

TECHNICAL ANALYSIS BLOOMBERG

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BLOOMBERG FUNCTIONALITY:

The following is a list of technical analysis tools that can be utilized using a Bloomberg terminal.

Moving Averages:

- Simple Moving Average
- Exponential Moving Average
- Moving Average Envelopes
- Variable Moving Average
- Weighted Moving Average
- Triangular Moving Average
- Moving Average Convergence Divergence (MACD)
- Boiler Bands
- Trading Envelopes
- Keltner Bands

Oscillators:

- Relative Strength Index (RSI)
- Stochastics
- Directional Movement Index (DMI)
- Williams %R
- Commodity Channel Index (CMCI)
- Rate of Change (ROC)
- Chaikin Oscillator

Chart/Graphics:

- Daily, weekly, monthly, quarterly, yearly
- 49 Different Chart types (Bar, Candle, etc.)
- Trend Line
- %Change
- Fibonacci
- Regression
- Drawing Tools

Other:

- Demark Indicators
- General Overview Chart
- Parabolic Studies
- On Balance Volume
- Hurst Exponent (HURST)

- BTST
- Other technical analysis websites

TUTORIAL

This tutorial is designed to introduce the user to the technical analysis features in Bloomberg. If you are a first time user of Bloomberg it would be advisable to go through a “Quick Start Guide” to help you become familiar with the general Bloomberg environment. However, as long as you know how to log onto a Bloomberg terminal this tutorial is designed to be a self contained document. If you are a first time Bloomberg user, make sure to create a separate login so your work will be saved accordingly.

*A key stroke will be indicated by: <key stroke>

- Log into the Bloomberg terminal.
- For this tutorial we will be using the stock Yahoo (NYSE: YHOO).
- On the upper left corner of the screen type: YHOO <EQUITY> G <GO>.

<HELP> for explanation, <MENU> for similar functions.

P215 Equity G

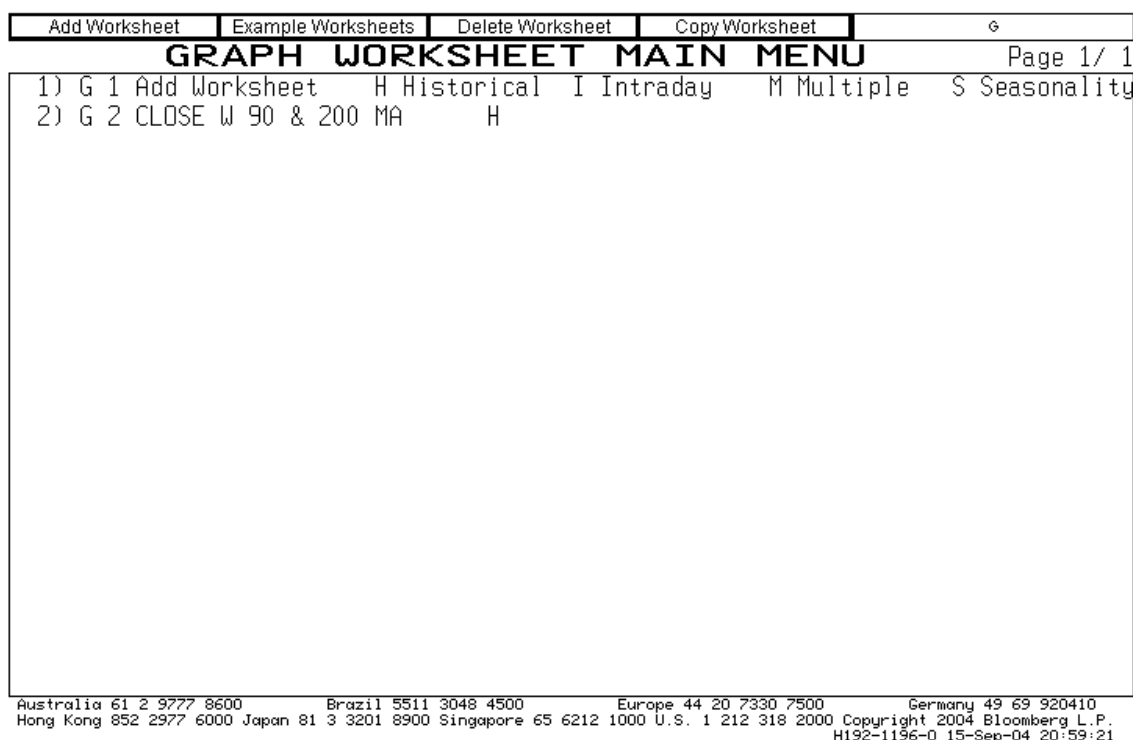


Figure 1

- Any technical analysis studies you create will be saved on this worksheet page for future access. At anytime during your session you can return to this page by typing: G <GO>.
- Add a new worksheet by either clicking “Add Worksheet” or typing: 1 <GO>.

- The following pop-up window should appear.

Create a Graph

Choose 1) Single Security Historical (Default)
 2) Single Security Intraday
 3) Multiple Security Historical
 4) Single Security Seasonality
 5) Select a Sample Graph

<MENU> to start over <PAGE FWD> to continue

Figure 2

- Either click on “Single Security Historical” or Type: 1 <GO>

Add a Graph Title

Graph Title YAHOO PLOT [REDACTED]

Make changes and hit <GO> or
 <MENU> to start over <PAGE FWD> to continue

Figure 3

- The popup window asks you to title your graph. This is the title that will appear on your worksheets page for future access. Since the sample equity we are using is Yahoo we will title the plot “Yahoo Plot.”
- Type: YAHOO PLOT <GO>

Select a Date Range

Period ☒ Weekly Roll Y

9/15/03 - 9/15/04

Make changes and hit <GO> or
 <PAGE FWD> to continue

Figure 4

- The Date Range pop up window allows you to specify the date range, frequency of data, and if you would like to “Roll the chart to the end date” (Include the last

date specified on your graph). Make sure all your parameters looks like the above window.

- Once you have finished entering the parameters type: <GO>

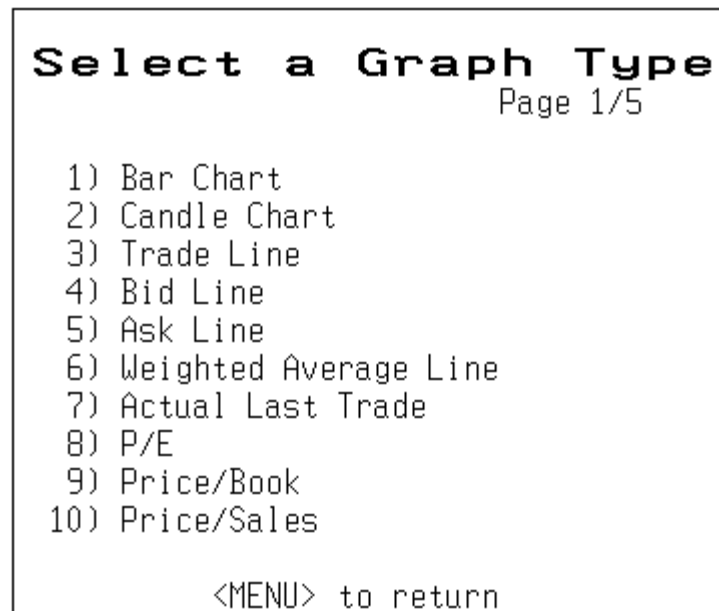


Figure 5

- This pop-up allows you to specify how the price information will be displayed on the screen. There are 49 choices to select from. In order to view all the choices press the <Pg Dn> button on the Bloomberg keyboard.
- We will choose a Bar Chart for our data.
- Either click on "Bar Chart" or type: 1 <GO>

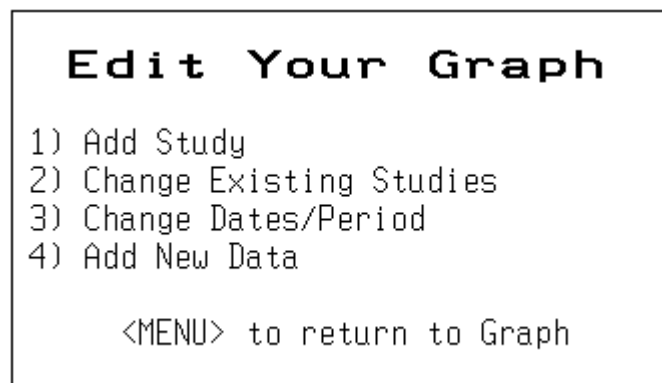


Figure 6

- At this point the Edit Your Graph pop-up appears and you should be able to see the graph of yahoo in the background.
- Either click "Add Study" or type: 1 <GO>.

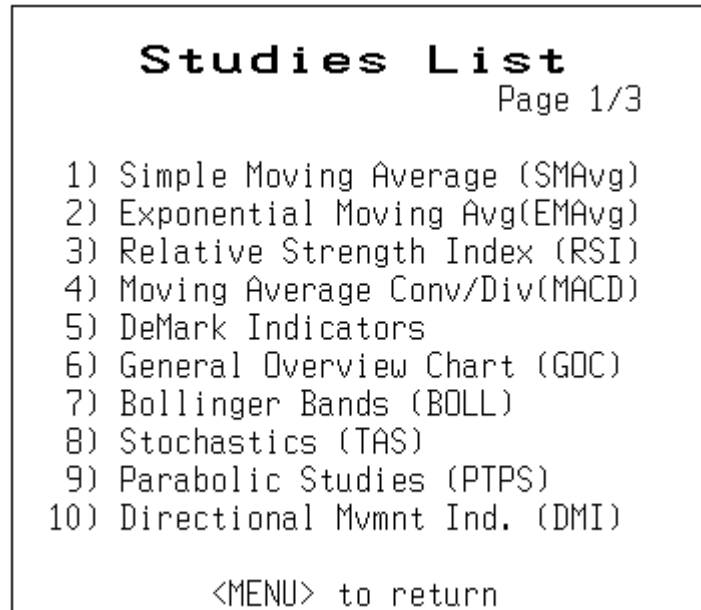


Figure 7

- The Studies List pop-up window appears. Press <Pg Dn> to view all the possible studies that can be used.
- In this case we will just select a “Simple Moving Average (SMAvg)”.
- Either click “Simple Moving Average (SMAvg)” or type: 1 <GO>.
- The “Edit Your Graph” pop-up window appears again. Either click menu or type: <MENU>.



Figure 8

- The plot of Yahoo weekly prices and a simple moving average appears.
- Let's change the moving average to a 14 week duration.
- On the upper left hand corner of the screen click Edit: Existing Study.

Select Study
 Page 1/1

1) Price
 2) SMAvg (5) on Price

<MENU> to return

Figure 9.

- Either click “SMAvg (5) on Price” or type: 2 <GO>

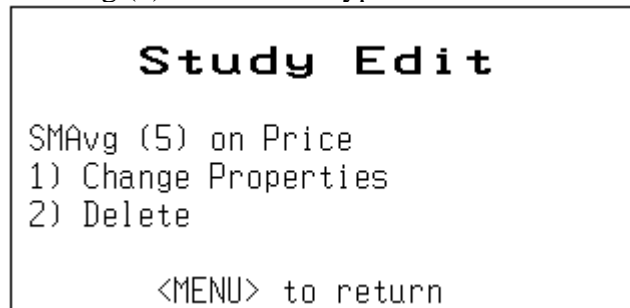


Figure 10

- Either click “Change Properties” or type: 1 <GO>

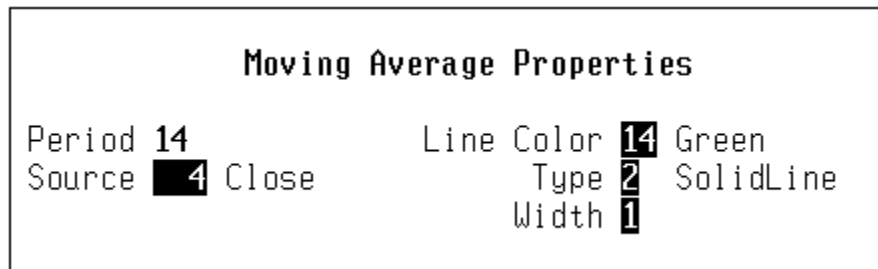


Figure 11

- Change the Period to 14 weeks.
- Type: <GO>



Figure 12

- A plot of the 14 week moving average now appears on your plot.
- Let's try adding an exponential moving average to the plot.
- Click Edit: Add Study: Exponential Moving Avg (EMAvG)
- Change the properties of the exponential moving average to be a 14 week time frame so it can be compared to the simple moving average. This can be done the same way you changed the properties of the simple moving average.
- Once completed your plot should look something like this.



Figure 13

- The dotted line in the above figure represents the exponential moving average. Notice that the exponential moving average is more sensitive to price changes than the simple moving average.
- You may have already noticed that there are three buttons on the upper left hand corner of the screen- Worksheet List, Edit, and Options. We have already used some features of the Edit button. Below is a description of each button.
 - **Worksheet**
 - This button displays a list of worksheets that have been created for easy access.
 - **Edit**
 - Title- Changes the title of the worksheet.
 - Add Study- Add a technical analysis study to the current worksheet.
 - Existing Study- Allows you to change a study that has already been created.
 - Dates/Periods- Changes the dates or the periods of the price data displayed.
 - Add New Data- Adds data such as a volume histogram, implied volatility, and call/put volume.
 - Defaults- Changes the default security for your worksheet.
 - **Options**

- Send Worksheet- Sends the graph via Bloomberg email to another Bloomberg user.
- Delete Worksheet- Deletes the worksheet you are currently working on.
- Copy Worksheet- Copies the existing worksheet and sends it to another template.
- Go back to the worksheets page by type: G <GO>

<HELP> for explanation, <MENU> for similar functions.

P215 Equity G

Add Worksheet	Example Worksheets	Delete Worksheet	Copy Worksheet	G
GRAPH WORKSHEET MAIN MENU				
Page 1/ 1				
1) G 1 Add Worksheet	H Historical	I Intraday	M Multiple	S Seasonality
2) G 2 CLOSE W 90 & 200 MA	H			
3) G 3 YAHOO PLOT	H			
Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 920410 Hong Kong 852 2977 6000 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2004 Bloomberg L.P. H192-1196-0 15-Sep-04 21:16:36				

Figure 14

- Your Yahoo Plot should now appear on the worksheet menu as shown in the above figure.
- The same study that was done for yahoo can be applied to any other security. Notice that each worksheet is labeled G1, G2, G3 (Your yahoo plot might have a different label depending on if prior worksheets were created during your session.). If you want to apply your yahoo study on IBM stock type the following: IBM <EQUITY> G3 <GO>.



Figure 15

- The same studies that were selected for Yahoo stock is now applied to IBM stock.
- Below the Worksheet, Edit, and options buttons there are several other buttons that are listed across the screen that have some useful utility. Before we start going over each of these buttons it is important to make sure your technical analysis defaults are set up correctly. Type: TDEF <GO>
- Use the <Pg Dn> button to view the fourth page of the screen.

<HELP> for explanation.
ENTER ALL FIELDS AND HIT <GO>.

P215 Equity TDEF

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DEFAULT PARAMETERS FOR ENHANCED GRAPHS/TECHNICALS			
GRAPHICS TOOLBAR CUSTOMIZATION			
Place an 'X' in boxes next to the buttons to display in toolbar:			
Show Legend	<input checked="" type="checkbox"/>	Track Mouse	<input checked="" type="checkbox"/>
Magnet	<input checked="" type="checkbox"/>	Trend Line	<input checked="" type="checkbox"/>
Fibonacci	<input checked="" type="checkbox"/>	Move Line	<input checked="" type="checkbox"/>
Copy Line	<input checked="" type="checkbox"/>	Remove Line	<input checked="" type="checkbox"/>
News	<input checked="" type="checkbox"/>	Study	<input checked="" type="checkbox"/>
Zoom	<input checked="" type="checkbox"/>	Table View	<input checked="" type="checkbox"/>
GP Point Style (0 - No stars/1 - Stars)	0	Multi-Session Logic in GIP	<input checked="" type="checkbox"/>
Hide legend boxes	<input type="checkbox"/>	Previous Close Line	<input checked="" type="checkbox"/>
Auto-hide legend boxes in NW/BQ	<input checked="" type="checkbox"/>	Market Tracking Line in GIP	<input type="checkbox"/>
		Thick Lines	<input type="checkbox"/>
FIBONACCI VALUES			
Enter percentage values for each Fibonacci line (use 0 to hide lines):			
Fibonacci Value 1	0.000	Value 6	0.764
Value 2	0.236	Value 7	1.000
Value 3	0.382	Value 8	1.236
Value 4	0.500	Value 9	1.382
Value 5	0.618	Value 10	1.500
Value 11	1.618	Value 12	1.764
Value 13	2.000	Value 14	2.236

Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 920410
Hong Kong 852 2977 6000 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2004 Bloomberg L.P.
H192-1156-0 15-Sep-04 21:24:22

Figure 16

- Setup your defaults to match the defaults in the above figure.
- Go back to the IBM worksheet. Type: IBM <EQUITY> G3 <GO>
- The following will describe each of the buttons on the top of the screen below the three main buttons.
 - **Show Legend-** A legend will be displayed if this button is selected.
 - Last price- The last price that is displayed within the time frame.
 - High Price- The highest price that is displayed within the time frame.
 - Average- Average of all price data displayed within the time frame.
 - Any other statistics on studies you have added to your graph. In this case the closing price of the 14 week simple and exponential moving averages.

Day Session	
Last	86.37
High on 02/04/04	100.41
Average	90.5034
Low on 08/18/04	81.91
SMAVG on Close(14) -----	86.1614
EMAVG on Close(14) - - - - -	86.2853

Figure 17

- **Track Mouse-** This feature changes the mouse pointer to a cross hair and allows you to track the date (bottom of screen) and the price (right side of the screen) of the location of the cross hair. By turning on this feature the Legend button will automatically turn on displaying statistics of the price data where the crosshair is.
- **Annotations-** several of the graphical features in Bloomberg can be found here.
 - **Trend Line-** Use this feature to draw trend lines on your graph. This can be done by clicking the area of the graph you want the trend line to begin and then dragging over to where you want the trend line to end. If you would like to create a continuously extending trend line simply click the point where you want the trend line to intersect and rotate the line accordingly by moving the mouse. Below is an example of a trend line drawn on our IBM study.

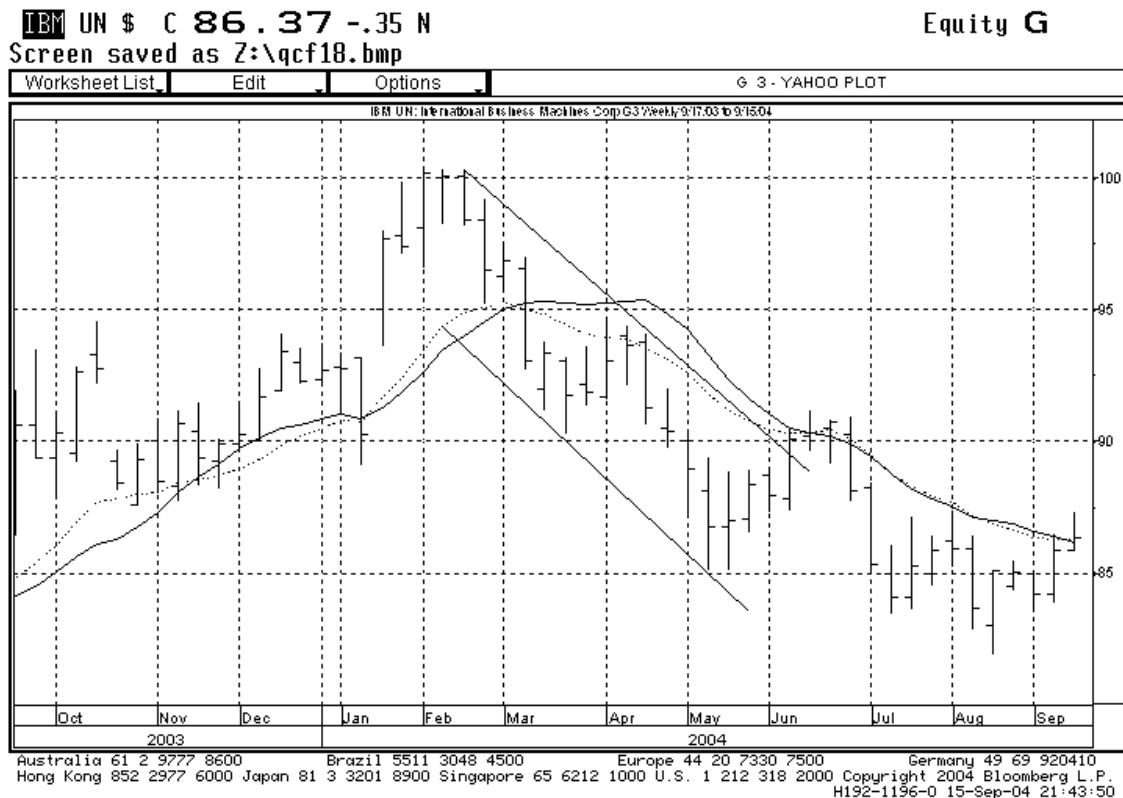


Figure 18

- **%Change-** Percent Change is used to easily calculate the percent change from one designated level of the graph to another. This can be done by clicking and dragging to the two desired levels. Below is an example of a percent change graphic.

IBM UN \$ C 86.37 -.35 N
Screen saved as Z:\qcf19.bmp

Equity G

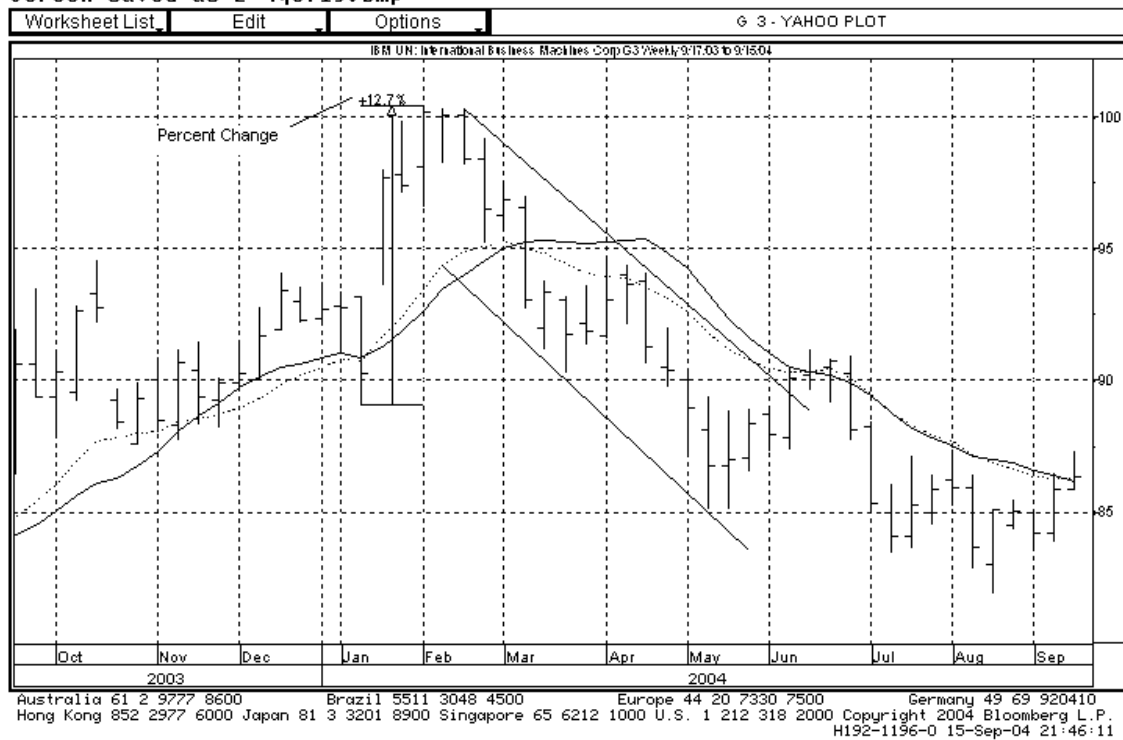


Figure 19

- **Fibonacci-** There are two choices for a Fibonacci study- Retracement and Projection. They are the exact reverse of each other. Click your mouse on the graph and drag until the desired position of the Fibonacci levels is achieved. Below is an example of a Fibonacci retracement for IBM stock.

IBM UN \$ C 86.37 -.35 N
Screen saved as Z:\qcf20.bmp

Equity G

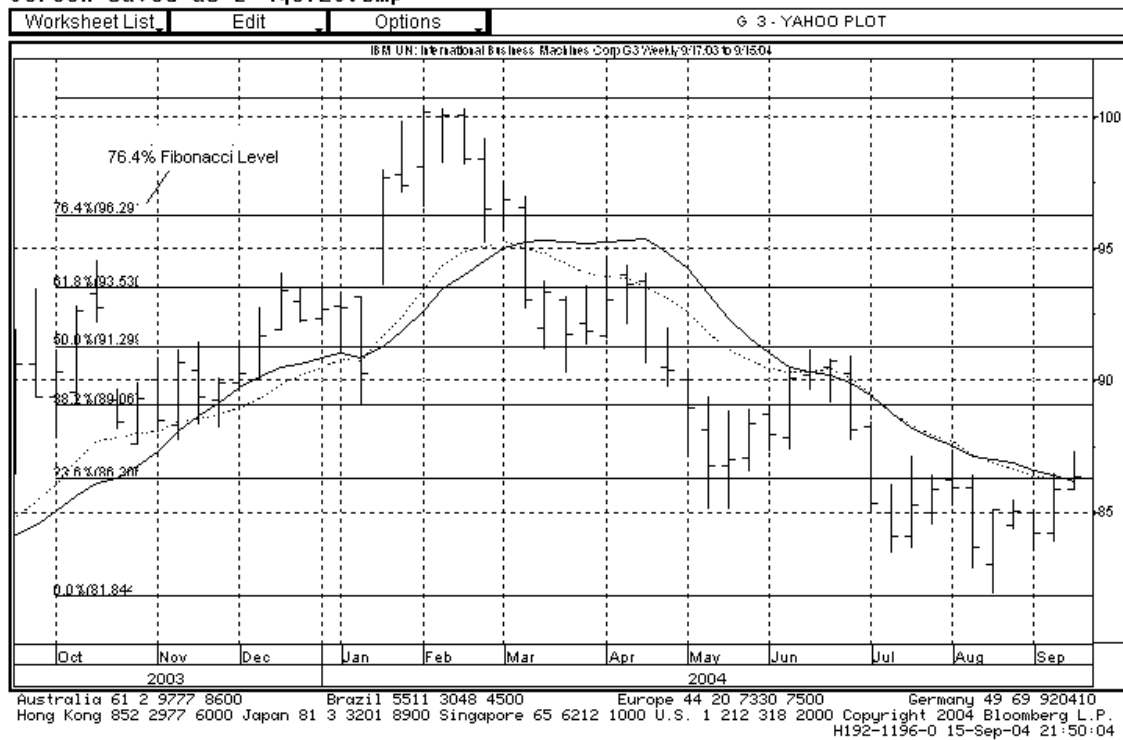


Figure 20

- **Regression-** There are three choices for a Regression study- Regression, Regression+1SD, and Regression+2SD. A regular regression will plot the linear regression line for a designated area of the graph. The 1SD and 2SD stand for 1 standard deviation and 2 standard deviations from the regression line. The below plot shows an example of all three types of regression lines.

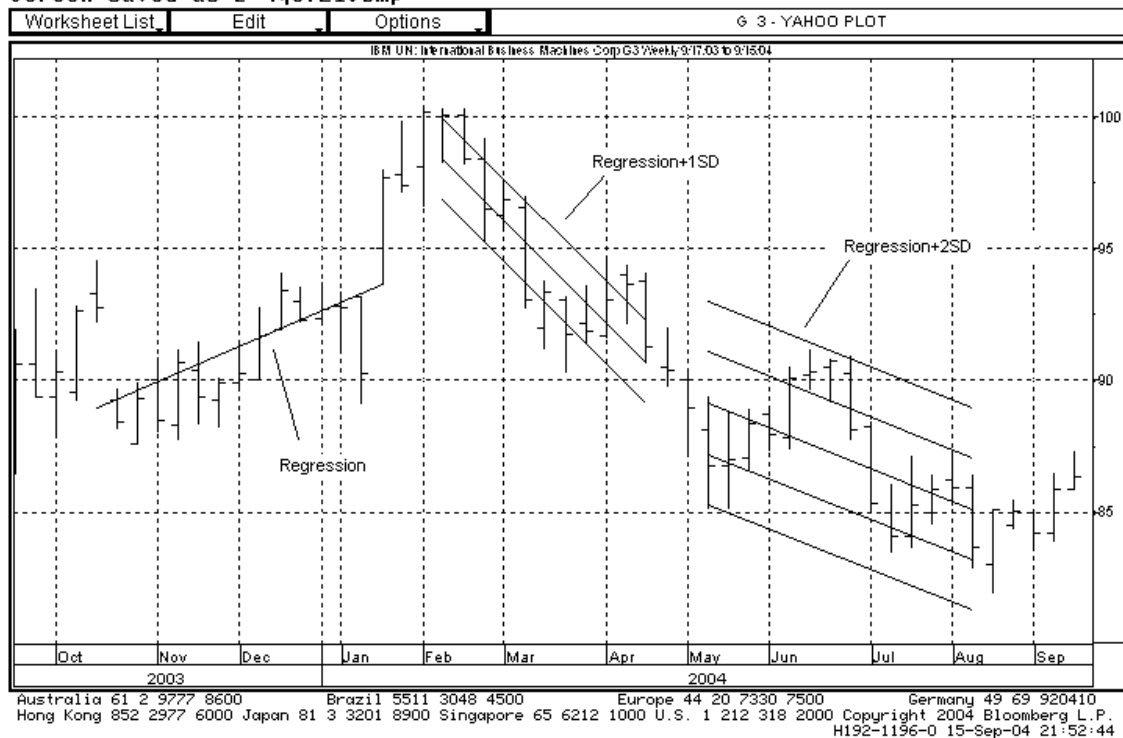


Figure 21

- **Arrow/Circle/Rectangle-** Select any one of these features to draw an arrow, circle, or rectangle on your plot.
- **Magnet-** Magnet helps you connect the maximum or minimum price to a trend line you are attempting to draw. Generally, this feature should be turned on when drawing trend lines to maintain accuracy.
- **Copy-** This feature copies an existing annotation for use somewhere else on your graph.
- **Delete-** Deletes an existing annotation.
- **Delete All-** Deletes all existing annotations. A screen will pop up asking if you really want to do this to ensure that you select this feature by accident.
- **News-** There may be a point on your graph that exhibits a large decrease or increase in the price of a stock. If you want to view the news for the given security on that specific day then turn on this feature. Click the price where you want to see the news for that give day. A screen will pop up with the headlines for that day. Type <MENU> to go back to your graph.
- **Zoom-** This feature can be used to zoom in on a particular area of the graph. Using your mouse, click and drag the mouse to form a rectangle around the area where you want to zoom in. When you have selected the area, release the mouse, and the graph now zooms into that particular area. Double-clicking into the middle of the chart resets the original chart defaults.

- **Study**- This feature is useful when your graph starts to become cluttered and you want to temporarily remove some of the annotations or studies you have created. Click the annotation/study you want to temporarily hide from this study menu.

BTST

- Bloomberg has a very nice feature to compare technical buy/sell signals for a specific security and time frame and to determine which indicators tend to be the most effective for different industries and volatilities. This feature can be accessed using the BTST command.
- Type: THQI <EQUITY> BTST (THQ Inc. is a developer and publisher of interactive entertainment software.)
- The following screen should pop up.

THQI US \$ C 18.55 +.13 Q 118.54/18.51 7x9				Equity BTST	
As of Sep17 DELAYED Vol 771,063 Op 18.60 P Hi 18.88 Q Lo 18.28 Q					
Back Testing				for THQI US Equity USD	
3/20/04 - 9/20/04		Period	D Daily	Investment	100000
Trading Approach		1 Long & Short Positions	Commission Type	1 Per Share	
Trade Price		1 Next Day Open	Commission Rate	0.00	
Parameters		1 Study Defaults	Slippage	0.00	
Technique		Trades	Profit/Loss	Parameters	
1)Bollinger Bands		6	58,505	Period : 20 Std Dev Periods : 2.00 2.00	
2)Comm Channel Index		7	3,638	Period : 14 Overbought: 100 Oversold : -100	
3)Dir Mvmnt Index		10	(14,071)	Period : 14	
4)Mov Avg Conv/Div		12	7,901	MACD1 Periods: (12 - 26) Signal Periods: 9	
5)Rel Strength Index		2	11,957	Period : 14 Overbought: 70 Oversold : 30	
6)Stochastics		6	18,093	%K : 9 %D : 5 Overbought: 80 Oversold : 20	
7)Williams %R		7	4,130	Period : 14 Overbought: -20 Oversold : -80	
8)Parabolic Systems		10	1,785	AF Factor : 0.02	
Buy & Hold Strategy		1	7,723		
Australia 61 2 9777 8600 Brazil 5511 3048 4500 Europe 44 20 7330 7500 Germany 49 69 920410 Hong Kong 852 2977 6000 Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2004 Bloomberg L.P. H192-1196-0 18-Sep-04 18:34:57					

Figure 22

- The BTST screen shows a menu of the technical analysis technique employed as well as the number of trades executed, Profit/Loss, and the parameters of the specific indicator. (NOTE: A number in parentheses in the Profit/Loss column indicates a loss.). At the bottom of the screen the Profit/Loss of a Buy and Hold Strategy is displayed for comparison purposes. Note that for this particular security, 3 of the techniques listed outperformed a buy and hold strategy. Of course commissions were not taken into account in this example.

- There are several parameters that need to be filled in at the top of the screen. The following will describe each of these parameters.
 - **Date Range/ Period** – Used to specify the date range and the frequency of price samples that will be used for each of the techniques.
 - **Investment**- Specifies your initial investment.
 - **Trading Approach**- There are three choices for your trading approach: Long and Short, Long positions only, and Short Positions only. Long positions will only trade when the technique indicates a buy signal. Short positions will only trade on a sell signal. Long and Short positions will trade both on buy and sell signals.
 - **Trade Price**- Specifies whether you would like the price of the security to reflect today's close or tomorrow's open.
 - **Parameters**- You may not like the default study parameters that Bloomberg uses. If this is the case, select User defaults from this menu. In order to change the defaults of the techniques you must go to the TDEF page and make the necessary changes. Type: TDEF <GO>. Make sure that your changes have been saved before going back to the BTST screen.
 - **Commission Type/Commission Rate**- This is an area that should not be overlooked when trying to identify a good technique to use. If this field is not filled in, often times a technique will indicate substantial profits with multiple trades. Of course the commission costs on executing multiple trades will eat up some of this profit leading to misleading results if some type of commission is not entered. Depending on which medium you are trading through the commission could be based on a per share, per trade or a flat percentage basis. Select the field that best represents your situation.
 - **Slippage**- The difference between estimated transaction costs and the amount actually paid.

TCAN

- There are several websites that can utilize technical analysis techniques. Using the TCAN command will present a list of such websites. A popular one to go to is www.bigcharts.com.

RECOMMENDED RESOURCES

There are several resources available that can be used to assist you in understanding the main concepts of technical analysis.

- Bloomberg
 - NI TA: This command will allow you to view articles posted daily on technical analysis. Articles on equities, indexes, treasuries, futures, and currencies will be included.
- Websites
 - <http://www.equis.com/Education/TAAZ/> : This is an excellent introduction to technical analysis by Steven B. Achelis.

- <http://www.investopedia.com/university/technical/> : This is another excellent introduction that focuses on the tools used in technical analysis.
- Books- The Georgia Tech library has copies of all these books.
 - **Technical Analysis Explained:** The successful Investor's Guide to Spotting Investment Trends and Turning Points. Author: Martin J. Pring
 - **Technical Analysis of the Financial Markets:** A Comprehensive Guide to Trading Methods and Applications. Author: John J. Murphy
 - **Technical Analysis of Stock Trends.** Author: Robert D. Edwards and John Magee
 - **The Technical Analysis Course:** A Winning Program for Investors & Traders. Author: Thomas A. Meyers
 - **Timing the Market:** How to Profit in Bull and Bear Markets with Technical Analysis. Author: Curtis M. Arnold