Click **Done**. The new indicator is now shown in your list of indicators in the *Indicator Properties* dialog box and is included in the indicator list shown in the main *Alerts* window (See next page).



Indicator Properties dialog box with Custom Indicator added



Alerts window with Custom Indicator added to indicator panel

How to modify or delete a Custom Indicator

Modifying a Custom Indicator

1. From the **File** command on the menu bar, select **Indicator Properties**. Or, select **Indicators** from the Right Mouse Click menu.
2. In the *Properties* dialog box, click the **Custom Indicators** command button. The *Custom Indicators* dialog box will appear. This dialog box displays a list of the Custom Indicators that have been previously created.
3. Select the Indicator you wish to modify, and click the **Modify** command.
4. The *Plot Type* dialog box shows you the current plot type and can be used to change the indicator plot type. Choose the type of plot that you want and click **Next**.
5. The next dialog box differs depending on the plot type selected. Change the description and/or make all of the appropriate entries in this dialog box as described previously (step 9).
6. When you have completed your entries, click **Finish**. The *Custom Indicators* dialog box will reappear and now lists the new indicator name (if the Description was changed) for the modified Custom Indicator. Click **Done** to return to the main *Alerts* window.

Deleting a Custom Indicator

1. From the **File** command on the menu bar, select **Indicator Properties**. Or, select **Indicators** from the Right Mouse Click menu..
2. In the *Properties* dialog box, click the **Custom Indicators** command button. The *Custom Indicators* dialog box will appear. This dialog box displays a list of the Custom Indicators that have been previously created.
3. Select the indicator you wish to delete, and click the **Delete** command.
4. The *Custom Indicators* dialog box will reappear showing you that the deleted indicator has been removed. Click **Done** to return to the main *Alerts* window.

