Tradex

Stock Market Technical Analysis

&

Portfolio Management

V 1.0.1

Preliminary Tutorial Manual

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Notice

This manual is a preliminary manual intended for beta-release and shareware users of the Tradex application. The format, contents and features described do not necessarily reflect the final release of the Tradex application and manuals.

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1 Installation

The Tradex application is supplied on two 800K diskettes, each containing both the Tradex application and some sample data. The difference between the two diskettes is that one contains a version of the application for use only on machines

using the 68020 processor and 68881 math co-processor, Tradex 68020. These machines include the SE/30, all Mac II models, and accelerated SEs). The other diskette contains Tradex, which runs on all Mac models from the Mac Plus upwards. We will refer to this

version in this manual, although both versions are functionally identical.

The recommended configuration for running the Tradex application is a Mac Plus or later computer with a hard disk.

The hard disk is not strictly necessary

however, and the application can be run on a system with two diskette drives, but this will severely limit the amount of data that can be handled. At least 1 megabyte of memory is necessary to the run the application and more would be necessary if you wish to use

MultiFinder or System 7.

A printer is also recommended; and this can be an ImageWriter, an ImageWriter II, a LaserWriter compatible printer, or any other printer that is supported by the Mac System Software.

The Tradex application

requires System 6.0 or above to run it, and it is recommended that you use Apple's latest System Software (6.0.8 or later). System Software is not supplied and if you do not own such System Software, it is recommended that you purchase it from your nearest Apple dealer.

There are no special installation instructions. If you are using a hard disk, copy all the files from the relevant Tradex master disk on to your hard disk or, if you are using a 2-diskette system, make a backup copy of the Tradex Master Disk before proceeding.

Boot your computer using the relevant System Software and, if you are using a 2-diskette system, place the copy of the Tradex Master Disk into the external drive.

If you are not familiar with the operation of the Macintosh , it is recommended that you

follow the instructions supplied by Apple, and/or use the Guided Tour disk supplied by Apple to gain familiarity with the system before continuing.

When you open the Tradex Master Disk in the Finder, the files should appear as in

Figure 1.1.

The Tradex application appears on the left-hand side of the Tradex Master Disk. The icon appears to have a miniature bar chart on it. Double clicking this icon will start the Tradex application.

The folder, labelled

Sample Data contains a number of data files containing historical information on Close, High, Low and Volume on a day-to-day basis for some imaginary stocks. These files are known as history files or documents, and have the

letter H on them. The folder labelled US Data contains a few sample data files for actual US stocks.

The Tradex application creates several types of files, each one identified by a letter on the icon.
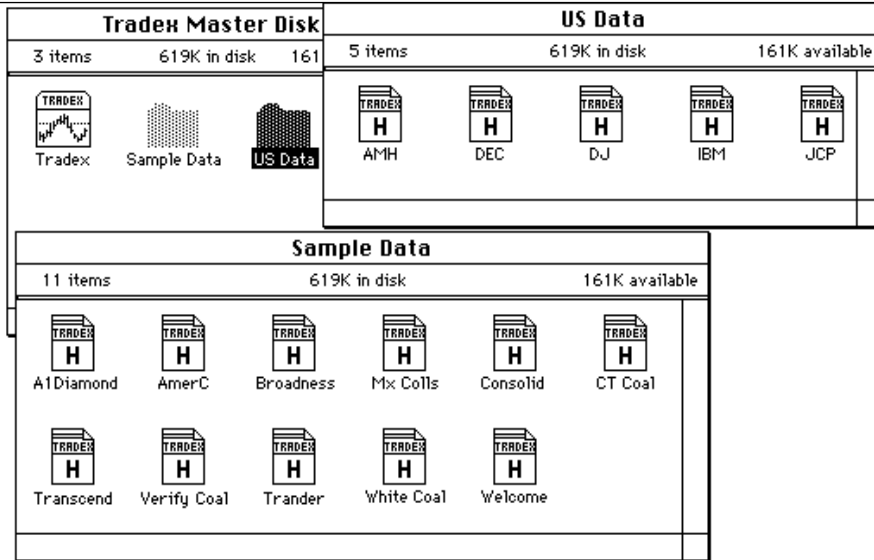
Figure 1.1 - The Tradex Master Disk from the Finder

Note that the application might also be distributed on a high-density (1.4MB) diskette or as a self-expanding archive.

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Using Tradex for the first time

The first time you use the Tradex application by double clicking its icon, or by selecting the icon and using **Open** from the **File** menu in the Finder, the application will present you with a dialog box as shown in Figure 2.1.
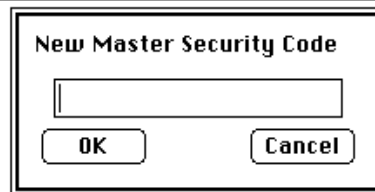

Figure 2.1 - Master Security Code setup dialog box

The Tradex application has a master security code built in which is a secret code known only to the main user of the program. If you intend to be the only user of this application, then this master security code is not all that important. However, if several people are going are going to use the application, then this master security code can be used, if known, to override the secret passwords and security codes of other users.

In a network environment, each user of the Tradex application will create a file called Tradex Preferences in his/her System Folder, and this contains that user's "personal" master security code.

This dialog only appears when you first run the application and will not appear on subsequent runs - unless you do not enter a security code at this time. This master security code will be referred to later.

For the present, select a master security code which is reasonably obscure and yet easy to remember. It can be any collection of characters. Enter these characters in the dialog box, and click **OK**. The application then presents you with a similar dialog box which asks you to re-enter that security code, just to verify that you entered it correctly the first time. Re-enter the same code and click **OK**.

You can change this master security code in the future, but you must remember what the old one was, before you are allowed to do so. Once you have entered the security code and it has been verified, you will be presented with the screen shown in Figure 2.2 which is the usual start-up screen for Tradex.

This screen is important only in that it gives you the current version number of your program, the date of that current version, and information as to the computer environment you are using. Click the mouse button, or hit a key to continue.
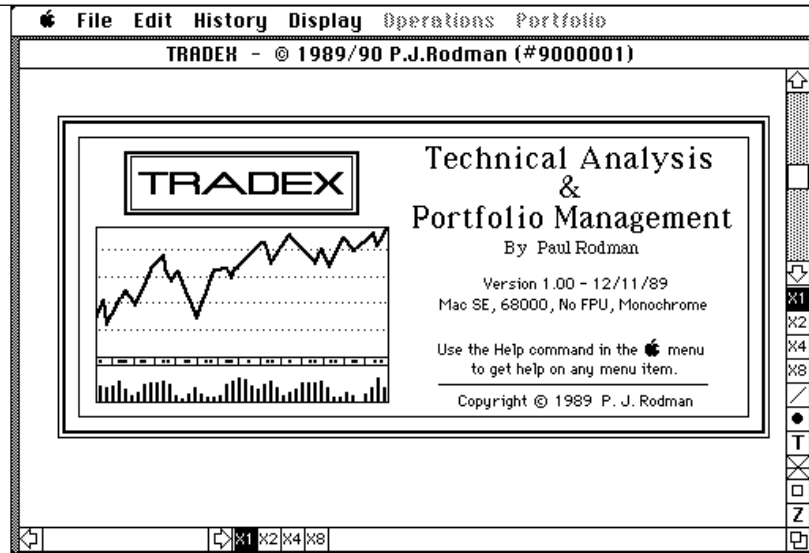
Figure 2.2 - Tradex start-up screen

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Opening history files

From the **File** menu select **Open**, and on the Tradex Master Disk, open the folder entitled Sample Data. The history files will now appear in the File Opening dialog as shown in Figure 3.1.
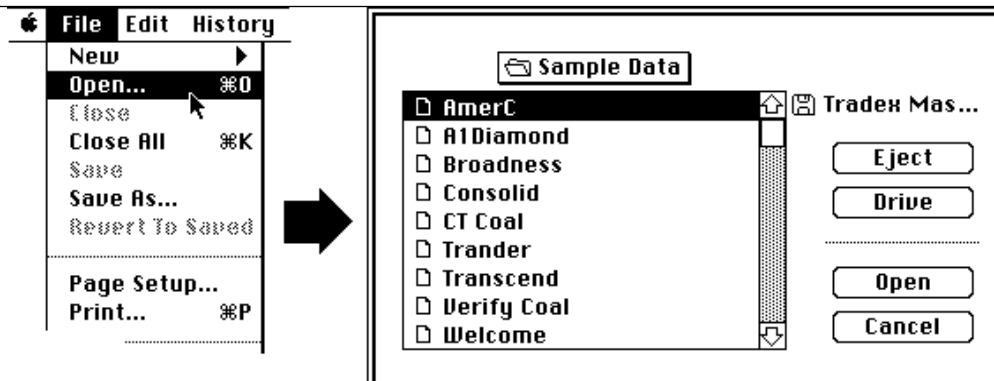

Figure 3.1 - Opening a history data file

Open one of the history files (in the example we have used here, we opened the file called ***Consolid***). The history data file opens into a small window, the heading of which is ***Consolid***, or whatever file you have selected, as shown in Figure 3.2.
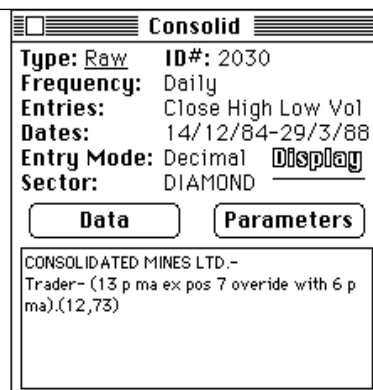
Figure 3.2 - History data window

The window displays various parameters associated with the history file. The *Type* is Raw which stands for raw data as opposed to processed or other derived data. This refers to the fact that the ***Consolid*** history data file contains original unprocessed data. The *ID Number* is a sequencing number which will be referred to later. *Frequency* is

daily. This means that the data has been captured on a day-to-day basis. The application also allows the data to be in weekly, monthly or quarterly formats.

The *Entries* are Close, High, Low and Volume - this means that the close price, the high and low for the day, and the volume have been recorded on a day-to-day basis. If any of these figures are not available for a particular history file, then the entries will correspondingly reflect this.

The *Dates* entry refers to the first day of data and the last day of data in the file and there will be an entry for all trading days between these two dates.

The *Sector* represents the sector of the stock market pertaining to the stock information contained in this history data file. The box at the bottom of the window gives some descriptive information about the history file.

The history data file has two parts to it; a data part, and a parameter part. The data part contains all the actual daily data values and the parameters part contains information pertaining to that data. Click on the **Data** button. and the Data window will appear similar to that shown in Figure 3.3.

≡□≡		Consolid		≡
Date	**Close**	**High**	**Low**	**Volume**
Wed 9/3/88	2875	2900	2850	292150
Thu 10/3/88	2850	2900	2835	291100
Fri 11/3/88	2725	2850	2725	74254
Mon 14/3/88	2760	2785	2750	48400
Tue 15/3/88	2800	2835	2800	88933
Wed 16/3/88	2850	2900	2850	67000
Thu 17/3/88	2835	2875	2825	65510
Fri 18/3/88	2830	2835	2825	90147
Mon 21/3/88	2875	2875	2850	72945
Tue 22/3/88	2930	2930	2900	70300
Wed 23/3/88	2910	2940	2910	29715
Thu 24/3/88	2975	2975	2925	59566
Fri 25/3/88	2940	2960	2940	105200
Mon 28/3/88	2810	2865	2810	74600
Tue 29/3/88	2875	2885	2850	140725
Wed 30/3/88	Unknown	Unknown	Unknown	Unknown

Figure 3.3 - Data Window

In this window, you can examine and/or change the data values. The scroll bar on the right hand side will enable you to scroll through the entire range of the data - from the Start Date to the Last Date of entry.

Now close the window by either clicking the Close box in the top left hand corner, or by selecting **Close** from the **File** menu. Note that there is a pause between doing this and returning to the original history window. This is because the application is checking for various inconsistencies in the data and any changes that may have been made.

If you now click the **Parameters** button, should see a dialog box similar to that in Figure 3.4.

The various parameters in this window will be discussed later. For the time being, click on the **Cancel** button.

Figure 3.4 - Parameters Dialog Box

4

Drawing charts

To draw a chart of ***Consolid***, click on the background window (quickest method!), or select **Display Chart** from the **Display** menu (as shown in Figure 4.1).

Figure 4.1 - Display Chart command

As you do this, the history data window will disappear, and a Bar chart will be drawn of the history window data, as shown in Figure 4.2.
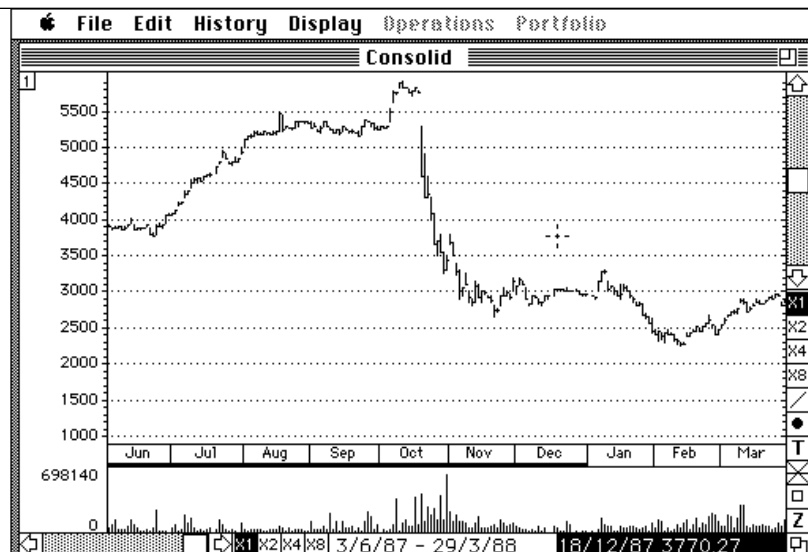

Figure 4.2 - Bar Chart

Note that the scaling is automatic at this point and Tradex attempts to display as much data as it can on the screen. The scroll bar at the bottom left-hand corner of the window can be used to move in the Time axis and the application will usually try to display the most recent data first. The scroll bar in the upper right-hand corner can be used to move in the Price direction, and the dates which appear in black print on a white background in the centre bottom, represent the range of data currently being displayed.

The date and price value on the right-hand bottom side in white text on a black background represents the date and price of the current position of the cursor which, you will have noticed, has changed into a cross-hair format. As you move the cursor around, this Date and Price will change to correspond to the current cursor position.

There are various types of chart that can be displayed; if you now move to the **Chart Type** sub-menu within the **Display** menu, you'll find that there are four possible types of chart that can be drawn. At present the Bar chart is selected with a tick on the left-hand side. Try selecting **Line** chart. A dialog box will appear as in Figure 4.3 which allows you to select whichever entry you wish to chart.
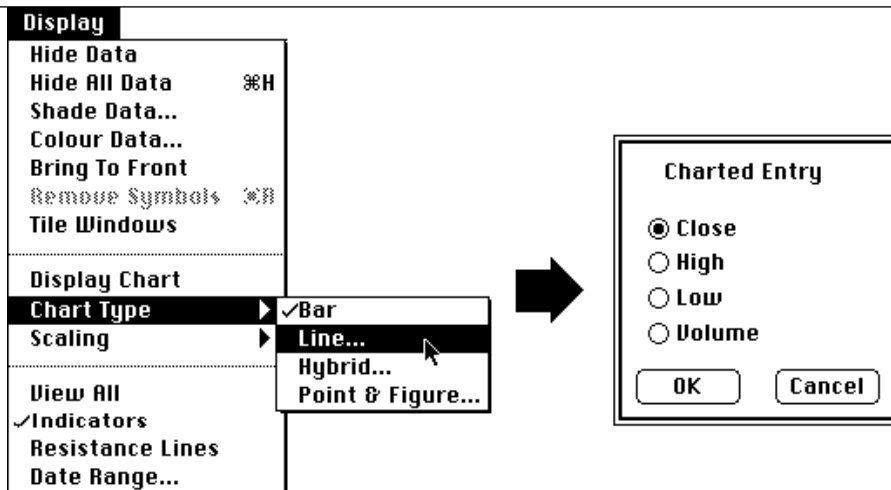

Figure 4.3 - Line chart dialog

Select the **Close** entry, and click **OK**. A line chart of the Close price will appear similar to that in Figure 4.4.
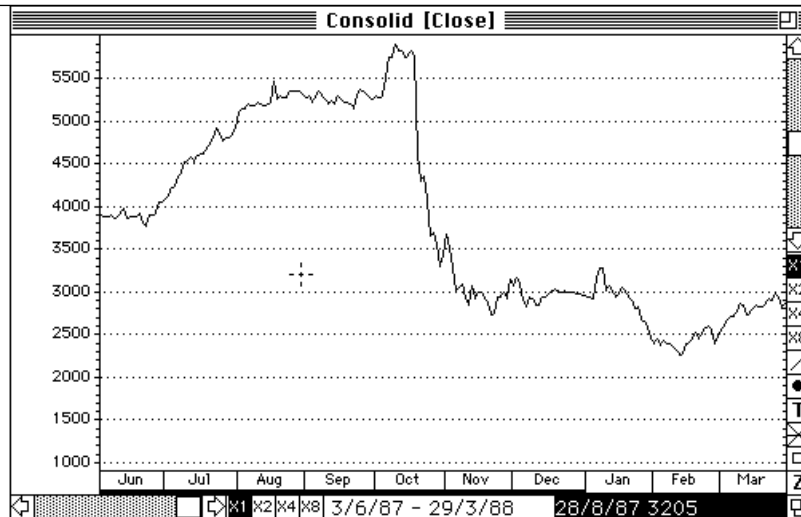

Figure 4.4 - Line chart of close price

Now try selecting a **Hybrid** chart from the same menu and again selecting **Close** in the dialog box. A Hybrid chart will appear as in Figure 4.5. The Hybrid chart is a cross between a standard Bar chart and a Line chart; where the Close price is displayed in Line chart fashion, and the volume bars are displayed as in the Bar chart at the bottom.
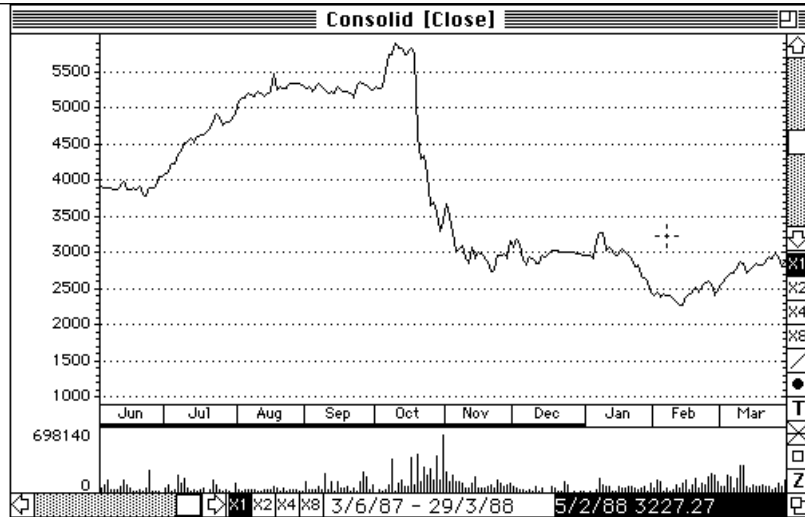

Figure 4.5 - Hybrid chart of close price

Now select **Point & Figure** chart from the **Chart Type** sub-menu. A dialog box will appear as in Figure 4.6. The various parameters in this dialog box will be discussed later. For the time being, click the **Auto Box Size** parameter, and click the **OK** button. After a short pause, a Point and Figure chart similar to that shown in Figure 4.7 will appear.
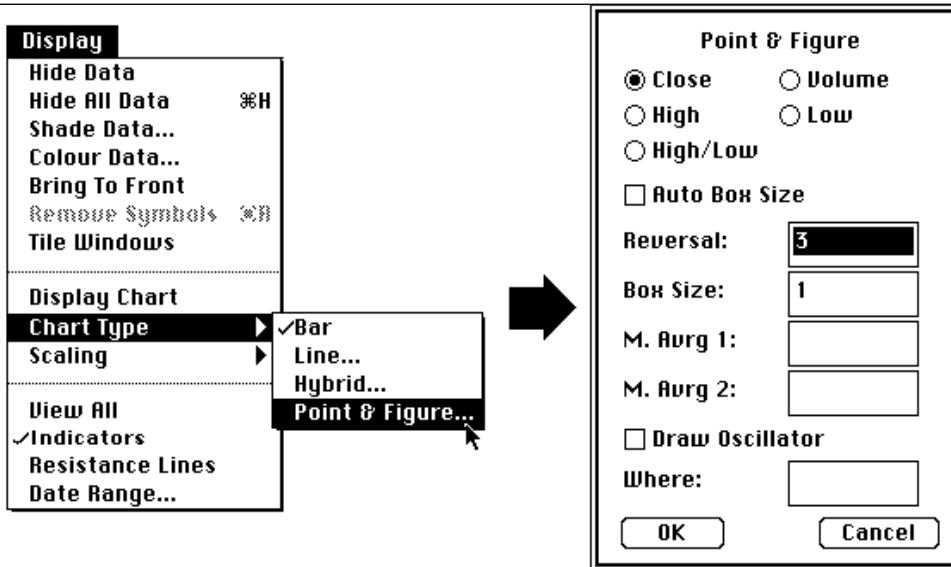

Figure 4.6 - Point & Figure dialog box

The boxes on the Point and Figure chart are marked with X's and zeros, and the beginnings of months are marked with the letter of the alphabet with which that months name begins. The title at the top of the window includes (50 x 3) and this represents the box size and the reversal size. In this case, the box size being 50 cents - with a 3-box reversal on close price.
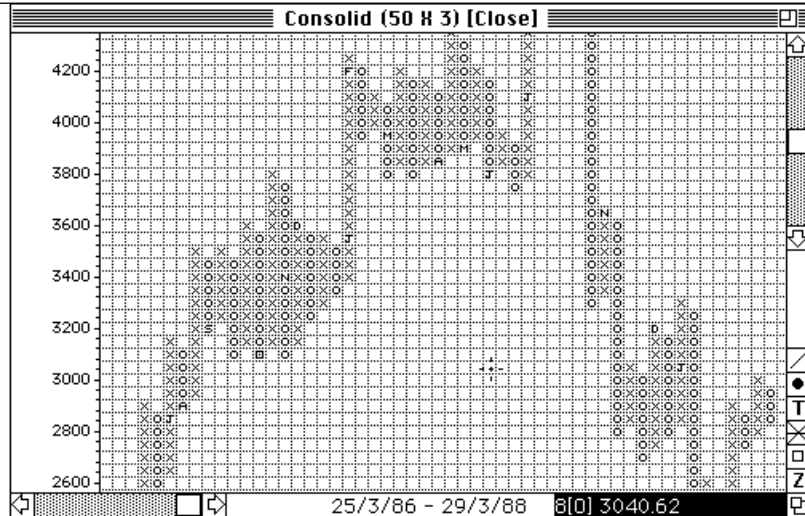
Figure 4.7 - Point & Figure chart (50 X 3)

The white text on the black background at the bottom right-hand corner represents the number of boxes in the particular column over which the cursor sits. In the case of Figure 4.7, there are eight O's in the cursor column, and the cursor is currently sitting at a price of 3040. To reduce the size of the chart in the window, we can choose a box size of 100 cents; and this is done by selecting **Point and Figure** from the **Chart Type** sub-menu again and changing the **Box Size** parameter to 100 and clicking **OK**. After a pause, the 100 x 3 Point and Figure chart will be displayed as shown in Figure 4.8.
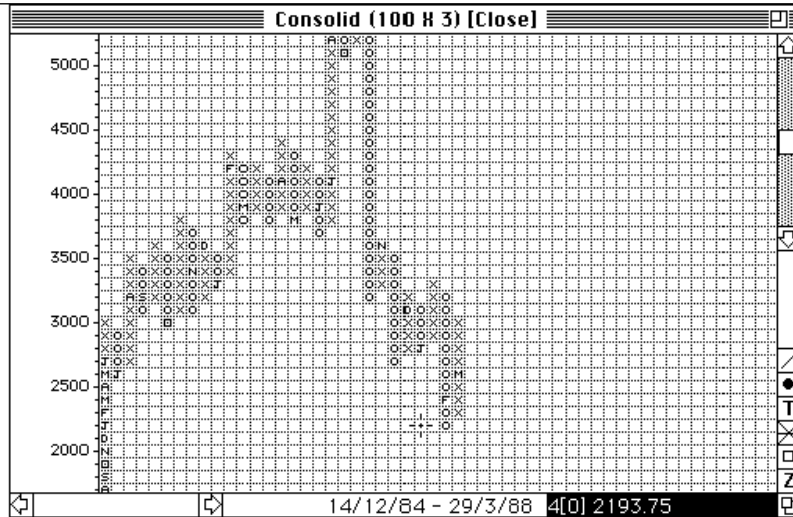
Each box on this chart represents 100 cents.

Figure 4.8 - Point & Figure chart (100 X 3)

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Zooming charts

Return now to a Bar chart of *Consolid* by selecting **Bar Chart** from the **Chart Type** sub-menu of the **Display** menu. To zoom in on a particular part of the chart, click on the small square at the lower right-hand corner labelled **Z**. The cursor will now change to a Z with a small arrow on top. Move the point of the arrow to the part of the chart you wish to zoom in on, and click the mouse button as in Figure 5.1.

Figure 5.1 - Zooming in on a chart

The chart will then be magnified by a factor of 2 in both the vertical and horizontal axes as shown in Figure 5.2.
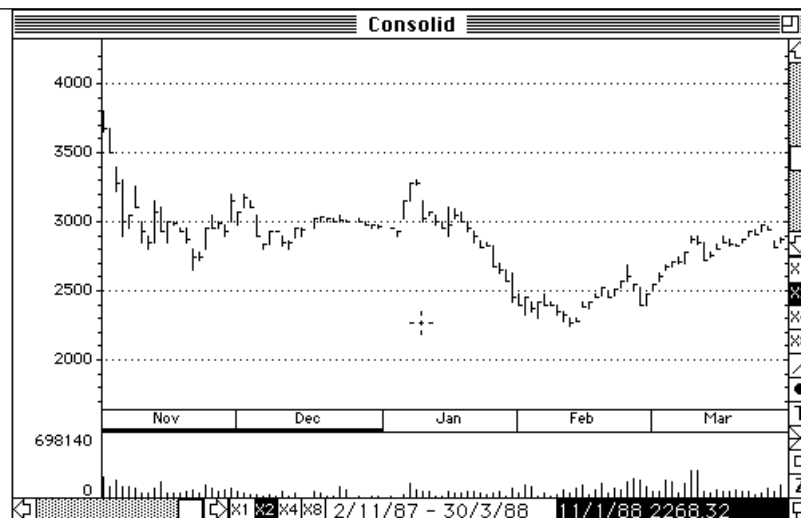

Figure 5.2 - Zoomed chart

You will notice that the X2 boxes at the bottom and right are now highlighted. You can continue this zooming action up to a magnification of 8X by using the **Z** button in the lower right-hand corner as before. To zoom out, select the **Z** button as before, but rather than clicking the mouse button to zoom in, press the Shift key whilst clicking the mouse button and the chart will zoom out to the next larger magnification centred at the point where the cursor was when the mouse button was clicked.

To return to the original auto-scaled display, press Shift whilst clicking on the **Z** button at the bottom right-hand corner. It is possible to zoom out one further level in this display. Do this by again clicking the **Z** button at the lower right and then clicking the mouse button whilst holding the Shift key down. In this charting mode the application attempts to display all of the data no matter how much, or how little there is. The chart of *Consolid* in this mode is shown in Figure 5.3.
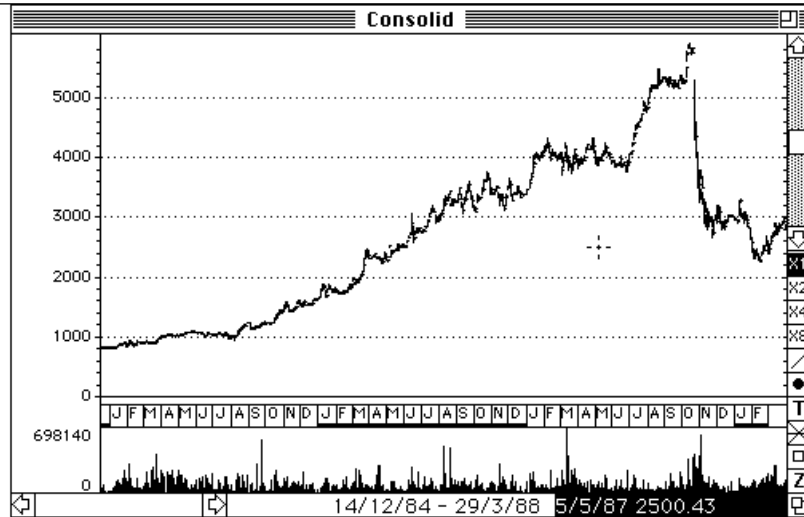

Figure 5.3 - View All chart mode

This mode is called the View All mode and if you look on the **Display** menu, you will find the **View All** entry has been selected. To return to the original chart, you can either select **View All** from the **Display** menu, zoom in using the **Z** box on the lower right-hand corner, or click the **Z** box with Shift key held down.

At this stage, click on the chart to bring the *Consolid* history window to the front and close the *Consolid* window by clicking the close box in the top left-hand corner.

6

Performing operations on history data

Now load another History file from the Tradex master disk. In this case we are going to load the *AmerC* file. This should appear as in Figure 6.1.
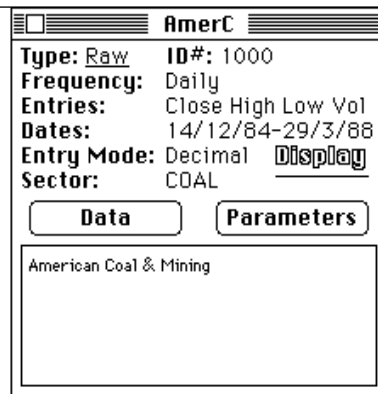

Figure 6.1 - *AmerC* **history data window**

Now select the **Operations** menu. This menu contains various operations that can be performed on the history data. From the **Moving Averages** sub-menu select **Moving Average**. A dialog box will appear as in Figure 6.2.

Figure 6.2 - Moving Average dialog box

The three buttons at the top allow you to choose either a **Simple** Moving Average, a **Weighted** Moving Average or an **Exponential** Moving Average. The **Time Units** parameter specifies the period over which you wish the moving average to be computed. The four buttons below that represent the section of the data on which you wish to perform the moving average. For the time being, ignore the other parameters in the dialog box. The Moving Average as shown has defaulted to a 30 unit simple moving average. Click the **OK** button. A new window appears in which the moving average is computed. Once the computation has completed, the Moving Average window slips behind the History Data window as shown in Figure 6.3.
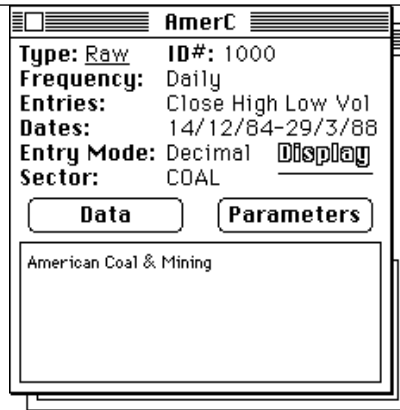

Figure 6.3 - After computing a moving average

Click the portion of the window hidden by the history data window and the Moving Average window will appear at the front as shown in Figure 6.4.
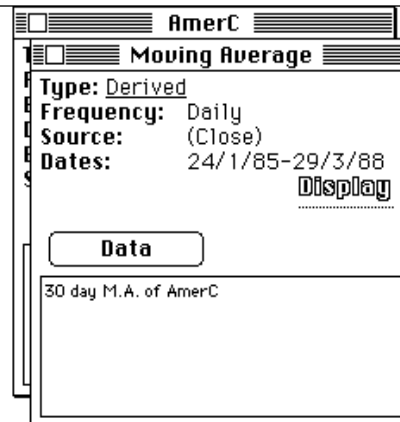

Figure 6.4 - Moving Average derived data window

You will notice that this window has *Type* Derived which refers to the fact that it has been derived from the other history window; *Frequency* is again daily. The *Source* represents the portion of the data on which the Moving Average is being computed, and the *Dates* represent the period over which the Moving Average has been computed. The **Data** button will allow you to look at the various values of the Moving Average, and, the information box at the bottom tells you that this is a 30-day moving average of *AmerC*.

Click in the background window to draw a chart of *AmerC* with its 30-day Moving Average. This should appear as in Figure 6.5.
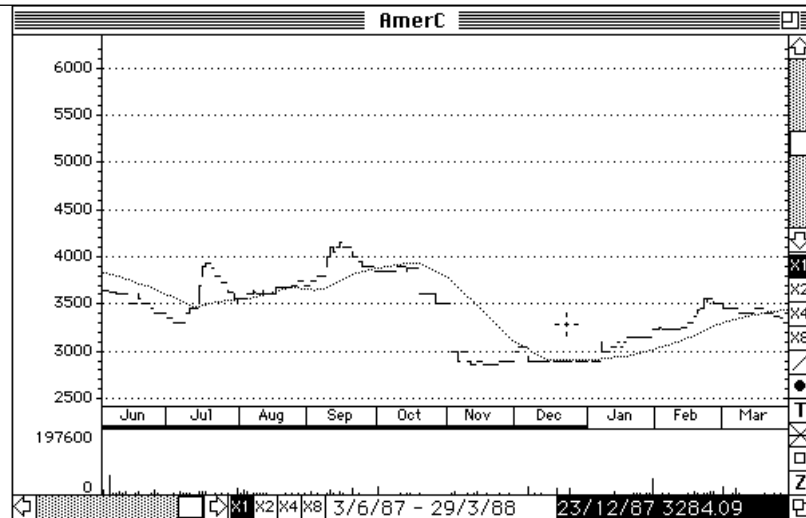
Figure 6.5 - Moving average (30-day) of *AmerC*

Notice that the Moving Average is drawn using a dotted line, and if you have a system with colour, the line will be drawn in a colour other than black.
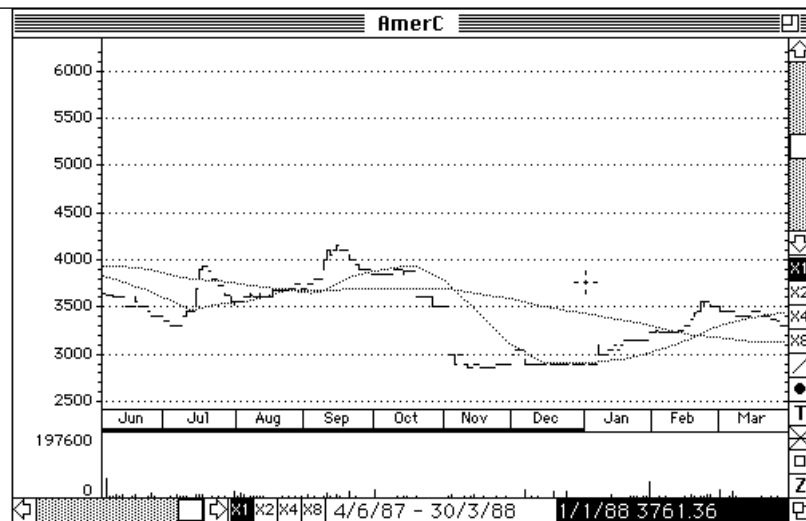

Figure 6.6 - *AmerC* **with 30- and 100-day moving averages**

Now click the chart to bring the data windows back to the front, click on the *AmerC* window to bring it to the front, and now try putting a 100-day Moving Average onto the *AmerC* chart by selecting 100 as the number of units in the Moving Average dialog window. The resulting chart will look like Figure 6.6.

The **Moving Average** and other operations will generally operate on all of the data. This can be illustrated by moving the horizontal scroll bar at the bottom left of the chart to round about the central position as shown in Figure 6.7.

It can be seen in this chart that both Moving Averages operate over the full range of the data. The range of days displayed on this chart is specified by the black figures on white at the bottom centre, which shows that this particular chart runs from the 30th December, 1985 to the 24th October, 1986.
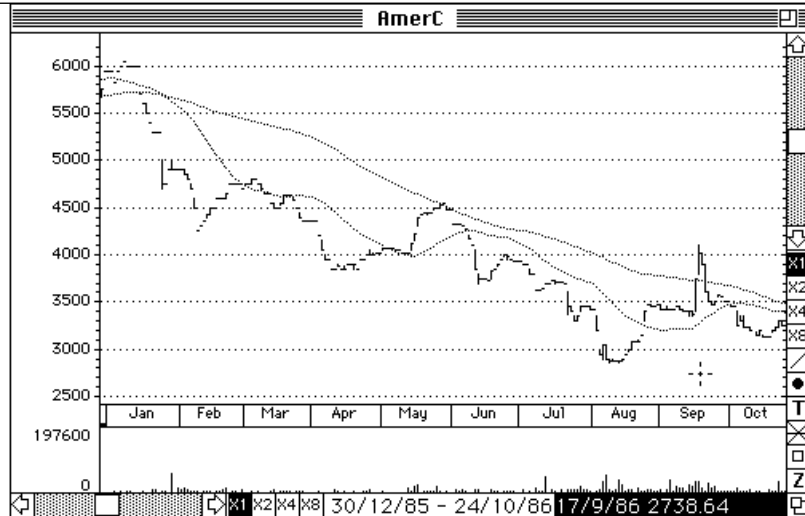
Figure 6.7 -Moving the horizontal scroll bar

Now click the chart, bring the data windows back to the front, and select **Momentum** from the **Oscillators** sub-menu in the **Operations** menu. A dialog box will appear as in Figure 6.8.
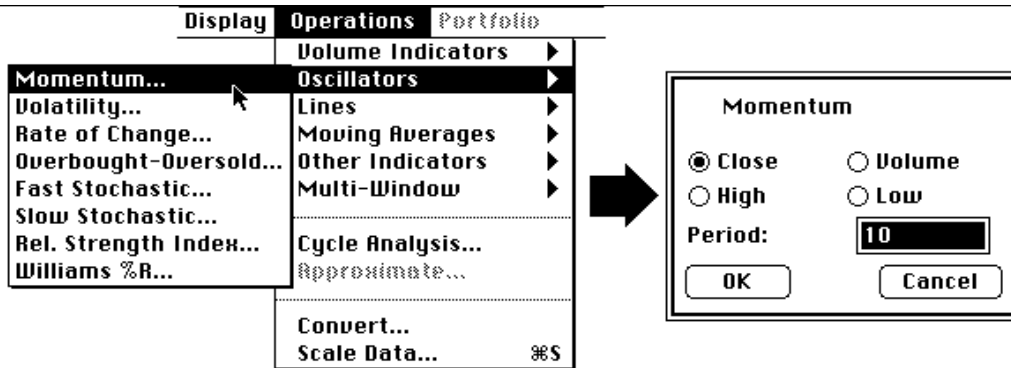

Figure 6.8 - Momentum dialog box

By clicking the **OK** button, we will compute a 10-day momentum of the close price of *AmerC*. Do this, and then click the background window to display the chart. The chart should appear as in Figure 6.9.
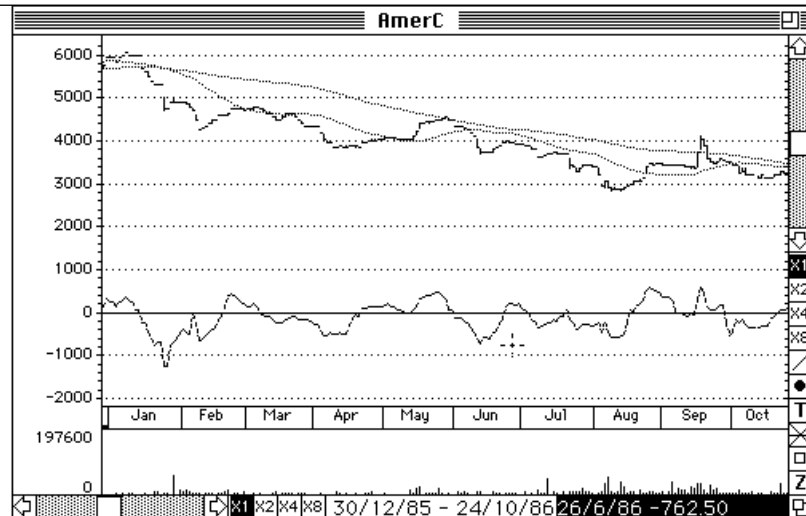
Figure 6.9 - Chart of *AmerC* with 10-day momentum

You will note here, that the Momentum is centred around 0. As such, the application has auto-scaled the chart so that both the momentum and the data with its moving averages are displayed.
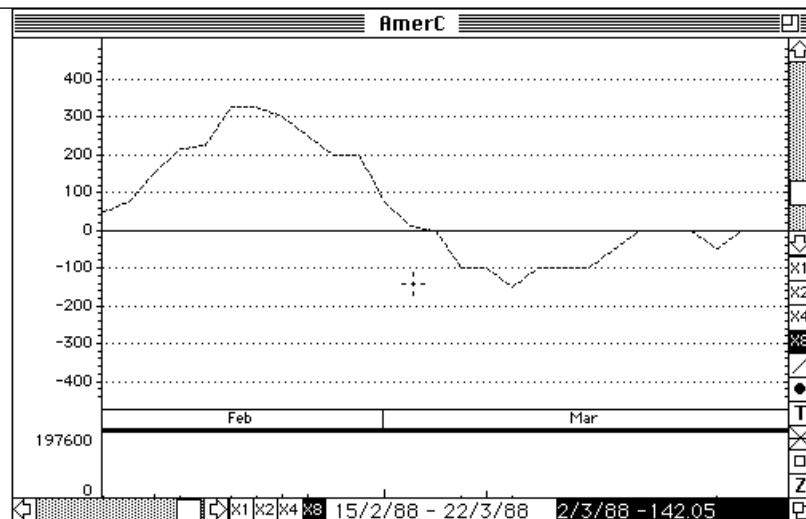

Figure 6.10 - Magnified chart (8X) of *AmerC* moment

To get more detail, you can zoom in as before on a particular part of the chart. A typical example of which, is shown in Figure 6.10 which represents an 8x magnification of the momentum obtained by zooming in 3 times.

Now bring the data windows to the front by clicking on the chart and close all of the windows - either by clicking each of their close boxes in turn, or by selecting **Close All** from the **File** menu. Another way of accessing history data, is to use the **Thumbnails** command from the **History** menu. Select this command, and, if you have more than one disk available to the system, a dialog box as shown in Figure 6.11 will appear.
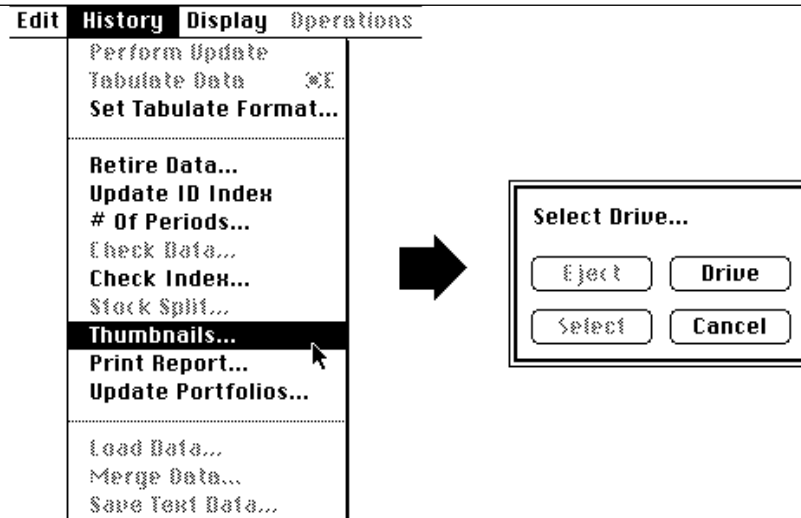
Figure 6.11 - Select Disk dialog box

If there is only one disk available to the system, Tradex will assume that this is the disk you wish to perform the Thumbnails function on. Use the **Drive** button to select the Tradex Master Disk or whatever disk your data resides on, and then click the **Select** button. The application performs a search of the disk to discover what files are available, and then produces a window with small charts in it as shown in Figure 6.12.

Each of the charts represents one of the history data files - the name of which is displayed at the top left of each mini chart. Next to this name is a number representing the number of days of data available in that file, and at the top right-hand corner, the sector of that data. As can be seen from Figure 6.12, the sectors consist of COAL and DIAMOND. At the bottom of each mini chart the Highest Price Value, the Lowest Price Value and the Last Price Value are given. These charts can be quite useful in ascertaining any general trends in the market, and also, as a check for data integrity. The scroll bar on the right-hand side allows you to move through the various history files if there are more mini charts than can be displayed on one screen. In the case of the supplied sample files, all the charts fit onto one screen - so the scroll bar becomes unnecessary.
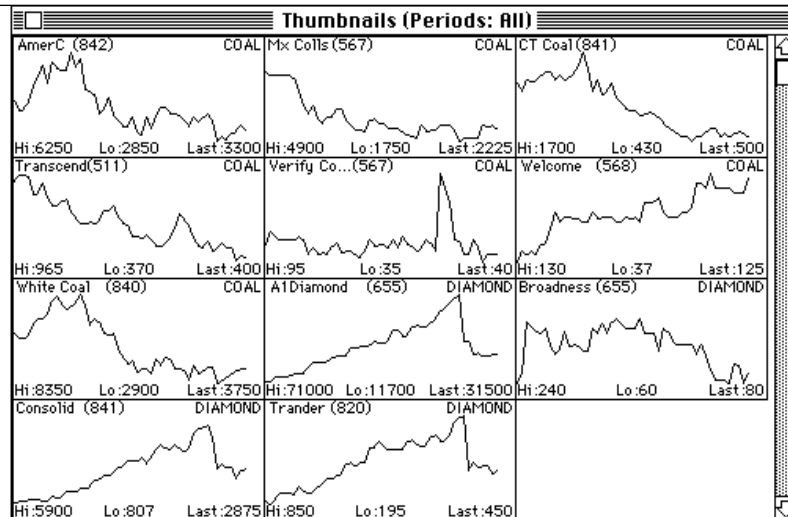

Figure 6.12 - Thumbnail Charts

To take a closer look at a particular file, just a double click on the mini chart for that particular History data. In the example here, the mini chart for *A1Diamond* was double-clicked. The double-clicking has the same effect as using the **Open** command from the **File** menu and will open the specified History Data file and display the data in whatever chart-type that was previously selected. In this case, a bar chart as shown in Figure 6.13.
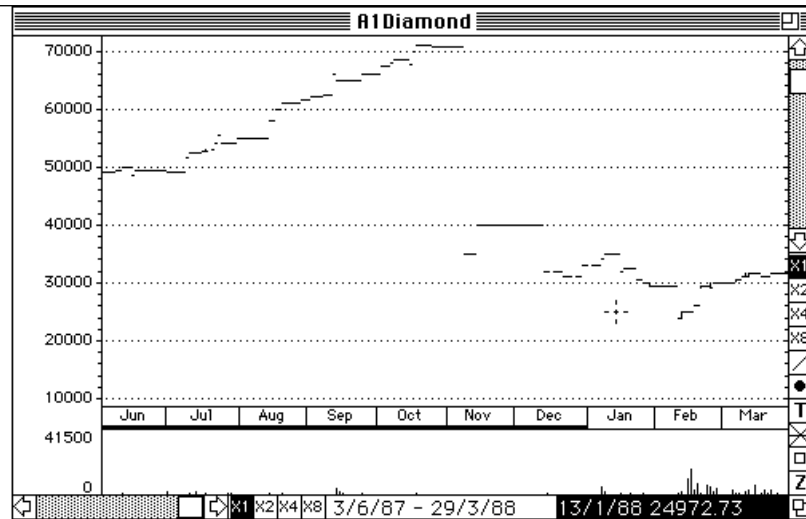

Figure 6.13 - Bar chart from Thumbnails window

You can then investigate whichever history data file you have selected as before, and when you finally close all the data windows, you will be returned to the Thumbnails window. Now close the Thumbnails window by clicking the close box at the top left-hand corner.