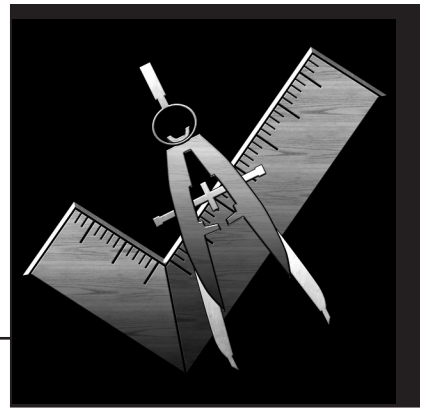


# Gecko Software

Track 'n Trade Live Manual

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# Table of Contents

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End User License Agreement	9
<b>Introduction to Futures</b>	<b>17</b>
<b>Introduction to Stocks</b>	<b>31</b>
Stock Market Indices	44
<b>Introduction to Forex</b>	<b>53</b>
<b>Installation</b>	<b>59</b>
Account Manager	66
<b>Getting Started</b>	<b>69</b>
Keyboard Shortcuts	70
File Menu	72
View Menu	72
Help Menu	73
Toolbars	74
Main Toolbar	74
Navigation Toolbar	75
Charting Toolbar	75
Notation Toolbar	76
Calculators Toolbar	76
Advanced Tools Toolbar	76
Time Interval Toolbar	77
Screen Capture Button	77
Control Panel	78
Charts Tab	78
Account Tab	79
Depth of Market Tab	80
Key Tab	81
Preferences Tab	82
Data Tab	83
News Tab	84
Notes Tab	85
Chartbooks	86
Opening a Chart	86
Opening Multiple Charts	86
Saving Chartbooks	86
Printing Chartbooks	87
Charting Preferences	87
Chart Scaling	88
Ruler Options	90
Charting Colors	90
Price Bars	90

---

## Table of Contents

---

Onscreen Indicators	90
Scaling	91
Margin Arrows	91
Chart Right-Click Menu	92

## Charting Tools 93

---

Crosshair Tool	94
Line Tool	97
Technical Analysis - Support and Resistance	100
Multi-Line Tool	101
Arc Tool	104
Technical Analysis - Rounded Top & Bottom Formations	106
Day Calculator Tool	107
1-2-3 Tool	110
Technical Analysis - 1-2-3 Formations	113
Technical Analysis - Head and Shoulders Formation	114
Head & Shoulders Tool	114
Technical Analysis - Dart/Blip Formation	117
Dart/Blip Tool	117
Technical Analysis - Inclining/Declining Wedge Formations	120
Wedge and Triangle Tool	121
Technical Analysis - Trend Fan	124
Trend Fan Tool	125
Technical Analysis - Inclining/Declining & Horizontal Channels	128
Trend Channel Tool	129
Horizontal Channel Tool	132
50% Retracements	135
N% Tool	136

## Advanced Tools 141

---

Elliott Wave Theory	142
Elliott Wave Tool	143
Gann Fan Theory	146
Gann Fan Tool	146
Andrews Pitchfork Theory	149
Andrews Pitchfork Tool	150
Fibonacci Retracements	153
Fibonacci Ruler Tool	153
Fibonacci Arc Tool	157
Fibonacci Time Zones	160
Average True Range (ATR)	163
Percent Bollinger Bands (%B)	165
Bollinger's Bandwidth	167
Chaikin Money Flow (CMF)	169
Gator (GTR)	171
Know Sure Thing (KST)	172
Money Flow Index (MFI)	174
On Balance Volume (OBV)	176

Percentage Price Oscillator (PPO)	178
Percentage Volume Oscillator (PVO) (Stocks only)	180
Rate of Change (ROC)	183
Stochastic RSI (SRSI)	185
Triple Exponential Average (TRIX)	187
Ultimate Oscillator (ULT)	189
Alligator	191
Donchian Channels (DON)	193
Keltner Bands	195
Parabolic Stop and Reversal (PSAR)	197
Pivot Points	200
10x8 MAC	204
Zig Zag	206

## **Notation Tools Introduction 209**

Notes Window	210
Arrow Tool	210
Flag Tool	212
Text Tool	214
Rectangle Tool	216
Circle Tool	218
Magnifier Tool	220
Introduction to Calculators	220
Dollar Calculator	220
Risk/Reward Calculator	222

## **Using Indicators 225**

Using Indicators Introduction	226
Chart Right-Click Menu	226
Displaying Indicators	226
Indicator QuickLinks	226
Williams Percent R (%R)	227
William Accumulation/Distribution (AD)	231
Commodity Channel Index (CCI)	235
Directional Movement Index (DMI)	240
Historic Volatility (HVOL)	246
Moving Average Convergence/Divergence (MACD)	251
Momentum (MOM)	256
Relative Strength Index (RSI)	260
Fast Stochastics (FSTO)	265
Slow Stochastics (SSTO)	269
Volume (VOL) (Stocks only)	273
Overlay Indicators in the Chart Window	276
Moving Average Lines	276
Max Average	278
Bollinger Bands	281
List of Abbreviations for Indicators	285

Table of Contents

<b>Bulls ‘n Bears Trading System</b>	<b>287</b>
Introduction	288
Advantage Lines	293
Ribbon Indicator	295

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DISCLOSURE OF RISK: THE RISK OF LOSS IN TRADING STOCKS, FUTURES, FOREX AND OPTIONS CAN BE SUBSTANTIAL; THEREFORE, ONLY GENUINE RISK FUNDS SHOULD BE USED. STOCKS, FUTURES, FOREX AND OPTIONS MAY NOT BE SUITABLE INVESTMENTS FOR ALL INDIVIDUALS, AND INDIVIDUALS SHOULD CAREFULLY CONSIDER THEIR FINANCIAL CONDITION IN DECIDING WHETHER TO TRADE. OPTION TRADERS SHOULD BE AWARE THAT THE EXERCISE OF A LONG OPTION WOULD RESULT IN A FUTURES OR FOREX POSITION.

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW.

NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL, OR IS LIKELY TO, ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM.

ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT

OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM, IN SPITE OF TRADING LOSSES, ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS, IN GENERAL, OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.



# Introduction to Futures

Basics of Futures Trading

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## Introduction to Futures

Originally, the stock market was created as a way for companies to raise capital. By exchanging ownership in a company for cash, early business ventures were able to raise capital to buy equipment or build factories. Companies hundreds of years ago, as well as today, primarily use the stock market as a means to raise capital.

The modern futures market evolved not from a need to raise capital, but from a need to transfer risk. The futures market makes it possible for those who want to manage price risk (hedgers) to transfer that risk to those who are willing to accept it in the hopes of a profit (speculators).

Futures markets are first and foremost a risk transference vehicle. They also provide price information that the world looks to as a benchmark in determining value of a particular commodity or financial instrument on any given day or at any specific time of the day. These benefits, risk transference and price discovery, reach every sector of the world economy where changing market conditions create economic risk in the diverse fields of agricultural products, foreign exchange, imports, exports, financing, and investment vehicles.

### What are Futures?

Futures contracts are standardized to meet the specific requirements of buyers and sellers for a variety of commodities and financial instruments. Quantity, quality, and delivery locations are pre-established. The only variable is price, which is discovered through an auction-like process on the trading floor of an organized futures exchange.

### Example

An individual buys one contract of March Corn at \$2.25 per bushel on January 2nd, initiating a long position. This contract calls for the delivery of 5,000 bushels of Number 2 Yellow Corn seven days before the last business day of the delivery month (March) at an exchange-recognized facility. If the purchaser of the March Corn contract wishes to exit his position on February 15th, he can do so by selling one March Corn contract.

Assuming that the contract was sold at \$2.45 per bushel, the holder of the March Corn contract would receive \$1,000.00 (before broker commissions and fees) for holding the position for six weeks:

Profit or Loss = Sale Price – Purchase Price x # of bushels  
 (\$2.45 - \$2.25 = \$0.20 x 5,000 = \$1,000.00)

The person in this example is \$1,000.00 richer for the experience, and has no further obligation in the Corn market because the sale of the March Corn futures contract at \$2.45 per bushel offset the earlier purchase at \$2.25 per bushel.

Notice in the previous example that all of the features of the contract were predetermined by the exchange, except the price:

Quantity: 5,000 bushels for Corn futures

Quality of the Corn: #2 Yellow

Delivery time: 7th to last business day of the contract month

Location: exchange-recognized warehouse or transfer station

Because futures contracts are standardized (with price as the only variable), buyers and sellers are able to exchange one contract for another and actually offset their obligation to deliver or take delivery of the commodity underlying the futures contract. Offset means to take an equal and opposite position in the futures market to one's initial position.

## Margins

The exchanges and their members are able to guarantee all trades because they require all parties in a transaction to deposit performance bond margins. Performance bond margins are financial guarantees required of both buyers and sellers of futures contracts to ensure fulfillment of the contract obligations. That is, buyers and sellers are required to take or make delivery of the commodity or financial instrument represented by the futures contract unless the position is offset before the contract expiration.

Before entering into a transaction, both parties have to post an Initial Margin Requirement. The initial margin requirement is the amount of money a party must have on account with a clearing firm (your broker) at the time the order is placed. Initial margin funds must be on deposit before any trade can be accepted. Maintenance Margin is a set minimum margin (per outstanding futures contract) that a party to a futures contract must maintain in his/her margin account to hold a futures position. Initial margin requirements vary from commodity to commodity, but are generally between 5% and 10% of the total value of the contract.

## Example

If March Corn futures are trading at \$2.11/bushel, the initial Margin Requirement for CBOT Corn futures is \$405.00 per contract, with a maintenance margin requirement of \$300.00. Our speculator must have at least \$405.00 on deposit with his broker before he could enter the market. He would need to have an account liquidating value of at least \$300.00 per contract in order to stay in the position.

Let's assume that our speculator has \$1,000 in his account and decides to buy 2 contracts of March Corn at \$2.35/bushel on January 2nd. He is able to buy this because he has more than the initial margin requirement of \$810.00 ( $\$405.00 \text{ initial margin} \times 2 \text{ contracts} = \$810.00$ ). With a \$50.00 round turn commission rate (\$25.00 in and \$25.00 out) our speculator's broker would charge him \$50.00 in commissions as well.

## Chapter 1

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If March Corn settled at his entry price of \$2.35/bushel, his account liquidating value would be \$950.00 (\$1,000.00 initial deposit - \$50.00 commission) to buy 2 contracts of Corn. Since the liquidating value of the speculators account (funds on deposit + open position profit or loss) is greater than the maintenance margin requirement of \$300.00 per contract or \$600.00 for 2 March Corn, he is able to stay in the trade.

The next day, much to our speculators detriment, Corn prices drop by 5 cents. Our speculator now has an open position loss of -\$500.00 and an account liquidating value of \$450.00 (\$1,000.00 - \$50.00 commission - \$500.00 open position loss = \$450.00). Since this value is less than the Maintenance Margin requirement of \$300.00 per contract, or \$600.00, our speculator is on a Margin Call.

In order to keep the position, the speculator must either send enough money to bring the account back above the Initial Margin Requirement of \$810.00 or liquidate the position. The Maintenance Margin Requirement is the minimum amount of money which must be in the account (including open position profits and losses) to maintain an open position in the futures market. If the value of the account dips below this level, then the account holder must either send additional funds to his broker or liquidate the position. Usually, traders have 5 business days to get funds posted to the account, but in some cases the brokerage firm may liquidate the futures positions in order to meet the Margin Call.

### Reminder

Brokerages have the right to liquidate your position immediately, and many may require you to wire funds right away to avoid liquidation. Be aware that margin requirements are subject to change without notice.

Initial Margin is the minimum amount of money you must have in your account to open up a futures position. Maintenance Margin is the minimum amount of money you must have in your account to maintain the position.

In the Corn example, the initial margin was \$405.00 per contract, meaning that a trader must have at least \$405.00 per contract in his margin account before a Corn futures position can be entered into. After the position is entered into a balance of \$300.00 per contract, the Maintenance Margin must be maintained in order for the position to be left open. If the available funds in the account (funds deposited + open position profit or loss) are less than the Maintenance Margin Requirement, then more funds must be deposited or the futures positions will be liquidated or offset by taking an opposite position in the futures market.

### Reminder

Long or buy positions are offset or closed by selling, while short or sell positions are offset or closed out by buying.



The dual margining system (initial and maintenance) of the futures market ensures that all positions are adequately financed and the integrity of the futures market is secure. The exchanges set the minimum margin requirement based on the volatility and dollar value of the contract. Margin levels are subject to change both up and down at the discretion of the Exchange. Most brokerage firms charge the exchange minimum margin, but they are entitled to charge more. Be sure to check with your broker before entering into any futures transaction.

## Long vs. Short

There are two basic positions one can have in the futures markets, a long or short position.

A long position entails the purchase of futures contracts in anticipation of rising prices. A buyer enters into a long position when he/she purchases a futures contract. Long positions are profitable if the underlying futures contract increases in price during the holding period. Selling the same quantity and contract-month that one initially purchased offsets a long position. Long positions are typically used by consumers to hedge against rising prices and initiated by speculators in anticipation of higher prices.

A short position entails the sale of futures contracts in anticipation of lower prices. A short position is entered into by initially selling a futures contract. In the futures market, unlike the stock market, it is just as easy to establish a short position as a long position. Short positions are profitable if the underlying futures contract decreases in price during the holding period. Buying the same quantity and contract month that you initially sold offsets your short positions. If the resulting purchase price is less than the original sale price, a profit is achieved. However, if the resulting purchase price is greater than the original sale price, a loss is incurred. Commodity producers who wish to avoid potentially lower prices (as a short position increases in value and prices decline) usually establish short positions.

## Calculating Profit/Loss

Determining the profit or loss associated with a position is the same regardless of either a long or short position. The profit or loss from a futures position is calculated as follows:

Profit or Loss = Sell Price - Buy Price x Contract Size x Number of Contracts

## Example

Assume a speculator thinks that Corn prices will go down in the coming weeks. He sells 2 March Corn contracts at 235 cents per bushel (\$2.35) initiating a short position.

Having studied the behavior of Corn using his Track 'n Trade Live, our speculator was correct, and Corn prices fell from 235 to 220 over the next two weeks. Given the -15 cent drop in Corn prices, our speculator has a \$1,500.00 open position profit and decides to "cash in" his winning by buying 2 March Corn futures at 220.

## Chapter 1

Profit or Loss = Sell Price - Buy Price x Contract Size x Number of Contracts  
 = 235 - 220 = + 0.15 cents  
 = \$0.15 x 5,000 bushel contract size = \$750.00 per contract  
 = \$750.00 per contract x 2 contracts = \$1,500.00 (before commissions and fees)

Now assume that another speculator buys 2 March Corn at 235 initiating a long position. After two weeks, prices drop by -0.15 cents to 220, and he offsets the long position by selling 2 March Corn at 220. His loss from the transaction would be -\$1,500.00 before commissions and fees.

Profit or Loss = Sell Price - Buy Price x Contract Size x Number of Contracts  
 = 220 - 235 = -0.15 cents  
 = -\$0.15 x 5,000 bushel contract size = -\$750.00 per contract  
 = -\$750.00 per contract x 2 contracts = -\$1,500.00 (before commissions and fees)

As you can see, whether you are long or short, the basic idea of speculating in the futures market is to “buy low” and “sell high.” In the futures market this can be done in any order. You can initiate a long position by buying the futures first and offsetting by selling at a later time. If the sale price (exit price) is higher than the purchase price (entry price), you profit. Or, you can initiate a short position by selling the futures first and then offsetting the contract(s) at a later time by buying them. A profit will always occur if the sale price is higher than the purchase price.

### Points vs. Cents

The profit or loss amount is determined by the contract you are trading. Each futures contract is quoted in a slightly different manner, and as such your profit or loss calculation for most markets is slightly different. The following highlights the major markets and how they are quoted. Of course, Gecko Software’s Track ‘n Trade Live will convert price moves to profit or loss for you, but these examples will help you understand how it is done.

**Grains:** Corn, Wheat, Oats, and Soybeans are quoted in cents per bushel, with a contract size of 5,000 bushels. A Corn price of 235 is really \$2.35 per bushel. Each of these grains moves in 1/4 cent increments, which equates to \$12.50 before commissions and fees. The profit or loss of a one cent move is \$50.00 before commissions and fees.

**Meats:** The contracts are quoted in cents per pound. If Live Cattle is trading at 74.00, the price is actually 0.74 cents per pound. Meat prices move in 0.025 cents per pound increments, but usually the last 0.005 cent per pound is dropped, so a price quote of 74.02 is really 74.025, while a price quote of 74.17 is actually 74.175. Live Cattle, Lean Hogs, and Pork Bellies contracts call for delivery of 40,000 pounds, making a 0.025 cent per pound worth \$10.00 before commissions

and fees. The profit or loss of a one cent move is \$400.00 before commissions and fees. Feeder Cattle prices are quoted the same way, except they call for 50,000 pounds, making a 0.025 cent move is worth \$12.50 and a one cent move in Feeder Cattle worth \$500.00 before commissions and fees.

“Softs” or Exotics: Coffee, Sugar, and Orange Juice are all quoted in cents per pound, but each has a different contract size. A Coffee price of 50.40 is 50.40 cents per pound, an Orange Juice price of 89.95 is 89.95 cents per pound, and a Sugar price of 762 is really 7.62 cents per pound (prices in Sugar are quoted in cents per hundred weight). Cocoa prices are quoted in dollars per metric ton, so a price of 1301 is really \$1301 per metric ton.

The contract size for Coffee is 37,500 pounds, making a 1 cent move worth \$375.00 before commissions and fees. Orange Juice futures call for delivery of 15,000 pounds, making a 1 cent move worth \$150.00 before commissions and fees. Sugar is traded in 112,000 pound increments, making a 1 cent move in Sugar equal to \$1,120.00 before commissions and fees. Cocoa contracts call for 10 metric tons at delivery, making a \$1 move in Cocoa worth \$10.00 before commissions and fees.

Metals: Gold and Platinum prices are quoted in dollars per troy ounce. Most quote vendors display their prices in this format as well, so prices are easy to read. A Gold price of 285.10 is \$285.10 per troy ounce, while a Platinum price of 475.5 is \$475.50 per troy ounce. However, each contract has a different contract size. Each Gold futures contract represents 100 troy ounces, so a \$1.00 per troy ounce move equates to \$100.00 before commissions and fees. Platinum futures represent only 50 troy ounces, as Platinum is much more rare than Gold. Each \$1.00 per troy ounce move in Platinum is equal to \$50.00 before commissions and fees.

Silver and Copper Futures are quoted in cents: cents per troy ounce in Silver, and cents per pound in Copper. A Silver price of 452.5 is actually \$4.525 per ounce, while a Copper price of 70.20 is really \$0.7020 per pound. Each Silver contract represents 5,000 ounces, making a 1.0 cent move equal \$50.00 before commissions and fees. Copper contracts control 25,000 pounds of copper, making a 1.00 cent move equal \$250.00 before commissions and fees.

Petroleum: Crude oil is quoted in dollars per barrel (bbl). A price of 20.50 is \$20.50 per barrel. Each contract represents 1,000 barrels of oil, making a \$1.00 barrel move equal to a \$1,000.00 profit or loss before commissions and fees.

Heating Oil and Unleaded Gasoline are the same as at the pump (minus taxes and service station mark-ups) in cents per gallon. A price of 52.46 is \$0.5246 per gallon. Both contracts call for delivery of 42,000 gallons; therefore, a 1 cent per gallon equates to \$420.00 before commissions and fees.

Currencies: Currencies represent an exchange rate, or how many US Dollars it takes to buy one Swiss Franc, Japanese Yen, Euro, or Mexican Peso. Prices are quoted in many different

## Chapter 1

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fashions, but the basic convention is that a 0.01 move in the Swiss Franc or Yen equals \$12.50 before commissions and fees because of the contract size. The Canadian Dollar, US Dollar Index, and Euro have a different contract size, and a 0.01 move equates to \$10.00 before commissions and fees.

**Financials:** The same basic principles apply to the financial markets, which are generally quoted in terms of points. Prices are usually read as is, though some, like the treasury securities (US, TY, FV, TU), are traded in different combinations of 1/32nd or 1/64th. Each of these markets has the dollars per point already calculated into Gecko Software's Track 'n Trade Live application, and a list of the different contract sizes and pricing terms are available from the various exchanges they trade on, as they do not follow a single convention.

- \* Table of Contents
- \* Introduction to Futures
  - o Introduction
  - o What are Futures?
  - o Margins
  - o Long vs. Short
  - o Calculating Profit/Loss
  - o Points vs. Cents
  - o The Power of Leverage
  - o Managing Orders
  - o Types of Orders
  - o Look Before You Leap
- \* Getting Started
- \* Charting Tools
- \* Advanced Technical Tools
- \* Notation Tools
- \* Calculator Tools
- \* Using Indicators
- \* Advanced Indicators
- \* Bulls 'n Bears Advantage

### **Margins, Cents, Points & the Power of Leverage**

Before entering into either a long or short position, one must post a performance bond or have the initial margin requirement. Because it is only necessary to post a fraction of the underlying value of the worth of the underlying contract, futures are a highly leveraged trading vehicle.

Initial margin requirements vary from market to market, but are generally only 3% to 18% of the value of the underlying contract value.

**Example**

If March Corn is trading at 211 per bushel (\$2.11/bushel), the current initial margin requirement is \$405 per contract. Each Corn futures contract represents 5,000 bushels of Corn, so the underlying value of a contract of Corn at 211 is \$10,550. In other words, for \$405 you can control \$10,550 worth of Corn. By putting up just 3.9% of the value of the contract, you can control 5,000 bushels of Corn. (Margin requirements are subject to change without notice.)

In this example, a 1 cent move in the price of Corn (\$50.00 before commissions and fees) represents a 12.3% return on the Initial Margin Requirement. This is the power of leverage. A small move in the price of the futures contract can mean a large move in your account.

Because of this kind of leverage, a 3.9% move in the price of Corn could give you a 100% return, double your money, or a loss of it all, if properly or improperly positioned. The power of trading on margin is that a small move in the price of the underlying equates to a large return (either positive or negative) on the money posted.

Just as physical leverage increases the amount of force used, like a pulley lifting very heavy objects, financial leverage increases the amount of money, which can be made or lost in the markets. As they say in Chicago, "The futures markets have made millionaires of more young men than Rock and Roll."

However, we want to point out that leverage is a two-edged sword. Over leveraging your trading is a sure fire way to lose your money. Because of the leverage of a roulette wheel, each bet on a specific number pays off at 35 to 1. If you bet "6" and the ball bounces and lands on "6", every \$1 you bet is paid back to you with \$35 dollars.

Let's say you start off with \$1 and bet "6" and win. You now have \$35 and bet it all on "6", which comes up again. You take your \$1,225 winnings and let them ride on "6" again and win, reaping \$42,875. Let it ride again, making a phenomenal \$1,500,625. You let it ride one more time, and up pops "00." You lose everything.

Though roulette is strictly a game of chance, the above results are possible with futures because of the leverage involved. If you buy 1 Corn futures contract at 210 and the price goes up to 219, you have enough open position profit to post margin for a second contract. Prices then rise another .04 cents, and you buy a third contract. With Corn prices having risen .13 cents, you were able to buy 3 contracts with an initial investment of only \$405.00. However, all it takes is a .05 cent decline in the price of Corn and all your profits are gone. If you were lucky enough to see another 5 cent rise, you would yield a \$1,450.00 profit or a 358% return on the initial margin.

It is possible to make highly leveraged, and possibly highly profitable, transactions in the futures markets by trading with relatively little financial cushion and pyramiding contracts. However,

## Chapter 1

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it has been our experience that those who practice this type of trading generally do not end up making money, but losing it.

Most people are attracted to trading futures because of the leverage involved, and it is the leverage that seems to ruin most traders. Though futures trading should only be done with genuine risk capital, this does not mean you should take undo risk. As a general rule of thumb, traders should learn to diversify their risk, only placing a small percentage of their capital at risk at any given time.

Though this style of trade will reduce the largest “bang for your buck” in the short run, it may prevent you from losing everything. In order to learn this game, you need to be able to stick around to learn all the rules (both written and unwritten), and the only way to stick around is through prudent money management.

### Managing Orders

The size of your account and the amount of risk you are personally able to bear is a completely personal matter. Some very successful traders—like Richard Dennis, who is rumored to have parlayed \$1,000.00 into several millions in the futures markets—have made fortunes starting with relatively small sums of money. Most professional fund managers risk as little as 1% of their account equity on any given trade.

Unfortunately, both of these methods are probably out of the question for most people starting out in the futures market. The odds of turning \$1,000.00 into several million in a couple of years is akin to hitting “6” on the roulette wheel 5 times in a row, but risking 1% of a \$1,000 means only risking \$10.00 per trade, which is just not practical. By postponing your entrance into the futures market until you have, for example, a \$5,000.00 minimum of genuine risk capital (not the kids college fund, the rent, or your next mortgage payment), you could achieve a level of diversity and risk, theoretically then risking 10% of your account (\$500.00 before commissions and fees) on any one trade realistically. This would greatly reduce your risk of ruin and increase your ability to trade longer and hopefully become more proficient in the long run.

### Types of Orders

At the core of all risk management and trading is using the appropriate order for your market objective. The following are some basic definitions of the common order types, all of which can be replicated in Gecko Software’s Track ‘n Trade Live charting software.

The market order is the most common type of order. With a market order, the customer states the number of contracts of a particular delivery month of a specific commodity he wishes to buy or sell. The price of the order is not specified, as the market order is filled “at the market”

or at the current price when the order enters the trading pit. Market orders are placed when the speculator or hedger wants in or out of the market fast, since time is the most important factor in this type of order, not price. Market on Close is a common variation of this type of order, and is used when the trader wishes to have his order executed during the closing of the market (closing range). The Market on Open is another common variation, instructing the order to be filled during the markets opening price range.

The limit order specifies a price limit at which the order can be filled. The limit order can only be filled at the specified price “or better.” For example, a customer wishing to buy two July Corn contracts at 210 when July Corn is trading at 211 would place the following order: “Buy two July Corn at 210, limit.” Buy limit orders must be placed at the current market price or lower. The lower the price the better, and limit orders can only be filled at the specified price or lower.

A customer wishing to sell two July Corn contracts at 215 when July Corn is trading at 211 would place the following order: “Sell two July Corn at 215, limit.” Sell limit orders must be placed at the current market price or higher. The higher the price the better, and sell limit orders can only be filled at the specified price or higher.

When a buy limit is placed above the market it can turn into a market order and get filled immediately. If the current price is below the limit price, the market is in a better situation and the buy limit becomes a market order. The same principle applies to sell limits: when a sell limit is placed below the market, it becomes a market order if the higher market price is better.

Gecko Software’s Track ‘n Trade Live helps you learn all these rules by allowing you to simulate and practice placing these orders and making sure you have each order under your belt before ever moving on to trade the live markets.

A stop order is not executed until the market reaches the specified price level. Once the stop level is hit, the stop order becomes a market order. Opposite of limit orders, buy stops are always placed above the market, while sell stops are placed below the market.

A customer wishing to buy July Soybeans at 485 when the current market price is 475 would place a stop order as follows: “Buy one July Soybean at 485, stop.” If the Soybean market trades as high as 485 or is bid at 485, the order would become a market order and would be filled as quickly as possible.

A customer wishing to sell July Soybeans at 465 when the market is currently priced at 475 would place a stop order as follows: “Sell one July Soybean at 465, stop.” If the Soybean market traded as low as 465 or was offered at 465, the order would become a market order and would be filled as quickly as possible.



## Chapter 1

### Example

Stop orders are usually used to liquidate earlier transactions, to cut losses, or protect profits. Let's assume that a speculator bought three July Corn at 210 and the market is currently trading at 225. He/she may wish to protect some of his/her 15-cent profit per contract (\$2,250.00 profit before commissions and fees) by placing a sell stop at 220, to protect 10 cents (\$1,500 of the profit before commissions and fees). Placing the following order would do this: "Sell three July Corn at 220, stop."

There are many other different types of orders, such as stop limits and market if touched orders, but the above orders are the most commonly used and are really the only orders a beginning trader needs to learn.

### Look Before You Leap

A Message from the CEO

Before starting a business it is important to have a business plan and have adequate capital. Most new businesses start off with a dream, and the proprietor's willingness to work hard. Despite hard work, they can fail because of unforeseen difficulties, poor preparation, or lack of capital. Remember this when starting your trading business: try to have adequate capital and plan for the unforeseen by developing and testing a trading plan.

Before trading, it is imperative that you develop a trading plan.

Your trading plan should be capitalized with money you can afford to lose. Generally trading funds are categorized as genuine risk capital if it is money that you can afford to lose. Again, this is not your child's college education fund, the mortgage money, or grocery money. Proper planning and adequate capitalization are the cornerstones of any new venture.

The first step in building a house is drawing up plans for the completed house. The workmen who erect the house consult the blueprints when placing walls, sinks, appliances, and electrical outlets. The transition from bare ground to a finished home is laid out in the blueprints, or the plan for the completed structure. Trades should be planned with as much detail. Every situation should be planned for, so decisions are not made in the heat of the moment when money is on the line.

The goal of your trading plan is to allow you to make decisions before things happen, giving you a blueprint for trading before entering the market. A basic trading plan should include the following features as a minimum:

Trade entry

Initial risk or stop loss point

Criteria for stop loss movement

Criteria for profitable trade exit



Once you have developed your trading plan, put it to the test by “Paper Trading.” Paper trading is fictitious trading, or simulated trading, best done using Gecko Software’s Track ‘n Trade Live market simulator program, in which you simulate buying and selling futures contracts, without risking real money. The whole purpose of paper trading is to be as realistic as possible when doing it. It does no good to practice trading with a million dollars, if you are going to start with \$10,000. Don’t practice your trading in the S&P if you are intending to actually trade Corn. Keep your practice as realistic as possible.

The one major downfall to paper trading is that it does not involve real money. It is very easy to live through a fictitious losing streak but quite different to live through it when it is your money on the line. Because paper trading does not involve real money, your emotions are kept at bay, but tend to creep up when real money is involved.

Gecko Software’s Track ‘n Trade Live comes with over 25 years of historical data on over 50 different markets, allowing you to learn the markets and develop a trading plan. Four different plug-ins are available for Track ‘n Trade Live to help you maximize your trading strategies. The plug-ins are listed below:

**Seasonal Plug-in:** Comprised of three indicators for the seasonal market, this plug-in assists the Track ‘n Trade Live user to calculate seasonal trends and market probability, and gives historical averages. All this information is based on what has happened to a particular seasonal contract in the past.

**Commitment of Traders Plug-in:** Gives you the overall picture of what is happening behind the scenes of each market. It actually tells you who’s buying and who’s selling, from large professional trade, commercial traders, and small speculators. This information is a great indicator for which way the market will turn.

**Bulls ‘n Bears Trading System:** The first trading system designed for Track ‘n Trade Live users. This trading system includes easily usable tools to see if the market is bullish or bearish. Bulls ‘n Bears allows you to change the sensitivity of the system according to your trading style, whether you are an aggressive trader or a more traditional trader.

So, before ever attempting to trade in the futures market, develop a strategic plan. Your trading plan should be realistic and well tested over past history. Once it has been developed, take six months and paper trade; “simulate” trading in “real time,” using Track ‘n Trade Live. If the plan still holds up, then remember the mantra of futures traders: “Plan your Trade, and Trade Your Plan.”

Good Luck,  
Lan H. Turner, CEO  
Gecko Software, Inc.



# Introduction to Stocks

Basics of Stocks Trading

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2



## Introduction to Stocks

This introduction was written to provide a basic understanding of the stock market and introduce the terms and concepts that you will encounter as you progress as an investor. This basic vocabulary and knowledge is vital because it is the foundation of your future understanding and success in the market. I was extremely honored when my friend and colleague Lan Turner invited me to write this portion of the Track 'n Trade Live manual. I hope you will find it to be a great asset. If this is your first introduction to the stock market, I want you to know how excited I am for you.

I am an investor with extensive experience in many markets. Stocks are the only investment I have found that allow you the flexibility to decide how you want to interact with the market. You can choose active and aggressive participation in the short term for quick money. You can take a very relaxed and passive approach in the long term for a safe investment. No matter which strategy you choose, Track 'n Trade will supply you with the tools and information you need to excel in the stock market.

Welcome to the tight-knit investing community that we have created for you as an investor. We are here to teach you how to get an edge on the market, helping you grow wealthy as a successful trader!

-Dr. Scott Brown, Ph.D.

## Equity Securities Defined

Equity security is the formal term for stock in a publicly traded company. When you hear the word “equity” it means ownership, which is what a share of stock represents. Similarly, bonds are always equated with the word “debt.” The word “security” references either stocks or bonds. It is defined as the evidence of ownership in the case of stocks, and evidence of debt in the case of bonds. Thus, stocks are an equity security while bonds are a debt security.

There are three types of stocks: common, preferred, or convertible. As the name says, common stock is the most common type of equity security. The term **common stock** is used for any equity security that has no special dividend rights and has the lowest priority claim in the event of bankruptcy. Owners of **preferred stock**, in contrast, usually receive preferred treatment when it comes to receiving dividends of cash payoffs in bankruptcy. There are also **convertible securities** that start as one type but can be converted into another if the investor desires. Most convertible securities are preferred stock or bonds that are convertible into common stock.

## Common Stock

Common stock represents a basic ownership claim in a corporation. Think of this as the investors who have put up investment capital to get things going, just like if you decided to

## Chapter 2

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invest in the creation of a business in the town or city that you live. Whoever starts the company can sell partial ownership of it in order to capitalize, or raise money for company growth. The most important thing about common stock is that it represents a residual claim against the corporation's cash flows or assets. In other words, if the company goes bankrupt, shareholders have a legal right to repayment in bankruptcy court. However, common stockholders are last in line. All prior debts must be paid to the employees (wages), the government (taxes or judgments), short term creditors (banks), bondholders (long term lenders), and preferred shareholders (owners). The common stockholders get whatever is left, the residual value of the firm. The value of common stock is therefore directly related in the company's profits.

Legally, common stockholders enjoy limited liability, meaning that their losses are limited to the original amount of their investment when they bought their common stock. Here is an example. The Bhopal Disaster of 1984 is considered to be the worst industrial disaster in history. It was caused by the accidental release of 40 tons of methyl isocyanate (MIC) from Union Carbide India Limited, a pesticide plant located in the heart of the city of Bhopal, India. The accident, in the early hours of December 3, 1984, produced heavier-than-air toxic MIC gas which rolled along the ground through the surrounding streets killing thousands outright. The gas also injured anywhere from 150,000 to 600,000 people, of whom at least 15,000 later died. Heads rolled at the corporate level in the aftermath, but none of the common or preferred shareholders stood to lose more than the initial investment they made when they purchased the company stock.

### Common Stock Dividends

A dividend is a portion of a company's profits that is paid to its stockholders. Common stock dividends are not guaranteed, and are often irregular or even non-existent. Dividends are always paid from the company's after-tax cash flows. Because dividend income is taxable for most investors, dividends are double taxed – once when the company pays the corporate income tax on its profits, and once more when the investors pay their personal income taxes. To avoid double taxation, some investors hold stocks in growth companies that reinvest their accumulated earnings instead of paying large cash dividends.

Companies will sometimes reinvest their accumulated earnings back into the business instead of paying out dividends. This allows the company to accumulate capital and grow faster than it otherwise might. As a firm's earnings grow, people expect its stock price to rise. If this happens, the stockholders can sell their stock and pay capital gains taxes on their profits. The Tax Reduction Act of 1997 set a lower tax rate on capital gains than on dividends. Taxes on capital gains are paid only upon the realization of the gain, meaning when it is sold. Investors can reduce their tax bills by delaying the sale of securities to postpone realization of capital gains.

### Voting Rights of Common Stockholders

Even though stockholders hold ownership of the corporation, they do not exercise control over the firm's day-to-day activities of doing business. They do, however, exercise control over

the firm's operations indirectly by electing the board of directors. It is the task of the board of directors to monitor the management's activities on behalf of the shareholders. As a practical matter, most shareholders cannot actually vote in person, but instead by proxy where they vote by absentee ballot or endorse a representative.

## Preferred Stock

Like common stock, preferred stock represents ownership in a corporation. As the name implies, it receives preferential treatment over the common stock with respect to dividend payments and their claim to the firm's assets in the event of a bankruptcy. Preferred stockholders are entitled to the issue price of their stock plus the dividends they are owed. This is, of course, after the bondholders have been paid.

## Preferred Stock Dividends

A preferred stock's dividend is a payment made by the firm at regular intervals, similar to the interest payments on a bond. Most preferred stock is nonparticipating and cumulative. Preferred stock is nonparticipating in the sense that the preferred dividend remains constant regardless of any increase in the firm's earnings.

Firms can decide, however, not to pay the dividends on preferred stock right away. They will be paid in a later period, and are called *dividends in arrears*. The cumulative feature of preferred stock means that the company always owes these dividends to the preferred stockholders, and they accumulate over time. The firm must pay preferred dividends in arrears before a dividend on its common stock can be paid.

Some preferred stock is issued with *adjustable dividends*. Adjustable-rate preferred stock became popular in the early 1980s when interest rates were rapidly changing. The dividends of adjustable-rate preferred stocks adjust periodically to changing market interest rates.

## Voting Rights of Preferred Stockholders

Preferred stockholders do not have voting rights. Exceptions to this rule can occur when the corporation is in arrears on its preferred dividend payments, but this is rare.

## Convertible Securities

Convertible preferred stock can be converted to common stock at a predetermined ratio (such as two shares of common stock for each share of preferred stock). If the common stock rises in price, the holder can choose to convert the preferred shares into common shares. After conversion, preferred dividend payments are no longer received.

**Convertible bonds** are bonds that can be exchanged for shares of common stock. Before conversion it is corporate debt, thus the bond interest and principal payments are contractual obligations of the corporation. Most convertible bonds are *subordinated debentures*, meaning that they get paid after other bonds are paid, so investors who own convertible bonds have lower

ranking claim against corporate profits than most other debt holders.

### Primary Markets

New issues of securities are called primary offerings. Stock purchases through primary offerings are called primary market transactions. The company uses the funds raised by the sale of securities in primary offerings to expand production, enter new markets, further research, or enhance other aspects of the firm's operations. After this, whenever the securities are bought or sold it is in the *secondary market*.

If the company has never before offered a particular type of security to the public it is called an unseasoned offering or initial **public offering (IPO)**. If they issue additional securities that are similar to those trading in the secondary market it is known as a **seasoned offering**. For example, Wal-Mart "went public" in 1978 when it made its first IPO of common stock that immediately started trading on the New York Stock Exchange under the ticker symbol "WMT." This was an unseasoned offering at the time. When WMT issued more shares of the same common stock it was called a seasoned offering because it was just more of the same stock being released into the market.

A ticker symbol, also simply called a symbol, is a system of letters used to uniquely identify a stock or mutual fund. Symbols with up to three letters are used for stocks which are listed and traded on an exchange. Symbols with four letters are used for most Nasdaq stocks. Symbols with five letters are used for Nasdaq stocks with multiple issues of common stock. Symbols with five letters ending in X are used for mutual funds.

Companies raise money quickly when the stock prices rise because they can sell seasoned offerings to the public at a price higher than the unseasoned offering. They don't have to pay interest to bondholders or loan payments to banks when they raise money this way. Alternatively, as the company's stock drops it becomes more expensive for the company to capitalize with equity and they have to use more debt, either bonds or bank financing. New issues of equity securities may be sold directly to investors by the issuing corporation, but are usually distributed by an investment banker in an underwritten offering, a *private placement*, a rights offering or a shelf registration.

The most common distribution method is an *underwritten offering* in which the investment banker purchases the securities from the firm at a guaranteed amount and then resells the equity securities to public investors for a greater amount. The difference is called the *underwriter's spread*, which compensates the investment banker for the expenses and risks involved in the offering.

Also, some equity securities are distributed through private placements in which the investment banker acts only as the company's agent and receives a commission for placing equity securities with investors.



Occasionally a company will place equity securities with its existing shareholders. In a rights offering, a company's existing stockholders are given the rights to purchase additional shares at a slightly below-market price in proportion to their current ownership in the company.

An important innovation in the sale of securities is shelf registration. Shelf registration permits a corporation to register a large quantity of securities and sell them over time, rather than all at once. The issuer is able to save time and money through a *single registration*. In addition, these securities can be brought to market with little notice, thereby providing the issuer with maximum flexibility in timing an issue to take advantage of favorable market conditions.

## Secondary Markets

Any trade of a security after its primary offering is called a *secondary market transaction*. When an investor buys 100 shares of IBM on the New York Stock Exchange, the proceeds of the sale do not go to IBM. They go to the investor who sold the shares.

From an investor's perspective, the function of a secondary market is to provide liquidity of their assets at fair prices. An asset is an item of value owned by an individual or corporation. **Liquidity** is the speed at which an asset such as stock, bonds, or real estate, can be converted into cash.

Liquidity is achieved if investors can trade large amounts of securities without affecting prices. Prices are said to be fair if they reflect the underlying value of the security correctly.

There are **three liquidity-related characteristics of a secondary market** that investors find desirable: *depth*, *breadth*, and *resiliency*. First, a secondary market is said to have depth if there are orders both above and below the price at which it is currently trading. When a security trades in a deep market, temporary imbalances of purchase or sale orders that would otherwise create substantial price changes are offset with corresponding orders. Second, a secondary market is said to have breadth if its orders give its market depth in a significant volume. The broader the market for a stock, the greater the potential for stabilization of temporary price changes that may arise from order imbalances. Third, a market is resilient if orders promptly respond to price changes.

There are **four types of secondary markets**: *direct search*, *brokered*, *dealer*, and *auction*. Each type differs according to the amount of price information investors have access to.

### Direct Search

The secondary market that offers you the least amount of price information is that in which the buyers and sellers have to search each other out directly. For this reason, this is called a **direct search secondary market**. Because the full cost of locating and bargaining with a willing and capable trading partner is paid by an individual investor, there is only a small incentive to conduct a thorough search among all possible partners in the market for the best possible

## Chapter 2

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price. By the time a trade is agreed upon by the two investors, at least one of the participants could have gotten a better price if they were in contact with some other participant they never found. Stocks that trade in direct search markets are the ones people buy and sell so infrequently that a third party, such as a broker or a dealer, has no incentive to provide any kind of service to facilitate this trading. The common stock of smaller companies, especially small banks, trades in direct search markets. Buyers and sellers of those issues must rely on word-of-mouth communication to attract compatible trading partners. The relatively small number of trades makes it difficult to find an economical way of broadcasting quotations or transaction prices. Trades can occur at the same time at quite different prices, and these transactions are usually far from the best possible price.

### Brokered

When the trading of a specific stock becomes sufficiently heavy, brokers begin to offer specialized search services to market participants. For a fee, called a *brokerage commission*, brokers help find compatible trading partners and negotiate acceptable transaction prices for their clients.

Brokers are most likely to be involved when a lot of investors are in the market because it is more profitable for them. If a broker can fill two customer's orders at a cost less than twice the cost of the direct search that would otherwise be conducted by each of those customers, then brokers will offer their services. This is important because they can profitably acquire the business of both investors by charging a commission somewhat less than the cost of a direct search.

Since brokers are frequently in contact with many market participants on a continuing basis, they are likely to know what a "fair" price is for a transaction. Stock brokers arrange transactions closer to the best available price than is possible in a direct search market. Their extensive contacts provide them with a pool of price information that individual investors could not economically duplicate because of cost. By charging a commission less than the cost of direct search, they give investors an incentive to use the information the broker has.

Even though a brokered market is better than a direct search market, a brokered market cannot guarantee that orders will be executed promptly. Not knowing about the speed of execution creates price risk. While a broker is searching for a trading partner for a client, prices may change and the client may suffer a loss.

### Dealer

As the trading of a stock becomes even more active, some market participants may begin to maintain bid and offer quotations of their own. These traders become *dealers*. They buy and sell their own inventory at their own quoted prices. Dealer markets eliminate the need for time consuming searches for trading partners, because investors know they can buy or sell immediately at the quotes given by a dealer.

Dealers often sell their stocks at a price greater than the bid price they pay. The difference between the two, *called the bid-ask spread*, compensates them for providing the liquidity of an immediately available market to occasional participants. This also pays for the risk that dealers incur when they position a security in their inventory. The **bid price** is the highest price that someone is willing to pay to buy shares of stock. This also means that this is the highest price you can expect to get for your shares of stock when selling them. It is always lower than the ask price. The **ask price** is the lowest price you can pay for a stock. This is because it is the lowest price any seller is offering their shares for.

Although dealer markets provide investors with the opportunity for an immediate execution of their orders, and although dealer markets can usually be searched more rapidly and cheaply than a direct search or brokered markets, they do have several disadvantages. No one can guarantee that the quotation of a particular dealer could be improved upon by contacting another dealer. This being the case, investors operating in dealer markets have to bear some cost of searching for the best price.

## Auction

Auction markets provide centralized procedures for the exposure of purchase and sale orders to all market participants simultaneously. In other words, an *auction market* is a place where anyone who wants to buy and sell can go to. This is important because auction markets virtually eliminate the expense of locating compatible partners and bargaining for a favorable price. The communication of price information in an auction market may be oral if all participants are physically located in the same place, or the information can be transmitted electronically.

## Over-The-Counter Trading and NASDAQ

Securities not sold on an organized exchange like the NYSE are traded **over-the-counter (OTC)**. A stock may not be listed on an organized exchange for several reasons, including lack of widespread investor interest, small issue size, or insufficient order flow. The OTC stock market is a dealer market. Since different OTC issues are not usually close substitutes for each other, a dealer with limited capital can make a profit with a relatively narrow range of stock inventory. As a result, there are a large number of small OTC dealers. They often concentrate their trading in particular industry groups or geographical areas. It is estimated that about 30,000 various types of equity securities are traded in the OTC market. However, only about 15,000 of these securities are actively traded.

When customers place a buy or sell order for a stock in the OTC market, a broker will contact other dealers who have that particular stock for sale and search out the best price. When satisfied, he or she will complete the buy or sell transaction with that dealer and charge his or her customer the same price plus a commission for the brokerage services.

### Nasdaq

A major development of the OTC market occurred in 1971 when the National Association of Securities Dealers (NASD) introduced an automatic computer-based quotation system, called **NASDAQ**. The system offers continuous bid-and-ask prices for the most actively traded OTC stocks. NASDAQ's development accelerated the disclosure of price information, and it also fundamentally altered the structure of the OTC market.

There are three levels of access to the NASDAQ system. *Level 3* terminals are available only to dealers and allow them to enter bid and ask quotations for specific stocks into the system. These quotations, together with information identifying the stock and the dealer, appear within seconds on the terminals of other dealers and brokers. For this reason the NASDAQ always has current prices. *Level 2* terminals display all the dealer bid and ask quotations for a given stock, but do not allow that quotation to be changed on the terminal. These terminals are available to brokers and institutions. *Level 1* terminals provide only the best bid and ask price (called the inside quote) for a stock. These terminals are used by stockbrokers when quoting prices to their customers.

This greatly increased the efficiency of a broker's search for the best bid-and-ask prices, reducing the amount of trading away from the best available prices.

### Stock Exchanges

The **New York Stock Exchange (NYSE)**, the preeminent, biggest and most organized stock exchange in the United States, is an example of an *auction market*. Other regional stock exchanges in the United States include the **American Stock Exchange (AMEX)** in New York, the **Pacific Stock Exchange** in both San Francisco and Los Angeles, the **Chicago Stock Exchange**, the **Philadelphia Stock Exchange**, the **Boston Stock Exchange**, and the **Cincinnati Stock Exchange**. The NASDAQ and the NYSE account for the vast majority of stock trading. Regional exchanges account for little of the total stock trading volume in the United States.

All transactions in a stock listed on the NYSE and completed within that exchange occur at a unique place on the floor of the exchange, called a **post**. There are three major sources of active bids and offerings in an issue available at a post: (1) floor brokers executing customer stock orders (2), limit price orders for stock left with the specialist for execution, and (3) the specialist in the stock buying and selling for his or her own account. Since trading is physically localized, the best available bid-and-offer quotes are very available. Competition and ease of communication among market participants at a post ensure the absence of bids above the lowest offer price or offerings below the highest bid for the stock.

### Types of Orders

Orders from the public are transmitted by internet, telephone or telex from brokerage houses to brokers on the floor of the NYSE, who bring the orders to the appropriate posts for execution. Most of these orders are either *market orders* or *limit orders*.

A **market order** is an order to buy or sell at the best possible price available at the time the order reaches the post. The broker bringing a market order to a post might execute the order immediately upon his arrival, or he might hold back all or part of the order for a short time to see if he or she can get a better price than is currently available. He or she may also decide to quote a price on the transaction to reduce the amount of time he or she will have to wait until completing the trade.

A **limit order** is an order to buy or sell at a designated price or at any better price. Investors place limit orders when they want to buy or sell at a price well above or well below the bid-ask spread. A floor broker handling a limit order to buy at or below a stated price, or to sell at or above a stated price, will usually stand by the post with his order if the limit price on the order is near the current market bid-and-ask prices.

When a limit order is at a price that is not very close to the current market prices (the bid-and-ask), the broker handling the order knows it is unlikely the order will be executed anytime soon. For example, a bid or purchase order at \$50 on a stock currently trading at \$55 may not be satisfied for days, or even may never be satisfied. As an alternative to maintaining a physical presence at the post, the broker can enter the limit order on the order book maintained by the specialist. No trades can take place at a particular price unless all bids are above and all offerings are below it. In other words, the market has to move up through all of the sell limit orders in the book to hit your sell limit orders. Alternatively, the market has to move down through the other entire limit orders in the book between your limit order's price before it can be executed. Entering a limit order on a specialist's book is a great alternative to floor brokers who would otherwise have to maintain a physical presence at a post to keep a limit order active.

## Specialists

Specialists provide the third source of bids and offers in listed securities. On the NYSE, Specialists are members of the exchange who are both dealers and order clerks. Specialists have to maintain the price quotations at all times for the issue in which they specialize. Specialists also act as dealers, trading for their own account and at their own risk. NYSE specialists act as order clerks as well, maintaining the book of limit orders for the floor brokers.

Heavy trading volume ensures that there are always active bids and offerings available from either floor brokers or the limit order book. In these cases, the dealer function of the specialist is to be a source of liquidity so that your orders get filled quickly if trading is more sporadic or infrequent. In these cases the obligation of the specialist to provide the liquidity service of immediate execution is vital. Indeed, if the prices of the purchase and sales orders on the specialist's book have a wide spread (which is common for infrequently traded stocks), the specialist may be the sole source of a market for immediate transaction.

## Global Stock Markets

Better communications and computer technology have reduced transaction costs, making it easier for other financial intermediaries to compete with securities firms. This has led to the emergence of a so-called “*national market*” system, online discount trading, 24-hour trading of equity securities, and the globalization of equity markets.

The Securities Act Amendment of 1975 mandated that the Securities and Exchange Commission (SEC), the primary regulator of U.S. financial markets, move toward creating a national market system. In its ideal form, a national market system would have a comprehensive method of recording and reporting transactions regardless of where they take place in the country. It would also be a system that allowed investors to get price information from any exchange instantaneously, and thus a way to buy or sell stock at the best price regardless of location. Progress has been made toward electronically linking the national exchanges, regional exchanges, and over-the-counter markets, but we are still many years away from a truly nationwide system.

There is competitive pressure to link international stock markets as well. Many U.S. firms are issuing stocks on overseas exchanges to take advantage of differences in tax laws, to increase their visibility and reputation, and to avoid flooding local stock markets. In 1986, the London Stock Exchange created a computer network similar to the NASDAQ system and permitted U.S. and Japanese investment firms to enter trades on the system. This development was important because it created a virtual 24-hour global trading environment, given time differences between New York, London, and Tokyo.

Stock exchanges in the United States are panicked about losing business to overseas stock markets. As a step toward increasing the global competitiveness of the U.S. financial markets, the SEC permitted after-hours trading on the NYSE. Before this, trading only took place between 9:30 AM and 4:00 PM Eastern time. The NYSE now has several after-hours trading sessions during which shares trade electronically at the day’s closing price. The biggest beneficiaries of the NYSE’s move toward globalization will be U.S. companies that expect to broaden the market for their securities.

## American Depositary Receipts

Unfamiliar market practices, confusing tax legislation and insufficient shareholder communication often discourage investors from participating in foreign stock markets. Many foreign companies overcome these road blocks by means of **American Depositary Receipts (ADR)**. An ADR is a dollar denominated claim issued by a bank representing ownership of shares of a foreign company’s stock held on deposit by U.S. investors. With over 1,600 ADRs from 63 countries trading in the United States, they are very popular with U.S. investors because they allow investors to diversify internationally.

A sponsored ADR is one for which the issuing foreign company absorbs the legal and financial costs of creating and trading the security. An un-sponsored ADR is one in which the issuing firm is not involved with the issue at all and may even oppose it. Un-sponsored ADRs typically result from U.S. investor demand for shares of particular foreign companies.

## Regulation of Equity Markets

Trading in securities in the United States is regulated by several laws. The two major laws are the *Securities Act of 1933* and the *Securities Exchange Act of 1934*. The 1933 act requires full disclosure of relevant information relating to the issue of new stock in the primary market. This act requires full registration of an IPO and the issuance of a prospectus which details the recent financial history of the company, and is concerned only that the relevant facts are disclosed to investors. The 1934 act established the Securities and Exchange Commission (SEC) to administer the provisions of the 1933 act. It also extended the disclosure of the 1933 act by requiring firms with stocks traded on secondary exchanges to periodically release current financial information.

Under the 1934 act, the SEC has the authority to register and regulate securities exchanges, over-the-counter (OTC) trading, brokers, and dealers. The SEC is responsible for broad oversight of secondary markets. In addition, security trading is also subject to state laws.

## Equity Valuation Basics

Stock valuation is a tricky matter and a subject you must understand as a stock investor. To understand stock value you need to understand market capitalization, book value, fundamental analysis, and technical analysis.

**Market capitalization** is simply the total value of all outstanding shares of a company. To calculate the market capitalization, multiply the total number of shares outstanding of each class of common and preferred stock by its corresponding share price. Assume for instance that a company has 1,000,000 shares of common stock outstanding trading at \$15 per share and 2,000,000 shares of preferred stock trading at \$10 per share. The market capitalization of the company is as follows:

Market Capitalization:

$$\begin{aligned} &(1,000,000 \text{ Shares})(\$15/\text{Share}) + (2,000,000 \text{ Shares})(\$10/\text{Share}) = \\ &\$15,000,000 + \$20,000,000 = \\ &\$35,000,000 \end{aligned}$$

**Book value** is the value of the company as shown on the firm's balance sheet. This is the value of everything the company owns less everything it owes. This number may not necessarily reflect the true value of the firm, but it is generally a fair indication.



## Chapter 2

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**Fundamental analysis** focuses on the company's financial information, including the balance sheet, the income statement and cash flow statement. The primary concept here is that increased earnings enhance the value of the firm. Since the shareholders are the owners of the firm, the idea is that increased corporate profits increase the share price of the company's stock.

**Technical analysis** attempts to predict the future direction of stock price movements based on three types of information: historical price, volume behavior, and market sentiment.

### Stock Market Indices

Stock market indices provide a useful tool to summarize the vast array of information generated by the continuous buying and selling of stocks. However, the use of market indices presents two problems. First, many different indices compete for attention. Second, indices differ in their composition and can give contradictory information regarding price movements of the stock market.

When constructing a stock market index, the base value and the starting date have to be selected. Only the relative changes in the index values are useful. For example, knowing only that a particular stock market index finished the year at a level of 354.7 is of no value. But if you also know that the same index finished the previous year at a level of 331.5, then you can calculate that the stock market, as measured by this particular index, rose approximately 7 percent over the past year.

The next decision is which stocks should be included in the index. There are three methods for deciding stock market composition: (1) the index can represent a stock exchange and include all the stocks traded on the exchange, (2) the organization producing the index can subjectively select the stocks to be included, or (3) the stocks to be included can be selected based on some objective measure such as market value. Often an index represents the performance of various industry segments such as industrial, transportation, or utilities.

Once the stocks to be included in an index are selected, the stocks must be combined in certain proportions to construct the index. Each stock, therefore, must be assigned some relative weight, usually by share price or market value of the company.

### Price-Weighted Indices

A price-weighted index is computed by summing the prices of the individual stocks in the index. Then the sum of the prices is divided by a divisor to yield the chosen base index value. Thereafter, as the stock prices change the divisor remains constant.

For example, if the price per share of three stocks in a price-weighted index were \$20, \$10, and \$50 respectively, then the prices would sum to \$80. If the base index value is to be 100, then the initial divisor would be 0.8 because  $100 = 80/0.8$ . On the next trading day, say prices per share



of the stocks change to \$25, \$10, and \$40. Now the new sum of share prices would be \$75 and the price weighted index value would be  $75/0.8 = 93.75$  or 6.25 percent lower.

## Market Value Weighted Indices

A market value-weighted index is computed by calculating the total market value of the firms in the index and the total market value of those firms on the previous trading day. The percentage change in the total market value from one day to the next represents the change in the index.

For example, if the three stocks described in the example above had outstanding shares of 100 million, 200 million, and 10 million, then the total market value for the three stocks on the first day would be \$4.5 billion. The total market value on the second day would be \$4.9 billion, for an increase of 8.8 percent. If the market value-weighted index began with a base index value of 10 on the first day, then its value on the second day would be 10.88, or 8.8 percent higher.

## Dow Jones Averages

The most widely cited stock market index is the **Dow Jones Industrial Average (DJIA)** which was first published in 1896. The DJIA is a price-weighted index that originally consisted of 20 stocks with a divisor of 20; this means that the value of the index was simply the average price of the original 20 stocks. In 1928 the DJIA was enlarged to encompass 30 of the largest U.S. industrial stocks and today includes such companies as Verizon, Dupont, and Merck.

## New York Stock Exchange Index

The New York Stock Exchange Index, published since 1966, includes all of the common and preferred stocks listed on the NYSE. In addition to the composite index, the NYSE stocks are divided into four sub-indices that track the performance of industrial, utility, finance, and transportation stocks. All the NYSE indices are **market-value weighted**.

## Standard and Poor's Indices

The Standard and Poor's (S&P) 500 Index is a **value-weighted index** that consists of 500 of the largest U.S. stocks from various industries. The stocks included in the S&P 500 account for over 80 percent of all the stocks listed on the NYSE, although a few NASDAQ issues are also included. The index is computed on a continuous basis during the trading day. It is divided into two sub-indices that follow the performance of industrial and utilities companies.

**The S&P 400 MidCap Index** is market-value weighted and consists of 400 stocks with market values less than those of the stocks in the S&P 500. The S&P 400 MidCap index is useful for following the performance of medium-sized companies.

**The S&P 600 SmallCap index** tracks 600 companies with market values less than those of the companies in its S&P 600 MidCap index. The S&P 1500 index includes all of the companies in the S&P 500, the MidCap 400, and the SmallCap 600.

## Chapter 2

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### NASDAQ Indices

The NASDAQ Composite has been compiled since 1971. It consists of three categories of companies: industrial, banks, and insurance. All of the stocks traded through the NASDAQ are included. In 1984 the NASDAQ introduced two new indices, the NASDAQ/ NMS Composite index and the NASDAQ/ NMS Industrial Index. Both are weighted by **market capitalization**.

### Mutual Funds

If you don't want to actively buy and sell individual securities, you can invest in stocks, bonds, or other financial assets through a mutual fund. Mutual funds are simply a way of pooling together money of a large group of investors. The buy and sell decisions for the pool are made by fund managers who are paid for the service they provide.

Mutual funds provide indirect access to financial markets for individual investors; these funds are a form of financial intermediary. Mutual funds have a lot of power. They are now the largest type of financial intermediary in the United States, followed by commercial banks and life insurance companies.

As of the end of 2001, about 93 million Americans in 55 million households owned mutual funds, up from 5 million households in 1980. Investors contributed \$505 billion to mutual funds in 2001, and total mutual fund assets totaled \$7 trillion.

### Open-End Versus Closed-End Mutual Funds

There are two type of mutual funds, *open-end* and *closed-end*. Whenever you invest in a mutual fund, you do so by buying shares in the fund. However, how your shares are bought and sold depends on which type of fund you are considering.

With an **open-end fund**, the fund itself will sell new shares to anyone wishing to buy and will buy back shares from anyone who wants to sell. When an investor wants to buy open-end fund shares the fund simply issues the shares and then the fund manager invests the money received from the investor. When someone wants to sell open-end fund shares, the fund sells some of its assets and uses the cash to redeem the shares. As a result, with an open-end fund, the number of shares outstanding fluctuates over time.

In a **closed-end fund**, the number of shares is fixed and never changes. If you want to buy shares, you must buy them from another investor. Similarly, if you wish to sell shares that you own, you must sell them to another investor.

### Net Asset Value

A mutual fund's net asset value (NAV) is calculated by taking the total value of the assets held by the fund less any liabilities and then dividing by the number of outstanding shares. For

example, suppose a mutual fund has \$105 million in assets and \$5 million in liabilities based on current market values and a total of 5 million shares outstanding. Based on the value of net assets held by the fund, \$100 million, each share has a value of  $(\$100 \text{ million} / 5 \text{ million shares})$  \$20.

Shares in an open-end fund are always worth their net asset value. In contrast, because the shares of closed-end funds are bought and sold in the stock market, the share price is dictated by the market and may or may not be equal to the NAV.

## Mutual Fund Organization and Creation

A mutual fund is simply a corporation. Like a corporation, a mutual fund is owned by its shareholders. The shareholders elect a board of directors; the board of directors is responsible for hiring managers to oversee the fund's operations. Every individual fund is a separate company owned by its shareholders.

Most mutual funds are created by investment advisory firms, which are businesses that specialize in managing mutual funds. Such firms have additional operations as discount brokerages or offer other financial services.

An investment advisory firm can create multiple funds. Over time, this process leads to a family of funds all managed by the same advisory firm. Each fund in the family will have its own fund manager, but the advisory firm will generally handle the record keeping, marketing, and much of the research that underlies the fund's investment decisions.

## Taxation of Investment Companies

As long as an advisory firm meets certain rules set by the Internal Revenue Service, it is treated as a “**regulated investment company**” for tax purposes. This is important because a regulated investment company does not pay taxes on its investment income. Mutual funds act as a “pass-through entity” in terms of tax law, funneling capital gains and losses to the shareholders in proportion to their investment.

## Types of Stock Mutual Funds

1. *Capital appreciation stock funds* seek maximum capital appreciation. They generally invest in companies that have, in the opinion of the fund manager, the best prospects for share price appreciation without regard to dividends or company size. Often this means investing in unproven companies or out-of-favor companies.
2. *Growth stock funds* seek capital appreciation, but tend to invest in large, more established companies. These funds may be somewhat less volatile as a result. Dividends are an important consideration for the mutual fund manager in purchasing a stock.

## Chapter 2

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3. *Growth and income funds* seek capital appreciation, but at least part of their focus is on dividend-paying companies.
4. *Equity income stock funds* focus almost exclusively on stocks with relatively high dividend yields, thereby maximizing the current income on the stock portfolio. The dividend yield is the anticipated dividend divided by the present price of a share of stock.
5. *Small company stock funds* focus on stocks in small companies. “Small” refers to the total market value of the stock. Small stocks have historically performed very well, at least over the long run, hence the demand for funds that specialize in such stocks. With small-company mutual funds, what constitutes small covers a wide range from perhaps \$10 million up to \$1 billion or so in total market value, and some funds specialize in smaller companies than others. Since most small companies don’t pay dividends, these funds necessarily emphasize capital appreciation.
6. *Mid-cap stock funds* specialize in stocks that are too small to be in the S&P 500 index but too large to be considered small stocks. Hence, the stocks these mutual funds specialize in are considered to be middle sized stocks or medium sized by market capitalization.
7. *Global stock funds* have substantial international holdings but also maintain significant investments in U.S. stocks.
8. *International stock funds* are similar to global funds, but focus most on foreign securities.
9. *Index stock funds* simply hold the stocks that make up a particular index in the same proportions as the index. The most important index funds are the S&P 500 indexed stock mutual funds which are intended to track the performance of the S&P 500. By their nature, index funds are passively managed and trade only as a necessary to match the index. Such funds are appealing in part because they are generally characterized as low turnover and low operating expenses.
10. *Social conscience stock funds* are a relatively new creation. They invest only in companies whose products, policies, or politics are viewed as socially desirable. The specific social objectives range from environmental issues to personnel policies. Of course, general agreement on what is socially desirable or responsible is hard to find.
11. *Tax-managed stock funds* are managed with high regard for the tax liabilities of mutual fund shareholders. Tax-managed stock mutual funds try to hold down turnover to minimize realized capital gains, and they try to match realized gains with realized losses. Fund shareholders have largely escaped taxes as a result.

## Exchange Traded Funds

Exchange traded funds (ETF), are a recent financial innovation. When you purchase an ETF, you are buying the same combination of stocks on a given index. For example, the best known ETF is **Standard and Poor's Depository Receipt (SPDR)**, pronounced "spider", which is based on the S&P 500 index.

What makes an ETF different from an index fund is that it can be traded in the open markets, leaving the possibility for arbitrage. **Arbitrage** is an activity that involves simultaneously buying and selling a security to take advantage of a price difference in two markets. In plain language, if a company's stock is selling for \$12 on the NYSE and \$9 on the AMEX then arbitrageurs will buy the stock on the AMEX and sell the same stock on the NYSE for as much as they can and as fast as they can. The increased buying on the AMEX will cause the price to rise on the exchange while on the other hand the increased selling on the NYSE will cause the price on that exchange to fall until the price is the same on each exchange. In finance we say that arbitrage keeps prices in line by forcing price convergence or one-price for the same asset such as a stock. This is also known as *the law of one price*.

## Hedge Funds

Hedge funds are a special type of investment company. They are like mutual funds in that a fund manager invests a pool of money for investors and takes his fee off the top. However, unlike mutual funds, hedge funds are not required to register with the SEC. They are only lightly regulated and are generally free to pursue almost any investment style they wish.

Hedge funds are also not required to maintain any degree of diversification or liquidity. They don't have to redeem shares on demand, and they have little in the way of disclosure requirements. The reason that hedge funds avoid many of the restrictions placed on mutual funds is that they only accept "financially sophisticated" investors. They do not offer their securities for sale to the public. Some types of hedge funds are limited to no more than 100 investors.

Hedge funds typically have a special fee structure, where, in addition to a general management fee of one to two percent of fund assets, the manager is paid a special performance fee. A modest fee structure might be one that charges an annual management fee of one percent of the fund's assets plus twenty percent of any profits realized; however, more elaborate fee structures are common.

Whether large or small, each fund develops its own investment style or niche. For example, a hedge fund may focus on a particular sector or global region. Alternatively, a hedge fund may pursue a particular investment strategy, like the market neutral strategy, in which the fund maintains a portfolio approximately equally split between long and short positions. By being long in some securities and short in others, the portfolio is hedged against market risk and said to be market neutral.

## Chapter 2

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**Short** is a term meaning short selling. This is the sale of a security made by an investor who does not own the security. The short sale is made in expectation of a decline in the price of a security, which would allow the investor to then purchase the shares at a lower price in order to deliver the securities earlier sold short.

### Stock Options

Options are securities that make it possible to invest in stocks without actually owning the shares. Options on stock are bought to speculate on price movement. Stock options are themselves securities and can be traded in financial markets. An option to buy a stock is known as a **call option** or just a call. Options to sell securities are known as **put options** or just puts. Options are the most important example of a class of financial assets known as *derivative securities*. A derivative is so named because it derives its value from the price of another underlying security, in this case the optioned stock.

Investors are interested in stock options because they provide *speculative leverage*, a term applied to any technique that amplifies the return on an investment. An option's leverage comes from the fact that the return on the investment can be many times larger than the return on the underlying stock.

### Writing an Option

There are two parties to a contract, a buyer and a seller. The first person to sell an option contract is the person who creates it by agreeing to sell the stock at the strike price. He or she is said to write an option and is called the **option writer**.

Once the option is written, the option contract becomes a security and the writer sells it to the first option buyer, who may sell the contract to someone else later on. No matter how many times the option is sold, the writer remains bound by the contract to sell or buy the underlying stock to the current option owner at the specified price.

Options are written either covered or naked. With a **covered option**, the writer owns the underlying stock at the time the option is written. Someone who writes a **naked option** doesn't own the underlying stock at the time he or she writes the option and therefore faces more risk.

### Intrinsic Value of an Option

If a stock's current price is below the strike price in the case of a call, or above the strike price in the case of a put, we say that the option is "*out of the money*" because the option contract buyer could not make any money exercising the contract. If the stock's price is above the strike price in the case of a call, or below the strike price in the case of a put, we say that the option is "*in the money*" because the option contract buyer could make money exercising the contract.

In general the option's intrinsic value is the difference between the underlying stock's price and the option's strike price. Investors are willing to pay premiums over intrinsic value for stock options because of the chance that they will earn even more profit. **Option premium** is the difference between the intrinsic value of the option and the option's price. The exact amount of a particular option's premium above intrinsic value depends on the stock's volatility, the time until expiration, and the attitude of the market about the underlying company.

## Option Expiration

It's important to keep in mind that options are exercisable over only a limited period at the end of which they expire and become worthless. That makes option investing very risky. For example, if an option is purchased "out of the money" and the option never gets "in the money," the option expires, worthless. The buyer loses the entire price paid for it.

If an option is purchased at a price that includes a positive intrinsic value and the underlying stock goes down in value, the option buyer's loss at expiration is the time premium paid plus the decrease in intrinsic value. As its expiration date approaches, any option's time premium shrinks to virtually nothing. Notice that anyone owning an option with a positive intrinsic value just before expiration must act quickly to avoid losing value.

## Warrants

It's important to note that the options discussed up until now are strictly bought and sold in the secondary market. That is, they're traded between investors, and the companies don't get involved. Specifically, companies don't get any money when the options are written or exercised.

**Warrants** are similar to call options but are issued by the underlying companies themselves. When a warrant is exercised, the company issues new stock in return for the specified price. Warrants are therefore primary market instruments. Warrants are like call options in that they give their owners the right to buy stock at a designated price over a specified time period. They differ from stock options in that the time period is much longer, typically several years.

Warrants are usually issued in conjunction with other financing instruments as "sweeteners" to make the primary security more attractive. For example, suppose a company wants to borrow, but isn't in good financial condition, so lenders have rejected its bonds. They may be induced to buy the company's bonds if the firm attaches one or more warrants to each bond giving the holder the right to buy a share at \$50 within the next five years. The warrants provide incentives to buy the bonds if people think the stock is likely to go over \$50 before five years have passed. If bond holders do exercise the warrants then the company will receive additional cash as they issue new shares that are sold to fulfill the warrants.



## Chapter 2

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Warrants can generally be detached and sold independently at a market value of their own. This effectively reduces the price of the bonds and increases their yield to the investor. Alternatively, bondholders can keep the warrants and exercise them for a quick gain if the stock's price rises above \$50. Notice that if the warrants are exercised, the company receives an equity infusion based on a price of \$50 rather than the higher market price. The bonds are unaffected by the exercise of the warrants.

### Employee Stock Options

For many years, American companies have given certain employees stock options as part of their compensation. Companies like paying with options because they don't cost anything when issued. Since employees who receive options get lower salaries, the practice improves the company's financial statements by lowering payroll costs. Beyond that, supporters maintain that the employees will be more motivated to act in the best interest of the company, since the value of their options are directly tied to market price.



# Introduction to Forex

Basics of Forex Trading

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## Introduction to Forex

Traders buy and sell currencies with the hope of making a profit when the value of the currencies changes in their favor, whether from market news or events that take place in the world. The forex market is the largest market in the world with daily reported volume of over 1.8 trillion, making it one of the most exciting markets for trading.

### Market Hours

The spot FX market is unique to any other market in the world, as trading is available 24-hours a day. Somewhere around the world, a financial center is open for business, and banks and other institutions exchange currencies every hour of the day and night with generally only minor gaps on the weekend. Essentially, foreign exchange markets follow the sun around the world, giving traders the flexibility of determining their trading day.

### How an FX Trade Works

In this market you may buy or sell currencies. The objective is to earn a profit from your position. Placing a trade in the foreign exchange market is simple: the mechanics of a trade are virtually identical to those found in other markets, so the transition for many traders is often seamless.

Example of How FX Trade Works		
Traders Action	Euros	US Dollar
A trader purchases 10,000 euros in the beginning of 2001 when the EUR/USD rate was .9600.	+10,000	-9,600
In May of 2003 the trader exchanges his 10,000 euro back into US dollar at the market rate of 1.1800.	-10,000	+11,800
In this example, the trader earned a gross profit of \$2,200.	0	+2,200

### Quoting Conventions

Currencies are quoted in pairs, such as EUR/USD or USD/JPY. The first listed currency is known as the base currency, while the second is called the counter or quote currency. The base currency is the “basis” for the buy or the sell. For example, if you BUY EUR/USD you have bought euros (simultaneously sold dollars). You would do so in expectation that the euro will appreciate (go up) relative to the US dollar.

Currency Abbreviations	
Symbol	Definition
EUR	Euro
GBP	Great British pound
USD	US Dollar
CHF	Swiss Franc
AUD	Australian Dollar
CAD	Canadian Dollar
JPY	Japanese Yen

### EUR/USD

*In this example euro is the base currency and thus the “basis” for the buy/sell.*

If you believe that the US economy will continue to weaken and this will hurt the US dollar, you would execute a BUY EUR/USD order. By doing so you have bought euros in the expectation that they will appreciate versus the US dollar. If you believe that the US economy is strong and the euro will weaken against the US dollar you would execute a SELL EUR/USD order. By doing so you have sold euros in the expectation that they will depreciate versus the US dollar.

### USD/JPY

*In this example the US dollar is the base currency and thus the “basis” for the buy/sell.*

If you think that the Japanese government is going to weaken the yen in order to help its export industry, you would execute a BUY USD/JPY order. By doing so you have bought US dollars in the expectation that they will appreciate versus the Japanese yen. If you believe that Japanese investors are pulling money out of US financial markets and repatriating funds back to Japan, and this will hurt the US dollar, you would execute a SELL USD/JPY order. By doing so you have sold US dollars in the expectation that they will depreciate against the Japanese yen.

### GBP/USD

*In this example the GBP is the base currency and thus the “basis” for the buy/sell.*

If you think the British economy will continue to be the leading economy among the G8 nations in terms of growth, thus buying the pound, you would execute a BUY GBP/USD order. By doing so you have bought pounds in the expectation that they will appreciate versus the US dollar. If you believe the British are going to adopt the euro and this will weaken pounds as they devalue their currency in anticipation of the merge, you would execute a SELL GBP/USD order. By doing so you have sold pounds in the expectation that they will depreciate against the US dollar.

## USD/CHF

*In this example the USD is the base currency and thus the “basis” for the buy/sell.*

If you think the US dollar is undervalued, you would execute a BUY USD/CHF order. By doing so you have bought US dollars in the expectation that they will appreciate versus the Swiss Franc. If you believe that due to instability in the Middle East and in U.S. financial markets the dollar will continue to weaken, you would execute a SELL USD/CHF order. By doing so you have sold US dollars in the expectation that they will depreciate against the Swiss franc.

## Buying/Selling

First, the trader should determine whether they want to buy or sell. If they want to enter a short order – whereby they will profit if the exchange rate falls – they simply need to click on the SELL rate. The opposite holds true for traders who enter buy orders: they can simply click on the BUY rate, and thus will profit if the exchange rate goes up.

### Example of How Buying/Selling Works

Just like in all markets, there are two prices for every currency pair. The difference between these two prices is the spread, or the cost of the trade. In this example, the spread is three pips. On a mini account, a pip on the EUR/USD currency pair is worth \$1.

EUR/USD	
Sell	Buy
1.32	1.32
<b>14</b>	<b>17</b>
Low	High
1.3191	1.3268

## Margin

The margin deposit is not a down payment on a purchase of equity, as many perceive margins to be in the stock markets. Rather, the margin is a performance bond, or good faith deposit. The margin requirement allows traders to hold a position much larger than the account value.

### Example of How Margin Works

Since the trader opened 1 lot of the EUR/USD, his margin requirement or Used Margin is \$1000. Usable Margin is the funds available to open new positions or sustain trading losses. If the equity (the value of his account) falls below his Used Margin due to trading losses, his position will automatically be closed. As a result, the trader can never lose more than he/she deposits.

## Rollover

For positions open at 5pm EST, there is a daily rollover interest rate that a trader either pays or earns, depending on your established margin and position in the market. If you do not want to earn or pay interest on your positions, simply make sure it is closed at 5pm EST, the

established end of the market day. Since every currency trade involves borrowing one currency to buy another, interest rollover charges are an inherent part of FX trading. Interest is paid on the currency that is borrowed, and earned on the one that is purchased. If a client is buying a currency with a higher interest rate than the one he/she is borrowing, the net differential will be positive – and the client will earn funds as a result. Please note that clients must be on 2% margin in order to earn funds.

### **Short-Selling without an Uptick**

Unlike the equity market, there is no restriction on short selling in the currency market. Trading opportunities exist in the currency market regardless of whether a trader is long or short, or which way the market is moving. Since currency trading always involves buying one currency and selling another, there is no structural bias to the market. Hence, a trader has an equal access to trade in a rising or falling market.

### **Equity Market: Making the Transition to Forex**

Equity markets can be used as a key indicator for movement in the Forex market. As technology has enabled greater ease with respect to transportation of capital, investing in global equity markets has become far more feasible. Accordingly, a rallying equity market in any part of the world serves as an ideal opportunity for all, regardless of geographic location. The result of this has become a strong correlation between a country's equity markets and its currency: if the equity market is rising, investment dollars are coming in to seize the opportunity. Alternatively, falling equity markets will have domestic investors selling their shares of local publicly traded firms only to seize investment opportunities abroad.



# Installation

Ready, Set, Go!

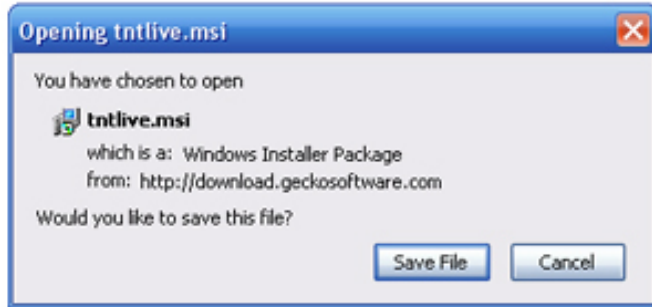
# 4

## Installation

Whether you download the software from the internet or install by CD-ROM the installation will be the same.

### Save File Window

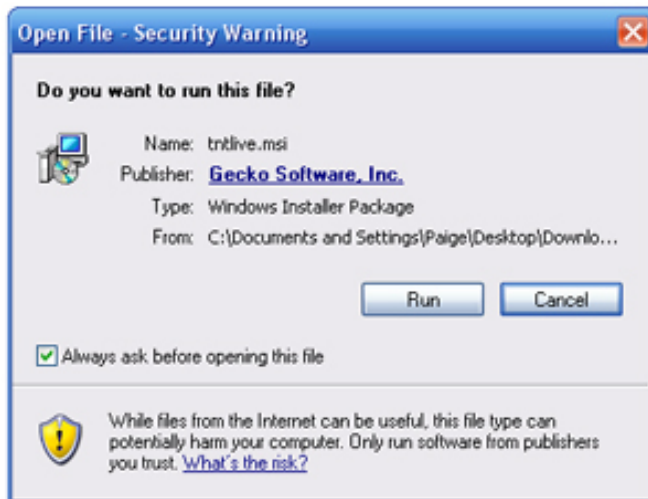
When you first download the program this window will appear.



-Click **Save File**

### Open File Window

Next you will see the Open File Window.



-Click **Run**



## Track 'n Trade Live Installation Wizard

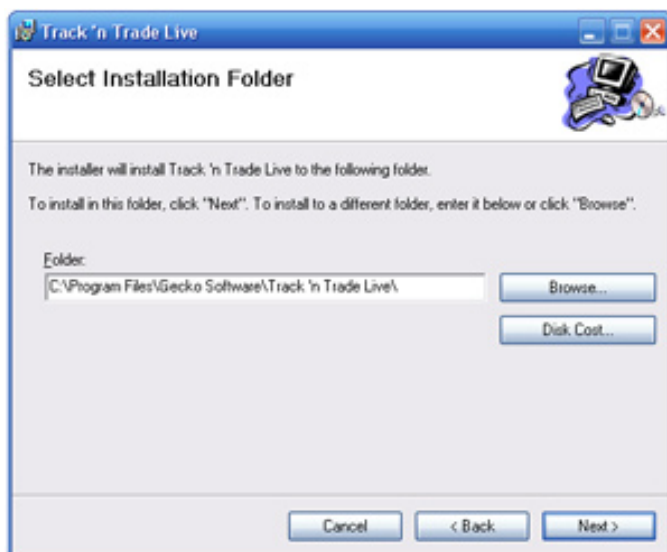
The Track 'n Trade Live Installation Wizard window will appear. This will guide you through the installation process.



-Click **Next**

## Choose Installation Folder

Next you will have to choose where you would like the program to be installed.



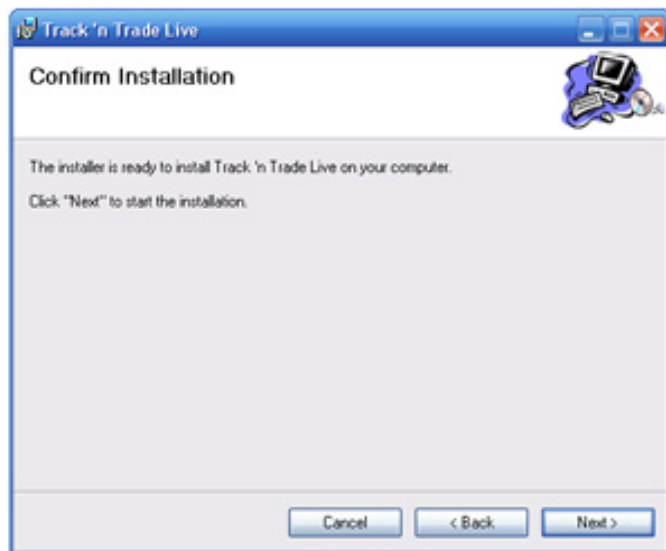
-Choose file destination

-Click **Next**

### Confirm Installation

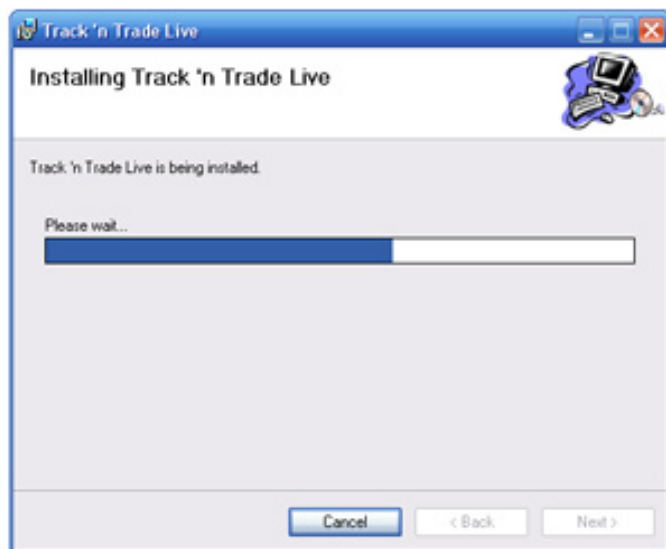
Next you will have to confirm your installation.

-Click **Next**



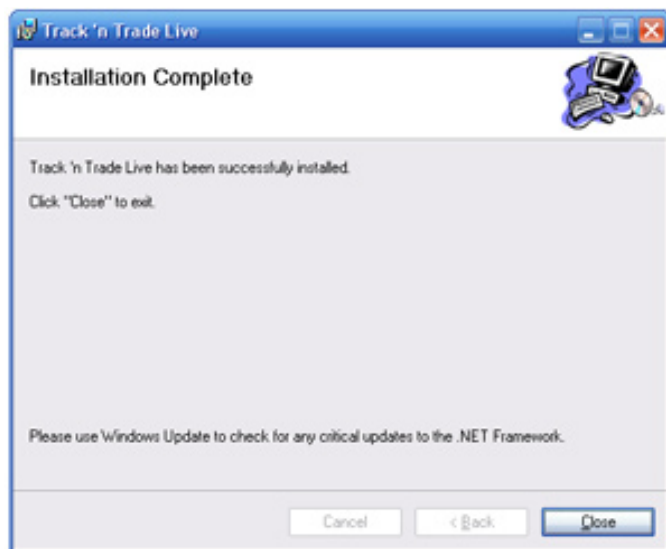
### Installing

An installing screen will appear. This may take a few minutes.



## Install Complete

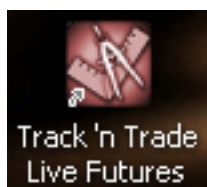
Once installation is complete this window will appear.



-Click **Close**

## Open Track 'n Trade Live

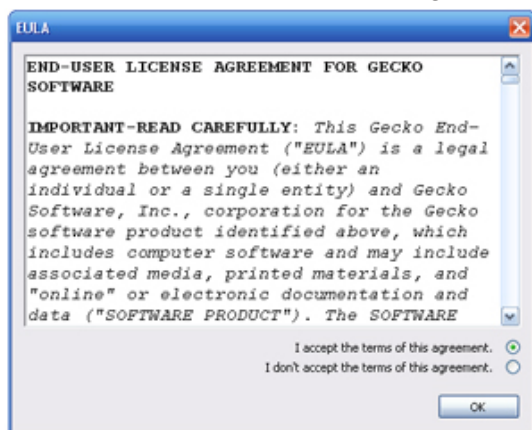
Find the Track 'n Trade Live icon on your desktop.



-Double-click on **icon**

## End User License Agreement

Please read the End User License agreement and if you agree to the terms of use.



-Agree to terms by selecting the button next to **I Accept**

-Click **Ok**

### Enter Your Information

Here you will enter your personal information. The starred fields are required.

The registration form includes the following fields and options:

- \* Required Fields:** First Name, Last Name, Email, and Phone.
- Country: (dropdown menu)
- Address: (text field)
- Suite / Apt: (text field)
- City: (text field)
- State / Province: (text field)
- Postal Code: (text field)
- Checkboxes: ☒ Track 'n Trade Software Announcements, ☒ Complimentary Pitviews.com eMagazine
- Buttons: Cancel, Submit Registration

Text below fields: "Your new UserID and Password will be emailed, please use a valid email address."

-Type in the required information

-Click **Submit Registration**

### Choose Your Password

Choose a password that you will remember. The password is case sensitive.

The password creation form includes the following fields and options:

- Text: "Please create a new password for your Track 'n Trade Live account. Please choose a password that you can remember, your password is stored encrypted on Gecko Software servers, and cannot be retrieved."
- New Password: (text field)
- Verify Password: (text field)
- Buttons: Cancel, Submit Password

-Type your password

-Type your password again to verify it

-Click **Submit Password**

### Registration Complete

Your registration is complete when you see this window. You will receive two emails with your usernames and passwords.

The dialog box contains the following information:

- Icon: Information (i)
- Text: "Your real time simulated trading account information has been emailed to:"
- Redacted area: [blacked out]
- Text: "You will receive two separate emails containing login information:"
- Text: "Email 1) Gecko Software User Name and Password."
- Text: "Email 2) Open E Cry (OEC) User Name and Password."
- Button: OK

-Click **Ok**

## Check Your Email

Sign into the email address you used to register with. Obtain your Gecko username and password. The other email will contain your Open E Cry username and password.

## Log-in

The start up screen will appear next. This is the screen you will see when you start up Track 'n Trade Live. Select the section of Track 'n Trade Live you want to enter (Futures) and enter in your username and password.

The passwords are case sensitive.

Upper and lower case letters must match exactly from the emails you were sent.

Hint: Copy and paste your usernames and passwords directly from your email.

-Enter your Gecko username and password

-Enter your Open E Cry username and password

-Click **Connect**

- If you were already a customer of Gecko Software when you purchased Track 'n Trade Live, use the same username and password from your Account Manager.
- If you purchased Track 'n Trade Live by phone your username and password will be in your confirmation email.
- If you purchased Track 'n Trade Live online, use the username and password you set up.

## Saving Username and Password

The option to save your username and password is available in Track 'n Trade Live. Remember, logging in gives you access to your financial information through Track 'n Trade Live. Be aware that others may use these saved passwords and access this information.

## Account Manager

The Account Manager was created to give Gecko Software customers a convenient resource to update their personal information with us, such as your billing, shipping, and payment information.

To access the Account Manager, log-in to Track 'n Trade Live, click on the Help Menu, and select Account Manager. The Account Manager will open in your default browser. (You will not need to enter your email address and password if you are already logged-in to the program).

**Home | Update Account | Order History | Available Products**

Or, access your Account Manager by visiting [www.trackntrade.com](http://www.trackntrade.com) or [www.geckosoftware.com](http://www.geckosoftware.com) and click on Account Manager. To log-in to the Account Manager, use the same username and password you use to access the Track 'n Trade Live software program. There are links below the log-in to help you in case you forget this information. If you do not have a password, click on the “Click Here to Sign-Up” button on the bottom of the screen. It is helpful to read the information given here.



Once you have logged in, a screen will appear with your information on it. The top of the screen is a menu with Home, Update Account, Order History, and Available Products tabs.

From the **Home** page you can view your Account Details at the top left corner, which include your current address and phone number. You can change this information by clicking Review. You will also see any Account Notices, such as a notice that one of your subscriptions needs to be renewed. Below will be a list of your current subscriptions and a list of the software programs you currently own.

The **Update Account** page is where you can update your Billing and Contact Information, Shipping Information, Payment Information, and your Password. It is important to keep this information up-to-date.

On the **Order History** page, there will be a chronological list of all your orders. To view them in detail, click on the Details link on the right side of the screen.

The last page on the menu is **Available Products**. Here you can view all the Gecko Software products you do not own. Please browse through and make purchases from this window.







































# Getting Started

Navigating Your New Software

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5

## Keyboard Shortcuts

 <b>F1</b>	Help	 <b>Ctrl</b>	Lock Tool to 45 or 90 Degrees
 <b>Ctrl</b>	 <b>N</b>	New Book	  Square Gann Tool
 <b>Ctrl</b>	 <b>O</b>	Open Book	 Increment Calculator
 <b>Ctrl</b>	 <b>S</b>	Save Book	 Decrement Calculator
 <b>Ctrl</b>	 <b>P</b>	Print	  Scale Chart
 <b>Home</b>	Move Chart to Beginning		
 <b>End</b>	Move Chart to End		
 <b>←</b>	Step Chart Back 1 Tick		
 <b>→</b>	Step Chart Forward 1 Tick		
 <b>Shift</b>	Highlight Day Under Cursor		
 <b>Delete</b>	Delete Selected Object or Tool		
		 <b>Alt</b>	 Zoom Out
		 <b>F6</b>	Rotate View
		 <b>Ctrl</b>	 Hide Control Panel
		 <b>Ctrl</b>	 Copy Chart to Clipboard
		 <b>Ctrl</b>	  Copy Chart and Control Panel to Clipboard
		 <b>Alt</b>	 Save Chart and Control Panel to File

## Getting Started

This section will introduce you to the basic functions and features of Track 'n Trade Live. First we'll take a look at your workspace. The screenshot below is what you will see when you open Track 'n Trade Live. Use this as a reference for the rest of the manual. The following pages will go into further detail of the functions of each Toolbar and Menu you see here.



## File Menu

File	View	Help
New		Ctrl+N
Open...		Ctrl+O
Save		Ctrl+S
Save As...		
Print...		Ctrl+P
Print Setup...		
Recent File		
Manage Local Cache		
Manage Time Zone		
Exit		

**New:** Closes the chartbook that is open and creates a new blank chartbook.

**Open:** Opens an already saved chartbook.

**Save:** Saves the chartbook you have open.

**Save As:** Saves the chartbook you have open as a new file, or over an existing file.

**Print:** Prints the chart window.

**Print Setup:** Gives options for printing the chart window.

**Recent File:** Lists the last eight chartbooks that have been opened.

**Manage Local Cache:** Edit Cache history.

**Manage Time Zone:** Modifies time zone settings.

**Work Offline:** Disconnects from the data feed.

**Exit:** Closes the program.

## View Menu

View	Help
✓ Hide Closed Orders	
• Cursor Price	
Last Price	
✓ Chart Window	
Web Window	
✓ Status Bar	
Toolbars	▶
✓ Show Drawing Tools	
Sound Events...	
Commodity Chooser...	
Control Panel Left Side	

**Hide Closed Orders:** Hides any orders that have been closed.

**Cursor Price:** Shows statistics of where the cursor is on a chart in the Status Bar.

**Last Price:** Shows the last price information in the Status Bar.

**Chart Window:** Makes charts viewable in the chart window.

**Web Window:** Opens the Track 'n Trade Live web site in the chart window.

**Status Bar:** Makes the Status Bar appear at the bottom of the program screen.

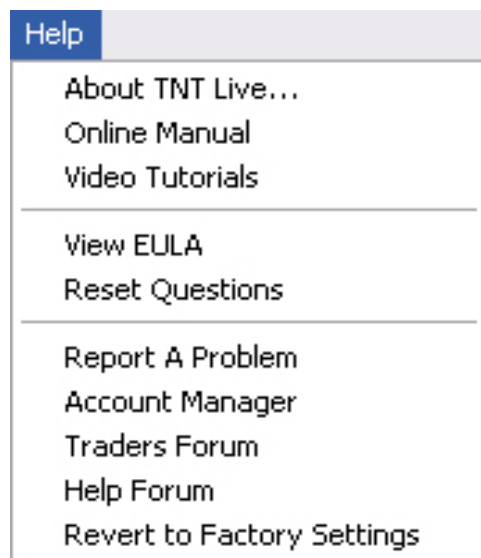
**Toolbars:** Choose which toolbars to display.

**Show Drawing Tools:** Toggles drawing tools on and off.

**Sound Events:** Modifies sound alerts.

**Commodity Chooser:** Brings up commodity chooser window.

**Control Panel Left Side:** Puts the Control Panel on the left side of the chart.



**About TNT Live:** Shows the version of Track ‘n Trade Live installed. Also shows what account you are currently signed-on to.

**Online Manual:** Opens the online manual in your chart window.

**Video Tutorials:** Link to online video tutorials of Track ‘n Trade Live.

**View EULA:** View the End License User Agreement.

**Reset Questions:** Reset notification warnings of deletions.

**Report a Problem:** Shortcut to reporting a bug or problem with the software.

**Account Manager:** Log-on to the Account Manager to change your personal information, order a new product, and monitor your data services.

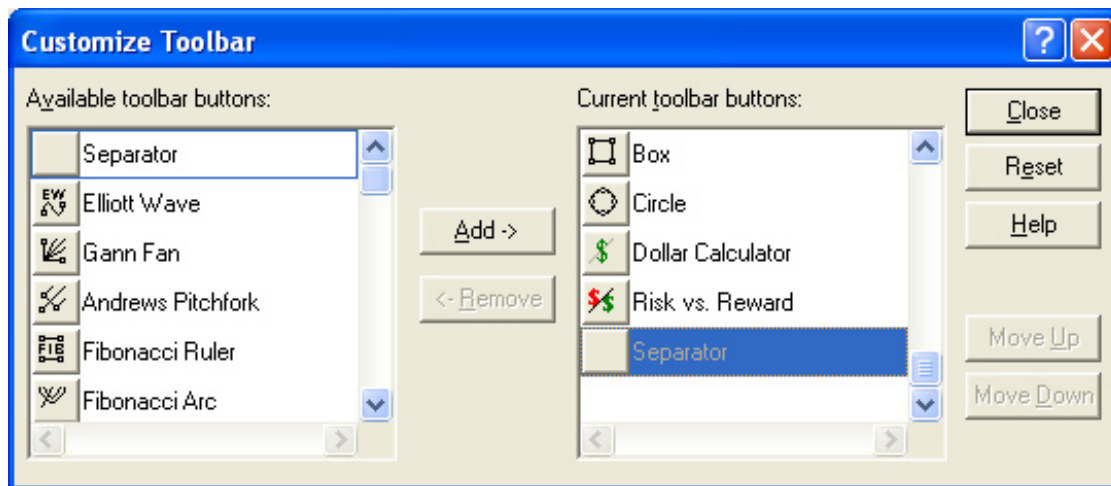
**Traders Forum:** Log-on to the Traders Forum to talk with other traders.

**Help Forum:** Opens Gecko Software technical support forum

**Revert to Factory Settings:** Resets all settings to TNT default. All custom settings will be lost. This will not change saved book preferences.

## Toolbars

Each toolbar can be customized to fit your trading needs. To customize a toolbar, place mouse over the toolbar and right click, then select Customize Toolbar.



To add buttons, select desired buttons and click Add. To delete unwanted buttons, select and click Remove. To restore default buttons, click Reset. When you have made your changes, select Close to save your changes and return to the program.

### Main Toolbar



*New:* Closes your current Chartbook and opens a new Chartbook.



*Open:* Closes your current Chartbook and opens a window for you to choose a previously saved Chartbook.



*Save:* Saves your open charts as a Chartbook.



*Print:* Prints the Chart Window.



*Help:* Click on this button, then click anywhere in the software to learn more about that feature.

## Navigations Toolbar



*Pointer:* Default tool used for selecting tools and features in the software.



*Magnifier:* Used to magnify a section.



*Hand:* Scrolling tool used in chart window. Click and drag a chart to scroll.

## Charting Toolbar



*Crosshair Tool:* Used to draw a line vertically and horizontally on a chart.



*Line Tool:* Used to draw support/resistance lines.



*Multi-Line Tool:* Used to draw an alternating support/resistance line.



*Arc Tool:* Used to illustrate a Rounded Top/Bottom Formation.



*Day Offset Tool:* Measures the number of trading days vs. actual days that are between two points.



*1-2-3 Tool:* Used to chart a 1-2-3 Top/Bottom formation.



*Head and Shoulders Tool:* Used to identify either a Head & Shoulders Top or Bottom Formation.



*Dart (Blip) Tool:* Used to chart a Dart (Blip) Up or Down Formation.



*Wedge and Triangle Tool:* Used to identify any type of Wedge or Triangle.



*Trend Fan Tool:* Used to identify a Trend Fan.



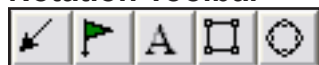
*Trend Channel Tool:* Used to identify an Inclining or Declining Channel.



*Horizontal Channel Tool:* Used to Identify a Horizontal Channel.



*N% Ruler:* Used to measure a retracement. Default is %50.

**Notation Toolbar**

*Arrow Tool:* Used to draw arrows to help point out areas of interest.



*Flag Tool:* Used to place a flag or a graphic.



*Text Tool:* Used to type text.



*Box Tool:* Used to draw a box.



*Circle Tool:* Used to draw a circle.

**Calculators Toolbar**

*Dollar Calculator:* Used to find the dollar value between two points on the chart.



*Risk/Reward Calculator:* Used to find the difference between two points of the risk and reward zone.

**Advanced Technical Toolbar**

*Elliott Wave Tool*



*Gann Fan Tool*



*Andrews Pitchfork Tool*



*Fibonacci Ruler*



*Fibonacci Arc Tool*



*Fibonacci Time Zones*

**Time Interval Toolbar**





*Daily Chart:* Each chart price bar represents a day.

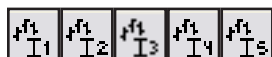


*Weekly Chart:* Each chart price bar represents a week.



*Monthly Chart:* Each chart price bar represents a month.

The following buttons are integrated with the *Time Interval Tabs* found on the bottom of a chart at full screen. They can be customized to play the chart at minute intervals from 1 to 60.



## Screen Capture Button

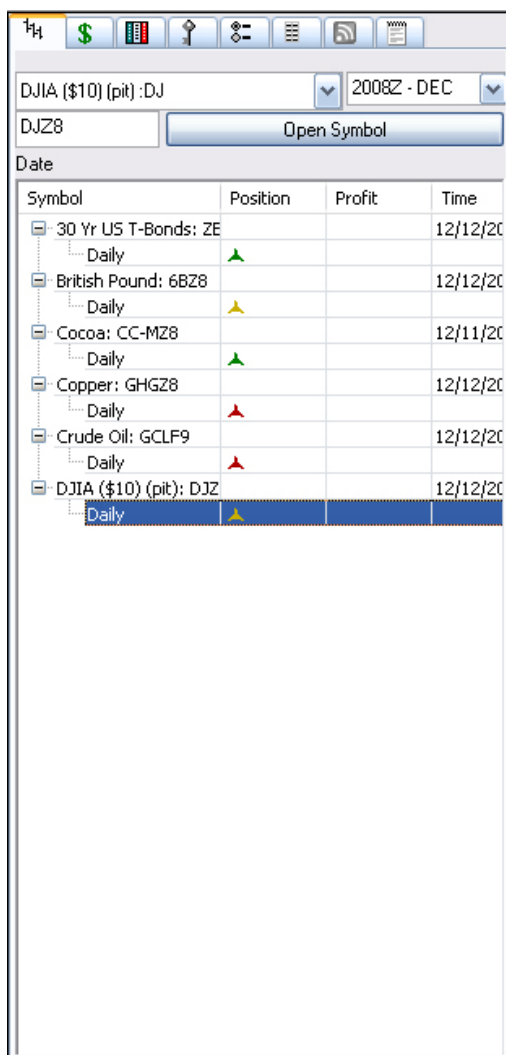


Saves your open chart as an image. Holding down Alt while you click this button will save the chart and control panel to file. Ctrl-click will copy the screenshot to your clipboard (making it ready to paste). Ctrl-Alt-click will copy your chart window plus your control panel to your clipboard.

## Control Panel

The control panel is on the left side of your screen. It includes eight tabs: Charts, Account, Reports, News, Preferences, Data, Notes, and Depth of Market.

## Charts Tab



In the Charts Window you will see all the symbols you have opened, the name of the chart, and the change in price of that chart since it opened.

To view a specific chart at full screen, double click on the symbol in your Charts Window, or right-click on the symbol and select Open Chart.

To delete a chart select it in your Charts Window and hit the delete button on your keyboard, or right-click on the symbol and select Delete Chart.

The more charts you open, the slower your computer will run.

**Note:** If you find your computer running slow, you may need to break your charts into two or more chartbooks.

## Account Tab



The Chart Quote Window shows a history of quotes. Customize this window by adjusting the Show Change Form to show the change from the Previous Price Bar, Previous Day, or Previous Quote.

**Order Placement:** Displays details of the order you are placing. The time, date, and market you are buying are determined by the date your chart is played to and what market you have open. Once your order is placed, it will not show in your Accounting Simulator until the order is filled.

**Locally Held Order:** This type of order is temporarily held locally at your computer. It is only sent as an actual order when the markets meet the proper conditions of your order. Locally held orders are only available in the Forex version of Track 'n Trade.

**Trailing Stop:** You can only select this option on a Stop Order. It will follow an open position and protect profits by trailing a market rise or decline. You can choose to set your Trailing Stop by Dollar amount, Price Bars Back, or by following the PSAR or Zig Zag indicators.

**Account Overview:** View a detailed overview of your current symbol. Includes the ticker symbol, exchange, open/close data, and much more.

The account Statement button will give you access to a detailed tabulation of your account history.

## Depth of Market Tab



The DOM or Depth of Market Tab is comprised of a multi-colored, multi-column trading tool, where the user can see a sliding scale of market prices. On either side of the market price scale, are columns, one representing the Bid, and the other representing the Ask. The Bid, or Sell side of the market is represented in Red, and the Ask side, or Buy side of the market is represented in green. The market Volume column is on the far right of the price ladder, and represents the volume of contracts traded through that particular trading session, and highlights in blue the volume as a chart.

To place an order to buy the market: Using your mouse pointer, left click the price you would like to “buy” at within the green price ladder. If you click above the market, you will be placing a buy stop at the specified price, if you click below the current market price, you will be placing a buy limit order below the market.

To place an order to sell the market: Using your mouse pointer, left click the price you would like to “sell” at within the red price ladder. If you click above the market, you will be placing a sell limit order above the market at the specified price, if you click below the current market price, you will be placing a sell Stop order below the current market price.

As long as you do not hover your mouse over the price ladder, it will continually update the price ladder and automatically scale the price scale so that the current price is continually centered within the ladder. Once you hover your mouse over the top of the price ladder, the scale will “freeze,” giving you the ability to place your order without having the price ladder move out from under your mouse.

## Key Tab

Field	Label
<b>Key Information</b>	
Name	British Pound
Symbol	6BZ8
Base Symbol	6B
Type	Electronic
Contract Size	625.00
Contract Units	British Pounds
Tic Units	Cents
Minimum Move	0.01
Currency	USD
Exchange	CME
Expiration Date	12/15/2008
Initial Margin	\$ 4,590.00
Maintenance Margin	\$ 3,400.00
Day Margin	\$ 2,295.00
Sunday Open Time	2:00:00 PM
Open Time	4:00:00 PM
Close Time	3:00:00 PM

One contract represents 625.00 British Pounds.

A tick, or minimum move is 1 / 100 (0.010000) Cents per British Pounds and worth \$6.25 per contract.

A full point movement is 1 (1.00) Cents per British Pounds and worth \$625.00 per contract.

This section displays the key details and data from the contract displayed in the Chart Window. (Terms are explained in depth in the Introduction to Futures chapter.)

**Symbol:** Gecko Software's symbol for the commodity.

**Name:** Name of the commodity.

**Group:** The group is a category for commodities.

**Exchange:** The exchange is where the commodity's trades are processed.

**Contract Size:** Number of units that one contract represents.

**Contract Units:** The unit of measurement.

**Tic Size:** The tic size is defined as the smallest increment the quote of a contract will fluctuate.

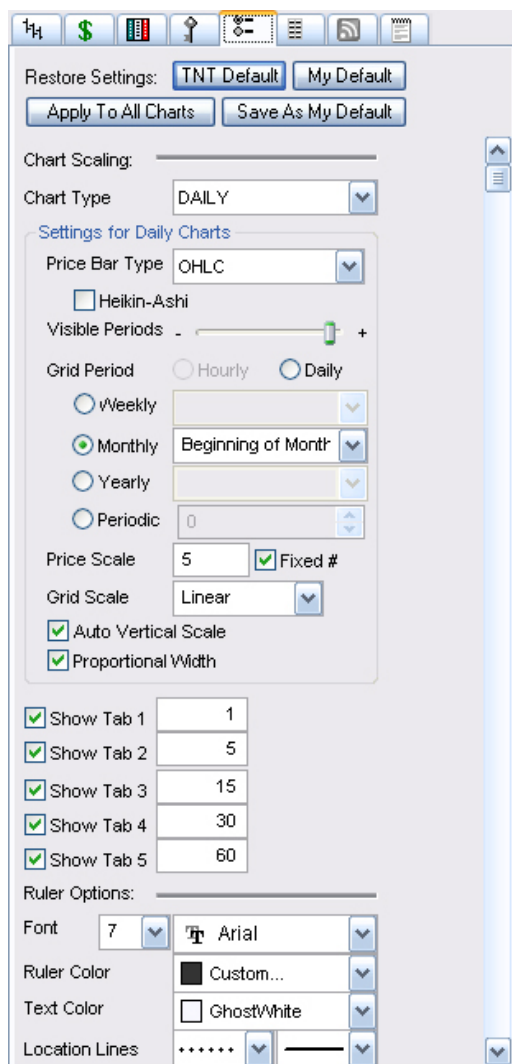
**Minimum Move:** Tic size represented as a decimal value.

**Tic Units:** The unit of measure for quotes. This unit should be the same as the unit that the Exchange uses.

**Full Point Value:** This value represents what a move in the ones place is worth.

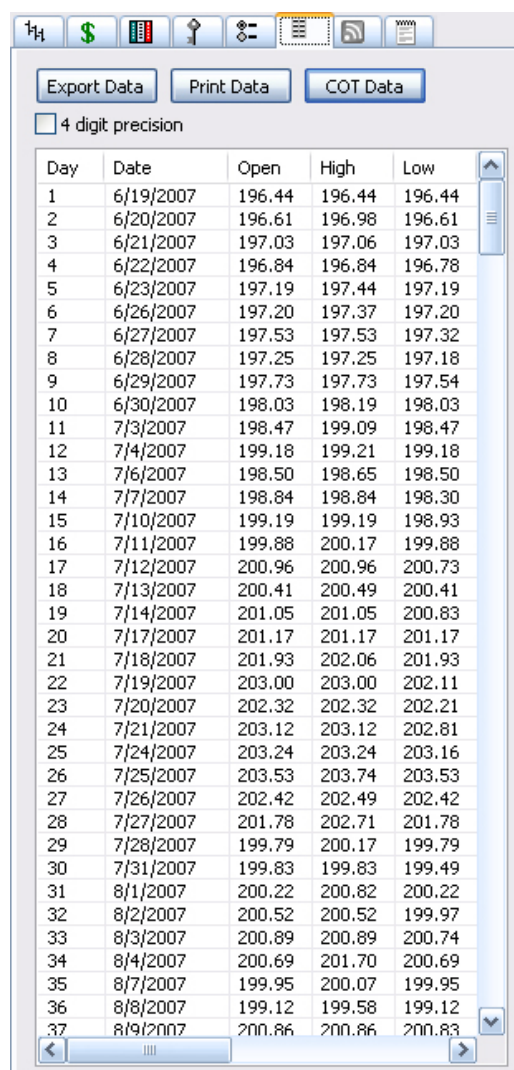
**Init. Margin:** The initial margin for your account.

## Preferences Tab



The Preferences Tab will help you customize how your chart, and information on it, looks. It will also show the options for customizing Technical Tools and Indicators. There are many different features found on the Preferences Tab.

## Data Tab



Day	Date	Open	High	Low
1	6/19/2007	196.44	196.44	196.44
2	6/20/2007	196.61	196.98	196.61
3	6/21/2007	197.03	197.06	197.03
4	6/22/2007	196.84	196.84	196.78
5	6/23/2007	197.19	197.44	197.19
6	6/26/2007	197.20	197.37	197.20
7	6/27/2007	197.53	197.53	197.32
8	6/28/2007	197.25	197.25	197.18
9	6/29/2007	197.73	197.73	197.54
10	6/30/2007	198.03	198.19	198.03
11	7/3/2007	198.47	199.09	198.47
12	7/4/2007	199.18	199.21	199.18
13	7/6/2007	198.50	198.65	198.50
14	7/7/2007	198.84	198.84	198.30
15	7/10/2007	199.19	199.19	198.93
16	7/11/2007	199.88	200.17	199.88
17	7/12/2007	200.96	200.96	200.73
18	7/13/2007	200.41	200.49	200.41
19	7/14/2007	201.05	201.05	200.83
20	7/17/2007	201.17	201.17	201.17
21	7/18/2007	201.93	202.06	201.93
22	7/19/2007	203.00	203.00	202.11
23	7/20/2007	202.32	202.32	202.21
24	7/21/2007	203.12	203.12	202.81
25	7/24/2007	203.24	203.24	203.16
26	7/25/2007	203.53	203.74	203.53
27	7/26/2007	202.42	202.49	202.42
28	7/27/2007	201.78	202.71	201.78
29	7/28/2007	199.79	200.17	199.79
30	7/31/2007	199.83	199.83	199.49
31	8/1/2007	200.22	200.82	200.22
32	8/2/2007	200.52	200.52	199.97
33	8/3/2007	200.89	200.89	200.74
34	8/4/2007	200.69	201.70	200.69
35	8/7/2007	199.95	200.07	199.95
36	8/8/2007	199.12	199.58	199.12
37	8/9/2007	200.86	200.86	200.83

The Data Tab will give you the historical data for each day a specific symbol has traded. It will give you the open price, close price, highest price, and lowest price on the day. It will also show the volume traded. You have the option to print the data for your records, or export the data for use another way. Also, values for indicators are added when the indicator is open.

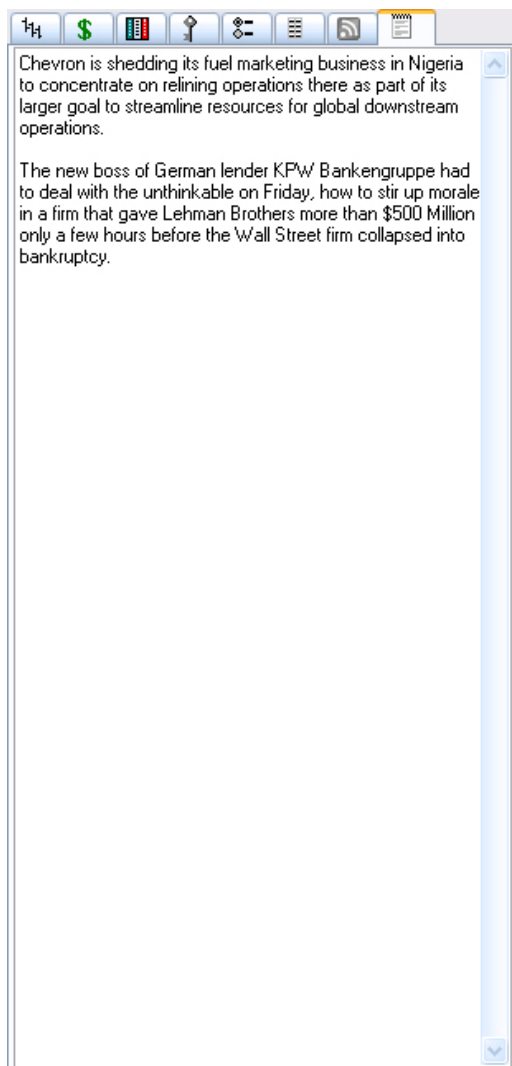
## News Tab



The News Tab is a wonderful resource for gathering outside information. Under the Providers section will be a list of the news providers Track 'n Trade Live is downloading information from. You can add or delete providers from this list by right-clicking on the provider and selecting add or delete. Under the Articles section is a list of articles on the markets. Simply click on them and the article will show in your chart window.



## Notes Tab



The Notes Tab is for your convenience to use as a note pad for your research and trading strategy. A separate note pad is provided for each chart.

### Chartbooks

Just like a novel is made up of many single pages, a chartbook contains many individual charts. Each chartbook can contain several charts, each individual chart becoming the “pages” of your chartbook. Every time you open Track ‘n Trade Live, a blank chartbook named Book1 will open. You can either continue with this new chartbook or open a chartbook that has already been saved.

### Opening a Chart

To open a chart, type in the symbol in the Symbol Entry Bar or click on the arrow to the right of the box and select from the dropdown menu. If you do not know the symbol of the market you want to see, select Look Up Keyword for stocks or type in the Forex Market and click Open for Forex.

### Opening Multiple Charts

You can open multiple charts and view them at the same time. The charts will automatically adjust to fit into your Chart Window. Opening too many charts can slow down your computer. If you notice slow downs in your system you may want to break up your charts into two chartbooks or more.

To maximize a chart, double-click on the name of the chart in the Control Panel, or select the maximize button on the top right hand corner of the chart.

To restore the chart to full screen view in your chart window with multiple charts open, click on the restore down button on the top right hand corner of the chart.

To minimize a chart, select the minimize button on the top right hand corner of the chart. This will not delete your chart or any notations or tools you have placed on it. It will only eliminate it from your chart window.

To restore your chart, double-click on the name of the chart in the Control Panel charts list.

To close a chart and remove it from your list of charts, click the X on the top right hand corner of your chart. This will delete any notation or technical tool you have drawn on the chart.

### Saving Chartbooks

Once you have opened all the charts you would like to save in a Chartbook there are two ways to save it. (1) You can click on the Save button found in the Main Tools, or (2) you can choose File from the Menu Bar and select Save.

To save over or replace a Chartbook that has already been saved, select Save As from the File Menu, and select the chartbook you want to save over.

## Printing

To print your Chart Window, select the Print button in your Main Tools, or select Print from the File Menu. To print only one chart, maximize it in your Chart Window, then select print.

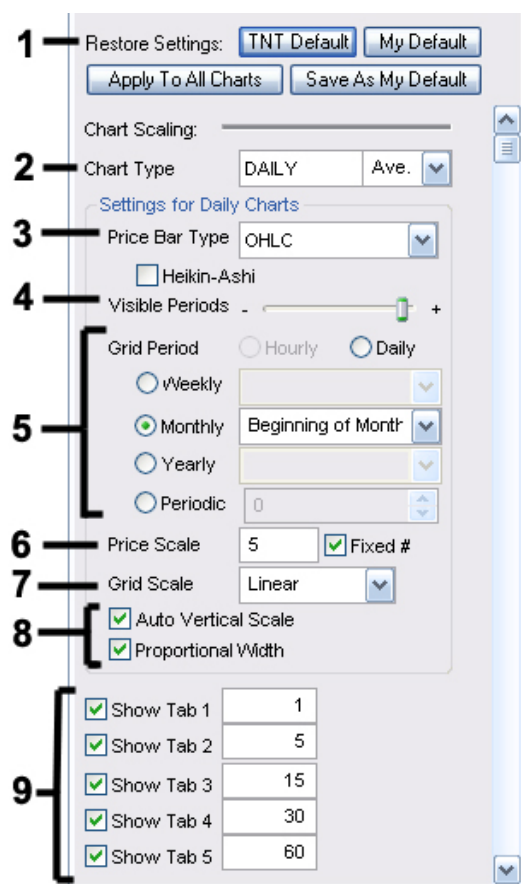
## Charting Preferences

The Chart Preferences Tab is used to control how your chart looks. You can change your price bar style and color, background color, scaling, and even control time intervals. You can also choose to have different styles for each chart, or apply your favorite chart style to all your charts.

The Charting Preferences Tab is located on the Control Panel. To view the Charting Preferences Tab, right-click on the chart and select Chart Preferences, or click on the Preferences Tab in the Control Panel. The Charting Preferences Tab includes Chart Scaling, Ruler Options, Charting Colors, Price Bars, and Onscreen Indicators.

## Chart Scaling

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.



- 2. Chart Type:** Sets the time interval each price bar will represent. You will have different grid options depending on what chart type you choose.

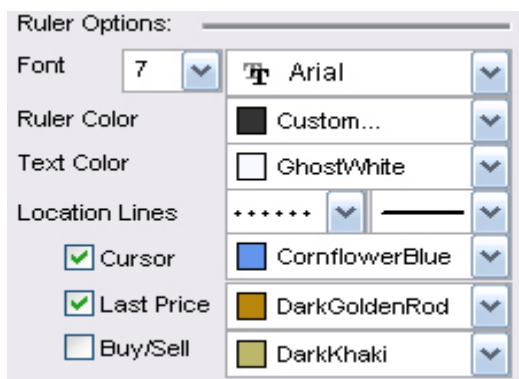
\*Forex section will have a drop-down menu next to the Chart Type to set the price bar according to the sell (bid), buy (ask), or average of the two on a Forex Chart.

- 3. Price Bar Type:** Choose what information you want your price bar to include.
  - OHLC: Open, high, low, and close
  - HLC: High, low, and close
  - Close: Close price only
  - Open: Open price only
  - Candlestick: open, high, low, and close in a Japanese Candlestick style
  - None: No price bars will be displayed on the chart
- 4. Visible Periods:** Scaling tool to make the chart wider or narrower to view different sections of time periods.
- 5. Grid Period:** Sets vertical grid lines at specific intervals. For example, if you have selected a 5, 10, 15, 30, or 60 minute chart type your grid period settings will be limited to hourly, daily, or periodically. However, if you select a daily, weekly,

or monthly chart type your grid period settings will be open to selecting any day of the week or month. You can also set your grid line to show daily, or at the beginning of each month, as well as selecting to show them periodically, as shown on the previous page.

- 6. Price Scale:** Sets the amount of horizontal price grid lines you see on your chart.
- 7. Grid Scale:** Linear will keep your grid lines evenly distributed. Logarithmic will continually decrease the amount of space between horizontal grid lines as the price goes up.
- 8. Auto Vertical Scale:** keeps the price bars vertically centered on your chart. Proportional Width changes price bar thickness according to scale.
- 9. The Show Tab:** section below the settings is integrated with the Time Interval Tabs on the bottom left corner of your chart. You can hide/show each tab on your chart by checking the box next to it. You can then set the time interval you want your price bars shown in the box next to each tab number.

## Ruler Options



**Font:** Change the font and size of the text on the ruler.

**Ruler/Text Color:** Change the background and text color of the ruler.

**Location Lines:** Change the line style and thickness of your ruler lines.

**Cursor, Last Price, Buy/Sell:** Select if you would like to see location lines, a last price line, or buy or sell prices on your chart and what color.

## Charting Colors

The **Charting Colors** section changes the look of your chart by allowing you to change the background color of the chart and letting you change the color of the horizontal and vertical grid lines.

## Price Bars

The price bars, or tics, on your chart can be colored in two different ways.

You can select **Close** to shade them according to their close price, or you can select **Alt Days** (alternating days) to shade them by odd and even days.

In the **Highlight** section, you have the choice of highlighting the price bar you are over, or highlighting the entire day you are over.

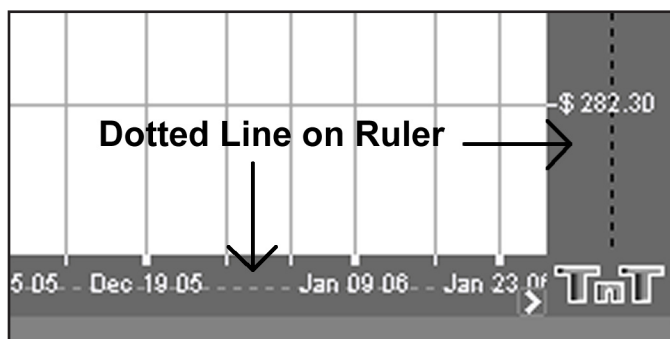
## Onscreen Indicators

In the **Onscreen Indicators** section, you have the ability to change the font, size, and style of the text displayed onscreen.

Click on the **Overlay Text** checkbox to display text for an indicator on your chart, then choose

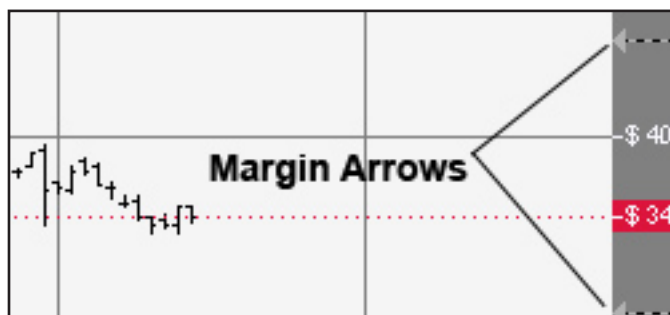
whether you would like the text to appear at the top or bottom of the chart. Also, check the **Split Marks** box if you would like those points displayed on the chart. Split Marks show when a market is split into two markets. Choose your desired color for the split marks as well.

## Scaling



On your ruler you will see a dotted line splitting it in half. If you want to move your chart horizontally or vertically, click and drag the section of the ruler bar closest to the chart. To scale your chart horizontally or vertically, click and drag the section of the ruler bar farthest from the chart.

## Margin Arrows



On the Ruler Bar you will notice four Margin Arrows, two on the right ruler, and two on the bottom ruler. These arrows are used to center your chart within these “margins.” To move the margin click on the arrow, continue holding down the mouse button, and drag to the new location. Then click on the center chart button to resize the chart.

## Chart Right-Click Menu

The right-click menu is a shortcut to customize your chart, add overlay indicators, add indicator windows below your chart, and change other features. Make sure your pointer is selected on your navigation menu, then select the chart and right-click. The following menu will appear.



**Play to Date:** Your cursor should be in line horizontally with the date you want the chart to play to. Select this option and the chart will either erase price bars to the date or play price bars up to the date you have selected.

Choose what **Price Bar Type** you would like to view. **Chart Type** will change the time intervals. **Proportional Width** will make your price bar width proportional to the scale of your chart. **Autoscale Chart** will center your price bars within the height of your chart. **Hide Buy/Sell Arrows** will show or hide your arrows for the indicator selected. Choose to show your **On Screen Text** and where you want it to appear.

Select which **Chart Overlays** you would like to appear on the chart. Or if you would like to **Add Indicator Window** at the bottom of your chart window.

**Apply Settings to all Charts** will apply your selected settings on all open charts. **Save Settings As My Default** will save your current personal settings. **Restore Defaults** will change your settings back to the original software settings or to your personal saved settings.

**Chart Preferences:** Select to display the Chart Preferences Tab to the left of your chart.



# Charting Tools

Let's Get Technical

6

## Introduction

Track 'n Trade Live has a complete set of charting tools that enable the futures trader to apply concepts from technical analysis to their charting. Take a look at some of the technical analysis formations and trends in this chapter and see how to apply these concepts in trading with Track 'n Trade Live charting tools.

## Crosshair Tool



The first tool in the Charting toolbar is the Crosshair tool. This tool is helpful when lining up your technical indicators and recurring price patterns.

The Crosshair Tool is used to draw a line vertically and horizontally on the chart. To help place the crosshair line on a specific value you will notice the cursor price is displayed on the vertical line of the crosshair.

### Basic Instructions

#### Charting a Crosshair:

1. Select the Crosshair Tool from the Technical Toolbar.
2. Click on the Chart Window to place the crosshair.

#### Moving a Crosshair:

1. To select the crosshair, click on the center point or lines of the crosshair and drag to the new location, release mouse button to place. Note: The tool is selected when a box appears at the center point.

#### Deleting a Crosshair Drawing:

There are two ways to delete the Crosshair tool.

1. Select the crosshair drawing by clicking on it, and then press the delete key on your key board.
2. Place the mouse cursor over the crosshair and then right-click. In the menu, select "Delete."

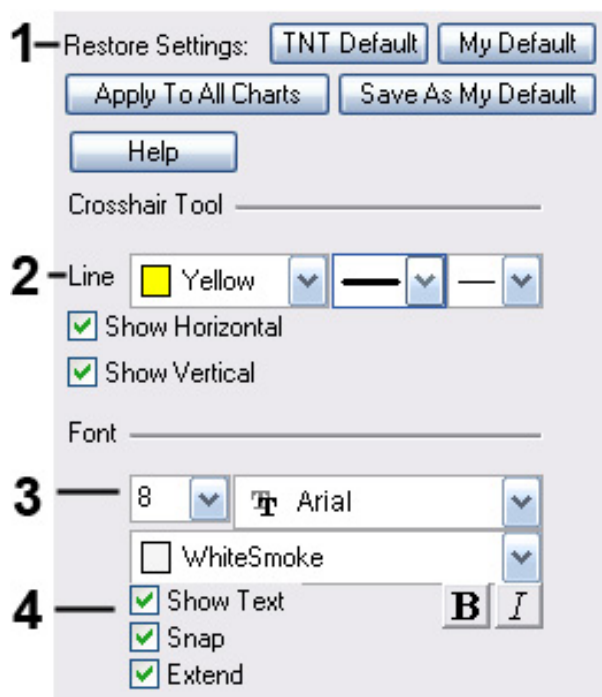
#### Deleting Only the Horizontal/Vertical Line of the Crosshair:

1. Right-click on the center point of the crosshair to view the Properties menu.
2. Select/Deselect "Show Horizontal/Vertical Line." A check will appear in front of the item when it is selected.

## Preferences

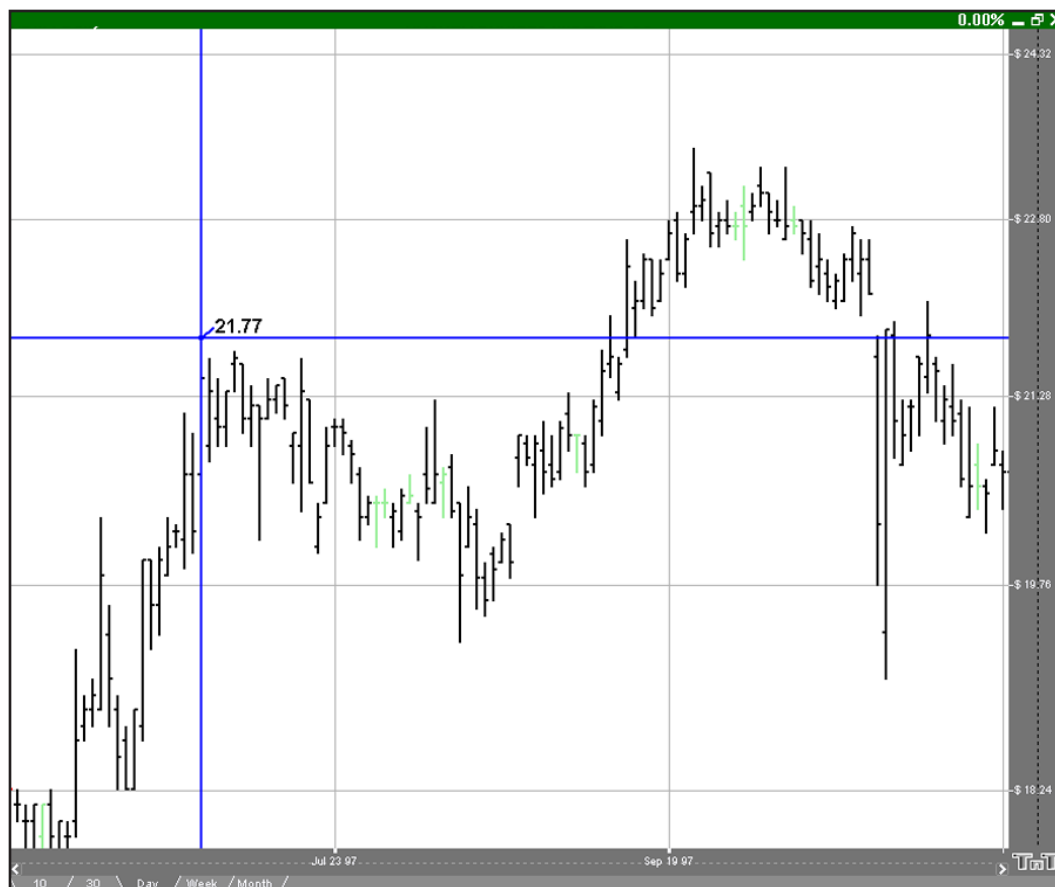
Select the crosshair by clicking on it. The properties will appear in the preferences section of your control panel.

- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** You can choose the color, line style, and line thickness of your crosshair. Deselect Show Horizontal Line or Show Vertical Line to hide your lines.
- 3. Font:** Select the font, size, and color of the text. You can also choose to bold or italicize your text. Select the checkbox next to Show Text to hide or show your text on the chart.
- 4. Snap & Extend:** Snap allows the vertical line to snap to price bars when moved. Extend extends your vertical line into all indicator windows you have open.

## Example of the Crosshair Tool:



## Line Tool



### Basic Instructions

#### Drawing a Line:

1. Select the Line Tool.
2. Left-click on the chart where you want the line to begin.
3. Hold down the mouse button and move to the position where the line ends.
4. Release the mouse button to place.
- 5.

#### Resizing the Line:

1. Select the line drawing by clicking on it. The line is selected when boxes appear at the ends of the line.
2. Click on one of the boxes and drag it to the desired length. Release the mouse button to place the end point of the line.

#### Moving the Line:

1. Select the line drawing by clicking on it.
2. Click on the line (not on a box) and drag the line to the new location. Release the mouse button to place.

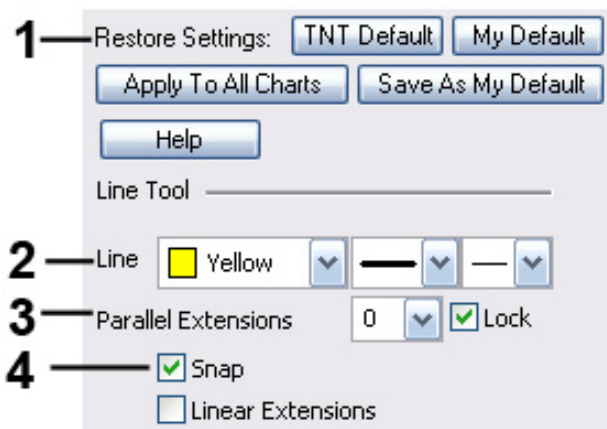
#### Deleting the Line:

1. Click on the Line drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select "Delete" on the menu.

## Preferences

Select the line drawing by clicking on it. The properties will appear in the preferences section of your control panel.

- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Parallel Extensions:** To add parallel lines above and below the line you drew, select from the drop-down menu how many lines you would like to add. Select the checkbox by Lock to have equal space between the lines, and unselect the box if you would like to move them independently.
- 4. Snap:** Allows the line to snap to price bars when moved.

# Example of the Line Tool:

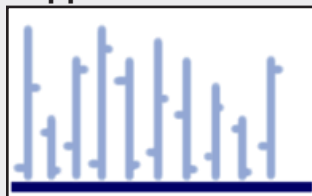


*The remaining technical tools are used to identify technical analysis formations and trends. Take a look at the different patterns available then read about how to use each of the technical tools and apply the technical concepts learned.*

### Support and Resistance - Technical Analysis

*Markets have a tendency to move in troughs and peaks or, more appropriately, “Support and Resistance.”*

#### Support



These troughs are called support, indicating that support is level. This shows that buying interest is strong enough to overcome selling pressure. A decrease in price is reversed and prices rise once again. Typically, a support level is identified by a previous set of lows.

#### Resistance



Resistance is essentially the opposite of support. Resistance is defined as a horizontal ceiling where the pressure to sell is greater than the pressure to buy. An increase in price is reversed and prices revert downward. Typically, support can be located on a chart by a previous set of highs.



## Multi-Line Tool



Some contracts will have a continuous line, or trend, of alternating support and resistance. You may illustrate these trends with the Line or Multi-Line Tools.

### Drawing the Multi-Line:

1. Select the Multi-Line Tool.
2. Left click on the chart where you want the line to start.
3. Move the mouse to the next point on the multi-line and lift-click to place.
4. Repeat step 3 until the last point. When placing the last point on the multi-line, right-click to finish.

### Resizing the Multi-Line:

1. Select the multi-line drawing by clicking on it. You will know it is selected when boxes appear at the ends of the multi-line.
2. Click on a box and drag to the desired length. Release the mouse button to place the end point of the multi-line.

### Moving the Multi-Line:

1. Select the multi-line drawing by clicking on it.
2. Click on the multi-line, not a box, and drag it to the new location. Release mouse button to place.

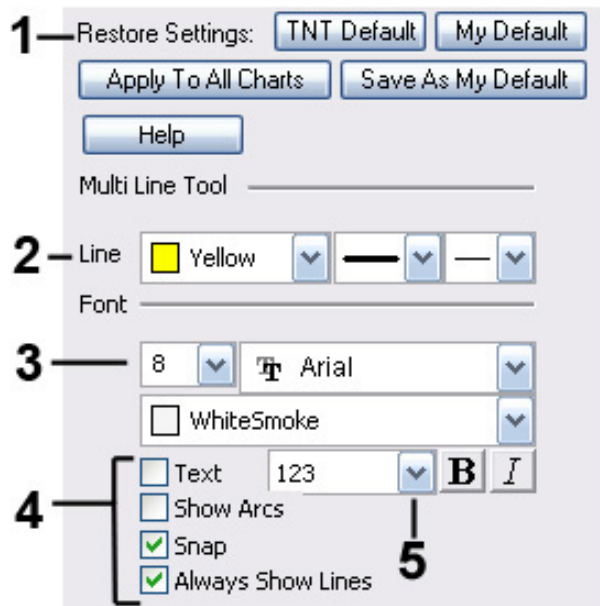
### Deleting the Multi-Line:

1. Click on the Multi-Line drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

Select the line drawing by clicking on it. The properties will appear in the preferences section of your control panel.

1. **Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Font:** Select the font, size, and color of the text. You can also choose to see numbers or letters. Select Text to hide or show your text on the chart.
4. **Show Arcs:** Select to hide/show arcs on points of the multi-line. **Snap:** Allow the line to snap to price bars when moved. **Always Show Lines:** Select to keep lines on chart even when the multi-line is unselected.
5. **Points:** Select from options in the drop down dialog box to determine how you prefer to display the labelling of each point of the Multi-Line Tool.

# Example of Multi-Line Tool:



## Arc Tool



### Basic Instructions

#### Drawing a Rounded Top Formation:

1. Select the Arc Tool.
2. Click your mouse on the left side of the arc and drag the mouse to the right side, release the mouse to place the tool.

#### Resizing the Arc:

1. Select the drawing by clicking on it. Note: The arc is selected when boxes appear on the corners of the drawing.
2. Click on one of the boxes to drag the select point and release the mouse button.

#### Moving the Arc:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

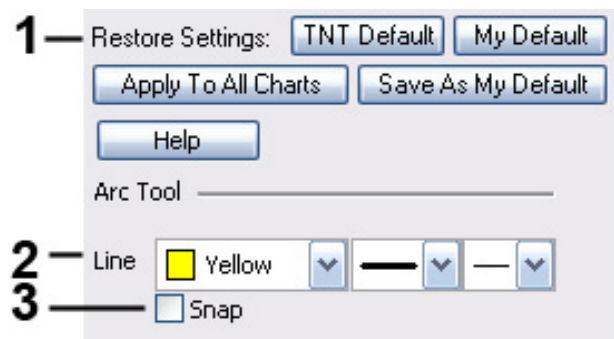
#### Deleting the Arc:

1. Click on the arc drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

### Preferences

Select the drawing by clicking on it. The properties will appear in the preferences section of your control panel.

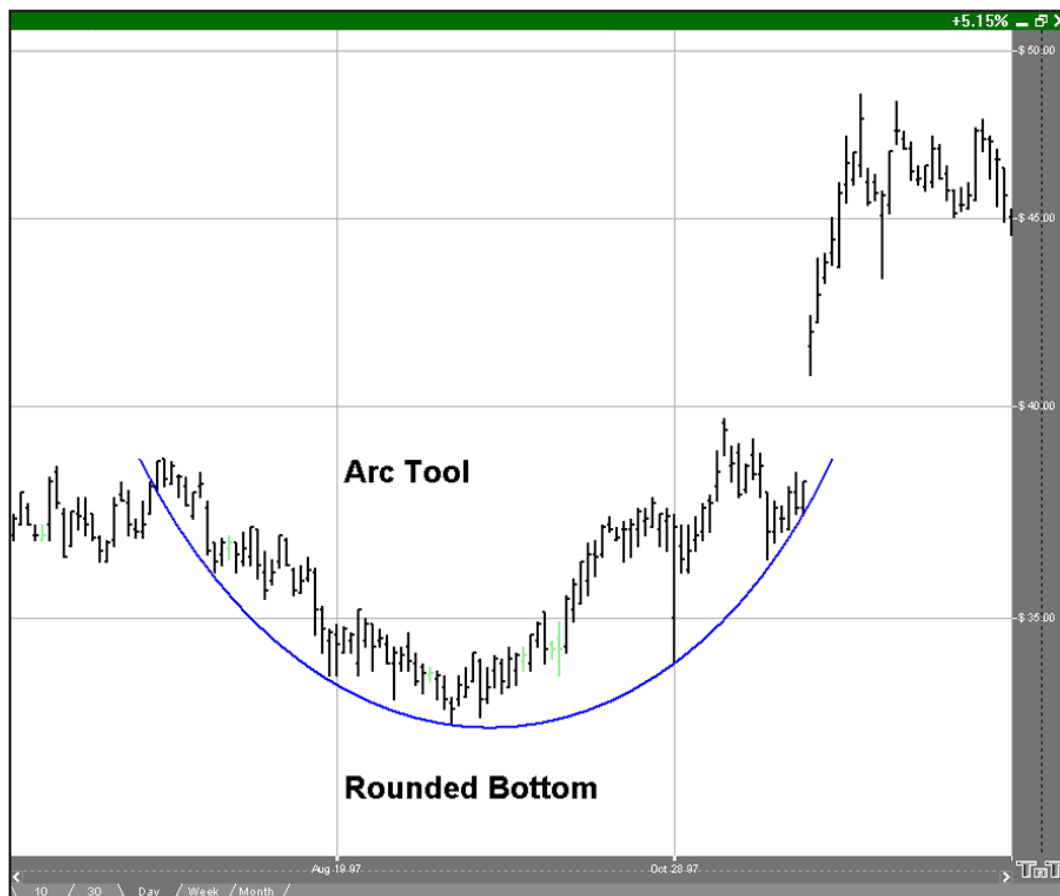
1. **Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



2. **Line:** From here you can choose the color, line style, and line thickness.

3. **Snap:** Check to have arcs drawn to snap to price bars when moved.

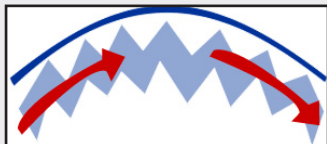
# Example of the Arc Tool:



Charting Tools

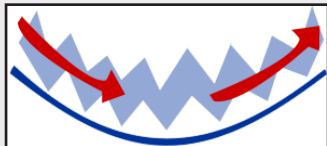
## Rounded Top & Bottom Formations

*The Rounded Top & Bottom formation is a very gradual change in trend.*



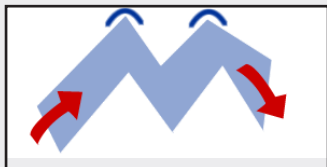
### Rounded Top

The Rounded Top formation consists of a gradual change in trend from up to down.



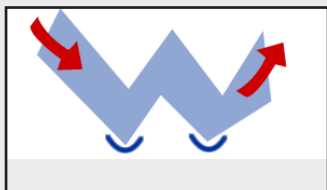
### Rounded Bottom

The Rounded Bottom formation consists of a gradual change in trend from down to up. This formation is the exact opposite of a Rounded Top Formation.



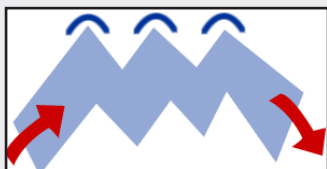
### Double Top

This formation includes two distinct “tops” and anticipates a change in trend from up to down.



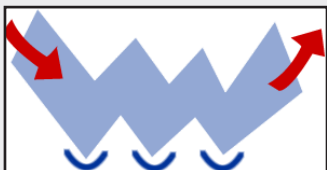
### Double Bottom

This formation includes two distinct “bottoms” and anticipates a change in trend from down to up. This formation is the exact opposite of a Double Top.



### Triple Top

This formation includes three distinct “tops” and anticipates a change in trend from up to down.



### Triple Bottom

This formation includes three distinct “bottoms” and anticipates a change in trend from down to up. This formation is the exact opposite of a Triple Top.

## Day Calculator Tool



The Day Calculator tool enables you to measure the number of trading days versus actual days that are between two points on the chart. Also calculated on this tool is the number of days that the market closed high or lower in comparison with the previous day.

### Basic Instructions

#### Drawing a Day Calculator:

1. Select the Day Calculator Tool from the Toolbar.
2. This tool is drawn like a line. Click for the left point.
3. Move the mouse to the right position and click to finish.

#### Resizing the Day Calculator:

1. Select the drawing by clicking on it. Note: The drawing is selected when boxes appear on the corners of the drawing.
2. Click on one of the boxes to drag the select point and release the mouse button.

#### Moving the Day Calculator:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

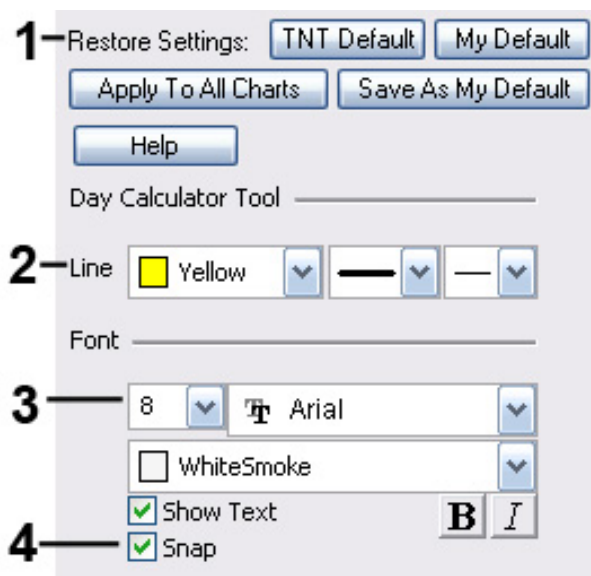
#### Deleting the Day Calculator:

1. Click on the arc drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

Select the drawing by clicking on it. The properties will appear in the preferences section of your control panel.

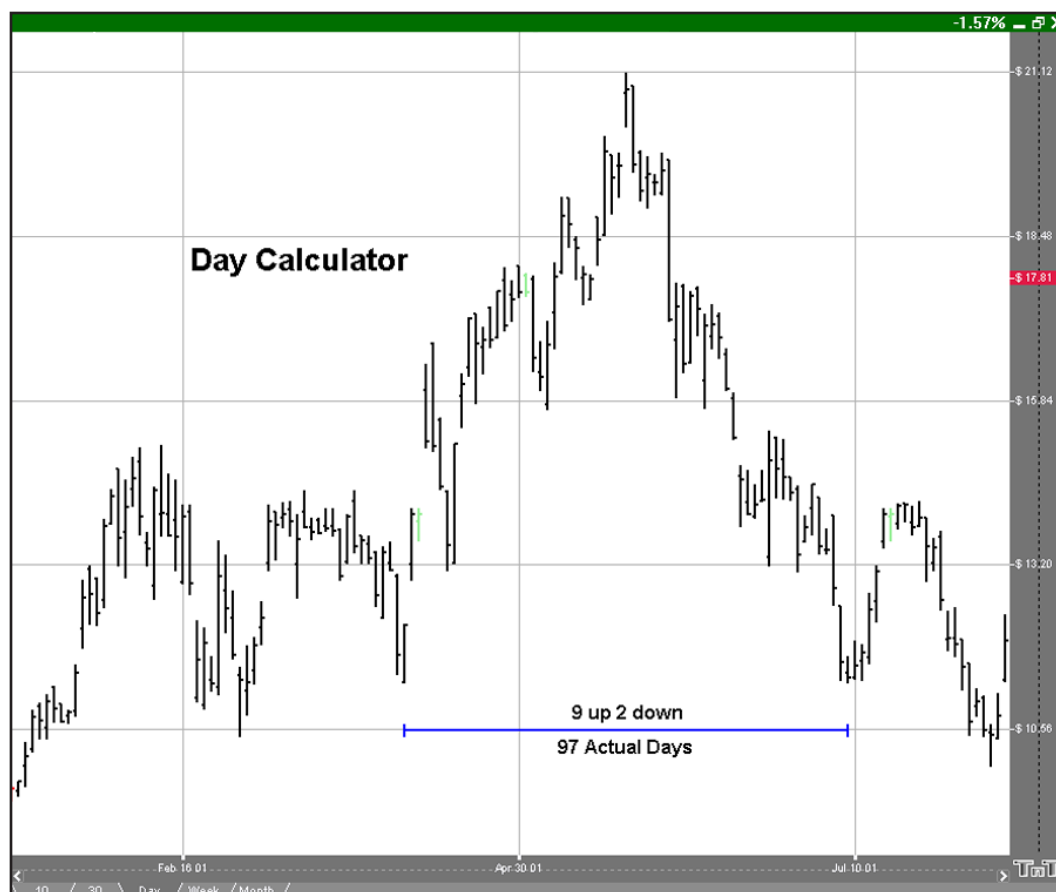
- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size, and color of the text. Select **Show Text** to hide or show your text on the chart.
- 4. Show Text / Snap:** Select the checkbox next to Show Text to hide/show your text on the chart. Check Snap to have the day calculator snap to price bars when moved.



# Example of the Day Calculator Tool:



## 123 Tool



Use the 123 tool to chart both top and bottom formations.

### Basic Instructions

#### Drawing a 1-2-3 Top/Bottom:

1. Select the 123 tool from your Charting toolbar.
2. Position the mouse pointer over the spot you would like to place the #1 point and click to place.
3. Move to the #2 point and click to place.
4. Move to the #3 point and click to place.

#### Resizing the 123 Drawing:

1. Select the 123 drawing by clicking on it. The drawing is selected when boxes appear on the corners.
2. Click on a box and drag it to your desired length. Release the mouse button to place.

#### Moving the 123 Drawing:

1. Select the 123 drawing by clicking on it.
2. Drag to the new location and release the mouse button to place. Note: The tool is selected when a line appears connecting 1, 2, and 3.

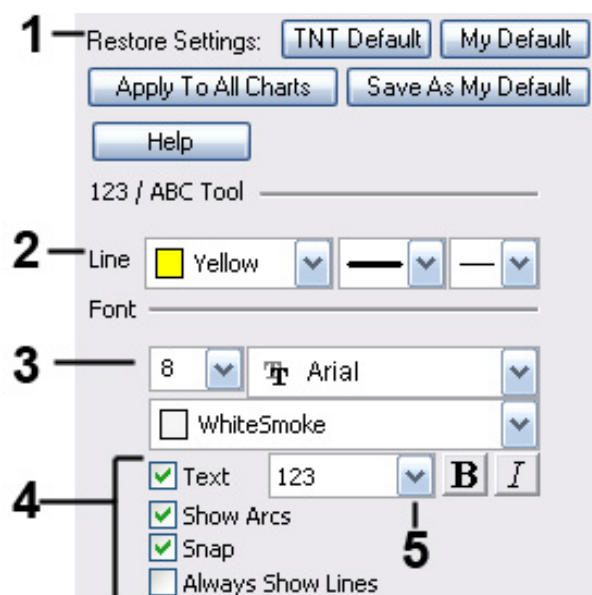
#### Deleting the 123 Drawing:

1. Click on the 123 drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

Select the 123 drawing by clicking on it. The properties will show up in the preferences section of your control panel.

- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size, and color of the text. You can also choose to see numbers or letters. Select Text to hide or show your text on the chart.
- 4. Show Text / Show Arcs / Snap / Show Prediction / Always Show Lines:** Select these options to display the 1-2-3 tool the way that you prefer. You can choose to hide or show Text, Arcs, Prediction, and line. You can also choose whether you would like the 1-2-3 Tool to snap to price bars.
- 5. Line Label:** Select from different options for your labeling your 123 lines.

## Example of the 123 Top and Bottom:



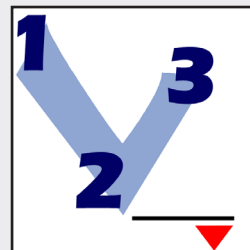
## 123 Formations - Technical Analysis

*The 123 formation anticipates a change in trend. There are both top and bottom formations.*

### 123 Top Formation

The 123 top formation anticipates a change in trend, from up to down, on a break below the number two point. This formation is easily identified because the number 1 point is the annual price high for the contract.

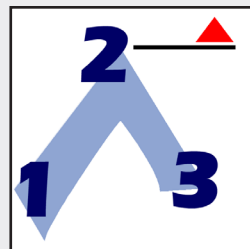
To trade a 123 top formation, place a **sell** order on a break down past the 2 point. Then place a stop loss order just above the 1 point (an industry standard) or just above the 3 point (a more conservative stop loss placement).



### 123 Bottom Formation

The 123 bottom formation anticipates a change in trend from down to up on a break above the number 2 point. A 123 bottom formation is easily identified because the number 1 point is the annual price low.

To trade a 123 bottom formation, place a **buy** order just above the 2 point. Then place a stop loss order just below the 1 point (an industry standard) or just below the 3 point (a more conservative placement).



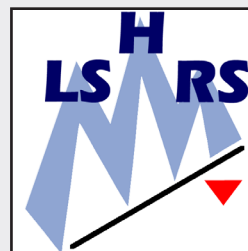
## Head & Shoulders Formations - Technical Analysis

*This formation can appear anywhere in the chart and is made up of the Head, Left Shoulder, and Right Shoulder. There are both top and bottom formations.*

### Head & Shoulders Top Formation

In this formation, the middle peak, the Head (H), is higher than either shoulder (LS, RS). This formation anticipates a drop in price below the Neckline (shown by the red arrow).

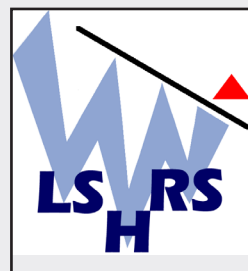
To trade a Head & Shoulders top formation, place a sell order on the break of the Neckline. Your stop loss order should then be placed just above the Head. The stop loss order can also be placed above the Right Shoulder as a more conservative point.



### Head & Shoulders Bottom Formation

This formation is an inverted version of the Head & Shoulders top formation. A Head & Shoulders bottom anticipates a rise in price above the Neckline.

To trade a Head & Shoulders bottom formation, place a buy order on the break up from the Neckline. Then place a stop loss order just below the Head. The stop loss order can also be placed below the Right Shoulder as a more conservative point.



## Head & Shoulders Tool



To identify a H&S top or bottom formation, use the Head & Shoulder tool.

## Basic Instructions

### Charting a Head & Shoulders (H&S) Formation:

1. Select the Head & Shoulders tool from your Charting toolbar.
2. Position the mouse pointer where you would like to place the Left Shoulder (LS) point and click to place.
3. Move to the valley point between the LS and the Head (H) and click to place.
4. Move to the H point and click to place.
5. Move to the valley point between the H and Right Shoulder (RS) and click to place.
6. Move to the RS point and click to place.

## Resizing the Head & Shoulders Drawing:

1. Select the H&S drawing by clicking on it. The drawing is selected when boxes appear on the corners.
2. Click on a box and drag it to your desired length. Release the mouse button to place.

## Moving the Head & Shoulders Drawing:

1. Select the H&S drawing by clicking on it.
2. Drag to the new location and release the mouse button to place. Note: The tool is selected when boxes appear at the LS, H, and RS end points.

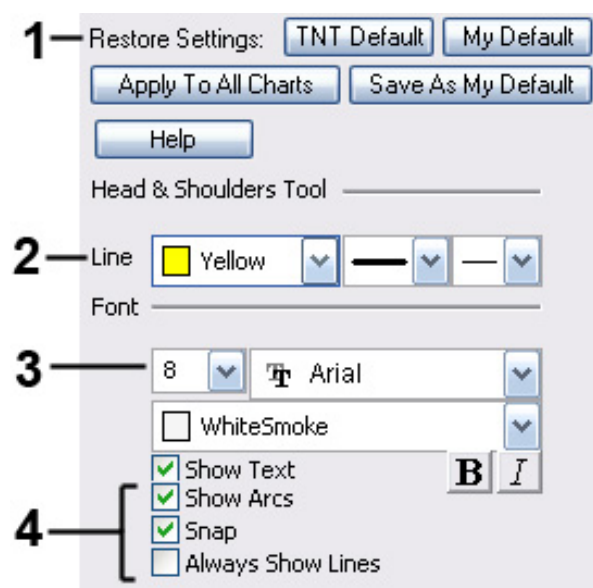
## Deleting the Head & Shoulders Drawing:

1. Click on the H&S drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

Select the H&S drawing by clicking on it. The properties will appear in the preferences section of your control panel.

1. **Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Font:** Select the font, size, and color of the text. Select **Show Text** to hide or show your text on the chart.
4. **Show Arcs:** Select to hide/show arcs on points of the H&S drawing.  
**Snap:** Allows the H&S drawing to snap to price bars when moved.  
**Always Show Lines:** Select to keep lines the H&S drawings displayed always.

## Example of Head &amp; Shoulders Top and Bottom:





## Dart/Blip Tool



To chart a Dart Up or Down formation, select the Dart/Blip Tool.

### Basic Instructions

#### Charting a Dart Formation:

1. Click your mouse on the Left Feather (LF).
2. Move to the Tip of the dart and click your mouse again.
3. Click on the Right Feather to finish your dart.
4. Release the mouse button then move the mouse to the Right Feather (RF) and release the mouse button

#### Resizing the Dart/Blip:

1. Select the drawing by clicking on it. The drawing is selected when boxes appear at the corners of the drawing.
2. Click on a box and drag it to your desired location. Release the mouse button to place.

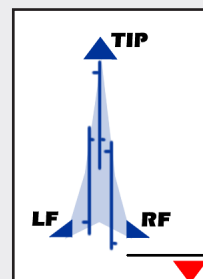
### Dart/Blip Formations - Technical Analysis

*The Dart/Blip formation occurs when there is a dramatic price change which is followed by an equally dramatic price change.*

#### Dart Up

This formation is a sudden dramatic price increase followed by an equally dramatic drop in price. A dart formation can appear anywhere in a chart.

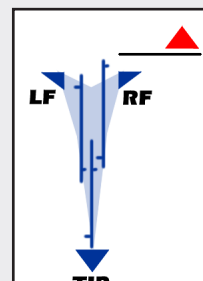
To trade a dart up, place a sell order on the break down of the Right Feather (RF) along with a stop loss order just above the Tip.



#### Dart Down

This formation is where a sudden dramatic price decrease occurs followed by an equally dramatic increase in price. A dart formation can appear anywhere in a chart

Place a buy order on the break up of the Right Feather, and place a stop loss order right below the Tip.



*Trading on a Dart Formation is extremely risky.*

## Moving the Dart/Blip:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

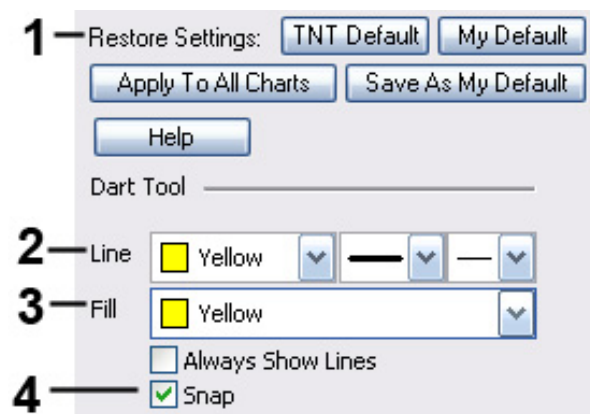
## Deleting the Dart/Blip:

1. Click on the dart drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

Select the drawing by clicking on it. The properties will appear in the preferences section of your control panel.

1. **Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Fill:** Select the color of your point triangles.
4. **Always Show Lines:** Select to keep dart/blip displayed always.  
**Snap:** Allows the dart/blip line to snap to price bars when moved.

# Example of a Dart Up and Down:



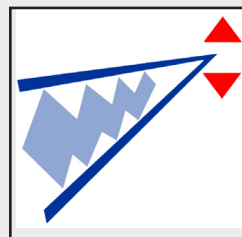
## Wedges and Triangles - Technical Analysis

*The wedge formation occurs when the slope of price bar highs and lows consolidate to a point. The triangle formation occurs when there is a pause in the current trend.*

### Inclining Wedge

The Inclining Wedge formation occurs when the slope of both lines is up with the lower line being steeper than the higher one.

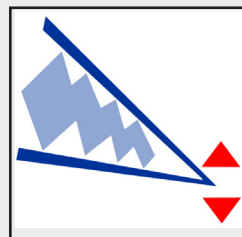
To trade the Inclining Wedge, place a **buy** on a break up and out of the wedge or a **sell** order on a break down and out of the wedge. Inclining Wedges with a prior downtrend are anticipated to break down and out, rather than up and out.



### Declining Wedge

The Declining Wedge formation occurs when the slope of both lines is down, the top line being steeper than the lower one. This formation is opposite the Inclining Wedge.

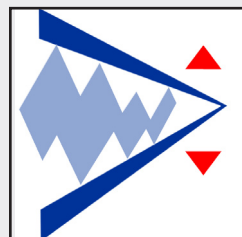
Trade the Declining Wedge the same as the Inclining Wedge. Declining Wedges with a prior uptrend are anticipated to break up and out, rather than down and out.



### Symmetrical Triangle

A Symmetrical Triangle is likely to resume the previous trend after the pause forming the triangle. Notice the price bars form a perfect symmetrical triangle shape.

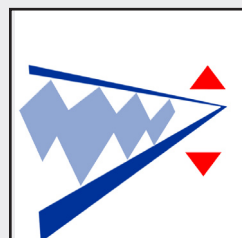
To trade a Symmetrical Triangle, place a **buy** order on a break up and out of the triangle or a **sell** order on a break down and out of the triangle.



### Non-Symmetrical Triangle

A Non-Symmetrical Triangle is exactly the same as the Symmetrical Triangle, except lacking symmetry. The formation resumes the previous trend when a break occurs.

Trade a Non-Symmetrical Triangle just as you would a Symmetrical Triangle.



## Wedge and Triangle Tool



Identify any type of wedge or triangle by selecting the Wedge Tool.

### Basic Instructions

#### Charting a Dart Formation:

1. Select the Wedge Tool from the Toolbar.
2. Left click your mouse at the top of the triangle.
3. Drag the mouse pointer to the bottom of the triangle and left-click to place.
4. Next, drag the mouse pointer to form a triangle and left-click the mouse to place the final point.

#### Resizing the Wedge/Triangle:

1. Select the drawing by clicking on it. The drawing is selected when boxes appear at the corners of the drawing.
2. Click on a box and drag it to your desired location. Release the mouse button to place.

#### Moving the Wedge/Triangle:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

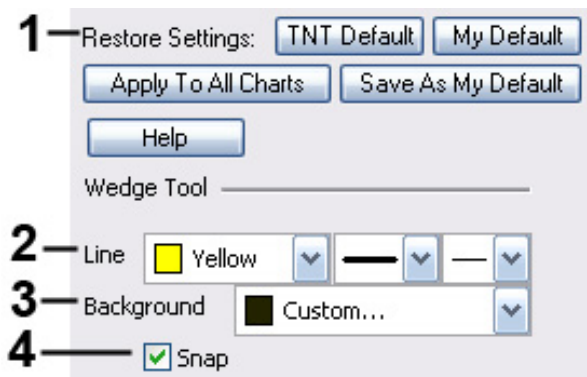
#### Deleting the Wedge/Triangle:

1. Click on the dart drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

Select the drawing by clicking on it. The properties will appear in the preferences section of your control panel.

1. **Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Background:** Select the color you would like filled into the triangle or wedge.
4. **Snap:** Allows the drawing to snap to price bars when moved.

## Example of an Inclining and Declining Wedge:



## Trend Fan - Technical Analysis

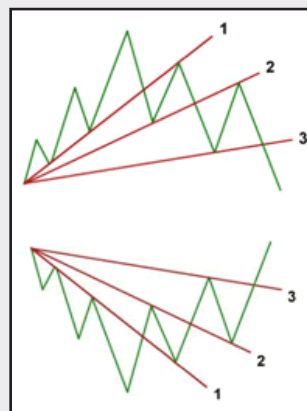
*Trend Fans are an extension of the regular trend line. They accent simple trend line trading concepts by extending the single trend line to multiple fan lines that give a better look at a trend, its retracements, and market reversals.*

### Trend Fan

As a trend moves up in scale, a chartist will draw a line across price bar lows or, when a market is moving down, across the price bar highs.

As the market continues to make its retracement, we can draw another trend line across the next level of support or resistance. The line is support if the market is moving up and resistance if it is moving down.

The last move of the trend was resistance for the first trend line, and is now support for the second trend line. The third trend line shows that the market has made a solid retracement down past this third fan line.



When the market crosses the third fan line, it is considered to be confirmation of market retracement. A market that was once considered bullish is now bearish, or if bearish, would now be considered bullish. When the market's price bars cross above or below the third trend fan line, this is your signal and confirmation that the market has shifted from bullish to bearish, or bearish to bullish.

To trade a Trend Fan, place an order to enter the market on the break out past the third Trend Fan line.



## Trend Fan Tool



Identify a trend fan within a chart use the Trend Fan Tool.

### Basic Instructions

#### Charting a Dart Formation:

1. Select the Trend Fan Tool from the Toolbar.
2. Left-click where you want the fan to start.
3. Move the mouse pointer to where the first line is to end and click to place.
4. Repeat Step 3 until you get to the last line.
5. To place the last trend, move the mouse pointer to the ending point and right-click to place.

#### Resizing the Trend Fan:

1. Select the drawing by clicking on it. The drawing is selected when boxes appear at the corners of the drawing.
2. Click on a box and drag it to your desired location. Release the mouse button to place.

#### Moving the Trend Fan:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

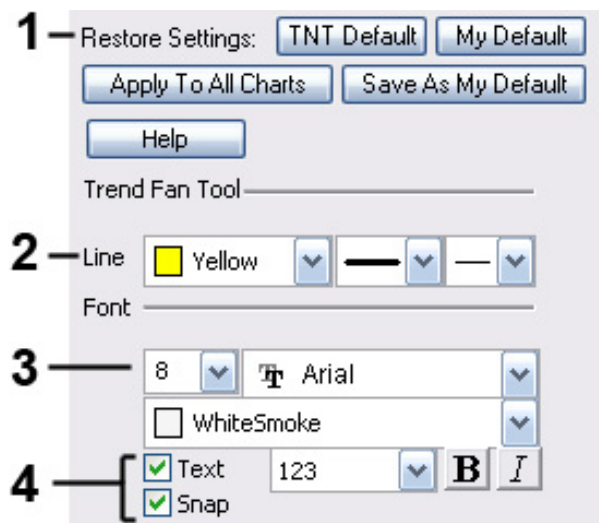
#### Deleting the Trend Fan:

1. Click on the dart drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

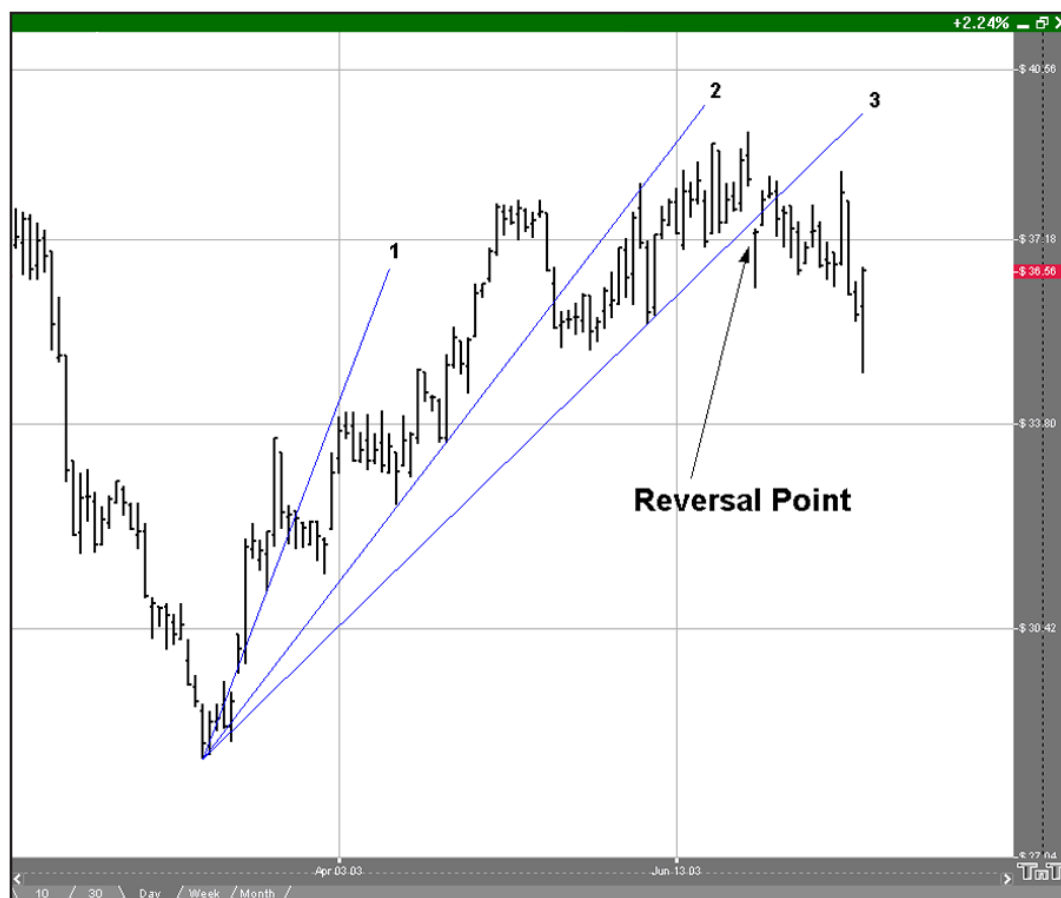
Select the drawing by clicking on it. The properties will appear in the preferences section of your control panel.

- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size, and color of the text. Select Text to hide or show your text on the chart.
- 4. Snap & Extend:** Select to have the drawing snap to price bars when moved. Select Extend for linear extensions to the edge of your chart.
- 5. Line Label:** Select from different options for labeling your trend fan lines.

# Example of a Trend Fan:



Charting Tools

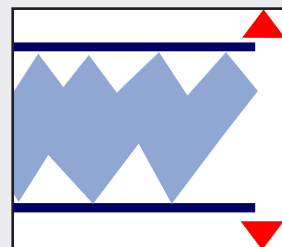
## Channels - Technical Analysis

*A trend channel consists of a section of price bars that are between parallel support and resistance lines. There are three types of channels: the Narrow Sideways Channel, the Inclining Channel, and the Declining Channel.*

### Narrow Sideways Channel

A Narrow Sideways channel is a formation that features both resistance and support with a sideways movement. Support forms the low price bar, while resistance provides the price ceiling.

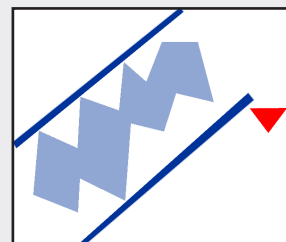
To trade a Narrow Sideways channel, place an order to **buy** on a break up and out of the channel, or **sell** on a break down and out of the channel.



### Inclining Channel

The Inclining channel is a formation with parallel price barriers along both the price ceiling and floor. Unlike the Narrow Sideways channel, the Inclining channel has an increase in both the price ceiling and price floor. The breaking of the bottom trend line on this formation shows a change in trend from bullish to bearish.

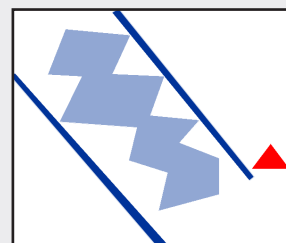
To trade an Inclining channel, place an order to **sell** on the break down and out of the channel.



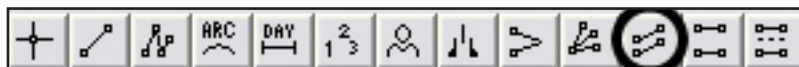
### Declining Channel

The Declining channel is the exact opposite of the Inclining channel formation. The Declining channel has a decrease in both the price ceiling and price floor. The breaking of the top trend line on this formation shows a change in trend from bearish to bullish.

To trade a Declining channel, place an order to **buy** on the break up and out of the channel.



## Trend Channel Tool



Identify an Inclining or Declining Channel by selecting the Trend Channel Tool.

### Basic Instructions

#### Charting a Trend Channel:

1. Select the Trend Channel Tool from the Technical Toolbox.
2. Position the mouse pointer at the top of the channel and click. Hold down and drag the mouse to the right bottom point of the channel, release the mouse button to place.

#### Resizing the Trend Channel:

1. Select the drawing by clicking on it. The drawing is selected when boxes appear at the corners of the drawing.
2. Click on a box and drag it to your desired location. Release the mouse button to place.

#### Moving the Trend Channel:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

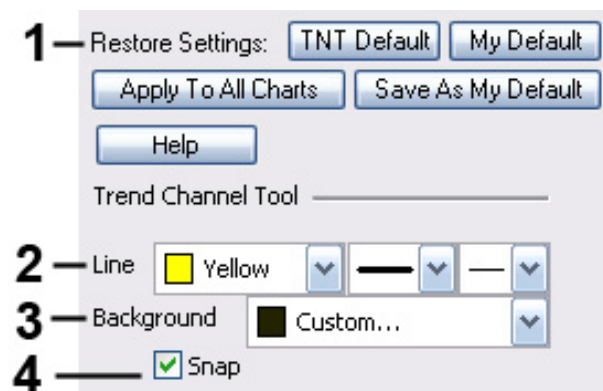
#### Deleting the Trend Channel:

1. Click on the drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

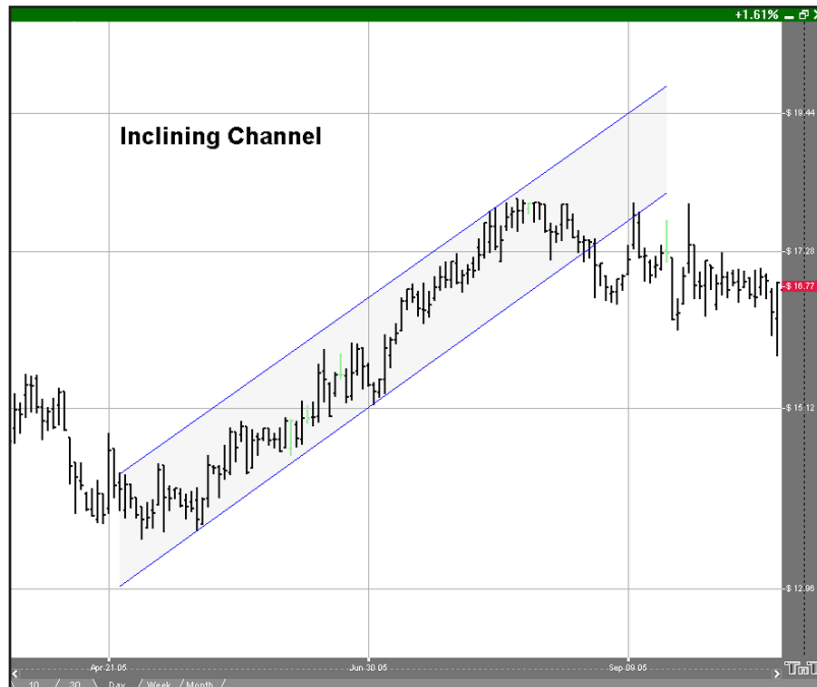
Select the channel by clicking on it. The properties will appear in the preferences section of your control panel.

1. **Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.

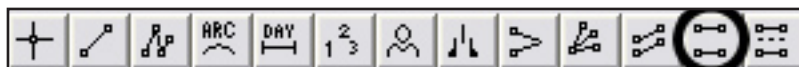


2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Background:** Select the color you would like filled into the triangle or wedge.
4. **Snap:** Allows the drawing to snap to price bars when moved.

## Example of Trend Channels:



## Horizontal Channel Tool



To illustrate a Horizontal channel in a chart by selecting the Horizontal Channel Tool.

### Basic Instructions

#### Drawing a Horizontal Channel:

1. Select the Trend Channel Tool from the Technical Toolbox.
2. Position the mouse pointer where you would like to place the top-left point of the channel and click. Continue to hold down the mouse and drag it to the bottom-right point of your channel. Release the mouse button to place.

#### Resizing the Horizontal Channel:

1. Select the drawing by clicking on it. The drawing is selected when boxes appear at the corners of the drawing.
2. Click on a box and drag it to your desired location. Release the mouse button to place.

#### Moving the Horizontal Channel:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

#### Deleting the Horizontal Channel:

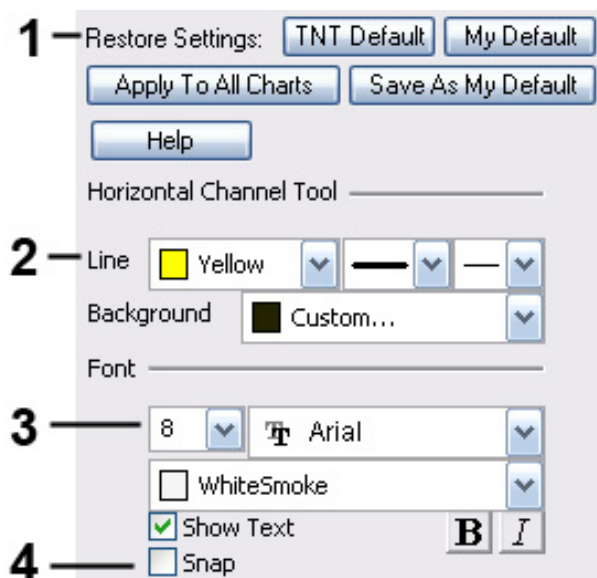
1. Click on the drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.



## Preferences

Select the Horizontal channel by clicking on it. The properties will appear in the preferences section of your control panel.

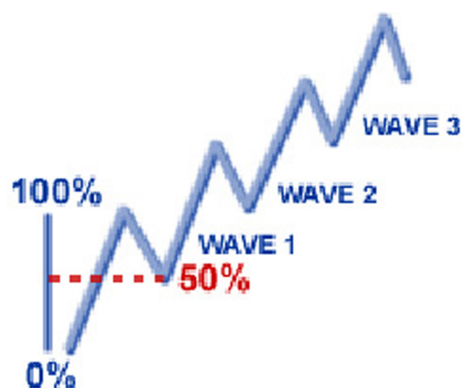
- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size, and color of the text. You can also choose to see numbers or letters. Select Text to hide or show your text on the chart.
- 4. Snap:** Allows the drawing to snap to price bars when moved.

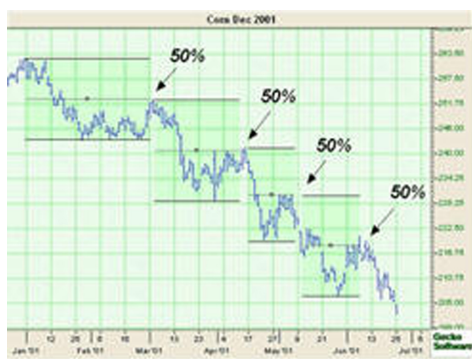
## Example of the Horizontal Channel:





### Up Trend (Bull Market)

In the diagram to the left, the market is in an overall uptrend; however, within the uptrend are small areas where the market falls back, or “retraces,” each time establishing a new high.



### Down Trend (Bear Market)

This chart shows how the market made lower highs and lower lows, while still maintaining the overall down trend. Each retracement was about 50% of the last move before they continued on in their original direction.

Markets have a tendency to retrace half of the last move in overall long-term trends.

## N% Tool



You can measure a retracement by selecting the N% tool. The default on this charting tool is 50%, but can be changed by simply dragging the middle bar up or down.

See Fibonacci Time Zone and Fan Tools for more information on retracements.

### Basic Instructions

#### Drawing a N% Channel:

1. Select the N% Tool from the Technical Toolbar.
2. Position the mouse pointer where you would like to place the top-left point of the channel and click. Continue to hold down the mouse and drag it to the bottom-right point of your channel. Release the mouse button to place.

#### Resizing the N% Channel:

1. Select the drawing by clicking on it. The drawing is selected when boxes appear at the corners of the drawing.
2. Click on a box and drag it to your desired location. Release the mouse button to place.

#### Moving the N% Channel:

1. Select the drawing by clicking on it.
2. Drag to the new location and release the mouse button to place.

#### Moving the % Line in the N% Channel:

1. Select the channel by clicking on it.
2. Notice the box in the center of the middle line. Click and drag the box to move the line. As you change the position of the percentage line, the percentage value to the left will change as well.

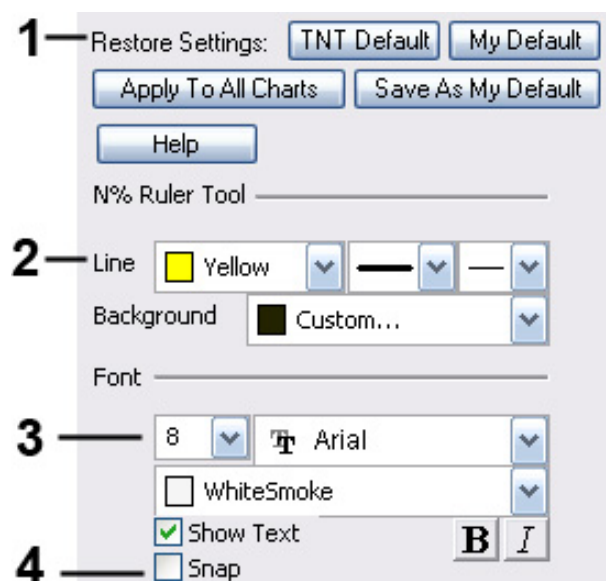
#### Deleting the N% Channel:

1. Click on the drawing to select, and then press the delete key on your keyboard.
2. Or, right-click the line and select “Delete” on the menu.

## Preferences

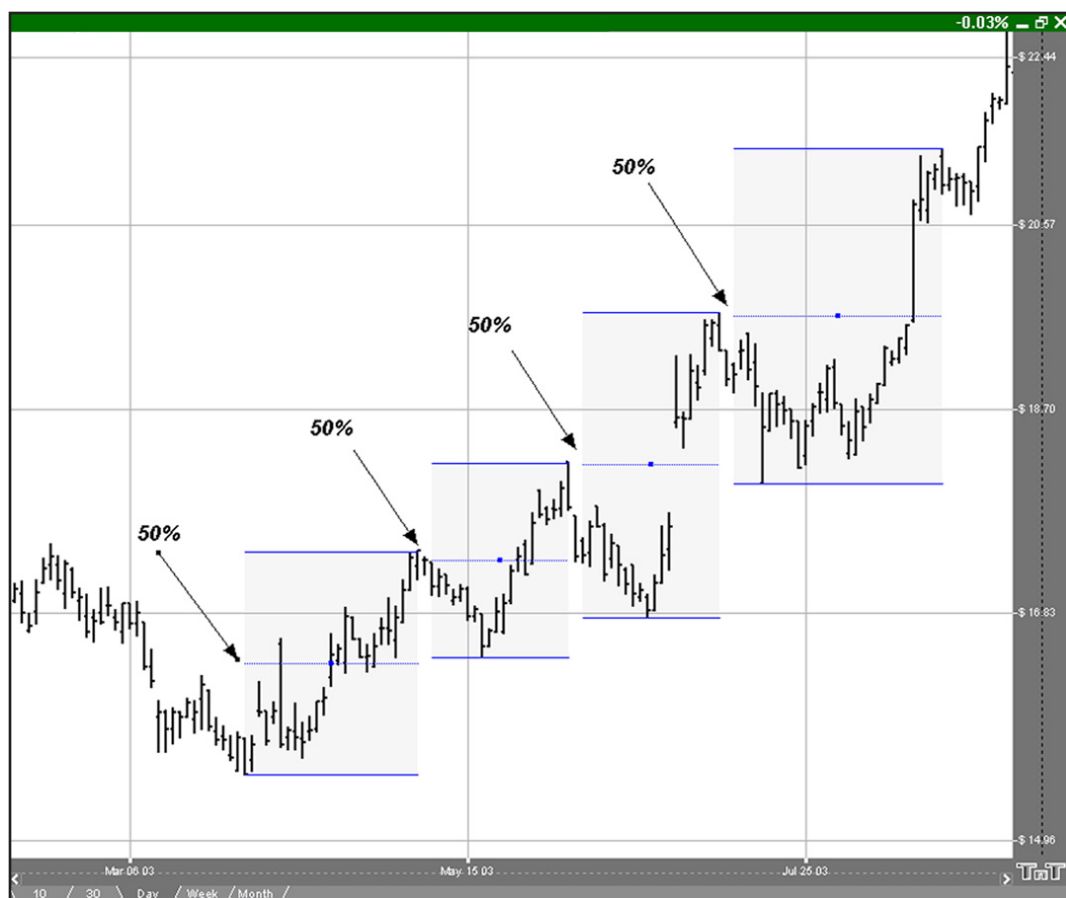
Select the channel by clicking on it. The properties will appear in the preferences section of your control panel.

- 1. Restore Settings:** TNT Default will change your settings back to the original software settings. My Default will change current settings to your personalized default settings. Apply To All Charts will apply your selected settings on all open charts. Save As My Default will save your current personal settings.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size, and color of the text. You can also choose to see numbers or letters. Select Text to hide or show your text on the chart.
- 4. Snap:** Allows the drawing to snap to price bars when moved.

## Example of the N% Tool:









# Advanced Tools

Fibonacci, Elliott, Gann, and More

\*Plug-in - Purchase Required

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7

### Advanced Tools Introduction

Track 'n Trade Live incorporates concepts and theories from leading technical and fundamental educators in the industry allowing you as a trader to apply their studies easily to your trading. In this section you will learn basics about their theory and how to apply it in Track 'n Trade Live using the Advanced Tools Plug-in. If you do not have these features in the software, you can purchase them online at [www.trackntrade.com](http://www.trackntrade.com).

### Elliott Wave Theory

This theory was developed by Ralph Nelson Elliott and bears his name. The Elliott Wave Theory is an idea that market behavior is based on waves rather than random timing. Elliott believed that market prices rose and fell in a series of waves based on the same Golden Ratio or Golden Mean that Fibonacci proved. For more information on Fibonacci, see the Fibonacci Retracements section later in this chapter. This ratio is present in many aspects of nature and science, and Elliott felt that it had great significance in the financial markets as well.

### Interpretation

The basic idea of this theory is that a market rises in a series of five “waves” (as he called them) and that a market declines in a series of three declines. Elliott’s theory is that on the first wave a market rises, on wave two it declines, begins again to rise on wave three, has a period of decline again on wave four, and finally completes the rise on wave five. Then the period of correction is referred to as a three-wave correction, where the market declines for wave A, begins to rise for wave B, and falls again for wave C.

Elliott went on to further explain that a complete market cycle consisted of a 144 wave cycle, broken down into an 89 wave bull cycle, and a 55 wave bear cycle. This is based on his observation of Fibonacci’s Golden Ratio. The series of numbers Fibonacci describes, (1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and 144) shows a relationship of 1: 0.618. Elliott further showed that a market usually rises or falls based on this wave cycle. Each wave in the cycle has its own characteristics.

### Five Wave Advance

**Wave one:** Normally very short and easy to miss.

**Wave two:** A retracement wave, usually gives back all or most of what the first one gained.

**Wave three:** Usually very prominent, as it follows a period of what appears as consolidation, most people trade this wave.

**Wave four:** Noted to be very intricate yet still a consolidation. One of Elliott’s main rules is that in a five-wave advance cycle, wave four can’t overlap wave one.

**Wave five:** Often very active, yet at some point declines and leads to the three wave corrective cycle.

### Three Wave Decline

**Wave A:** Normally seen as a minor pullback of wave five of the advance cycle.

**Wave B:** Follows wave A of the downtrend, and is often hard to spot but should result in a third wave continuing down.

**Wave C:** Usually quite significant and many traders see this as a selling opportunity.

### Trading an Elliott Wave

See additional video education and workbook that came with your Advanced Technicals Plug-in for trading details.

### Elliott Wave Tool



To identify an Elliott Wave on a chart, use the Elliott Wave Tool located in the Advanced Charting Toolbar.

### Basic Information

#### Charting an Elliott Wave:

1. Select the Elliott Wave Tool from the Toolbar.
2. Left-click your mouse on the #1 point to place.
3. Continue throughout the wave by clicking on each point 1-5 and A,B,C to place. When you get to the last point C the drawing is complete.

#### Resizing the Elliott Wave Drawing:

1. Select the drawing by clicking on it. Note: The drawing is selected when boxes appear on the corners.
2. Click on one of the boxes to drag the select point and release the mouse button.

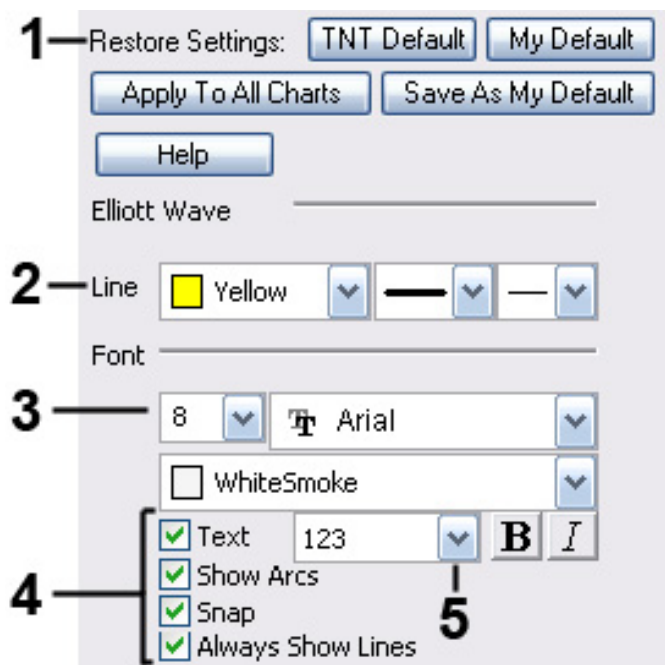
#### Moving the Elliott Wave Drawing:

1. Select the drawing by clicking on it and continue holding down the mouse button.
2. Drag to the new location and release the mouse button.

#### Deleting the Elliott Wave Drawing:

1. Select the drawing by clicking on it and press the delete key on your keyboard to remove.
2. Right-click the drawing and select "Delete" from the menu.

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size, and color of the text. You can also choose to bold or italicize.
- 4. Show Text / Show Arcs/ Snap / Always Show Lines:** Select the checkbox next to Text and Show Arcs to hide/show the text and arcs on the chart. Select Snap to snap the Elliot Wave Tool to price bars. Select Always Show Lines to display a line between each Elliot Wave Point.
- 5. Points:** Change how the points of the Elliot Wave are labeled from the points drop down dialog box.

**Example of the Elliott Wave:**

### Gann Fan Theory

W. D. Gann designed several unique techniques for studying price charts. One of these techniques included the use of geometric angles in conjunction with time and price. Gann believed that specific geometric patterns and angles had unique characteristics that could be used to predict price action.

Gann's techniques require that charts be drawn with equal time and price intervals, so that a rise/run of one price unit for each time unit (called a 1 x 1 trend or angle) will equal a 45 degree angle anywhere on the chart. Gann believed that the ideal balance between time and price exists when prices rise or fall at a 45 degree angle relative to the time axis.

### Interpretation

A Gann Fan is used to define a market direction or a new trend. For example, a bull market exists if prices are maintaining strength between the 1x2 lower line and 1x2 higher line. A bear market would be the exact opposite of the previous scenario. The Gann Fan is made up of nine angles based on this concept. These trend lines are used to indicate support and resistance levels. When one line is broken (by the entire days price range) prices should move to the next line. The drawing of these lines should start from either a market top or bottom.

It is important to note that this theory is based on a squared 45 degree angle on the chart. Obviously, a 45 degree angle drawn on a chart is no longer 45 degrees when the scale is changed without a change to the opposite scale as well. To “square” the Gann Fan to the current chart's scaled settings, hold down the CTRL key on your keyboard while clicking on and rescaling with the mouse pointer. Some Gann experts have reported that to get a truly “squared” chart, one must set the scaling to 8 price bars per inch (width) and 4 price bars per inch (height).

### Gann Fan Tool



You can apply this theory to your charts by using the Gann Fan Tool on the Advanced Charting Toolbar.

### Basic Information

#### Drawing a Gann Fan:

1. Select the Gann Fan Tool.
2. Click where you want the fan to start, continue holding down the mouse button until reaching the final position of the fan, release button to place.

**Resizing the Gann Fan:**

1. Select the Gann Fan tool by clicking on it. Note: The formation is selected when boxes appear on the corners of the drawing.
2. Click on one of the boxes to drag the selected point and release the mouse button to place.

**Moving the Gann Fan:**

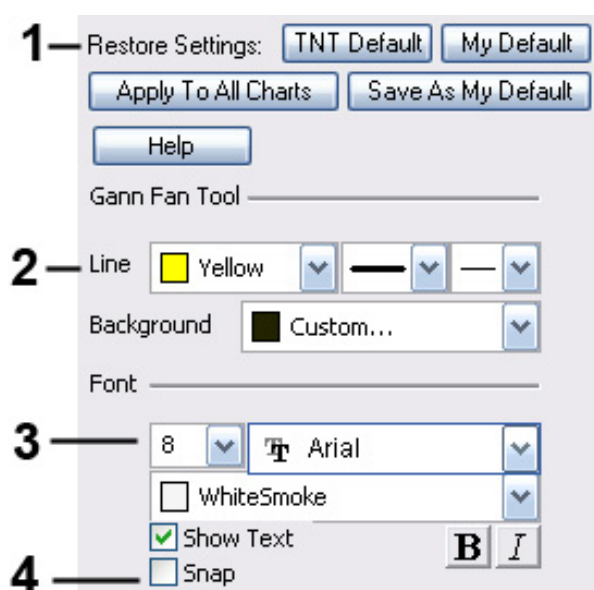
1. Select the fan by clicking on it.
2. Drag to the new location and release the mouse button.

**Deleting the Gann Fan:**

1. Select the drawing by clicking on it, then press the delete key on your keyboard.
2. Or, right-click on the fan and select “Delete” from the menu.

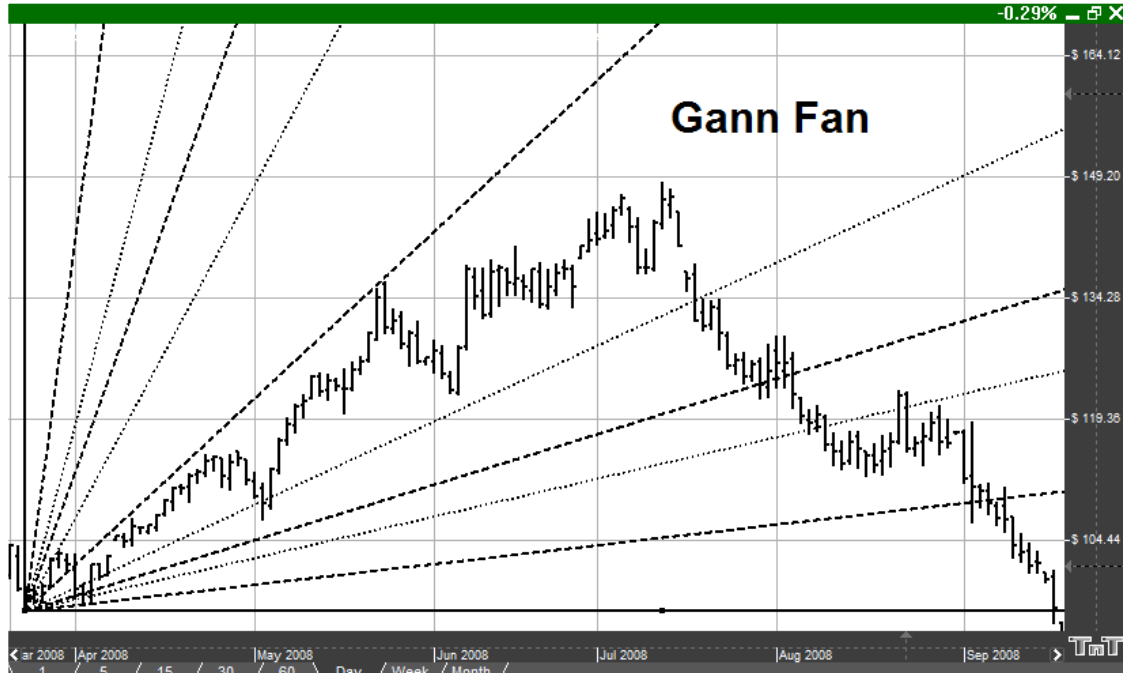
**Preferences**

1. **Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Font:** Select the font, size and color. You can also choose to bold or italicize your text.
4. **Snap:** Select to have the drawing snap to the price bars.

## Example of the Gann Fan:



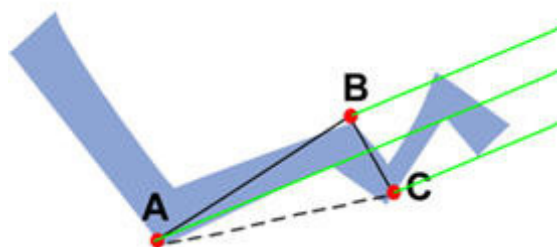


## Andrews Pitchfork Theory

Dr. Alan Andrews developed a channel technique to show areas of support and resistance from a baseline. This use of a median line is the key to using the Andrews Pitchfork. Buying near lows and selling near highs that are identified by the “tines” of the pitchfork. The basic premise is to trade the channel from one level of support or resistance to the next.

### Interpretation

The first element to draw the Andrews Pitchfork is the centerline. The middle tine, or median line, begins at the most recent contract low or high. To plot the direction of this point we must attain the other two points. The top tine is determined by looking at the highest move made from the origin of the contract low or high. The next point is found by looking at the retracement of that move. For example, a contract begins at point A, rallies to point B, and sells off from point B to point C. A line is drawn from point B and C, and then the line originating at point A splits those two lines equally.



This pitchfork shows continuing points of support and resistance. The general use of this tool is to sell when the market rises to line B, and take profits once prices reach line A, the middle tine, and also to buy when prices dip to line C and take profits when they reach line A. This series of movements within the pitchfork affords traders the opportunity to trade a channel system within a trending market.

## Andrews Pitchfork Tool



You can apply this theory to your charts by using the Andrews Pitchfork Tool on the Advanced Charting Toolbar.

### Basic Information

#### Charting Andrews Pitchfork:

1. Select the Andrews Pitchfork Tool from the Toolbar.
2. The first three clicks set up the pitchfork. The first point is the handle of the pitchfork and is placed at the end of the previous trend.(A)
3. Next, you are forming the base of the fork. The first point is the top of the next trend. (B)
4. The second point completes the base and is placed at the bottom of the trend. (C)
5. Once you have completed the first three steps you can elongate the pitchfork to the length desired. Click to place the final point.

#### Resizing the Andrews Pitchfork Drawing:

1. Select the drawing by clicking on it. Note: The drawing is selected when boxes appear on the corners.
2. Click on one of the boxes to drag the select point and release the mouse button.

#### Moving the Andrews Pitchfork Drawing:

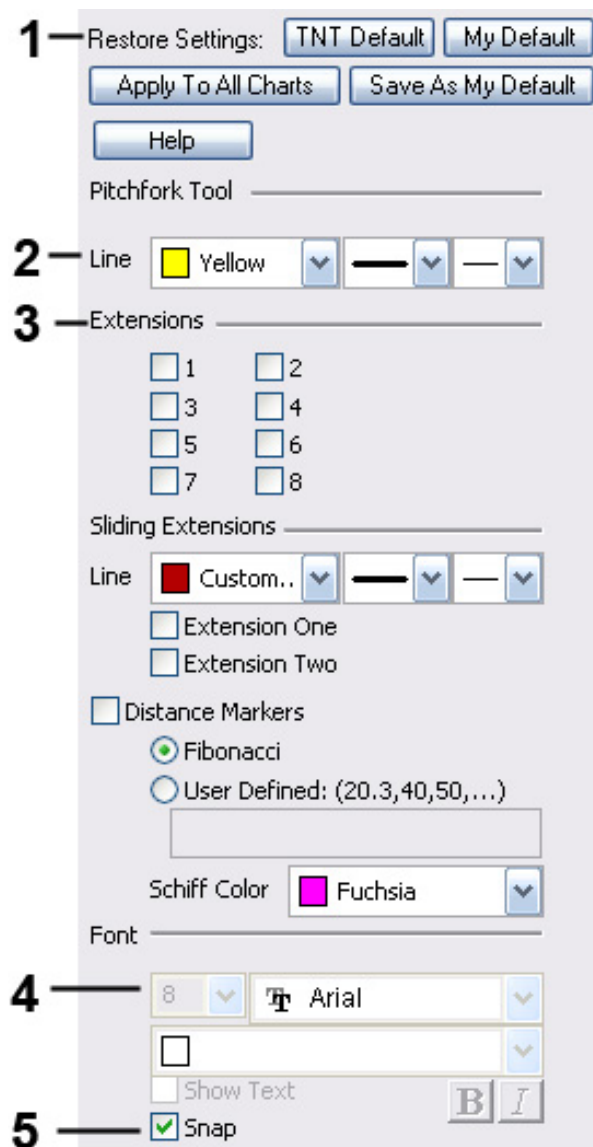
1. Select the drawing by clicking on it. Continue holding down the mouse button.
2. Drag to the new location and release the mouse button.

#### Deleting the Andrews Pitchfork Drawing:

1. Select the drawing by clicking on it and press the delete key on your keyboard to remove.
2. Or, right-click on the drawing and select “Delete” from the menu.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



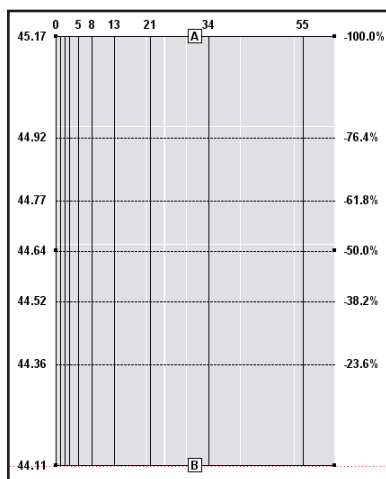
- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Show Extensions:** Select the box next to the number of extensions you wanted added to your pitchfork drawing. The odd numbers are placed below, even numbers are placed above.
- 4. Font:** Select the font, size of font, and color of the text. You can also choose to bold or italicize your text. Select the checkbox next to Show Text to hide/show your text on the chart.
- 5. Snap:** Allows the tool to snap to price bars when moved.

## Example of Andrews Pitchfork:



## Fibonacci Retracements

Fibonacci Retracement levels correspond with percentage retracements that occur in the ebb and flow of a market trend. According to the Elliott Wave Theory, market trends tend to occur in five distinct waves. See the Elliott Wave section for more information. Elliott asserted that these counter-trend waves will usually retrace against the trending waves by 38.2, 50 and 61.8 percent. These Retracement Percentages correspond to natural ratios discovered by the Greeks called the Golden Ratio and rediscovered by Fibonacci, a medieval Italian Mathematician.



### Interpretation

Commodity prices will frequently consist of an initial wave, a second wave (often retracing 61.8% of the initial move), the third wave (usually the largest), then another retracement, and finally the 5th wave (the last gap), which would exhaust the movement.

In Track 'n Trade Live you have three tools that you can use to apply these concepts: the Fibonacci Retracement, Fibonacci Time Zone and the Fibonacci Arc. For more detailed explanations of retracements, projections, predications and time zones, see the educational CD and Workbook included with this Plug-in.

## Fibonacci Ruler Tool



The Fibonacci Ruler Tool is used to measure the different retracement levels within a market.

### Basic Information

#### Drawing a Fibonacci Ruler:

1. Select the Fibonacci Ruler Tool from the Toolbar.
2. Click on the chart where you would like the ruler to begin.
3. Move the mouse pointer to the lower right position of the ruler and click to place.

#### Resizing the Fibonacci Ruler:

1. Select the ruler by clicking on it. You can tell the ruler is selected when boxes appear on the corners of the drawing.
2. Click on one of the boxes to drag the select point and release the mouse button.

**Moving the Fibonacci Ruler:**

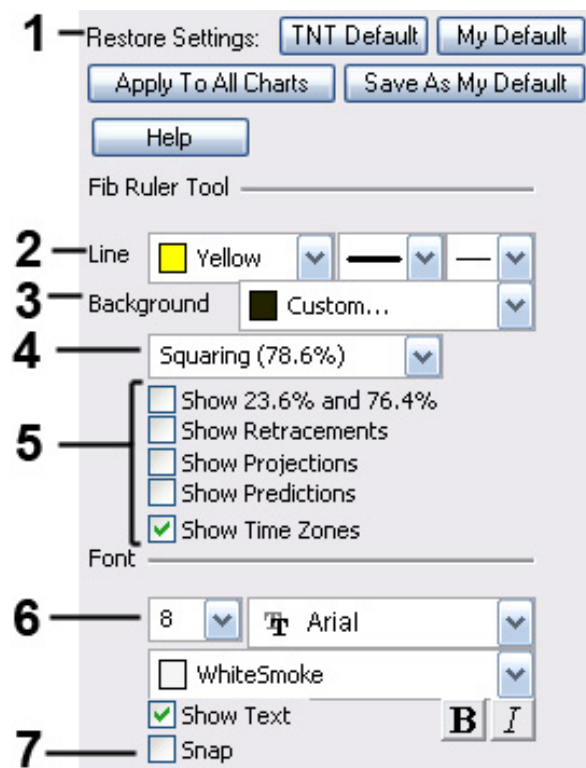
1. Select the ruler by clicking on it.
2. Drag to the new location and release the mouse button.

**Deleting the Fibonacci Ruler:**

1. Select the ruler by clicking on it and press the delete key on your keyboard.
2. Or, right-click on the ruler and select “Delete” from the menu.

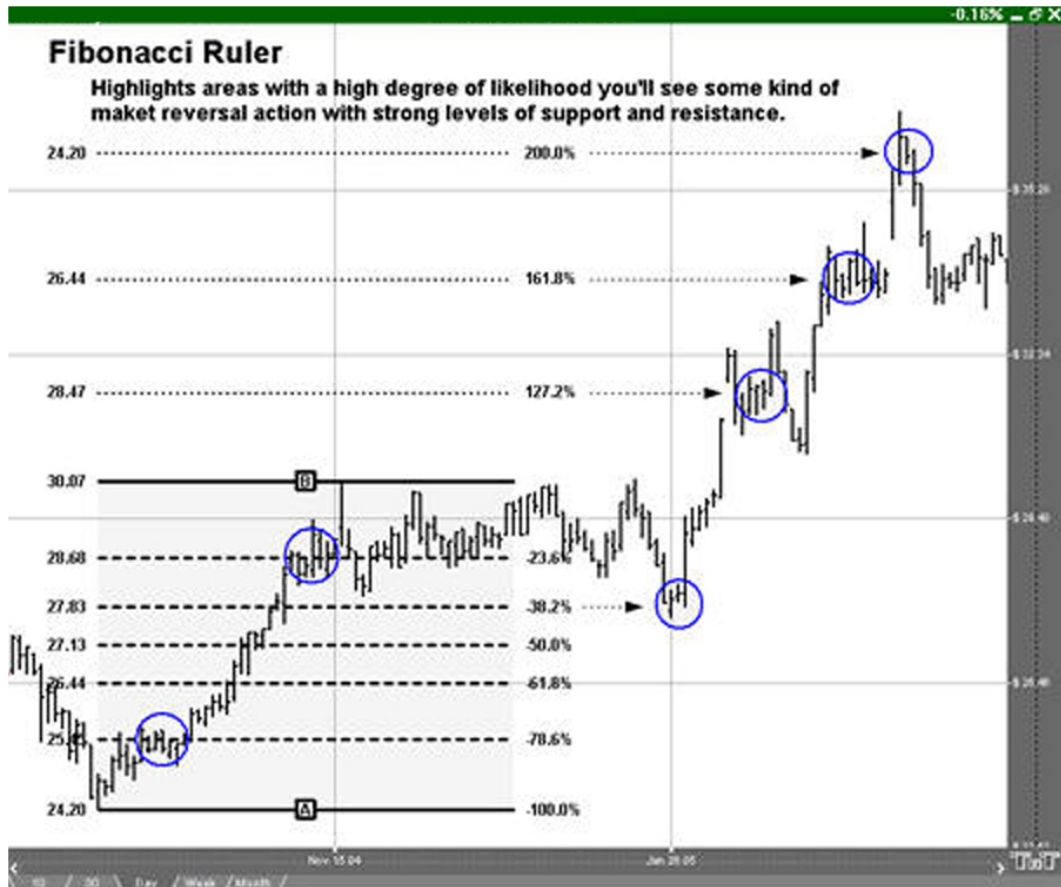
## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Background:** Select the color you want for the background of the Fibonacci Ruler.
- 4. Squaring / Division:** Choose between displaying the Fibonacci Ruler being calculated as squared (78.6%) or displaying it as a division (76.4%).
- 5. Show:** Select the boxes by the information you would like displayed on your Fibonacci Ruler.
- 6. Font:** Select the font, size of font, and color of the text. You can also choose to bold or italicize your text. Select the checkbox next to Show Text to hide/show your text on the chart.
- 7. Snap:** Select to have the Fibonacci Ruler snap to price bars when moved.

## Example of a Fibonacci Ruler:





## Fibonacci Arc Tool



The Fibonacci Arc Tool is used to measure the different retracement levels within a market.

### Basic Information

#### Drawing a Fibonacci Arc:

1. Select the Fibonacci Arc Tool from the Toolbar.
2. Move the mouse pointer to the point on the chart that you would like to start the stem of the arc, click to start.
3. Move the mouse pointer to the ending point for the arc tool and click to place. (While moving to the end point, the arc will extend for you to get an idea of placement on the ticks.)

#### Resizing the Fibonacci Arc:

1. Select the arc by clicking on it. You can tell the arc is selected when boxes appear on the corners of the drawing.
2. Click on one of the boxes to drag the select point and release the mouse button to place.

#### Moving the Fibonacci Arc:

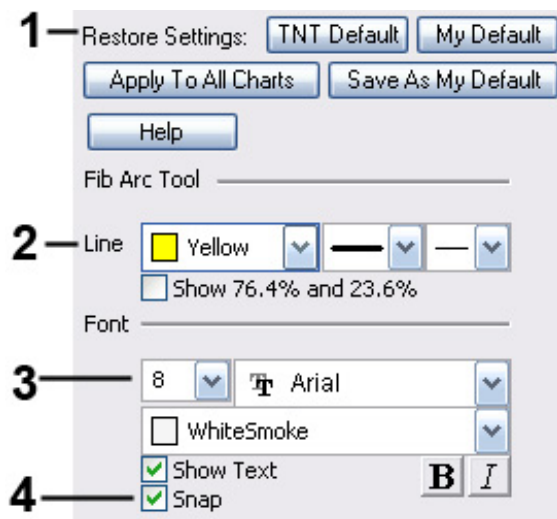
1. Select the arc by clicking on it.
2. Drag to the new location and release the mouse button.

#### Deleting the Fibonacci Arc:

1. Select the arc by clicking on it and press the delete key on your keyboard.
2. Or, right-click on the arc and select “Delete” on the menu.

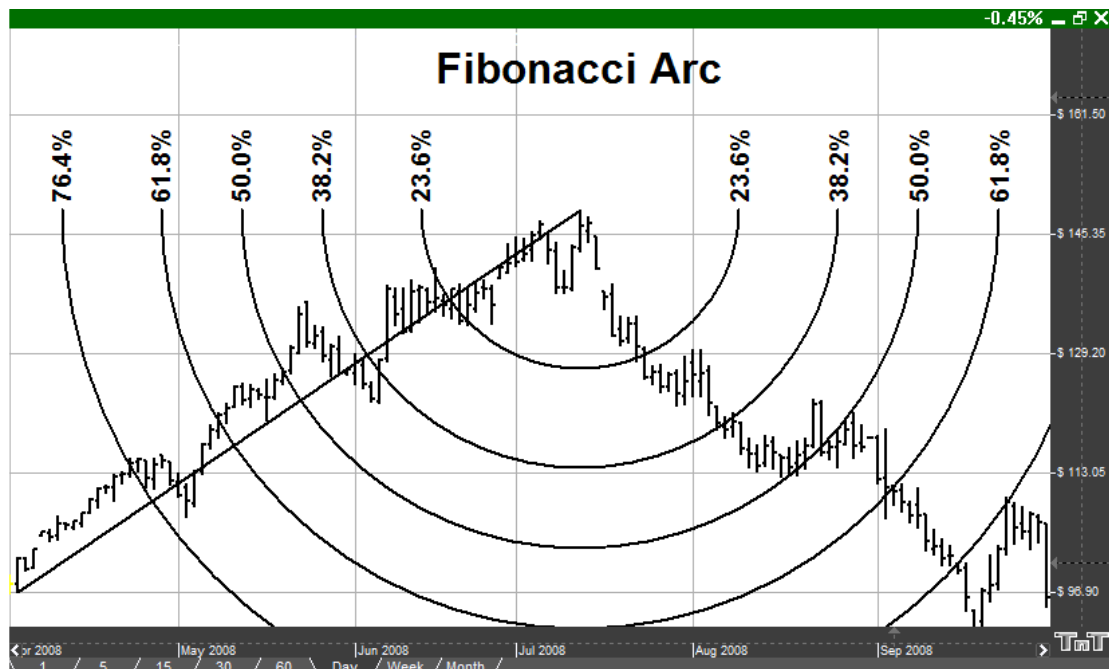
## Preferences

1. **Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



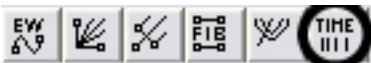
2. **Line:** From here you can choose the color, line style, and line thickness.
3. **Font:** Select the font, size of font, and color of the text. You can also choose to bold or italicize your text. Select the checkbox next to *Show Text* to hide/show your text on the chart
4. **Snap:** Select to have the tool snap to price bars when moved.

## Example of a Fibonacci Arc:



Advanced Tools

## Fibonacci Time Zones



The Fibonacci Time Zone uses Fibonacci numbers rather than the percentages used in the Ruler and Arc Tools.

### Basic Information

#### Charting a Fibonacci Time Zone:

1. Select the Fibonacci Time Zone Tool from the Toolbar.
2. This tool is drawn like a rectangle. Click for the upper left point.
3. Move the mouse to the bottom right position and click to finish the drawing.

#### Resizing the Fibonacci Time Zone:

1. Select the drawing by clicking on it. Note: The drawing is selected when boxes appear on the corners.
2. Click on one of the boxes to drag the select point and release the mouse button.

#### Moving the Fibonacci Time Zone:

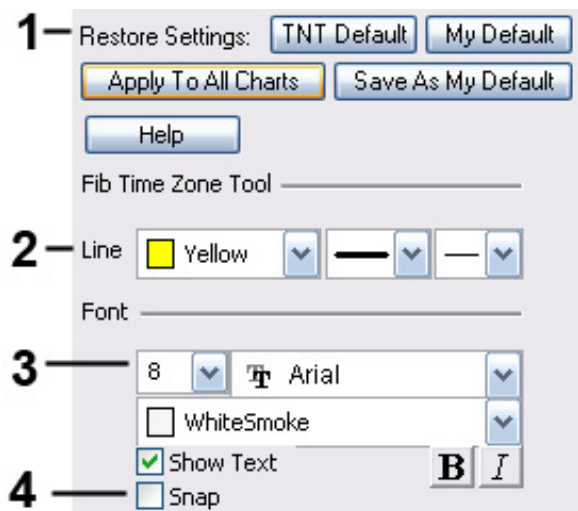
1. Select the drawing by clicking on it and continue holding down the mouse button.
2. Drag to the new location and release the mouse button.

#### Deleting the Fibonacci Time Zone:

1. Select the drawing by clicking on it and press the delete key on your keyboard to remove.
2. Or, right-click on the tool and select “Delete” from the menu.

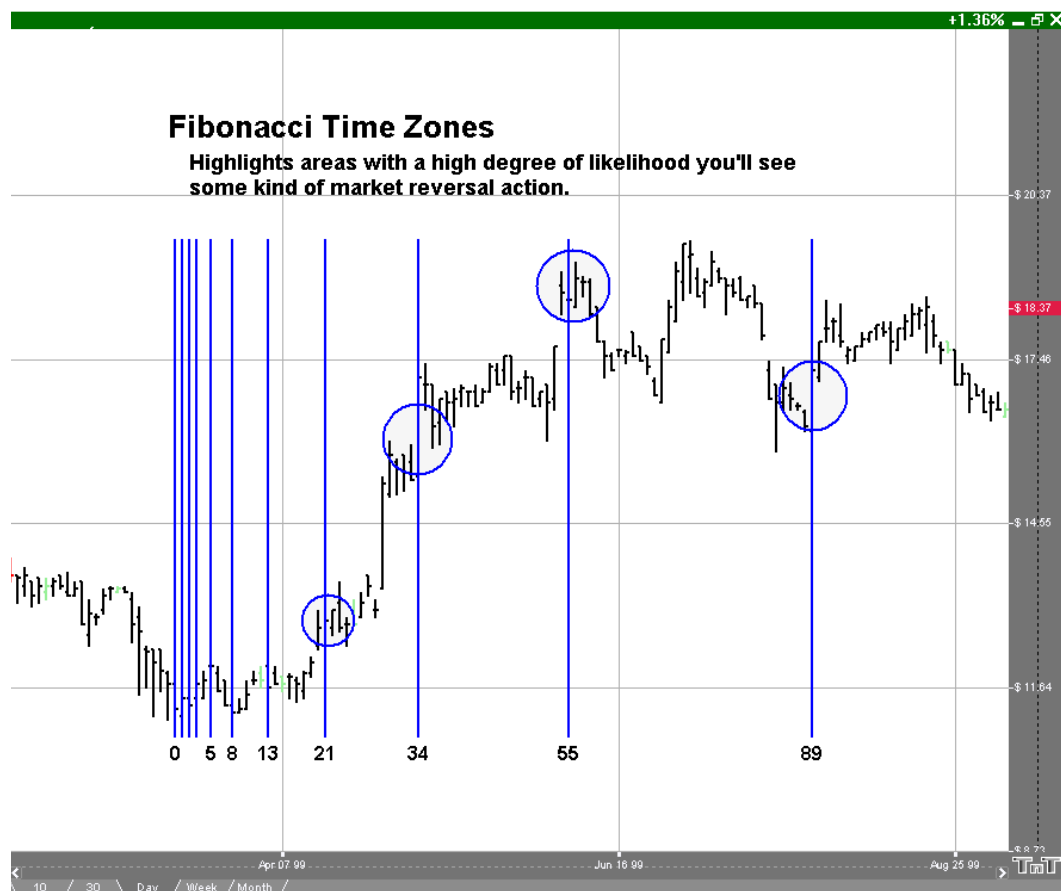
## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Line:** From here you can choose the color, line style, and line thickness.
- 3. Font:** Select the font, size of font, and color of the text. You can also choose to bold or italicize your text. Select the checkbox next to Show Text to hide/show your text on the chart.
- 4. Snap:** Select to have the tool snap to price bars when moved.

## Example of a Fibonacci Time Zone:



## Average True Range (ATR)

The Average True Range Indicator was developed by Welles Wilder to work with the commodity industry. The purpose of the ATR is to recognize the level of volatility in a market. Volatility is a measurement of the change in price over a given period. It is often expressed as a percentage and computed as the annualized standard deviation of the percentage change in daily price.

When a market is going sideways, it typically exhibits low volatility and is difficult to trade. A market with higher volatility is typically trending better which would produce more opportunities to get into a trade. If a market's volatility is too high, traders find that the market is too erratic, and it becomes difficult to trade. In using the ATR, traders hope to measure the level of volatility to help them interpret the different markets they are watching. It is important to remember to consult other indicators or analysis so that you are not relying on only one indicator to determine market entry or exit.

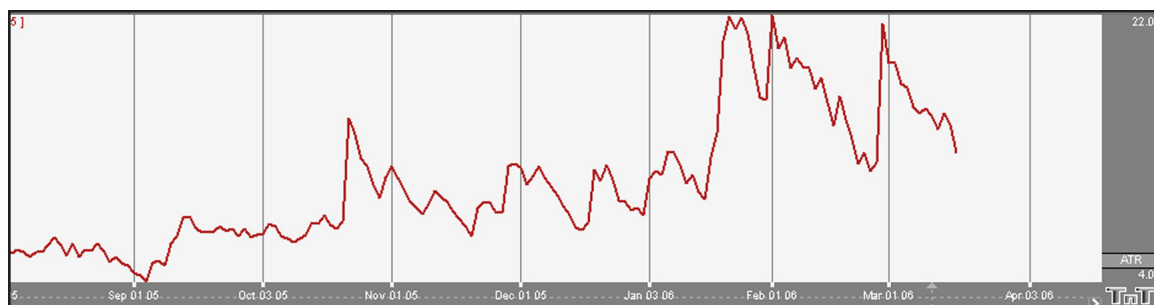
The ATR's value is a measurement of the market volatility. When a market is increasing in volatility the ATR will have a higher value, and when the market is decreasing in volatility the ATR will have a lower value.

### Calculation

The ATR is a moving average of the True Ranges defined below. The default period interval in Track 'n Trade Live is 5 days. The ATR is calculated based on the largest of the three distances from the following:

*Today's HIGH to today's LOW*  
*Yesterday's CLOSE to today's HIGH*  
*Yesterday's CLOSE to today's LOW*

### Example of the ATR:



## Preferences

Open the Preferences Tab in your Control Panel. Select the ATR quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1** — Restore Settings:

**Average True Range**

**2** — ATR Period

**3** — ATR  FireBrick

**4** — Thresholds

<input type="checkbox"/> 1	<input type="text" value="0.00"/>	Value <input type="text"/>	<input type="color" value="Yellow"/> Yellow <input type="text"/>
<input type="checkbox"/> 2	<input type="text" value="0.00"/>	Value <input type="text"/>	<input type="color" value="Yellow"/> Yellow <input type="text"/>
<input type="checkbox"/> 3	<input type="text" value="0.00"/>	Value <input type="text"/>	<input type="color" value="Yellow"/> Yellow <input type="text"/>
<input type="checkbox"/> 4	<input type="text" value="0.00"/>	Value <input type="text"/>	<input type="color" value="Yellow"/> Yellow <input type="text"/>

- 2. Period:** Specify the number of days to be used in calculating the ATR.
- 3. Line:** Choose the color, line style, and line thickness of your line.
- 4. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.



## Percent Bollinger Bands (%B)

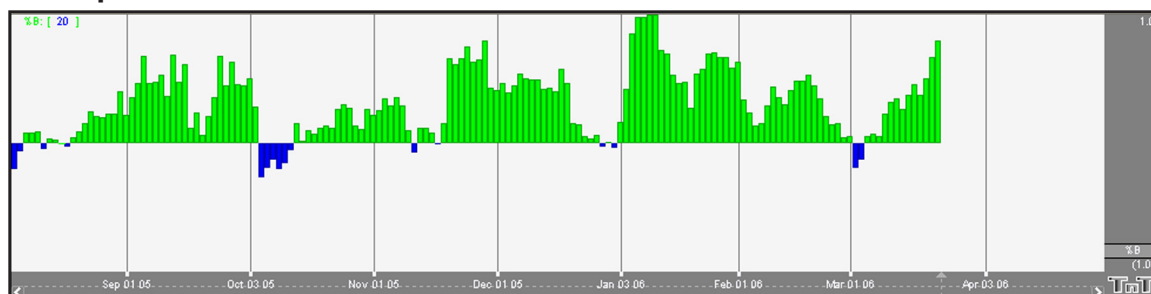
Bollinger Bands are calculated as a simple moving average shifted up and down by a number of standard deviations. Percent Bollinger Bands relate the underlying price of an instrument to the range of these Bollinger Bands. This gives the user an adaptive measure of volatility which can be used in the same way as other momentum indicators. Buy when the indicator bottoms below 0.00 and turns up, and sell when the indicator peaks above 100.00 and turns down.

You can also use the indicator by looking for divergence between the indicator and the charts. Sharp price advances and declines usually accompany market tops and bottoms, and as a market climbs or falls toward a bottom, the indicator will tend to initially follow the price trend and then fall off, leading to bullish or bearish divergences with the chart.

### Buy Sell Signals

A buy signal occurs when %B value crosses from below the 0 line to above the 0 line. A sell signal occurs when %B value crosses from above the 0 line to below the 0 line.

### Example of the %B:



## Preferences

Open the Preferences Tab in your Control Panel. Select the %B quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the preferences window for the %B indicator. It includes buttons for restoring settings to default, applying to all charts, and saving as a personal default. Below these are input fields for Period, Type, Data, % Deviation, and Display as. A section for B+ and B- lines allows for color, line style, and thickness selection. A thresholds section allows for setting up to four threshold lines with values, units, and colors. Finally, a section for Buy/Sell Arrows allows for displaying or hiding them and selecting their color.

- 2. Period:** Specify the number of days to be used in calculating the %B.
- 3. % Deviation:** Define the displacement between the bands.
- 4. Type:** Choose from Simple, Linear Weight, or Exponential.
- 5. Data:** Choose from Open, High, Low, or Close.
- 6. Display as:** Choose to view as a Histogram or Line.
- 7. B+/B-:** Choose the color, line style, and line thickness of your line.
- 8. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 9. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Bollinger Bandwidth (BW)

Bollinger Bands measure volatility by placing bands on either side of a moving average. These bands are charted two standard deviations away from the average. As the average changes, the values of the two standard deviations also change. The Bollinger Bandwidth, developed by John Bollinger, represents the expanding and contracting of the bands based on recent volatility.

During a period of rising price volatility, the distance between the two bands will widen (BB Width will increase). Conversely, during a period of low market volatility, the distance between the two bands will contract (BW will decrease).

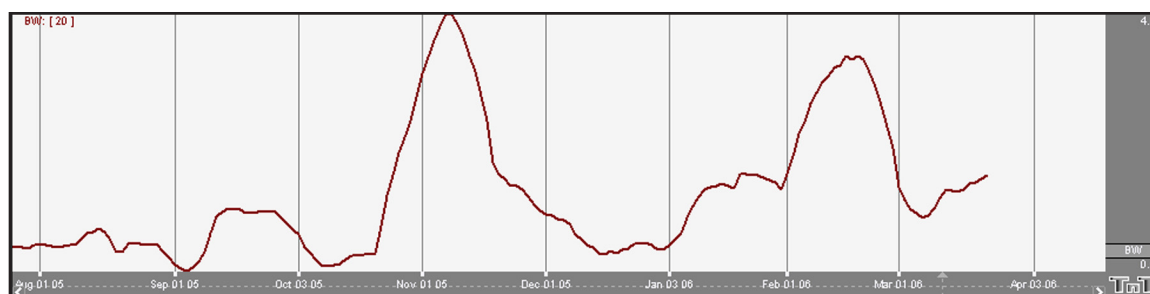
The tendency is for the bands to alternate between expansion and contraction. When the bands are unusually far apart, it is often a sign that the current trend may be ending. When the distance between the two bands has narrowed, it is often a sign that a market may be about to begin a new trend.

The BW gives an indication of how wide the Bollinger Bands are as a function of the middle band. It is used to identify the squeeze at low values and the end of trends at high values.

## Calculation

The calculation of the BW is here:

*Bollinger Bandwidth = [Top Bollinger Band (x periods)] - [Bottom Bollinger Band (x periods)] / Simple Moving Average Close (x periods)*



## Preferences

Open the Preferences Tab in your Control Panel. Select the BW quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1** — Restore Settings:

**Bollinger's Bandwidth**

**2** — Period

**3** — Type

**4** — Data

**5** — % Deviation

**6** — Line

**7** — Thresholds

<input type="checkbox"/> 1	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="text" value="Yellow"/>
<input type="checkbox"/> 2	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="text" value="Yellow"/>
<input type="checkbox"/> 3	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="text" value="Yellow"/>
<input type="checkbox"/> 4	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="text" value="Yellow"/>

- 2. Period:** Specify the number of days to be used in calculating the BW.
- 3. % Deviation:** Define the displacement between the bands.
- 4. Type:** Choose from Simple, Linear Weight, or Exponential.
- 5. Data:** Choose from either Open, High, Low, or Close.
- 6. Line:** Choose the color, line style, and line thickness of your line.
- 7. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

## Chaikin Money Flow (CMF)

The Chaikin Money Flow Indicator is an oscillator developed by Marc Chaikin. An oscillator is an indicator that is used as a counter trend showing when the market is overbought or oversold. These indicators are momentum based. The CMF is based largely on the Accumulation Distribution Line; it compares the close value with the high and the low for that same day.

By comparing the close to the high and low, the CMF is determining if the market has pressure to sell or buy. In doing this, the CMF is giving an indication of overbought and oversold by using these comparisons. If the market is consistently closing in the top region of the price bar and there is an increase in volume (showing an increase in the number of trades) then CMF exhibits a positive value. If the market is consistently closing in the bottom region of the price bar and there's an increase in volume, CMF exhibits a negative value.

When the CMF indicator crosses the zero line either up or down, this is an indication of a change in trend. Traders use this indicator to help confirm breakout signals from either support or resistance trend lines.

### Calculation

The calculation of the CMF is here:

$$CMF = SUM(AD, n) / SUM(VOL, n)$$

where  $n = \text{Period}$

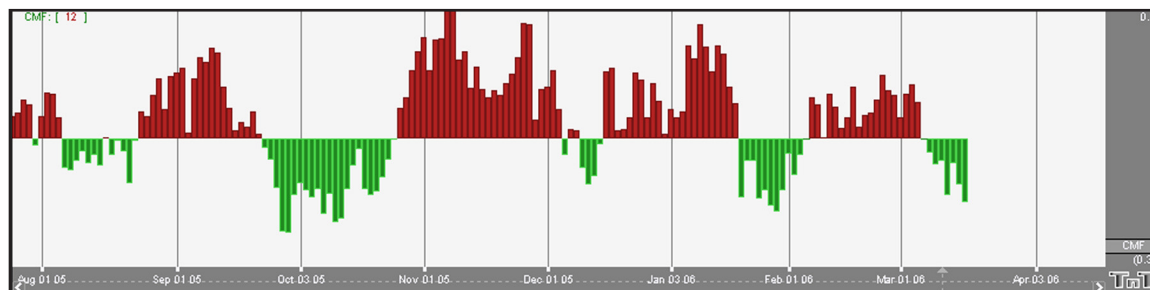
$$AD = VOL \times (CL - OP) / (HI - LO)$$

*AD stands for Accumulation Distribution*

### Buy/Sell Signals

A buy signal occurs when the CMF value crosses from below the 0 line to above the 0 line. A sell signal occurs when the CMF value crosses from above the 0 line to below the 0 line.

### Example of the CMF:



## Preferences

Right-click on the CMF button in your Indicator toolbar and select CMF Settings. The Preferences Tab will open in the Control Panel and the CMF preferences will be displayed. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1**— Restore Settings: TNT Default My Default  
Apply To All Charts Save As My Default  
Help

**2**— CMF Period 12

**3**— CMF- ForestGre — —

**4**— CMF+ FireBrick — —

**5**— Display as Histogram

**6**— Thresholds

<input type="checkbox"/> 1	0.00	Value	Yellow
<input type="checkbox"/> 2	0.00	Value	Yellow
<input type="checkbox"/> 3	0.00	Value	Yellow
<input type="checkbox"/> 4	0.00	Value	Yellow

**7**— Buy / Sell Arrows  
Not Displayed ForestGreen

- 2. CMF Period:** Specify the number of days to be used in calculating the CMF.
- 3. CMF+:** Change the color, style, and thickness of your line.
- 4. CMF-:** Change the color, style, and thickness of your line.
- 5. Display as:** Choose between displaying CMF as a histogram or a line.
- 6. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 7. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Gator (GTR)

Fractal geometry and nonlinear dynamics is used to create the method of calculations for the Gator Indicator. Used in combination with the Alligator, an Overlay Indicator, the Gator has proved to be effective at pinpointing large market trends.

The Gator was created on a relative scale; what seems to be a large move in the market today may well be just a small move on the historical scale, since the Gator graphically represents itself only against its own historical price line. As the market trends, the Gator will also trend, causing historical representations of market momentum and movement to pale in comparison.

### Preferences

Open the Preferences Tab in your Control Panel. Select the GTR quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the 'Gator Oscillator' preferences window. It features a 'Restore Settings' section at the top with buttons for 'TNT Default', 'My Default', 'Apply To All Charts', 'Save As My Default', and 'Help'. Below this is a table for 'Jaws', 'Teeth', and 'Lips' with columns for 'Period' and 'Shift'. Further down are dropdown menus for 'Type', 'Data', 'Value Up', and 'Value Down'. At the bottom is a 'Thresholds' section with four rows, each containing a checkbox, a value field (all set to 0.00), a unit dropdown (all set to 'Value'), and a color dropdown (all set to 'Yellow').

	Period	Shift
Jaws	13	8
Teeth	8	5
Lips	5	3

Threshold	Value	Unit	Color
1	0.00	Value	Yellow
2	0.00	Value	Yellow
3	0.00	Value	Yellow
4	0.00	Value	Yellow

- 2. Jaws, Teeth, Lips:** Specify your periods and shift specifications.
- 3. Type:** Select Simple, Linear Weight, or Exponential.
- 4. Data:** Choose the data you would like to be calculated.
- 5. Value Up:** Select the color of the histogram when the value is up.
- 6. Value Down:** Select the color of the histogram when the value is down.
- 7. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

## Know Sure Thing (KST)

The Know Sure Thing (KST) Indicator is an oscillator developed by Martin J. Ping that gives bullish and bearish momentum signals. The difference between this indicator and other oscillators is that it takes into consideration four time periods instead of only one. Each time period is smoothed using a moving average. Also, each time period is weighted differently depending on length, so a longer time period would have greater weight. Because of the consideration of the various time periods, the KST is able to react quicker to price moves.

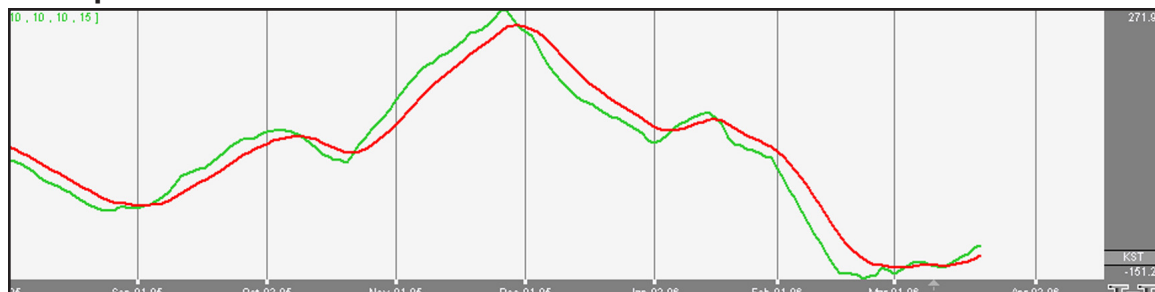
Watch for bullish and bearish momentum signals in the KST indicator. When the KST turns upward, this is a bullish signal, and when the KST turns down, this is a bearish signal. More confirmation is given when the trigger line crosses the KST line as a result of the change in direction.

There are two lines: the trigger line and the KST line. The KST line is a result of the four moving averages smoothed as well as the Rate of Change or ROC. The trigger line is a moving average of the KST.

### Buy/Sell Signals

A buy signal occurs when the KST line is below the 0 line and crosses from below the trigger line to above the trigger line. A sell signal occurs when the KST line above the 0 line and crosses from above the trigger line to below the trigger line.

### Example of the KST:





## Preferences

Open the Preferences Tab in your Control Panel. Select the KST quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the KST indicator preferences window. It includes buttons for 'Restore Settings' (with 'TNT Default' and 'My Default' sub-buttons), 'Apply To All Charts', 'Save As My Default', and 'Help'. Below these is a 'Know Sure Thing' section. The main settings area includes a table for moving averages (MA 1-4) with columns for 'Period' and 'Roc Period'. Below the table are fields for 'Trigger Period', 'Type' (set to 'Line'), and 'Calculation' (set to 'Exponential'). There are also settings for 'KST' and 'Trig' lines, including color, line style, and thickness. A 'Thresholds' section allows for setting up to four threshold lines with checkboxes, values, units, and colors. Finally, a 'Buy / Sell Arrows' section has a checkbox and a color selection.

	Period	Roc Period
MA 1	10	5
MA 2	10	20
MA 3	10	25
MA 4	15	30

Threshold	Value	Unit	Color
1	0.00	Value	Yellow
2	0.00	Value	Yellow
3	0.00	Value	Yellow
4	0.00	Value	Yellow

- 2. MA:** Specify the number of days used in calculating the period and ROC period of the 1, 2, 3, and 4 moving average lines.
- 3. Trigger Period:** Specify the number of days used in calculating the trigger period. Choose between a histogram or line.
- 4. Type:** Choose if you would like to see KST as a histogram or line.
- 5. Calculation:** Choose between Simple, Linear Weight, and Exponential.
- 6. KST/Trigger:** Choose the color, line style, and line thickness of your KST and trigger lines.
- 7. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 8. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Money Flow Index (MFI)

The MFI is a momentum based indicator, similar to the RSI, %R, and CCI. The MFI incorporates a more rigid calculation, giving the tell tale signs of a more rigid line and a better indication of money flowing in or out of any given security.

The theory says that as money flows into the equity, or volume increases, the MFI will increase its rate of climb. As money flows out of the equity, volume decreases, and the MFI will decrease its rate of climb. The MFI is a classic overbought/oversold indicator based on a 0-100 scale. When the MFI reaches up above the top threshold, which is traditionally set at 75-80%, the equity is considered overbought and a retracement is anticipated. When the MFI line reaches below the 20-25% threshold, the underlying equity is considered oversold and a reversal is anticipated once again.

### Calculation

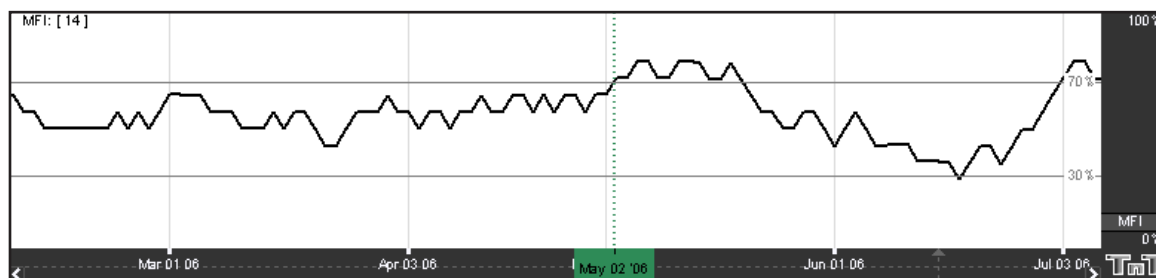
The calculation of MFI is here:

$$\text{Money Flow} = (\text{Typical Price}) \times (\text{Volume})$$

### Buy/Sell Signals

A buy signal occurs when the MFI line crosses from below the lower threshold to above the lower threshold. A sell signal occurs when the MFI line crosses from above the upper threshold to below the upper threshold.

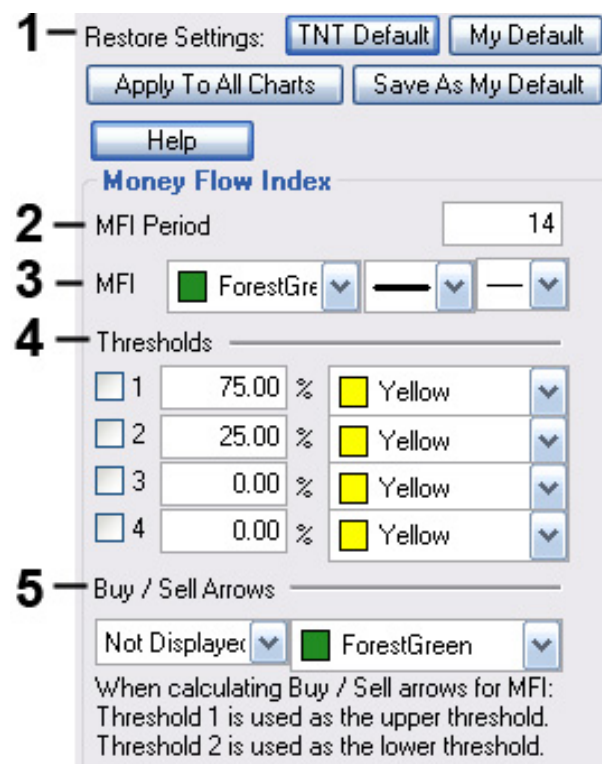
### Example of the MFI:



## Preferences

Open the Preferences Tab in your Control Panel. Select the MFI quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.



- 2. MFI Period:** To specify the number of days used in calculating the MFI, click in the box, highlight the current number, and type in a new value.
- 3. MFI:** Change the color, style, and thickness of the line.
- 4. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 5. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## On Balance Volume (OBV)

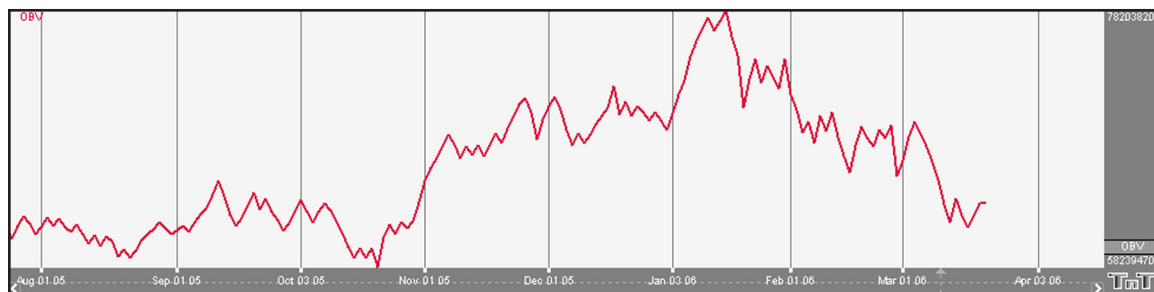
The OBV indicator adds a period volume when the close is up and then subtracts the period's volume when the indicator closes down. An accumulated volume total forms the OBV line. When comparing this calculated price line, with the underlying security, we look for areas of convergence and divergence to confirm our market's directional movement.

The concept behind the OBV is that changes will be reflected in the OBV prior to the markets change. A rise in volume is meant to indicate a rise in money inflows to the security. Once the public continues to add money, the price of the equity should continue to rise.

Directional movement in the indicator gives foresight into the market direction. A rise in the OBV indicator gives the trader the indication that markets are on the rise; a dropping OBV is an indication of a weakening market and lower prices are soon to follow.

When market divergence is seen within the OBV indicator, one must take heed that the market is either weakening in a bullish trend, or strengthening in a bearish trend, and a market reversal is about to occur. The actual calculated value of the line itself is of little use, but the visual movement of the line is what's important to the trader. An inclining line is the indication of a strengthening market, and a declining line is representative of declining market strength.

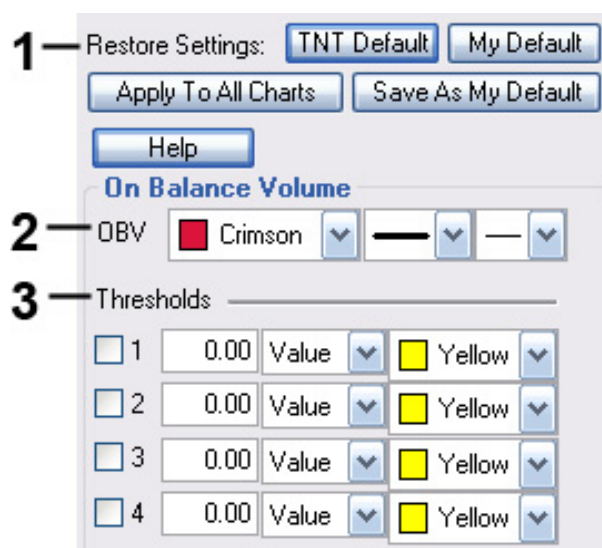
### Example of the OBV:



## Preferences

Right-click on the OBV button in your Indicator toolbar and select OBV Settings. The Preferences Tab will open in the Control Panel and the OBV preferences will be displayed. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.



- 2. Line:** Choose the color, line style, and line thickness of your line.
- 3. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

## Percent Price Oscillator (PPO)

The PPO indicator shows the relationship between two moving averages. The PPO indicator is a modification of the highly regarded and effective MACD indicator. This enhancement provides us the ability to receive the differences between the two moving averages as a percentage. This allows the trader to easily compare stocks with different prices. For example, a PPO result of 20 means that the short term average is 20% above the long term average.

### Calculation

To calculate the PPO, subtract the 26-day exponential moving average (EMA) from the nine-day EMA and divide this difference by the 26-day EMA. The end result is a percentage that tells the trader where the short-term average is relative to the longer-term average.

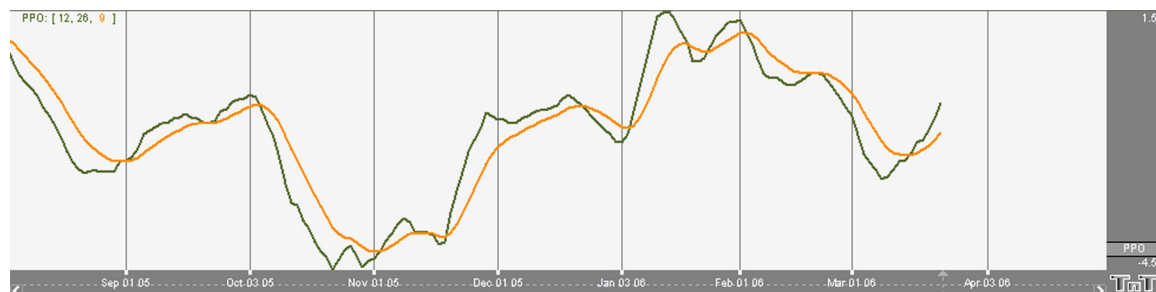
$$PPO = (Fast\_EMA - Slow\_EMA) / Fast\_EMA$$

Additionally, the PPO histogram can be calculated by using the MA of a PPO itself:

$$PPO\_Histogram = PPO - EMA\_PPO$$

### Buy/Sell Signals

A buy signal occurs when the PPO line crosses from below the trigger line to above the trigger line. A sell signal occurs when the PPO line crosses from above the trigger line to below the trigger line.



## Preferences

Open the Preferences Tab in your Control Panel. Select the PPO quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1**— Restore Settings:

**% Price Oscillator**

**2**— PPO Periods

**3**— PPO

**4**— Trigger Period

**5**— Trig

**6**— Build With

**7**— Thresholds

<input type="checkbox"/> 1	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="color" value="Yellow"/>
<input type="checkbox"/> 2	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="color" value="Yellow"/>
<input type="checkbox"/> 3	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="color" value="Yellow"/>
<input type="checkbox"/> 4	<input type="text" value="0.00"/>	<input type="text" value="Value"/>	<input type="color" value="Yellow"/>

**8**— Buy / Sell Arrows

- 2. PPO Periods:** Specify the number of days to be used in calculating the PPO.

- 3. PPO:** Choose the color, line style, and line thickness of your PPO line.

- 4. Trigger:** Specify the number of days used in calculating the Trigger.

- 5. Line:** Choose the color, line style, and line thickness of your Trigger line.

- 6. Build With:** Choose either Close, Open, High, or Low to build with.

- 7. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

- 8. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Price Volume Oscillator (PVO)

The PVO is primarily used to identify periods of expanding or contracting volume.

**Centerline Crossovers:** The PVO oscillates above and below the zero line. A PVO above zero indicates that volume levels are generally above average and relatively heavy. When the PVO is below zero, volume levels are generally below average and light. When PVO is positive, the shorter EMA of volume is greater than the longer EMA of volume. When PVO is negative, the shorter EMA of volume is less than the longer EMA of volume.

**Directional Movement:** The general overall direction of the PVO gives the trader a visual of market momentum and direction. A rising PVO signals volume levels are increasing, and a falling PVO signals volume levels are decreasing.

**Moving Average Crossovers:** The last variable in the PVO forms the signal line. For example, PVO (12,26,9) would include a 9-day EMA of PVO as well as a histogram representing the difference between the PVO and its 9-day EMA. When PVO moves above its signal line, volume levels are generally increasing. When PVO moves below its signal line, volume levels are generally decreasing.

Movements in the PVO are completely separate from price movements. Movements in PVO can correlate with price movements to assess the degree of buying or selling pressure.

### Calculation

The calculation of PVO is here:

$$\text{Volume Oscillator (\%)} - \text{PVO} = [(\text{Vol 12-day EMA} - \text{Vol 26-day EMA}) / \text{Vol 12-day EMA}] \times 100$$

Increasing and decreasing the exponential moving average variables changes the PVO to reflect a longer or shorter trading time period. The absolute values of the PVO indicator are not as important as the crossovers of the moving averages as well as a crossover above or below the zero line.

There are three additional methods on the next page of acquiring market strength and weakness information from the PVO.

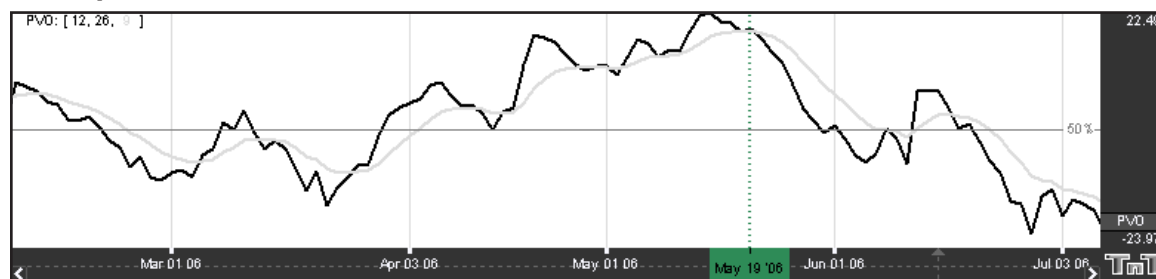
- When the PVO crosses above the zero line, volume is increasing and an increase in price is anticipated.
- When the PVO crosses below the zero line, volume is decreasing and a decrease in price and a weakening market are anticipated.
- Simple directional movement can be one of the greatest strengths of the PVO indicator. When the line is ascending, volume is increasing, so therefore markets should increase. When the line is descending, volume is decreasing, therefore the market should weaken and decrease.



## Buy/Sell Signals

A buy signal occurs when the PVO line crosses from below the trigger line to above the trigger line. A sell signal occurs when the PVO line crosses from above the trigger line to below the trigger line.

### Example of the PVO:



## Preferences

Right-click on the PVO button in your Indicator toolbar and select PVO Settings. The Preferences Tab will open in the Control Panel and the PVO preferences will be displayed. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the 'PVO Settings' dialog box. On the left, a vertical black bar contains the text 'Advanced Tools'. The dialog box has a title bar and several sections:

- 1. Restore Settings:** This section contains four buttons: 'TNT Default', 'My Default', 'Apply To All Charts', and 'Save As My Default'. Below these is a 'Help' button.
- 2. % Volume Oscillator:** This section contains the title '% Volume Oscillator'.
- 3. PVO Periods:** This section contains two input fields for 'PVO Periods', with values '12' and '26'.
- 4. PVO:** This section contains a color selection dropdown (currently 'Crimson'), a line style dropdown (currently a solid line), and a line thickness dropdown (currently a medium line).
- 5. Trigger Period:** This section contains an input field for 'Trigger Period' with the value '9'.
- 6. Trig:** This section contains a color selection dropdown (currently 'LightSea'), a line style dropdown (currently a solid line), and a line thickness dropdown (currently a medium line).
- 7. Thresholds:** This section contains a table with four rows, each representing a threshold. Each row has a checkbox, a value input field (all set to '0.00'), a unit dropdown (all set to 'Value'), and a color selection dropdown (all set to 'Yellow').
- Buy / Sell Arrows:** This section contains a dropdown for 'Buy / Sell Arrows' (currently 'Not Displayed') and a color selection dropdown (currently 'Crimson').

- 2. PVO Periods:** Specify the number of days to be used in calculating the PVO.
- 3. PVO:** Choose the color, line style, and line thickness of your line.
- 4. Trigger:** Specify the number of days used in calculating the trigger period.
- 5. Line:** Choose the color, line style, and line thickness of your trigger line.
- 6. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 7. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Rate of Change (ROC)

The ROC indicator is used to help a trader determine the rate at which a market is either increasing or decreasing in strength or weakness. A rising rate of change indicates an advancing market, while a decreasing rate of change indicates a declining market. As the rate of change line approaches the centerline, the rate of change is considered to be in equilibrium. This is somewhat of a misnomer, since the ROC is on a relative scale and scales against historical rates. What is equilibrium today will not be the equilibrium line down the road, and what is not equilibrium today will appear to be so from a historical point of view.

Comparing the ROC's of different time-spans improves the accuracy of the analysis. A 12 month period is usually the most reliable for long-term trends, and a 3 or 6 month period works well for intermediate trends. A 10 or 12-day ROC is a good short-term indicator, oscillating in a fairly regular cycle.

The lower the ROC, the more undersold the market and the more likely a recovery. Although the opposite may hold true in that the higher the ROC, the more overbought the market, both extremes can indicate the formation of a sideways channel.

## Calculations

The calculation for the ROC is here:

$$\text{ROC} = 100 \times (\text{Today's close} - \text{Close 10 periods ago}) / (\text{Close 10 periods ago})$$



## Preferences

Open the Preferences Tab in your Control Panel. Select the ROC quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1** — Restore Settings:

**Rate Of Change**

**2** — ROC Period

**3** — ROC

**4** — Thresholds

<input type="checkbox"/> 1	<input type="text" value="0.00"/>	<input type="button" value="Value"/>	<input type="button" value="Yellow"/>
<input type="checkbox"/> 2	<input type="text" value="0.00"/>	<input type="button" value="Value"/>	<input type="button" value="Yellow"/>
<input type="checkbox"/> 3	<input type="text" value="0.00"/>	<input type="button" value="Value"/>	<input type="button" value="Yellow"/>
<input type="checkbox"/> 4	<input type="text" value="0.00"/>	<input type="button" value="Value"/>	<input type="button" value="Yellow"/>

- 2. Period:** Specify the number of days to be used in calculating the SRSI.
- 3. Line:** Choose the color, line style, and line thickness of your line.
- 4. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

## Stochastic Relative Strength Index (SRSI)

The Stochastics indicator is an oscillator that compares a securities closing price in relationship to its price range over a given period of time. The RSI indicator is also an oscillator which represents the internal strength of the equities price. Both these indicators work on an overbought and oversold formula.

The Stochastics RSI is a combination of these two indicators, where the %K within the Stochastics formula is replaced by the RSI. The formula is then set on a 0 to 100 scale for both the Stochastics indicator as well as the RSI is read in much the same manner as the traditional RSI. When the SRSI reaches up into the upper region above the upper threshold line, the market is considered overbought and anticipate a reversal of the trend. When the SRSI reaches down into the lower region below the lower threshold, the market is considered oversold and a reversal is anticipated. Traditionally, the upper threshold marker is set at 70% and the lower marker is set at 30%.

### Calculation

The calculation for the SRSI is here:

$$\text{StochRSI} = (\text{RSI} - \text{LowRSIn}) / (\text{HighRSIn} - \text{LowRSIn})$$

*RSI*: The current level of the RSI indicator.

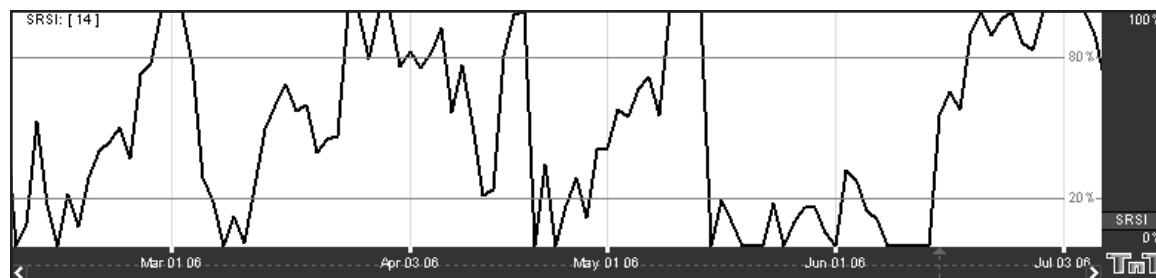
*LowRSIn*: The lowest level the RSI reached over the last  $n$  periods.

*HighRSIn*: The highest level the RSI reached over the last  $n$  periods.

### Buy/Sell Signals

A buy signal occurs when the SRSI line crosses from below the lower threshold to above the lower threshold into the channel. A sell signal occurs when the SRSI line crosses from above the upper threshold to below the upper threshold into the channel.

### Example of the SRSI:



## Preferences

Open the Preferences Tab in your Control Panel. Select the SRSI quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1**— Restore Settings: TNT Default My Default  
Apply To All Charts Save As My Default  
Help

**2**— Stochastic Relative Strength Index

**2**— SRSI Period 14

**3**— Underlying RSI Period 14

**4**— Calculation Exponential

**5**— SRSI LightPink — —

**6**— Thresholds

<input type="checkbox"/> 1	70.00 %	Yellow
<input type="checkbox"/> 2	30.00 %	Yellow
<input type="checkbox"/> 3	0.00 %	Yellow
<input type="checkbox"/> 4	0.00 %	Yellow

**7**— Buy / Sell Arrows  
Not Displaye LightPink

When calculating Buy/Sell arrows for SRSI:  
Threshold 1 is used as the upper threshold.  
Threshold 2 is used as the lower threshold.

- 2. SRSI Period:** Specify the number of days to be used in calculating the SRSI.
- 3. Underlying RSI Period:** Specify the number of days used in calculating the Underlying RSI.
- 4. Calculation:** Choose from Exponential, Simple, or Wilder's Smoothing.
- 5. Line:** Choose the color, line style, and line thickness of your line.
- 6. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 7. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Triple Exponential Average (TRIX)

The TRIX indicator is a momentum indicator designed to calculate the percent rate of change of a triple exponentially smoothed moving average. It is very similar in the way the MACD indicator works. Both indicators provide basically the same methodology behind generating market momentum and directional movement.

TRIX was designed to filter out the minor, less significant moves within a market trend. This is done, just as other traditional indicators have done in the past, by utilizing multiple moving averages.

Convergence and Divergence are common uses of the TRIX indicator. Adding the trigger line crossover provides the trader with a Buy/Sell Signal generated from the crossing of the two moving averages.

### Calculation

To calculate TRIX, first pick a period with which to create an exponential moving average of the closing prices. For a 15-day period the calculations would look like this:

*Calculate the 15-day exponential moving average of the closing price.*

*Calculate the 15-day exponential moving average of the moving average calculated in step #1.*

*Calculate the 15-day exponential moving average of the moving average calculated in step #2.*

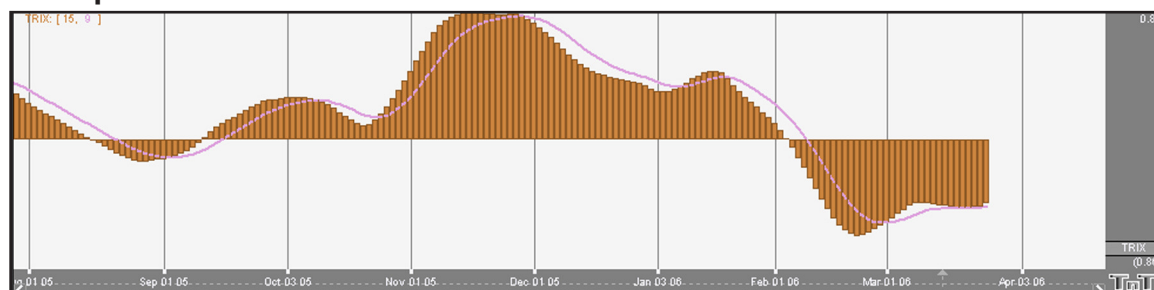
The result is triple exponentially smoothing the moving average of closing prices, greatly reducing volatility.

*Finally, calculate the 1-day percent change of the moving average calculated in step #3.*

### Buy/Sell Signals

A buy signal occurs when the TRIX value crosses from below the trigger line to above the trigger line. A sell signal occurs when the TRIX value crosses from above the trigger line to below the trigger line.

### Example of the TRIX:



## Preferences

Open the Preferences Tab in your Control Panel. Select the TRIX quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the TRIX indicator preferences window. On the left, a vertical black bar contains the text "Advanced Tools". The window has a title bar "TRIX" and a "Help" button. Below the title bar, there are four buttons: "Restore Settings:", "TNT Default", "My Default", and "Apply To All Charts". Below these are two more buttons: "Save As My Default" and "Help". The main settings area includes:
 

- 2** TRIX Period: A text box containing the value "15".
- 3** TRIX: A color selection box showing "Peru" with a dropdown arrow, followed by a line style selection box showing a solid line with a dropdown arrow, and a line thickness selection box showing "1" with a dropdown arrow.
- 4** Trigger Period: A text box containing the value "9".
- 5** Trig: A color selection box showing "Plum" with a dropdown arrow, followed by a line style selection box showing a solid line with a dropdown arrow, and a line thickness selection box showing "1" with a dropdown arrow.
- 6** Display as: A dropdown menu showing "Histogram".
- 7** Thresholds: A section with four rows. Each row has a checkbox, a text box with "0.00", a dropdown menu with "Value", and a color selection box with "Yellow".
- 8** Buy / Sell Arrows: A section with a dropdown menu showing "Not Displayed" and a color selection box showing "Peru".

- 2. Period:** Specify the number of days to be used in calculating the SRSI.
- 3. Line:** Choose the color, line style, and line thickness of your line.
- 4. Trigger Period:** Specify the number of days used in calculating the Underlying RSI.
- 5. Line:** Choose the color, line style, and line thickness of your trigger line.
- 6. Display as:** Choose if you want to see a histogram or line.
- 7. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 8. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.



## Ultimate Oscillator (ULT)

This is another indicator introduced by Mr. Larry Williams. It seems to be another modification of the RSI indicator, as is his %R indicator. If you lay the three indicators on your chart, you'll see many similarities. The advantage of the ULT indicator is that the trader is given two additional variables in the formula to modify and finetune the action and reaction to the market price.

This indicator, as with the RSI indicator, works on an overbought and oversold region. Mr. Williams states that the upper threshold should start at 70% and the lower threshold at 30%, but depending on the market, the volatility, and the settings, you may need to adjust the thresholds to either higher or lower settings to obtain signals.

Once the ULT line crosses above the upper threshold into the overbought region, it is time to anticipate a reversal in price and lower prices to ensue. When the ULT line crosses below the lower threshold, it is time to anticipate a reversal in price and anticipate prices to rise once again. Many traders like to use a 50% line to reconfirm price action. Crossing the 50% line is a confirmation of the overall trend.

### Calculation

The True Low (TL) is the lower of today's low or yesterday's close. Calculate today's Buying Pressure (BP) like this:

$$BP = \text{Today's close} - \text{Today's TL}$$

Calculate today's True Range (TR) by finding the largest outcome of one of the following equations:

$$\begin{aligned} TR = & \text{Today's High} - \text{Today's Low} \\ & \text{Today's High} - \text{Yesterday's Close} \\ & \text{Today's Close} - \text{Today's Low} \end{aligned}$$

Calculate *BPSum1*, *BPSum2*, and *BPSum3* by adding up all of the BPs for each of the three specified time frames. Calculate *TRSum1*, *TRSum2*, and *TRSum3* the same way with the TR's.

The Raw Ultimate Oscillator (RawUO) is calculated here:

$$RawUO = 4 \times (BPSum1 / TRSum1) + 2 \times (BPSum2 / TRSum2) + (BPSum3 / TRSum3)$$

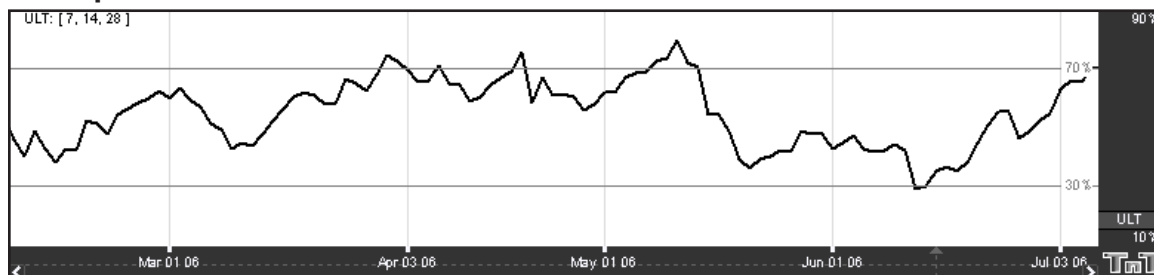
The Final Ultimate Oscillator is calculated here:

$$FUO = [ RawUO / (4 + 2 + 1) ] \times 100$$

## Buy/Sell Signals

A buy signal occurs when the ULT line crosses from below the lower threshold to above the lower threshold. A sell signal occurs when the ULT line crosses from above the upper threshold to below the upper threshold.

### Example of the ULT:



### Preferences

Open the Preferences Tab in your Control Panel. Select the ULT quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1** — Restore Settings:

**2** — **Ultimate Indicator**

**2** — ULT Periods:

**3** — ULT: ☐ HoneyDe

**4** — Thresholds

Threshold	Value	Color
1	70.00 %	Yellow
2	30.00 %	Yellow
3	0.00 %	Yellow
4	0.00 %	Yellow

**5** — Buy / Sell Arrows

☐ HoneyDew

When calculating Buy/Sell arrows for ULT:  
 Threshold 1 is used as the upper threshold.  
 Threshold 2 is used as the lower threshold.

- 2. ULT Periods:** Specify the number of days to be used in calculating the SRSI.
- 3. Line:** Choose the color, line style, and line thickness of your line.
- 4. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 5. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

## Alligator

A unique use of fractal geometry and nonlinear dynamics is used to create the method of calculations for the Alligator Indicator. Used in combination with the Gator Indicator, the Alligator has proved to be effective at pinpointing large market trends.

### Components

Alligator's Jaw (blue line): The Balance Line for the timeframe that was used to build the chart (13 period Smoothed Moving Average, moved into the future by 8 bars).

Alligator's Teeth (red line): The Balance Line for the value timeframe of one level lower (8 period Smoothed Moving Average, moved by 5 bars into the future).

Alligator's Lips (green line): The Balance Line for the value timeframe, one more level lower (5 period Smoothed Moving Average, moved by 3 bars into the future).

The Lips, Teeth, and Jaw of the Alligator show the interaction of different time periods. As clear trends can be seen only 15 to 30 percent of the time, it is essential to follow them and refrain from working on markets that fluctuate only within certain price periods.

When the Jaw, Teeth and Lips are closed or intertwined, the Alligator is going to sleep or is asleep already. As it sleeps, it gets hungrier and hungrier: the longer it sleeps, the hungrier it will be when it wakes up. The first thing it does after it wakes up is to open its mouth and yawn. Then the smell of food comes to its nostrils: flesh of a bull or flesh of a bear, and the Alligator starts to hunt it. Having eaten enough to feel quite full, the Alligator starts to lose interest in the food/price (Balance Lines join together), and this is the time to fix the profit.

## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the Alligator line on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1** — Restore Settings:

Alligator

	Period	Shift
<b>2</b> — Jaws	13	8
Teeth	8	5
Lips	5	2
<b>3</b> — Type	Exponential ▼	
<b>4</b> — Data	Close ▼	
<b>5</b> — Jaws	Blue ▼	— ▼
Teeth	Red ▼	— ▼
Lips	Lime ▼	— ▼

- 2. Jaws, Teeth, Lips:** Specify your periods and shift specifications.
- 3. Type:** Select Simple, Linear Weight, or Exponential.
- 4. Data:** Select Open, High, Low, or Close.
- 5. Jaws, Teeth, Lips:** Choose the color, line style, and line thickness of your indicator line.

## Donchian Channels (DON)

Donchian Channels were created by Richard Donchian, an expert in trends. The DON is a simple trend breakout system. The channel works well in trending markets, but not as well in sideways moving markets.

Donchian Channels measure volatility by placing bands at a specified period deviation. These bands are charted two standard deviations from the market price. As the market price changes, the value of two standard deviations also changes. This value is what comprises the Donchian Channel's band width, representing the expanding and contracting of the bands based on recent price volatility.

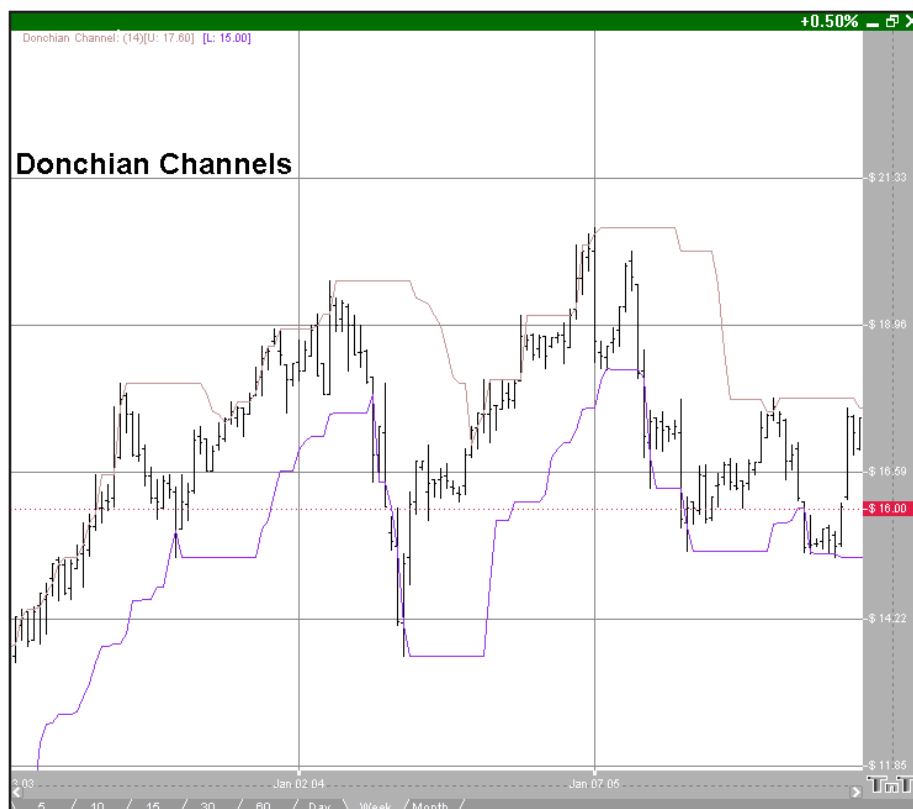
### Calculation

The calculation of the DON is here:

$$\text{Donchian Channel High} = \text{MAX} (HI, n)$$

$$\text{Donchian Channel Low} = \text{MAX} (LO, n)$$

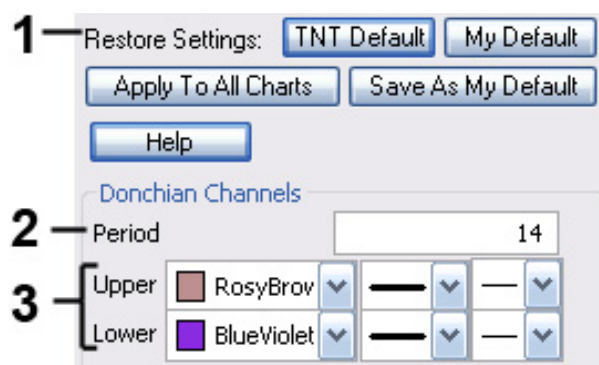
### Example of Donchian Channels:



## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the Donchian Channels line on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.



- 2. Donchian Period:** Specify the number of days in a period.
- 3. Upper, Lower:** Choose the color, line style, and line thickness of your indicator line.

## Keltner Bands

Keltner Bands were developed by Chester Keltner and Modified by Linda Raschke. They are traditional moving average envelopes based on Exponential Moving Averages. The probability is that prices will remain within the channel, as with all band-type indicators. A break above the channel is an anticipation of higher prices. When prices close below the lower band, we anticipate lower prices.

The middle line (20 period EMA) in a rising market should provide support. In a falling market, the middle line should provide resistance. Keltner Bands, as with any moving average indicator, seem to work great in strongly trending markets, but not so well in sideways markets. Just like all trend-following systems, the Keltner Bands are not meant to spot tops or bottoms. Use the Keltner Bands in conjunction with other indicators such as RSI or MACD. Using it in combination with either of these will help provide verification of the strength of a market.

### Example of Keltner Bands:



## Calculation

The calculation for the top, or Plus Band, is here:

$$2 \text{ (ATR over 10 periods)} + (20 \text{ period exponential moving average})$$

The calculation for the bottom, or Minus Band, is here:

$$2 \text{ (ATR over 10 periods)} - (20 \text{ period exponential moving average})$$

## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the Keltner Bands line on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

**1** — Restore Settings:

**2** — Keltner Bands

**3** — Period

**4** — Type

**5** — Band Calculation:

☒ Original (±n day SMA of High-Low)

☐ ATR (± n day ATR \* x ATR multiplier)

n  x

Upper	<input type="color" value="blue"/> Blue	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
Middle	<input type="color" value="red"/> Red	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>
Lower	<input type="color" value="blue"/> Blue	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>

- 2. Period:** Specify the number of days used.

- 3. Type:** Select Simple, Linear Weight, or Exponential.

- 4. Band Calculation:** Select Original or ATR and enter values of your own.

- 5. Upper, Middle, Lower:** Choose the color, line style, and line thickness of your indicator line.



## Parabolic Stop and Reversal (PSAR)

The Parabolic SAR, developed by Welles Wilder, creator of RSI and DMI, sets trailing price stops for either long or short positions. Also referred to as the stop-and-reversal indicator, Parabolic SAR is more popular for setting stops than for establishing direction or trend. Wilder recommended establishing the trend first, and then trading with Parabolic SAR in the direction of the trend. If the trend is up, but the underlying price drops back below the trailing PSAR indicator, then sell or liquidate your long position. If the trend is down, and the underlying price rises above the trailing PSAR indicator then buy or liquidate your short position.

### Calculation

Once the market establishes a direction, the initial SAR becomes the extreme price for the two intervals. The extreme price is either the lowest price or highest price for the two trading intervals. The short position uses the high, and the long position uses the low.

The calculation for the PSAR is here:

$$SAR_t = SAR_{t-1} + [ a \times ( EP_{trade} - SAR_{t-1} ) ]$$

*SAR<sub>t</sub>*: The stop and reverse price for the current interval.

*SAR<sub>t-1</sub>*: The stop and reverse price for the previous interval.

*a*: The acceleration factor.

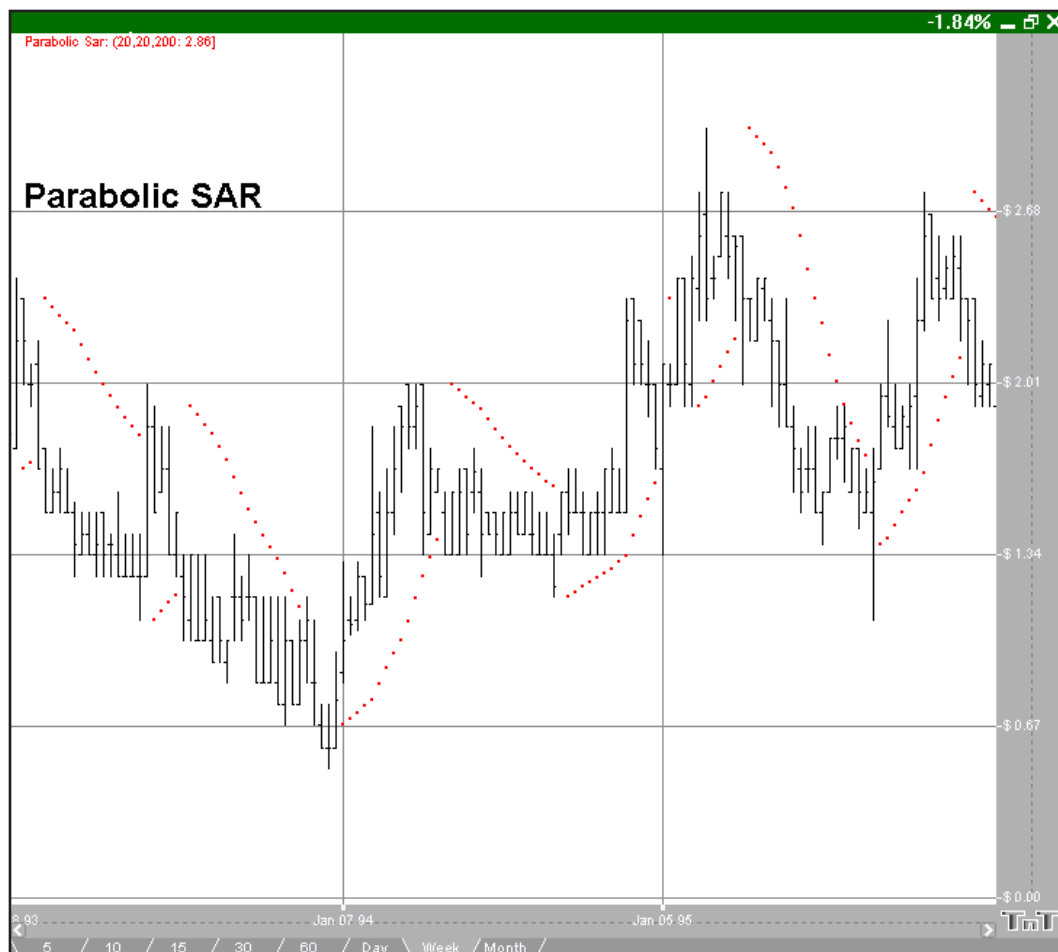
*EP<sub>trade</sub>*: The extreme price for the trade.

The SAR is always the “stop and reverse” price point. This is the point you would want to liquidate your current position and establish the opposite position.

The acceleration factor, *a*, is a weighting factor. In Wilder’s work, the initial value for the acceleration factor is .02. The acceleration factor increases by a value of .02 each time the extreme price changes for the trade. You do not increment the acceleration factor if the extreme price fails to change. The value for *a*, the acceleration factor, never exceeds .20 in Wilder’s methodology.

The extreme price (*EP*) for the trade is the highest or lowest price achieved during the trade. If you have a long position, use the new highs as the extreme price. When you have a short position, use the new lows as the extreme price. The extreme price concept allows for normal market corrections without immediately triggering the *SAR* price. It keeps the *SAR* price moving in the direction of the market.

## Example of PSAR:



## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the PSAR on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the 'Wilder's Parabolic Time/Price' settings window. On the left, four numbers (1, 2, 3, 4) are placed next to their corresponding UI elements: 1 points to the 'Restore Settings' buttons, 2 points to the three numerical input fields, 3 points to the 'Style' dropdown, and 4 points to the 'Color' dropdown.

Callout	UI Element	Value / Selection
1	Restore Settings: Buttons	TNT Default, My Default, Apply To All Charts, Save As My Default, Help
2	Initial Acceleration	20
2	Additional Acceleration	20
2	Acceleration Limit	200
3	Style	Squares
4	Color	Red

- 2. Initial, Additional, Limit:** Specify the calculation number you would like each section of the indicator.
- 3. Style:** Choose how you would like the indicator displayed. Select squares, crosses, dots, or lines.
- 4. Color:** Select the color of the indicator.

## Pivot Points

Pivot points used to be referred to as “traders numbers” because of the popularity of these points amongst floor traders. The theory behind them is that markets tend to have overlap from one period to another. On most days, the daily high or low is within the previous day’s range, as with the previous week’s extremes, and previous month’s extremes. In this sense, pivot points are a counter trend indicator.

However, many traders believe that once one point is violated, the next point will be tested, making a violation of these support and resistance levels a clue in trend following. Though we cannot vouch for the truth of this statement, the popularity of pivot points amongst floor traders tends to make these points worth watching.

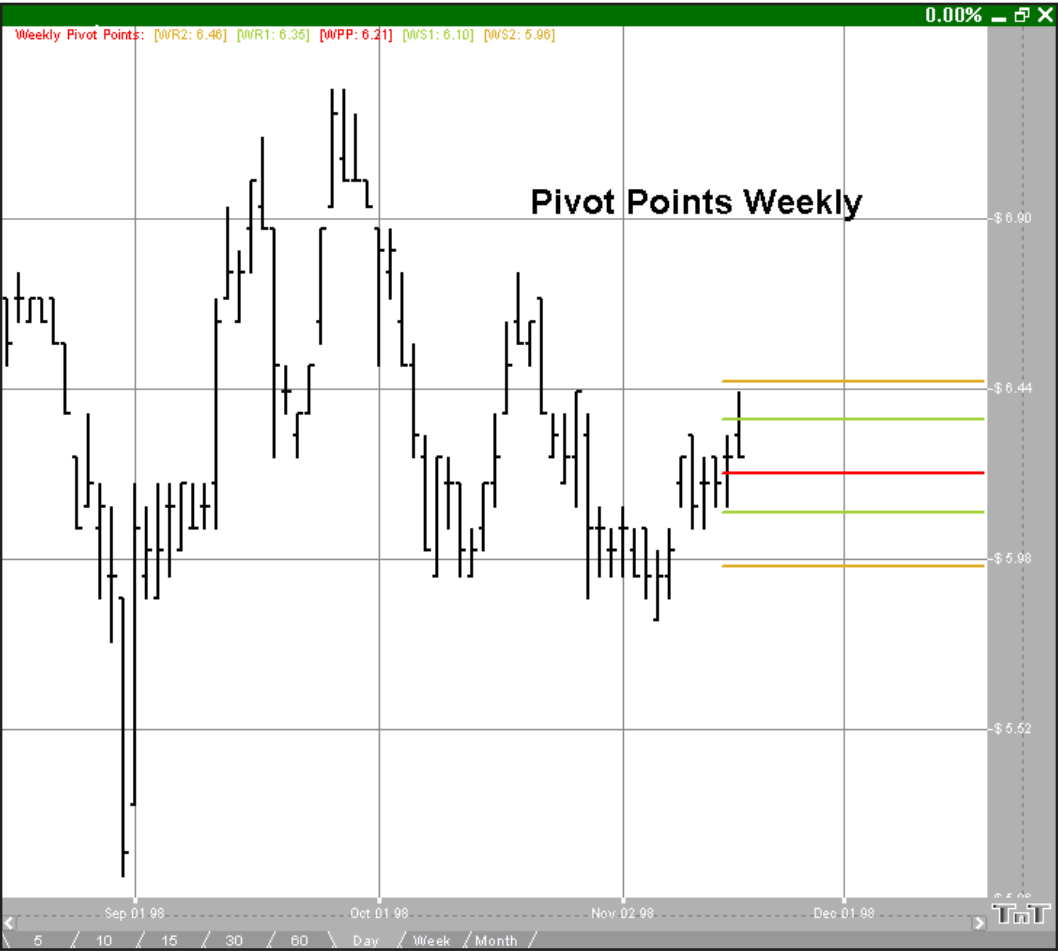
The popularity of these numbers can be seen on any day when the exchanges are cleaned-up. The trading floor is literally piled high with folded pieces of paper that contain pivot points calculated on them.

The uses of pivot points varies greatly by trader. The most common function of the daily pivot is as a guide. If prices are trading above the pivot point, then the trend is considered up. Traders may wish to take short-term positions on a violation of the daily pivot to the upside with an initial upside objective of the first resistance level. If prices stall or slow at the first resistance level, then aggressive traders may wish to take profits. However, if the first Resistance level is violated to the upside, then the market should go on to test the second resistance level. If prices have violated the 1st resistance level, then this level should act as support on future pullbacks, as should the pivot point.

The opposite is true for support levels. A violation of the daily pivot to the downside indicates that the daily trend is down, with a downside target being the first support level. If the market stalls, then traders may wish to take profits on short positions, or initiate long positions in anticipation of a retracement to the daily pivot. However, if the first support level is violated, the day is said to be a strongly down trending day, and as such should move down further to test the second support level. As with the resistance numbers, the support numbers, once violated, become resistance lines to trade with in the trend.

Though originally used as a means for floor trading, longer-term traders can use pivot points for longer periods. Try plotting the weekly pivot points on the daily chart and using it for shorter term positioning on the daily charts. Pivot points can also be calculated using the monthly pivot points on the daily chart, and used for longer-term positions.

Example of Pivot Points:



Advanced Tools

### Calculation

There are several methods used to determine the Pivot Point. We have included the three different formulas in Track 'n Trade Live.

#### Traditional formulas:

$$\text{Pivot Point} = (H + L + C)/3$$

$$\text{First Support Line} = (2 \times \text{Pivot Point}) - H$$

$$\text{First Resistance Line} = (2 \times \text{Pivot Point}) - L$$

$$\text{Second Support Line} = \text{Pivot Point} - (H - L)$$

$$\text{Second Resistance Line} = \text{Pivot} + (H - L)$$

#### Variation 1:

This method changes the formula used to derive the Pivot Point. The changes include adding the trading day's open and calculating the average of the four values. With this variation, one takes into account both opening gaps and overnight trading. The calculation is here:

$$\text{Pivot Point} = (H^* + L^* + C^* + O^{**})/4$$

\*=Yesterday

\*\*=Today

#### Variation 2:

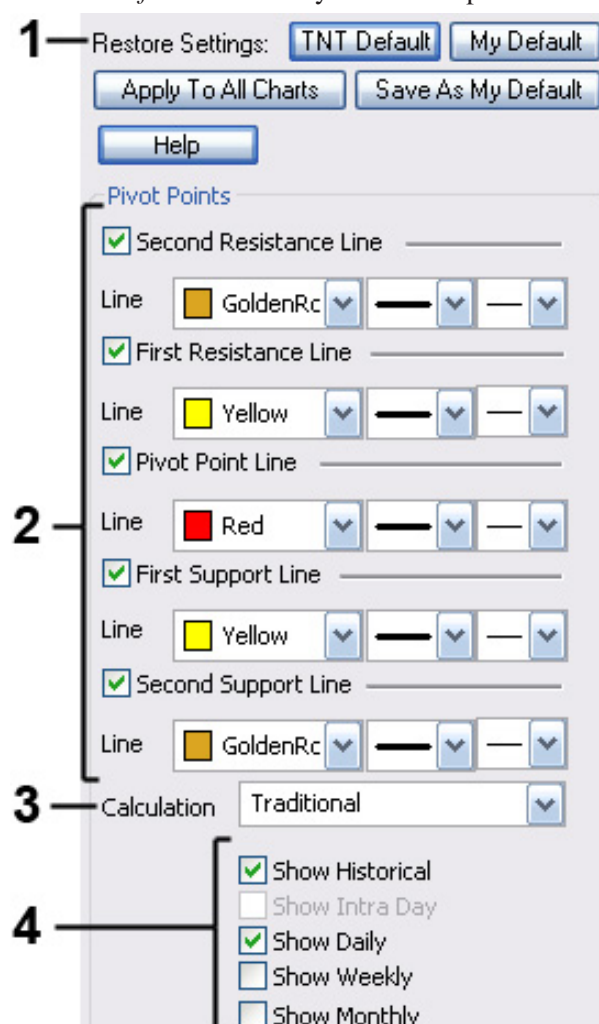
This method changes the formula used to derive the Pivot Point as well. In this method you substitute yesterday's close with today's open. Variation 2 also takes into account opening gaps and overnight trading. The calculation is here:

$$\text{Pivot Point} = (H^* + L^* + O^{**})/3$$

## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the Pivot Points on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.



- 2. Pivot Points:** Check the boxes to view different support and resistance lines. Change the color, style, and thickness of the lines.
- 3. Calculation:** Select Traditional, Variation 1, or Variation 2.
- 4. Display Settings:** Check to display Historical, Daily, Weekly, or Monthly pivot points. Select if you would like to see the **Moving average** line and enter the number of price bars you would like to be used to calculate it.

## 10x8 Moving Average Calculation

Just as it is easier to ride a bike downhill than uphill, it seems prices fall faster than they rise. Due to this perceived quirk in pricing, the legendary market analyst, author, and seminar speaker, Jake Bernstein, developed the 10x8 moving average system.

This system uses two simple moving averages, but they are calculated in a slightly different manner than those traditionally used. The first moving average is a moving average of the daily highs, as opposed to that of the daily settlement. The second moving average is calculated using the daily lows.

Though Mr. Bernstein recommends using a 10 period moving average of the daily highs and an 8 period moving average of the daily lows based on his observation that prices tend to fall about 20% faster than they rise, any combination would do the trick. Generally, accepting market lore that prices fall faster than they rise, the moving average of the lows should be of shorter term duration than that of the highs.

The most basic use of the 10x8 Moving Average is to look for a breakout above the upper moving average to initiate a buy signal. When the daily settlement price exceeds the average high of the last 10 days, this indicator flashes a buy signal indicating that the trend of the market should be up.

### Example of a 10x8 MAC:





## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the 10x8 MAC line on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

1 — Restore Settings: **TNT Default** **My Default**

**Apply To All Charts** **Save As My Default**

**Help**

2 — 10x8 and 3x3 Moving Average Convergence

☒ Display 10x8 Mac

10 x 8 Line 1 (Period 10)

Color / Style **Plum** **—**

Type **Simple**

Data **High**

3 — 10 x 8 Line 2 (Period 8)

Color / Style **Salmon** **—**

Type **Simple**

Data **Low**

4 — ☐ Display 3x3 Mac

3 x 3 Line 1 (Period 3)

Color / Style **SeaGreen** **—**

Type **Simple**

Data **High**

5 — 3 x 3 Line 2 (Period 3)

Color / Style **MediumBlue** **—**

Type **Simple**

Data **Low**

- 2. Display:** Check the box to display the 10x8 MAC lines 1 and 2
- 3. 10x8 MAC Line:** Change the color and style of the line. Also, change the type of the line from Simple, Linear Weight, or Extra Smoothed. Change the Data from Open, High, Low, or Close.
- 4. Display:** Check the box to display the 3x3 MAC line.
- 5. 3x3 MAC Line:** Change the color and style of the line. Also, change the type of the line from Simple, Linear Weight, or Extra Smoothed. Change the Data from Open, High, Low, or Close.

## Zig Zag

The Zig Zag Indicator acknowledges minimum price changes and ignores those that do not fit the criteria.

### Calculation

A Zig Zag set at 10% with OHLC bars would yield a line that only reverses after a change from high to low of 10% or greater. All movements less than 10% would be ignored. If a commodity traded from a low of 100 to a high of 109, the Zig Zag would not draw a line because the move was less than 10%. If the stock advanced from a low of 100 to a high of 110, then the Zig Zag would draw a line from 100 to 110. If the commodity continued on to a high of 112, this line would be extended to 112 (100 to 112). The Zig Zag would not reverse until the commodity declined 10% or more from its high. From a high of 112, a commodity would have to decline 11.2 points (or to a low of 100.8) for the Zig Zag to reverse and display another line.

### Example of Zig Zag:



## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the Zig Zag line on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default* will change your settings back to the original software settings. *My Default* will change current settings to your personalized default settings. *Apply To All Charts* will apply your selected settings on all open charts. *Save As My Default* will save your current personal settings.

The screenshot shows the 'Zig Zag' preferences window. On the left, numbers 1 through 8 are placed next to specific UI elements: 1 points to the 'Restore Settings' buttons; 2 points to the '% Change Sensitivity' slider; 3 points to the 'Line' color and style dropdowns; 4 points to the 'Line' and 'Alt' color and style dropdowns; 5 points to the 'Show Retracement Target', 'Show as Percent', 'Show Retracements', and 'Show Alternative Retracements' checkboxes; 6 points to the 'Number of Alternative Lines' input field; 7 points to the 'Font' section including size, family, color, and text options; 8 points to the 'Buy / Sell Arrows' section.

- 2. % Change Sensitivity:** Change the percent of calculation.

- 3. Line:** Choose the color, line style, and line thickness of your indicator line.

- 4. Line, Alt:** Choose the color, line style, and line thickness of the retracement lines.

- 5. Show Retracement Target / Show as Percent, / Show Retracements / Show Alternative Retracements:** to show percents, retracements, and alternative retracements.

- 6. Number of Alternative Lines:** Enter the amount of alternative retracement lines you want to show on the chart.

- 7. Font:** Select the font, size, and color of the text. You can also choose to bold or italicize.

- 8. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.



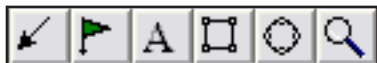
# Notation Tools

Document Everything

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8

## Notation Tools Introduction



In Track 'n Trade Live, you have a variety of tools available to you to help personalize, notate, and analyze your charts. You can type text, make drawings, import flags, and keep notes on each chart. The Notation tools, as well as the Notes tab in the Control Panel, enable you to record and remember what you learn from others' tips and tricks. In this section you will learn how to use these features.

## Notes Window

The Notes Window is the last tab in the Control Panel, after the Data tab. The Notes tab is for you to keep notes on the charts that are saved within your chartbook. Each chart has a new Notes section available to keep notes for that particular chart.

## Arrow Tool

The Arrow Tool is located in the *Notation Toolbar*. This tool enables you to draw arrows to help point out areas of interest on your chart.

### Drawing an Arrow:

1. Select the Arrow Tool button.
2. Position the mouse pointer where you want to place the point of the arrow and click the mouse button.
3. Continue holding down the mouse button and drag the mouse pointer to the location you would like to end the arrow and release.

### Moving an Arrow:

1. Click and continue holding down the mouse button.
2. Drag to the new location and release the mouse button to place.

### Deleting an Arrow:

1. Click on the arrow to select and press the delete key on your keyboard.
2. Or, right-click on the arrow and select "Delete" from the menu.

### Changing the Length of an Arrow:

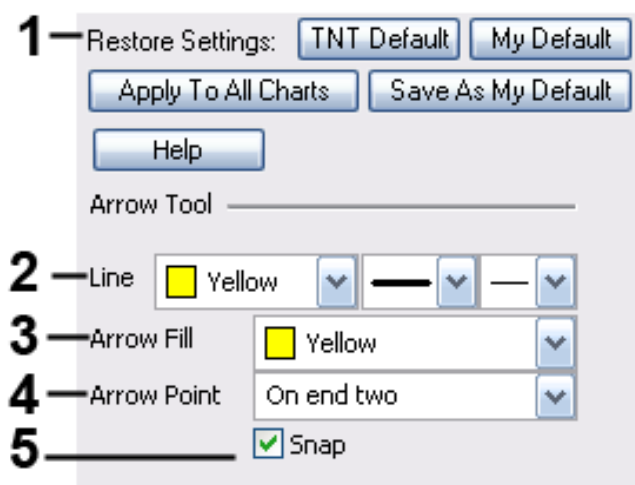
1. Click to select the arrow.
2. Next, click on a box (markers located at each end of the arrow) continue to hold the mouse button and drag to lengthen/shorten arrow, and then release to place.

## Changing the Properties of an Arrow:

There are two ways to access the Properties Menu. You can either right-click on the arrow to view the right-click menu, and then select “Properties,” or you can click on the Preferences Tab in the Control Panel.

### Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Line:** From here you can choose the color, line style, and line thickness of an arrow.
- 3. Arrow Fill:** This option allows you to choose the fill color of the arrow point(s).
- 4. Arrow Point:** This option allows you to choose which end you would like the arrow point to be placed. Choose from on end one, on end two, or on both ends.
- 5. Snap:** Select this option to place an arrow end directly on a price bar. You can snap to open, high, low, or close.

## Flag Tool



The Flag Tool enables you to place a flag or a graphic on your chart. There is a basic set of flags available to choose from or you can also import custom flags or graphics.

### Placing a Flag:

1. Select the Flag Tool button in the Notation Toolbar.
2. Click on the Chart Window where you would like to insert the flag.

### Moving a Flag:

1. To move a flag, click on the flag and drag to the new location.
2. Release the mouse button to place.

### Deleting a Flag:

1. Click on the flag and press the delete key on your keyboard.
2. Or, right-click the flag and select “Delete” from the menu.

### Changing the Size of a Flag:

1. Click on the flag so that it’s selected.
2. Drag either of the handles to the desired size.

### Changing the Chart Position of a Flag:

1. If another drawing has been drawn in the same area as the flag, right-click on it and select “Send to Back” from the right-click menu to access a drawing under the flag.

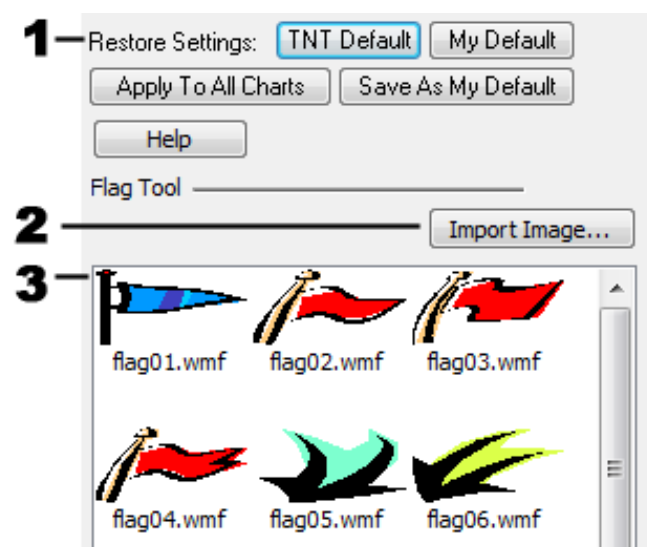


## Changing the Properties of a Flag:

There are two ways to access the Properties Menu. You can either right-click on the flag to view the right-click menu, and then select “Properties,” or you can click on the Preferences Tab in the Control Panel.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Import Image:** Click on this button to import any custom image as a flag. Importable formats are .wmf, .jpeg, and .gif. Click on any of these flags to display in your chart.
- 3. Flag Window:** This window shows a list of the default flags included in the software.

## Text Tool



The Text Tool enables you to type text on the chart.

### Adding Text to a Chart:

1. Select the Text Tool button in the Notation Toolbar.
2. Click on the chart where you would like to place the upper left corner of the text box.
3. Start typing and the text will appear automatically on your chart.

### Moving Text on the Chart:

1. Click to select the text box and continue holding down the mouse button while dragging the text to the new location.
2. Release the mouse button to place.

### Deleting Text:

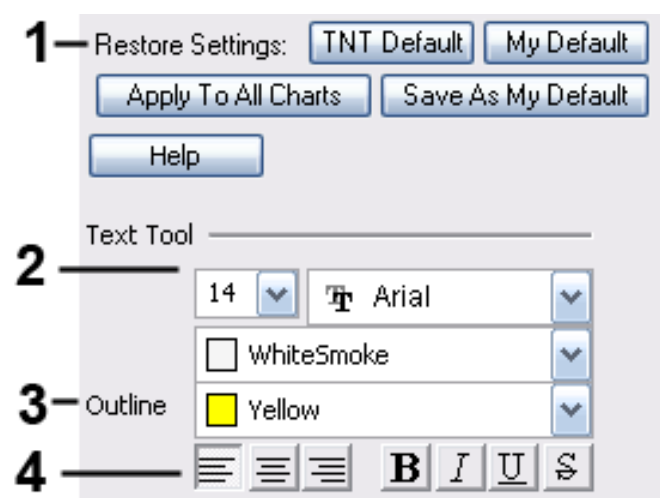
1. Click to select the text box and then press the delete key on your keyboard.
2. Or, right-click the text and select “Delete” from the menu.

## Changing Properties of the Text:

There are two ways to access the Properties Menu. You can either right-click on the text to view the right-click menu, and then select “Properties,” or you can click on the Preferences Tab in the Control Panel.

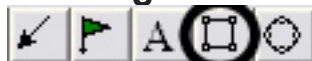
## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Text Tool:** You can change the size, font, and color of the text.
- 3. Outline:** Click on the down arrow to view a list of colors for the outline of the text box.
- 4. Alignment and Font Style:** These buttons determine how you want your text to appear on the chart. You can align the text left, center, or right, and can also bold, italicize, underline, and strike through.

## Rectangle Tool



The Box Tool enables you to draw square or rectangle shaped drawings on the chart.

### Drawing a Rectangle:

1. Select the Rectangle Tool button in the Notation Toolbar.
2. Click where you would like to place the upper left hand corner of the box, hold down the mouse button and drag to the location of the lower right hand corner of the box.

### Moving a Rectangle:

1. Click on the box and continue holding down the mouse button while dragging to the new location.
2. Release the mouse button to place.

### Deleting a Rectangle:

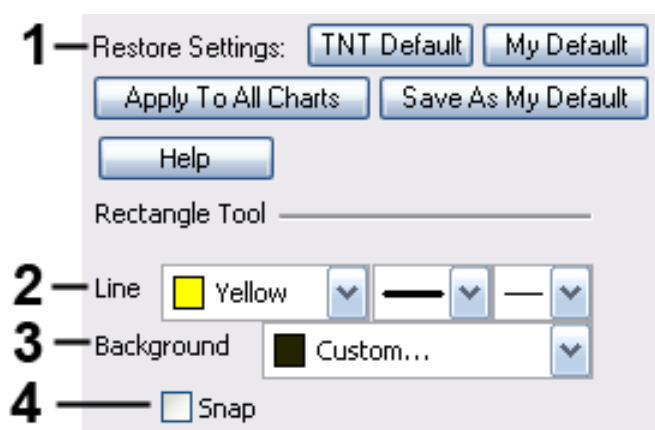
1. Select the box and press the delete key on your keyboard.
2. Or, right-click the box and select “Delete” from the menu.

## Changing Properties of a Drawn Box:

There are two ways to access the Properties Menu. You can either right-click on the box to view the right-click menu, and then select “Properties,” or you can click on the Preferences Tab in the Control Panel.

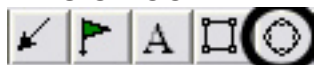
### Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Line:** Choose the color, style, and thickness of the line surrounding the box.
- 3. Background:** Change the fill color of the box.
- 4. Snap:** Select this option to place a box corner directly on a price bar. You can snap to open, high, low, or close.

## Circle Tool



The Circle Tool enables you to draw circle shaped drawings on the chart.

### Drawing a Circle:

1. Select the Circle Tool button in the Notation Toolbar.
2. Click on the chart where you would like the circle to start. Continue holding down the mouse button and drag the tool until it has formed a circle. Release the mouse button to place the circle.

### Moving a Circle:

1. Click on the drawing so that it is selected.
2. Continue holding down the mouse button while dragging to the new location. Release the mouse button to place.

### Deleting a Circle:

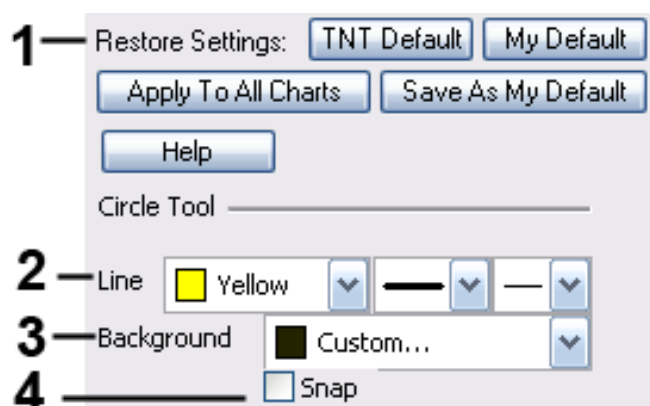
1. Select the circle and press the delete key on your keyboard.
2. Or, right-click on the circle and select “Delete” from the menu.

## Changing the Properties of the Circle:

There are two ways to access the Properties Menu. You can either right-click on the circle to view the right-click menu, and then select “Properties,” or you can click on the Preferences Tab in the Control Panel.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Line:** Choose the color, style, and thickness of the line surrounding the circle.
- 3. Background:** Change the fill color of the circle.
- 4. Snap:** Select this option to place the circle directly on a price bar. You can snap to open, high, low, or close.

## Magnifier Tool



The Magnifier Tool is used to zoom into a section on a chart. You can click and drag to select an area to zoom into, or simply click on the center of the chart to zoom in. To zoom out, hold down the shift key and click on the chart.

## Introduction to Calculators



Track 'n Trade Live has included the Dollar Calculator and the Risk/Reward Calculator to help simplify the trading process. With both the Dollar Calculator and the Risk/Reward Calculator, simply click and drag between two locations on the chart to instantly know the dollar value between the two points.

## Dollar Calculator



### Calculating the Effect of a Chart Movement:

1. Click on the Dollar Calculator on the Calculators Toolbar.
2. Click where you want the calculator to start.
3. Click where the calculation is completed.
4. The dollar amount of the chart movement will be calculated from the beginning and end point values, and will then be displayed in the center of the line.

### Resizing the Dollar Calculator:

1. Select the drawing by clicking on it. Note: The drawing is selected when boxes appear on the corners.
2. Click on one of the boxes to drag the selected point and release the mouse button.

### Moving the Dollar Calculator:

1. Select the drawing by clicking on it and continue holding down the mouse button.
2. Drag to the new location and release the mouse button to place.

### Deleting the Dollar Calculator:

1. Select the drawing by clicking on it and press the delete key on your keyboard to remove.
2. Or, right-click on the drawing and select Delete from the menu.



## Changing the Properties of a Dollar Calculator:

There are two ways to access the Properties Menu. You can either right-click on the drawing to view the right-click menu, and then select “Properties,” or you can click on the Preferences Tab in the Control Panel.

### Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

The screenshot shows the 'Dollar Calculator Tool' preferences window. It has a title bar and a menu bar. The main area contains several sections: 'Restore Settings' with buttons for 'TNT Default', 'My Default', 'Apply To All Charts', 'Save As My Default', and 'Help'; 'Dollar Calculator Tool' with a line color dropdown set to 'Yellow' and a line style dropdown set to a solid line; 'Quantity' with a text input field containing '1'; 'Font' with a font size dropdown set to '8', a font family dropdown set to 'Arial', and a 'WhiteSmoke' checkbox; 'Show Text' with a checked checkbox and 'B' and 'I' buttons; 'Snap' with a checked checkbox; 'Value / % Value / \*Pips' with three radio buttons, the first of which is selected; and 'Details' with two text input fields for 'Point 1 Price' and 'Point 2 Price', both containing '0-00.00'. Numbered callouts 1 through 8 point to these specific features.

- 2. Line:** Choose the color, style, and thickness of the line.
- 3. Quantity:** Shows the number of shares/contracts included in the calculator transaction. Select and type the desired quantity to change the value.
- 4. Font:** From here you have the ability to change the size, font, and color of the text.
- 5. Show Text:** Uncheck this box to hide the text.
- 6. Snap:** Select this option to place the circle directly on a price bar. You can snap to open, high, low, or close.
- 7. Value / % Value / \*Pips \*fx only:** In Track n' Trade Live Forex you can choose to display the dollar calculator as a \$ Value, % Value, or as Pips.
- 8. Details:** This section gives you the price value of Point 1 and Point 2 on the Dollar Calculator. You can modify these values by highlighting and typing a new value.

## Risk/Reward Calculator



Use the Risk/Reward Calculator on all trades to help calculate where your order entries and exits should be placed.

### Drawing a Risk/Reward Calculator:

1. Click on the Risk/Reward Calculator on the Calculators Toolbar.
2. Click at the beginning of your technical formation, hold down the mouse button and drag the calculator line to cover the area between your initial order and your risking stop loss order.
3. When defining the risk area an equal-sized reward area will be created on each side of the risk area. These reward areas can then be stretched to the proper distance you expect the graph to retrace. Note: The numbers in the tool indicate the dollar amount of risk and reward. When the chart is trading within the risk area (negative number), you are risking your own money. When the chart is trading within the reward area (positive number), you are risking OPM or “Other People’s Money”.

### Resizing the Risk/Reward Calculator:

1. Select the calculator by clicking on it. Note: The calculator is selected when boxes appear on the corners.
2. Click on one of the boxes to drag the select point and release the mouse button.

### Moving the Risk/Reward Calculator:

1. Select the calculator by clicking on it and continue holding down the mouse button.
2. Drag to the new location and release the mouse button to place.

### Deleting the Risk/Reward Calculator:

1. Select the calculator by clicking on it and press the delete key on your keyboard to remove.
2. Or, right-click on the calculation and select “Delete” from the menu.

# Changing the Properties of a Risk/Reward Calculator:

There are two ways to access the Properties Menu. You can either right-click on the drawing to view the right-click menu, and then select “Properties,” or you can click on the *Preferences Tab* in the *Control Panel*.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

The screenshot shows the 'Risk Reward Tool' preferences window. It has a title bar and a menu bar with 'Restore Settings', 'TNT Default', 'My Default', 'Apply To All Charts', 'Save As My Default', and 'Help'. Below the menu bar is a section for 'Risk Reward Tool' with a line color dropdown set to 'Yellow', a line style dropdown set to a solid line, and a line thickness dropdown set to a medium thickness. Below this is a 'Risk Color' dropdown set to 'Red', a 'Reward Color' dropdown set to 'SeaGreen', and a 'Quantity' dropdown set to '1'. There are two radio buttons for 'Price Difference' (selected) and 'Point Difference'. Below these are font settings: a font size dropdown set to '8', a font family dropdown set to 'Arial', and a 'WhiteSmoke' checkbox. There are also checkboxes for 'Show Text' and 'Snap', both of which are checked. At the bottom, there is a 'Details' section with four input fields for 'Point 1 Price', 'Point 2 Price', 'Point 3 Price', and 'Point 4 Price', all set to '0-00.00' or '1'.

- 2. Line:** Choose the color, style, and thickness of the line.
- 3. Risk Color:** Change the highlight color of the Risk text.
- 4. Reward Color:** Change the highlight color of the Reward text.
- 5. Quantity:** See Dollar Calculator Preference Tab.
- 6. Price/Point Difference:** Either view the Point or Price difference of the risk and reward calculator.
- 7. Font:** Change the size, font, and color of the text.
- 8. Show Text:** Uncheck this box to hide the text.
- 9. Snap:** Select this option to place the circle directly on a price bar. You can snap to open, high, low, or close.
- 10. Details:** This section gives you the price value of Point 1 and Point 2 on the Risk/Reward Calculator.



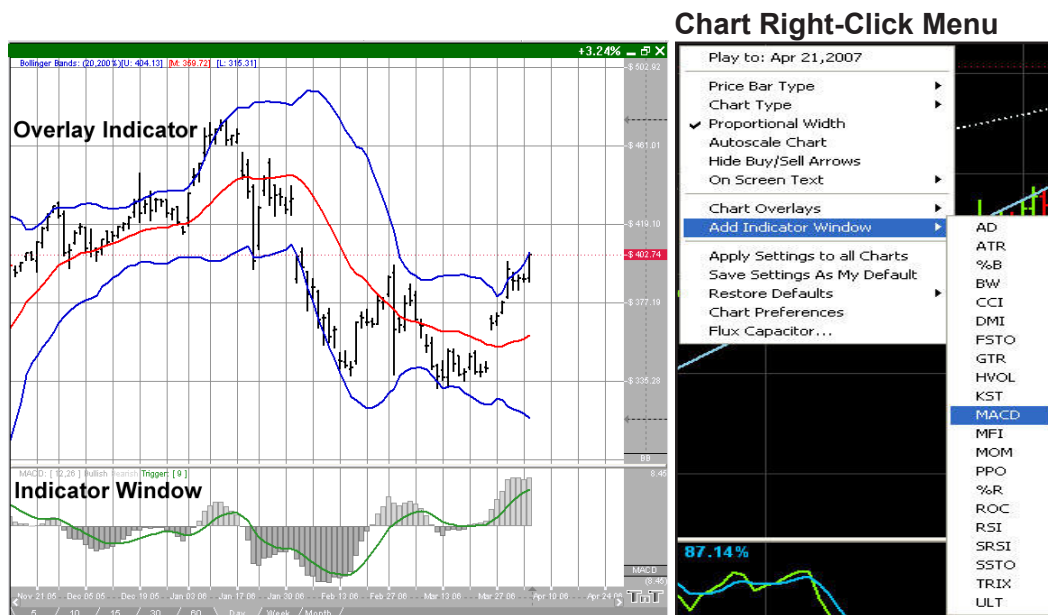
# Using Indicators

Read the Signs and Signals

A large, stylized white number '9' is centered within a dark gray square. The square is positioned in the top right corner of the page, partially overlapping the title area. A thin horizontal line extends from the left edge of the page to the left side of the square.

## Using Indicators Introduction

Track 'n Trade Live includes a total of thirteen indicators in the base application. Eleven of them are displayed in a window below the Chart Window, referred to as the Indicator Window. The other two Overlay Indicators are displayed directly on the chart in the Chart Window.



## Displaying Indicators

To display an Indicator, right-click in the Chart Window or Indicator Window then choose the indicator from the menu. Mouse over Add Indicator Window and a list of indicators will appear, as you see in the screenshot above. Select the indicator you want opened. You can open six Indicator Windows at once on one chart, and you can have up to four indicators in each window. When you open a fifth indicator the first indicator opened will automatically be closed.

When you open an indicator, an overlay indicator or an indicator in the indicator window, you will see text appear on your chart in the upper left corner. You can choose whether to show this text, and choose where it appears by right-clicking on your chart. The screenshot above will appear. Mouse over On Screen Text to view your options.

## Indicator QuickLinks

Once you have deselected an indicator, to select it again click on the *Indicator QuickLink* located on the bottom right side of the *Indicator Window* or *Chart Window*, as shown in the screenshot below. Once the indicator is selected, you can change settings for that indicator in the *Preferences Tab* of the *Control Panel*.



### Indicator Window Quick Link

Right-click on the *Indicator QuickLink* in the *Indicator Window* to view the menu seen in the screenshot below. Indicators that are already selected will have a dot by them. To switch to another indicator simply click on it. Select Remove to delete that indicator Window. To add an additional indicator to your *Indicator Window*, right-click inside the *Indicator Window* and select another indicator.

### Chart Window QuickLink

Right-click on the *Indicator QuickLink* in the

Chart Window to view the menu seen in the screenshot below. To open an additional indicator, right-click and choose the indicator from the menu. The indicators that are currently open will have a check mark by them. To remove an indicator from your chart, simply click on the indicator again. (A list of all indicators and their abbreviations are available at the end of this section).

### Indicator Window QuickLink Right-Click Menu

- AD
- CCI
- DMI
- FSTO
- HVOL
- MACD
- MOM
- %R
- RSI
- SSTO
- VOL
- Properties
- Remove

### Chart Window QuickLink Right-Click Menu

- ✓ AD
- CCI
- DMI
- FSTO
- HVOL
- ✓ MACD
- MOM
- %R
- RSI
- SSTO
- VOL
- Properties

## Williams Percent R (%R)

Larry Williams originally used a ten-day period and plotted where the current price was compared to that period. He used it to measure conditions of overbought and oversold; the overbought region is the area below 20% and the oversold region is the area above 80%. With the ability to invert the values it can be looked at in the same manner as other overbought/oversold indicators. (Note: We will use the traditional method, not the inverted, in our

discussions.) Choosing the time period which the indicator looks at the interval is crucial to finding the optimal sensitivity.

### Interpretation

Williams's basic rule is simple. When the %R is initially lower than 20% and then becomes greater than 20% it is interpreted as a buy signal. Conversely, when the %R is initially higher than 80% and then becomes lower than 80% a sell signal is activated.

Changing the sensitivity of the indicator to work for you is essential to making the study a better tool. The longer the period for the %R, the less sensitive it will be. The indicator will move less but will be more smoothed. A number of technical traders use a value that is less volatile, or in other words, a larger value. Many traders find it better to use a strategy where the market leaves the areas of overbought/oversold before entering a trade position. In either case, using solid exit strategies is important with this indicator.

### Calculation

#### Parameters

Period (10) - The number of price bars, or the interval, used to calculate the study.

#### Formula:

You must first determine the highest high and lowest low for the length of the interval. This is the trading range for the specified interval. The general formula for the %R is as follows:

$$\%R_t = ( (High_n - Close_t) / (High_n - Low_n) ) * -100$$

**%R<sub>t</sub>**: The percent of the range for the current period.

**High<sub>n</sub>**: The highest price during the past n trading periods.

**Close<sub>t</sub>**: The closing price for the current period.

**Low<sub>n</sub>**: The lowest price during the past n trading periods.

**n**: The length of the interval.

#### Example:

Assume the market is Treasury Bills. The high for the past ten trading intervals is 9275, and the low is 9125. The closing price in the current period is 9267. If you substitute those values in the equation, this is what you get:

$$\begin{aligned}\%R &= ( (9275 - 9267) / (9275 - 9125) ) * 100 \\ &= ( 8 / 150 ) * 100 \\ &= 5.33\end{aligned}$$

#### Updated Formula:

$$\%R_t = ( (Close_t - Low_n) / (High_n - Low_n) ) * -100$$



## Buy/Sell Signal

- Buy Signal happens when: %R value today is greater than the Threshold 2 and yesterdays %R value is less than or equal to Threshold 2.
- Sell Signal happens when: %R value today is less than the Threshold 1 and yesterdays %R value is greater than or equal to Threshold 1.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings.

*My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

**1** — Restore Settings: TNT Default My Default  
Apply To All Charts Save As My Default  
Help

**2** — %R Period 28

**3** — %R PaleGreen — —

**4** — Calculation Common ( h - c ) / ( h - l )

**5** — Thresholds

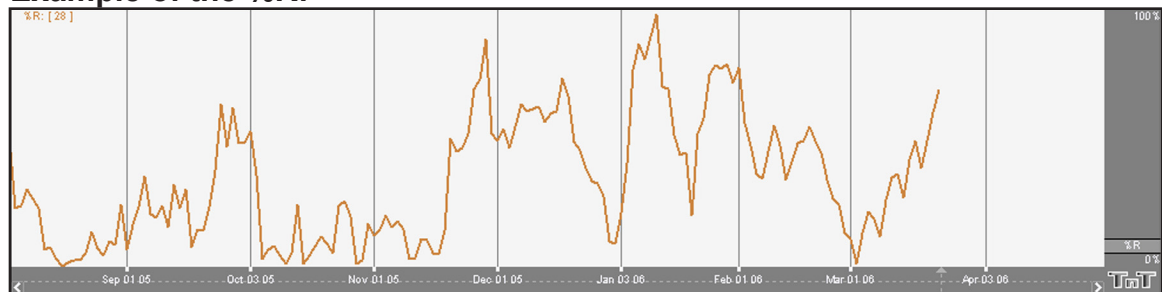
<input type="checkbox"/> 1	80.00 %	Yellow
<input type="checkbox"/> 2	20.00 %	Yellow
<input type="checkbox"/> 3	0.00 %	Yellow
<input type="checkbox"/> 4	0.00 %	Yellow

**6** — Buy / Sell Arrows  
Not Displayed PaleGreen

When calculating Buy / Sell arrows for %R:  
Threshold 1 is used as the upper threshold.  
Threshold 2 is used as the lower threshold.

- 2. %R Period:** To specify the number of days used in calculating %R simply click in the box, highlight the current number, and type in a new value.
- 3. %R:** Change the color, style, and thickness of the line.
- 4. Calculation:** Choose between common or updated calculations.
- 5. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 6. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

### Example of the %R:



## William Accumulation/Distribution (AD)

Larry Williams created this indicator in an attempt to measure market pressures. It specifically looks for a difference in price and then measures that difference. It is a tool used to measure market sentiment and strength. The key is to look for strong differences in what the market does as opposed to what the indicator does. Looking for substantial divergence from the AD index versus the underlying chart is the key to future price direction.

### Interpretation

The indicator is computed by taking the previous day's close and comparing it to the current day's close. If the close of today was higher, then the low for the period is subtracted from the current day's close and added to the current AD. A pattern of higher highs would show a consistently increasing AD. If the close of today is the same as yesterday then there is no change in the AD. If the close of today is lower than yesterday's low, the close of today is subtracted from the high for the current period and that difference is subtracted from the AD.

The main thing to look for is a difference in the AD and the market trend. If a market were to make a matching or lower low, or a matching or higher high, and the AD fails to follow the market trend then this is divergence. Divergence implies that a reversal in the dominant trend may be near.

A series of lower lows would read as a decreasing AD. The pattern created by the AD and the differences in the chart are what the trader looks for. Divergence, or a difference from the pattern, is what you want to see. For example, if the market continues to march to higher territory and the AD follows by doing the same, then there is no divergence. However, if the market makes several new highs but the AD fails to make new highs, it is a warning signal of a market about to reverse direction.

### Calculation

#### Formula:

The AD index is computed several different ways. Some computations normalize the index, while others add extra smoothing factors through the use of moving averages

The first comparison checks for accumulation (i.e. Is the current close higher than the previous close?). If the market is accumulating, then compute the difference between current close and low. Next, add that arithmetic difference to the Accumulation/Distribution Index. Traders perceive an undervalued market and they buy. The procedure is:

*If  $Closet > Closet-1$  then  $ADt = ADt-1 + (Closet - Lowt)$*

The second comparison checks for no change in price. If correct, the AD index does not change. It states:

*If  $Closet = Closet-1$  then  $AD_t = AD_{t-1}$*

The last and final comparison checks for a down market. It checks for the current close below previous close. If that's correct, the market is distributing. The software first computes the difference between current high and close. It then subtracts that difference from the AD index, which measures market distribution. Traders perceive an overvalued market and are selling. The final computation is:

*If  $Closet < Closet-1$  then  $AD_t = AD_{t-1} - (Hight - Closet)$*

**AD<sub>t</sub>:** The accumulation/distribution index for the current period.

**AD<sub>t-1</sub>:** The accumulation/distribution index for the previous period.

**Closet:** The closing price for the current interval.

**Closet-1:** The closing price for the previous interval.

**Hight:** The true high price for the current interval.

**Lowt:** The true low price for the current interval.

**Note:** The true high is the higher value of the current high or the previous close. The true low is the lower value of the current low or the previous close.

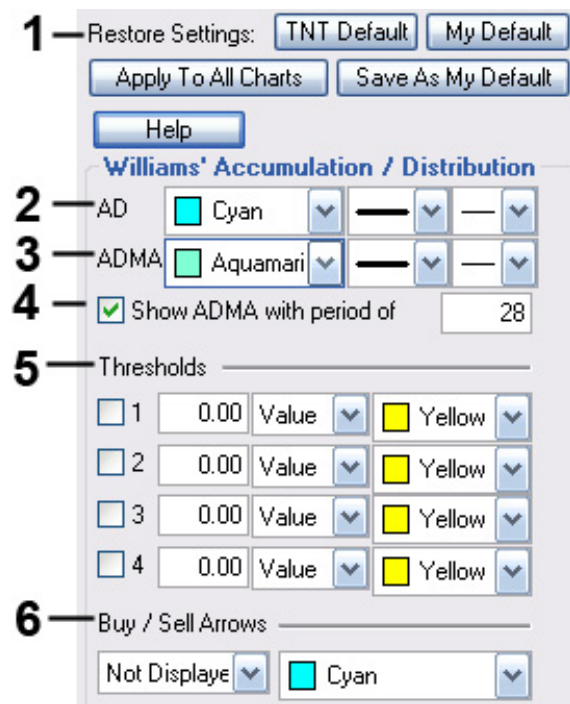
### Buy/Sell Signals

- Buy Signal happens when: AD value today is greater than today's ADMA and yesterdays AD value is less than or equal to yesterdays ADMA.
- Sell Signal happens when: AD value today is less than today's ADMA and yesterdays AD value is greater than or equal to yesterdays ADMA.

## Preferences

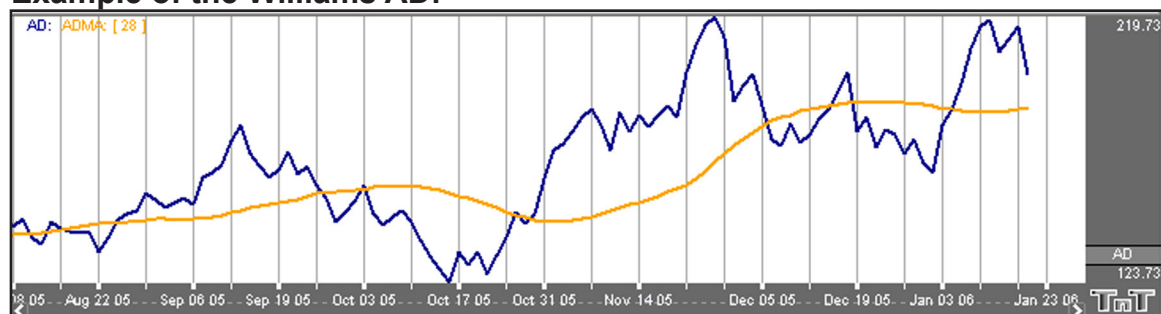
- 1. Restore Settings:** *TNT Default:* Restores original software settings.

*My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. AD:** Change the color, line style, and line thickness of the Accumulation and Distribution line in the Indicator Window.
- 3. ADMA:** Change the color, line style, and line thickness of the Accumulation/ Distribution Moving Average line in the Indicator Window.
- 4. Show ADMA:** Uncheck this box to hide the ADMA line. When the box is checked, specify the number of days used in calculating the ADMA Indicator. The default number is 28 days.
- 5. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 6. Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

# Example of the Williams AD:



## Commodity Channel Index (CCI)

The Commodity Channel Index (CCI) is designed to detect beginning and ending market trends. The formula standardizes market prices so that the trader can spot deviations from the market's trend more easily.

Proponents of this indicator say that 70% to 80% of all price fluctuations fall within +100 and -100 as measured by the index. This is akin to technical lore that most of the time, markets trade in a sideways trend, or channels. However, when the indicator moves out of this range, it is said that a trend is underway.

The calculation for CCI measures the average daily price's distance from a moving average of average daily prices.

The trading rules for the CCI are as follows: Establish a long position when the CCI exceeds +100. Liquidate when the index drops below +100. For a short position, you use the -100 value as your reference point. Any value less than -100 suggests a short position, while a rise above -100 tells you to liquidate your short position.

### Interpretation

Generally, followers of the CCI look to establish long positions when the CCI exceeds the +100 level, indicating that prices are in a strong up trend. Generally, most users of this indicator also try to look for patterns within the indicator, such as higher highs, and also look for CCI movements to be confirmed by general price readings as well. Standard interpretation calls for long positions, once initiated on the upward exceeding of the +100 level, to be held until the CCI falls back below +85, at which time positions are exited as the market has stopped trending upward.

Short positions are generally established when the CCI goes lower than -100, indicating that prices are in a strong down trend. Like long positions, most users of this indicator try to watch out for patterns within the CCI itself to confirm the downward trend, and also look for confirmation from lower prices on the chart itself.

Once a short position is established, the original interpretation of this indicator calls for holding the position until the index climbs above -85 to the upside, at which time short positions should be covered.

The purpose of the CCI index is to try to keep you out of the market during consolidation, or weak trending periods. By measuring the difference average prices versus the mean average prices, this indicator attempts to isolate only strongly trending markets, similar to momentum and MACD. In the Track 'n Trade Live CCI preferences you can set up thresholds at -100 and +100 or -85 and +85, depending on your desired trading.

## Calculation

### Parameters:

Period (20) - the number of bars, or period, used to calculate the study.

### Formula:

The proper calculation of the CCI requires several steps. They are listed in the proper sequence below. You must first compute the typical price, using the high, low and close for the interval. It is the simple arithmetic average of the three values:

$$TP = (Hight + Lowt + Closet) / 3$$

**TPt:** Represents the typical price.

**Hight:** The highest price for this interval.

**Lowt:** The lowest price for this interval.

**Closet:** The closing price for this interval.

Next, you calculate a simple moving average of the typical price for the number of periods specified:

$$TPAVGt = (TP1 + TP2 + \dots + TPn) / n$$

**TPAVGt:** The moving average of the typical price.

**TPn:** The typical price for the nth interval.

**N:** Number of intervals for the average.

The next step is rather complex; it computes the mean deviation. The formula is:

$$MDt = (|TPAVG1 - TP1| + \dots + |TPAVG1 - TPn|) / n$$

**MDT:** The mean deviation for this interval.

**TPn:** The typical price for the nth interval.

**N:** Number of intervals.

**Note:** The symbol  $||$  designates absolute value. In mathematical terms, negative differences are treated as positive values.

Now, the computation for the final CCI value is:

$$CCI_t = (TPt - TPAVGt) / (.015 * MDT)$$



**CCIt:** The Commodity Channel Index for the current period.

**TPt:** The typical price for the current period.

**TPAVGt:** The moving average of the typical price.

**.015:** A constant.

**MDT:** The mean deviation for this period.

### Buy/Sell Signals

- Buy Signal happens when:

If we draw the CCI as a histogram: CCI value today is greater than 0 and yesterday's CCI value is less than or equal to 0.

If we draw the CCI as a line: CCI value today is greater than the threshold 2 and the CCI value yesterday is less than or equal to the threshold 2.

- Sell Signal happens when:

If we draw the CCI as a histogram: CCI value today is less than 0 and yesterday's CCI value is greater than or equal to 0.

If we draw the CCI as a line: CCI value today is less than the threshold 1 and the CCI value yesterday is greater than or equal to the threshold 1.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

**1** — Restore Settings: TNT Default My Default  
Apply To All Charts Save As My Default  
Help

**2** — Commodity Channel Index

**2** — CCI Period 20

**3** — CCI VioletRec — —

**4** — Standard Line

**5** — W-CCI

**6** — Up Color  
Down Color

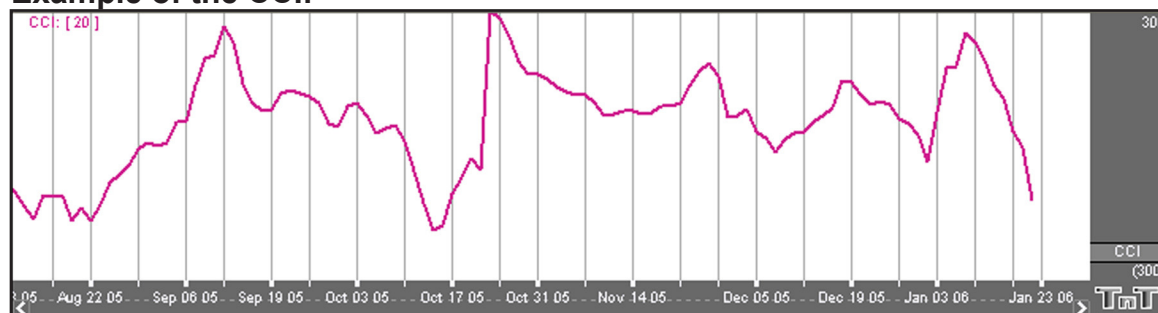
**7** — Thresholds

<input type="checkbox"/> 1	100.00	Value	Yellow
<input type="checkbox"/> 2	-100.00	Value	Yellow
<input type="checkbox"/> 3	0.00	Value	Yellow
<input type="checkbox"/> 4	0.00	Value	Yellow

**8** — Buy / Sell Arrows  
Not Displayed VioletRed

When calculating Buy / Sell arrows for CCI:  
Threshold 1 is used as the upper threshold.  
Threshold 2 is used as the lower threshold.

- 2. CCI Period:** To specify the number of days used in calculating CCI, simply click in the box, highlight the current number, and type in a new value.
- 3. CCI:** Change the color, line style, and line thickness of the CCI.
- 4. Display as:** The CCI can be displayed as a line or a histogram.
- 5. WCCI Option:** When you select the WCCI (Woodies CCI) option in the CCI preferences tab this will apply a histogram divided in the middle. See the WCCI example below.
- 6. WCCI Colors:** These two color options allow you to select the color of the histogram above and below (up or down colors) the zero line.
- 7. Thresholds:** The Upper Threshold and Lower Threshold are automatically displayed in the Indicator Window. The crossing of the CCI line below the Upper threshold is a sell signal. The crossing of the CCI above the Lower threshold is a buy signal. You also have the option to view the threshold as a percent or a value, and change the color of the threshold lines.
- 8. Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

**Example of the CCI:**

## **Directional Movement Index (DMI)**

Wilder's DMI is similar to the historic volatility indicator in that it shows the market tendencies. The main use of this tool is to show the strength of a trend. This could direct the trader to use a trend following system or a counter trend system in their trading. It also indicates possible price reversals.

The Directional Moving Index is plotted as three lines on a scale of 0 to 100. This scale is a measure of market trend. The two lines of DMI show the amount of positive and negative movement. The positive line is called D+ and the negative D-. The direction of these lines and the use of crossovers can show the changes in the current market. The key to this indicator is the ADX, or average of the difference of these two lines. The ADX is the main factor in using this indicator. During periods of extreme price variation the two lines can become very volatile; the ADX is used to compensate for this.

### **Interpretation**

The best application of DMI is present when used with another indicator. DMI should either confirm or contradict the indicator being used. It is also best to use DMI in long-term trade situations. Because the study is not as sensitive as other indicators, it is appropriate to use it as a confirmation tool. When the DMI is advancing, the average is higher on the 0 to 100 scale, and trend following systems are best employed. Likewise, with a decreasing DMI average, the line is lower on the scale closer to 0, so a counter trend system might be best. These traits represent the fact that as the average line goes higher in the scale, the strength of the trend is gaining, and as the ADX goes lower the trend is losing strength. It is also important to look at the individual lines for changes in price movement.

The other application for DMI is to look at the D+ and D- lines themselves. When the D+ line crosses above the D- line a buy signal is initiated. This indicates that the positive price direction is greater than the negative. Conversely, once the D+ line crosses below the D- line, a sell trigger is present. The negative price movement is overtaking the positive.

Welles Wilder was not comfortable using these two lines by themselves. So, when looking at reversals the ADX should be above both lines, and once it turns lower we should see a change in market direction. You should also look to ADX for confirmation.

This application is much the same as momentum, showing a change in the market sentiment. Wilder also said that a trend following system should not be used when the ADX line is below both D lines, as this means that the market has no discernible direction.

When using the D+ and D- crossover method, Wilder stressed the use of an extreme point. On the day the crossover occurs, the extreme point is the high or low of the day (high for a buy, and low for a sell). The market should be able to take out that price and stay beyond it for several days before the trade is initiated or exited. This use of extreme points should keep the trader from getting into whipsaws or false breakouts.

## Calculation

### Parameters:

- Period (14) - the number of bars, or interval, used to calculate the study.
- Show/Hide +DI (1) - this parameter is used to show or hide the +DI line. 0=hide, 1=show.
- Show/Hide -DI (1) - this parameter is used to show or hide the -DI line. 0=hide, 1=show.
- Show/Hide ADX (1) - this parameter is used to show or hide the ADX line. 0=hide, 1=show.

### Computations:

The computations needed to generate the final figures for the DMI are not complex but are numerous and lengthy. The following discussion attempts to unravel the computational mysteries of the DMI.

If you need further explanation, please refer to the author's original work. The book titled *New Concepts in Technical Trading Systems* by J. Welles Wilder, Jr. explains this indicator and several others.

You must first compute the directional movement, DM, for the current trading interval. Directional movement can be up, down, or zero. If directional movement is up, it is labeled as +DM. The expression -DM refers to downward directional movement. Wilder defines directional movement as the largest part of the current trading range that is outside the previous trading range. From a mathematical view, it is the largest value of the following differences:

*High - High-1 or Low - Low-1*

This is only true when the current low is less than the previous low, or the current high exceeds the previous high. Please note that both of these conditions do not have to be met, only one. It is the largest portion of the trading range outside of the previous trading range.

It is possible for the directional movement to be zero. This occurs when the current trading range is inside the previous trading range, or the trading ranges, current versus previous, are equal.

Directional movement is up, or positive, when the difference between the highs is the greatest. It is down, or negative, when the difference between the lows is the largest value. Thus, the up directional movement is +DM, and down directional movement is -DM.

Do not let the plus and minus sign designation mislead you. They only indicate upward or downward movement, not values. The directional movement value is always a positive number, or absolute value, regardless of upward or downward movement.

This concept is crucial to understanding the computations for the indicator. If you are confused or do not understand, draw some illustrations or work with actual price data to determine the directional movement values.

The next step in determining the DMI is to compute the true range. According to the Wilder, the true range is the largest value of the following equations:

*Hight - Lowt*

*Hight - Closet-1*

*Lowt - Closet-1*

The true range is always a positive number. From this point forward, all references to the true range are designated as TR.

Continue this process for the specified trading interval. In this example, use a value of 14. This is the same value Wilder used on daily data. His logic for using this value is that it represents an average half-cycle period. When this task is accomplished for the specified interval, you compute the average value of the +DM, -DM and TR.

Wilder prefers to use an accumulation technique rather than computing a pure moving average. It was actually a short cut designed to save computational time and effort. That technique is as follows:

$$\text{Averaget} = (\text{Averaget-1} - (\text{Averaget-1} / n)) + \text{Valuet}$$

Thus, when you substitute the above symbols, you have:

$$+DMt = (+DMt-1 - (+DMt-1 / n)) + (+DMt)$$

$$-DMt = (-DMt-1 - (-DMt-1 / n)) + (-DMt)$$

$$TRt = (TRt-1 - (TRt-1 / n)) + (TRt)$$

If you think about it, it really is a timesaving convention. Remember, this indicator was developed before microcomputers were invented. The only tool available was the desktop calculator or adding machine. You could spend a great deal of time and effort calculating averages.

You now have the average values. The next step is to compute the directional indicator. Again, it can be either up or down, depending upon the directional movement. On up intervals, the formula is:

$$+DI = (+DM / TR) * 100$$

On a down interval, the formula is:

$$-DI = (-DM / TR) * 100$$

The plus and minus directional indicator values are computed as percentage figures. You are expressing the percentage of the average true range for both up and down trading intervals. If you have followed this process so far, the last few steps are relatively simple. Then you compute the difference between the +DI and the -DI. Again, you use the absolute value of this difference. Simply, convert any negative value into a positive number. The formula is:

$$DI_{diff} = | ((+DI) - (-DI)) |$$

Next, compute the sum of the directional indicator values. The formula reads as follows:

$$DI_{sum} = ((+DI) + (-DI))$$

Once you compute the  $DI_{diff}$  and the  $DI_{sum}$ , you calculate the DX or directional movement index. This value is always a percentage. The formula is:

$$DX = (DI_{diff} / DI_{sum}) * 100$$

The DX is always a value between 0 and 100. If your calculations exceed this range, you made an error. Wilder was not comfortable using just the directional movement index. It could become very volatile during periods of extreme price movement, especially markets that rise and fall quickly. Again, he implements his accumulated moving average technique to smooth the DX. The result is the ADX or average directional movement index. The computational procedure is as follows:  $ADX_t = ((ADX_{t-1} * (n - 1)) + DX_t) / n$

### Buy/Sell Signals

- Buy Signal happens when: DMI+ yesterday is less than or equal to DMI- Yesterday AND DMI+ today is greater than DMI- today.
- Sell Signal happens when: DMI+ yesterday is greater than or equal to DMI- Yesterday AND DMI+ today is less than DMI- today.

\*More information on Buy/Sell Signals for the DMI can be found in 8, 9, and 10 in the Preferences for the DMI on the next page.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

**1** — Restore Settings: TNT Default My Default

Apply To All Charts Save As My Default

Help

**Directional Movement Index**

**2** — DMI Period 14

**3** — ADX Period: 28

**4** — DMI LightBlue — — —

**4** — DM+ LightGreen — — —

**4** — DM- LightPink — — —

**5** — ☒ Use Relative Scaling

**6** — Thresholds

**7** — Buy / Sell Arrows

Not Displayed LightBlue

Threshold 1 is used for Trend Strength

**8** — ☒ Use Trend Strength

**9** — ☐ Use Extreme Point Validation

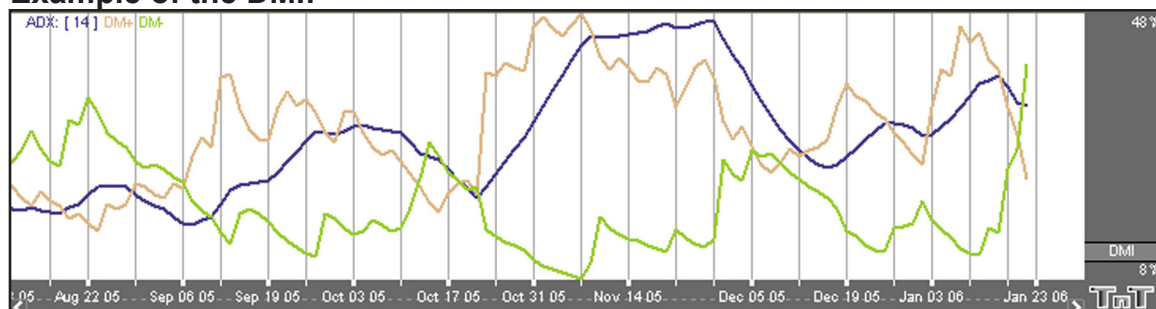
**10** — ☐ Use Turning Point Validation

- 2. DMI Period:** To specify the number of days used in calculating DMI, click in the box, highlight the current number, and type in a new value.
- 3. Directional Indicator:** The two methods available in displaying the DMI indicator are Averaged Directional Index (ADX) and the Directional Index (DX). Click on the button in front of the method to select.
- 4. DMI/DM+/DM-:** Change the color, line style, and line thickness of the DMI.
- 5. Use Relative Scaling:** When selected, the 100% location is changed to the highest point value in the DMI indicator.
- 6. Thresholds:** Gives you the option of displaying four threshold lines, which are displayed as a percentage of the Indicator Window. You also have the option to change the color of the threshold line.
- 7. Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.



- 2 Use Trend Strength:** The DX or ADX line must be above the target number before a DM+/- cross will give a buy/sell arrow. The theory is the DX/ADX lines indicate trend strength (not direction) and if it is below 20 there is practically no trend. Values above 40 indicate a strong trend. Different articles would use values between 20 and 40 as targets to look for. This box must be selected for this rule to be available.
- 3 Use Extreme Point Validation:** This filter delays the buy/sell arrows at least a day by requiring that the market move higher or lower than the high or low on the day the DM+/- crossover happened. If a new high or lower low is not obtained before the next DM+/- crossover, the buy/sell arrow is suppressed completely for that previous period. The filter does not require the use of DX/ADX, although it does stack with the other filters if they are used.
- 4 Use Turning Point Validation:** The directional index line (DX or ADX) must be above the point where DM+/- crossed. This is like a variable trend strength filter. The directional index can indicate any trend strengths as long as the trend strength is greater than the value of the DM+/- crossing point. This indicator also requires that the directional index line be on.

### Example of the DMI:



## Historic Volatility (HVOL)

The Historic Volatility indicator is used mainly as an option evaluation tool. It does not give trading signals like those given with other technical indicators. What it does do is give the trader an idea of how volatile the market has been for a previous period of time. Changing the period of time the study observes allows the trader to fine-tune options prices. If a market has been extremely volatile for the past 3 months, for example, then near term options should be more expensive. If the market has been calm for an extended period of time, longer term options should be reasonable.

Its use in trading is for observation, telling the trader if prices are calming down or becoming more erratic.

## Interpretation

The key to using historic volatility is determining the correct period of time for each market. The market you are looking at may show a history of volatility years ago, but may have been relatively calm the last few months. Getting an idea of the markets behavior recently may be of no use to the trader that is looking at distant options and vice versa for the trader looking at near term options.

For the futures trader this tool is useful as a guide for order placement. Seeing that market volatility is changing may indicate that it is time to move stops closer or farther away. If the trader is profitable with the trend and volatility is changing, it might be a time to move stops closer to protect profits. If a trader is trading against the trend, they might want to move stops further away to avoid getting bumped out prematurely.

Options traders could use this study to help them purchase profitable options. The basic idea is to buy options when volatility is decreasing to take advantage of a change in that volatility. Any rise in volatility will translate to an increase in option values. Look at options strategies that take advantage of low volatility, such as straddles or ratio spreads. When volatility is high, selling options would be better because any decrease in volatility will translate to a loss of option value. Option strategies that take advantage of a decrease in volatility are strangles and regular short option positions.

Obviously, historic volatility is only one component of option pricing. Any changes in the underlying futures market could negate the changes in option prices due to volatility. For example, if you were to buy a low volatility Put option and prices go higher, that option will lose value but not as quickly as a higher volatility option.

For the futures trader the basic concept is to expect market changes during periods of increased volatility. George Soros, the trading legend, said “Short term volatility is greatest at a turn around and diminishes as a trend becomes established.”

This indicator is commonly viewed as very mean regressive. What this term means is that the historic volatility indicator tends to return to the opposite end of the spectrum and therefore return to an average. If volatility is great it will eventually cool off and return to that place. If volatility is low it will not stay quiet forever. What this means to traders is that a market that is erratic will sooner or later calm down and a market that is quiet will eventually get loud again.

## Calculation

### Parameters:

Period (20) - the number of bars, or period, used to calculate the study. You may alter this to use any number greater than 1 for the close. The indicator displays simple percentage values.

### Formula:

The calculation for the historical volatility is rather involved. The number of periods per year varies depending on the type of price chart used for the study. The following table lists the number of periods for each type of chart:

Chart Type	Trading Periods per Year
Perpetual	262
Daily	262
Weekly	52
Monthly	12
Variable	Based on chart period (see below)
Price Bar	Not available for this study

When using variable charts, you must first calculate the number of trading periods per year. To do this, you must determine the trading time of the selected commodity. The formula is as follows:

$$TP = (Tt / Pn) * 262$$

**TP:** The total number of trading periods per year.

**Tt:** The total trading time in a day.

**Pn:** The length of the period.

**262:** The number of weekdays per year.

### Example:

The S&P 500 trades from 8:30 a.m. to 3:15 p.m. That is a total trading time of 6 hours and 45 minutes. On a variable chart using 5 minute bars, the number of periods for the day is 81 as demonstrated:

*6 hours @ 60 minutes = 360 minutes*

*45 minutes + 45 minutes*

*Total minutes of trading = 405 minutes*

*405 / 5 minute bars = 81 trading periods per day*

Now that you have calculated the trading periods per day, you now must calculate the number of periods for the year. Since historical volatility considers every weekday of the year when calculating total periods for the year, the multiplier is 262:

*TP = (405/5) \* 262*

*TP = 81 \* 262*

*TP = 21,222*

**Note:** This formula applies only to historical volatility on a variable chart. It does not apply to other chart types.

Now that you have the total number of periods per year, continue with the calculation of the historical volatility.

Next calculate the logarithm of the price change for each price in the specified time span of n periods. The formula is:

*LOGSi = LOG(Pi / Pi-1)*

**LOG:** The logarithm function.

**Pi:** The current price.

**Pi-1:** The previous price.

Now that you have the logarithms of the price changes, calculate the total logarithms for the time span you are reviewing. To calculate the total of the logarithms, use the following formula:

$$T_{\text{logs}} = \sum_{i=1}^n (\text{LOGSi})$$

**Tlogs:** The total of the logarithm price ratio for the time span.

**S:** Indicates to sum all n logarithms.

**LOGSi:** The logarithm of the price change for period i.

**N:** The number of periods for the specified time span.

The next step is to calculate the average of the logs by dividing the total logarithm by the number of periods as shown below:

$$A\text{LOGS} = T_{\text{logs}} / n$$

**ALOGS:** The average of the logarithms.

**Tlogs:** The total of the logarithm for the time span.

**N:** The number of periods for the specified time span.

The last calculation is to sum the squares of the difference between the individual logarithms for each period and the average logarithm. This is accomplished in the following formula:

$$\text{SSD} = \sum_{i=1}^n (\text{LOGSi} - A\text{LOGS})^2$$

**SSD:** The sum of the squared differences.

**S:** Indicates to total the squares of all n differences.

**LOGSi:** The logarithm of the price change for period i.

**ALOGS:** The average of the logarithms.

Now that the elements of the final formula are complete, the following formula calculates the historical volatility for a given period over a specified time span.

$$HV = \sqrt{\frac{\text{SSD}}{n - 1}} * \sqrt{\text{TP}}$$

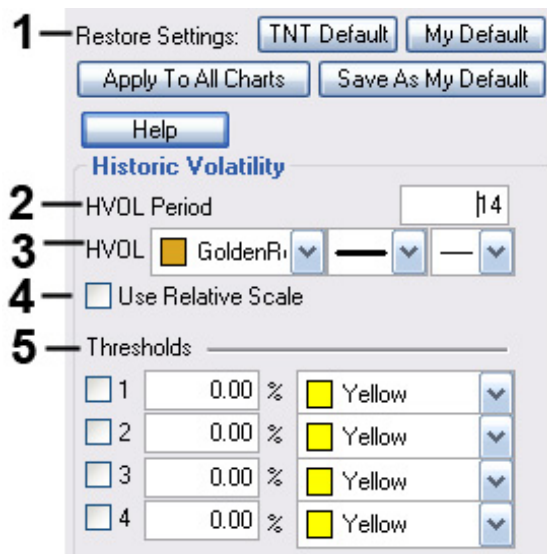
**SSD:** The sum of the squared differences.

**n:** The number of periods for the specified time span.

**TP:** The total number of trading periods for the year.

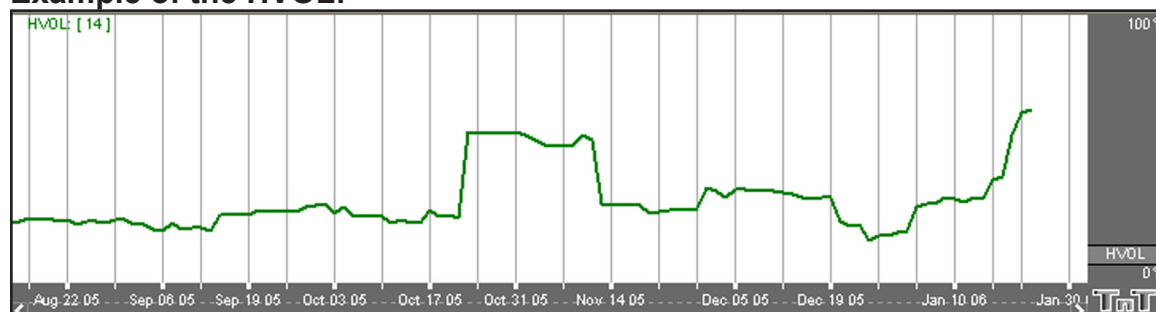
## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. HVOL Period:** To specify the number of days used in calculating Historic Volatility, simply click on the box, highlight the current number, and type in a new value.
- 3. HVOL:** Change the color, line style, and line thickness of the HVOL.
- 4. Use Relative Scale:** When choosing this option, the 100% location is changed to the highest point value in the HVOL indicator.
- 5. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

### Example of the HVOL:



## Moving Average Convergence/Divergence (MACD)

MACD was created in an attempt to determine the strength of a trend along with the direction of that trend. Gerald Appel created a system that looked at two exponential moving averages and the difference between those two averages. Looking at these moving averages of the market we are able to see clear buy and sell signals. We are also able to get a more accurate signal by looking at an average of the difference in the two moving averages.

### Interpretation

Computing this indicator requires the use of exponential moving averages. Exponential moving averages are different than simple moving averages because instead of looking at only the last few days and averaging them, the exponential averages look at all the prices, and then put more weight on the most recent data. This type of weighted average gives a smoother average price that reacts more quickly to market moves. The two averages of MACD move above and below a base line, which gives indication of the strength of the current move. This placement of the two averages in relationship to the base line is calculated by looking at the exponential moving average of the difference between the two averages. So, even though the two averages may cross, the divergence, or true indication of the signal, is not shown until both averages cross the base line.

Keeping this in mind, an ideal buy signal is seen on a move where the shorter-term average moves above the other average and both averages cross above the base line of zero. Inversely, a sell signal would be the opposite of this.

The histogram method of MACD is read as a straight line above or below the zero base line. This line represents the difference between the moving averages. Therefore, when the moving averages move above the base line they are indicating a buy, and as the difference between the averages increases the lines will get taller.

The opposite is true of a sell signal. Track 'n Trade Live's ability to display MACD in this fashion is vital because it allows you to read the strength of the current trend along with the signal to buy or sell.

When MACD is plotted as a histogram, the values used to plot the histogram are the differences between the two moving averages on each day. The "trigger" line that appears on this chart is an average of the histogram data, or a smoothed view of the histogram.

Using the MACD as a histogram will allow the trader to spot divergences between the indicator and the market price. A divergence is present when the market makes a higher high than the previous high, but the MACD histogram fails to make a corresponding higher high. This is considered - in technical lore - to be a sign of weakness and a sell signal when the MACD breaks below the lowest point in between the divergent highs.

Bullish divergence is seen in an exact opposite fashion. Assume a market has been trending downward. The market has been consistently making lower lows, as has been the MACD histogram indicator. However, eventually the MACD fails to make a lower low, corresponding to the lower low in price. If the MACD histogram line crosses above the highest high in between the divergent lows, then technical lore holds that higher prices should follow.

You also have the choice to view the MACD indicator in a simple line style, instead of the histogram. In this view there is no trigger line. The line style MACD gives buy and sell signals are based off of the crossing of the two moving averages.

### Calculation

#### Parameters:

- First (12) - the number of bars, or interval, used to calculate the first Exponential Moving Average.
- Second (26) - the number of bars, or interval, used to calculate the second Exponential Moving Average.
- Difference (9) - the number of bars, or interval, used to calculate an additional Exponential Moving Average.



**Formula:**

In this study, the oscillator is the simple difference between the first two exponential moving averages. The formula is as follows:

$$OSC_t = (EMA1 - EMA2)$$

**OSCt:** The oscillator for the current period.

**EMA1:** The first exponential moving average.

**EMA2:** The second exponential moving average.

The second part of the study computes an exponential moving average of the oscillator. You have:

$$EMAosct = EMAosct-1 + (k * (OSC_t - EMAosct-1))$$

**EMAosct:** The exponential moving average of the oscillator.

**OSCt:** The oscillator for the current interval.

**EMAosct-1:** The exponential moving average of the oscillator for the previous interval.

**k:** The exponential smoothing constant.

Since the second value, EMAosct, is an exponential moving average, it rises and falls slower than the oscillator. Hence, the two lines generate crossover points. These crossover points are the buy/sell signals. Review Reading Moving Average Convergence/Divergence Trading Signals for other possible trading signals.

If the study is displayed as a histogram, each value for the lines is calculated as:

$$DIFF_t = OSC_t - EMAosct$$

**DIFFt:** The difference between the oscillator for the current interval and the exponential moving average of the oscillator.

**OSCt:** The oscillator for the current interval.

**EMAosct:** The exponential moving average of the oscillator.

**Buy/Sell Signals**

• Buy Signal happens when:

- If we draw the MACD with the Trigger line: MACD value today is greater than Trigger value today AND MACD value yesterday is less than or equal to yesterdays Trigger value AND today's Trigger is less than 0.
- If we draw the MACD without the Trigger line: MACD value today is greater than 0 AND yesterdays MACD value is less than 0 AND MACD today is greater than or equal to Yesterdays MACD value.

- Sell Signal happens when:

- If we draw the MACD with the Trigger line: MACD value today is less than Trigger value today AND MACD value yesterday is greater than or equal to yesterdays Trigger value AND today's Trigger is greater than 0.
- If we draw the MACD without the Trigger line: MACD value today is less than 0 AND yesterdays MACD value is greater than 0 AND MACD today is less than or equal to Yesterdays MACD value.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

**1**—Restore Settings: TNT Default My Default

Apply To All Charts Save As My Default

Help

**MA Convergence / Divergence**

**2**—EMA Periods 12 26

**3**—Bull DarkGray — —

Bear LightGrey — —

☐ Color in direction of movement

**4**—Trigger Period 9

**5**—☒ Trigger ForestGr —

**6**—Display as Histogram

**7**—Calculation Extra Smoothing

**8**—Thresholds

☐ 1 0.00 Value Yellow

☐ 2 0.00 Value Yellow

☐ 3 0.00 Value Yellow

☐ 4 0.00 Value Yellow

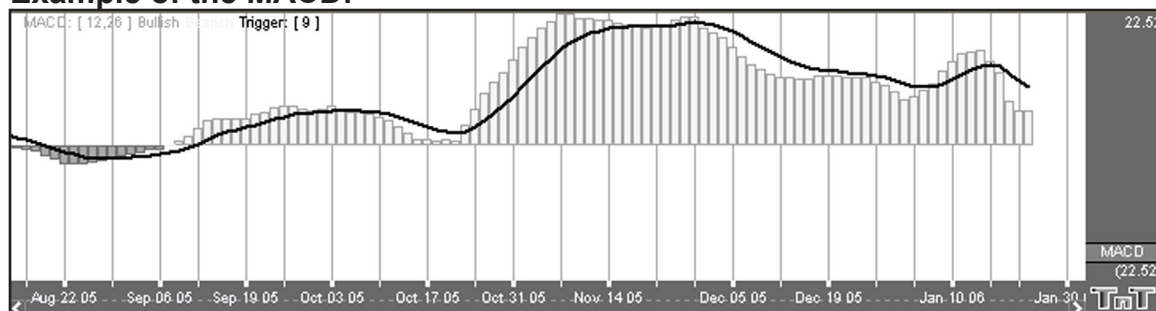
**9**—Buy / Sell Arrows

Not Displayed LightGrey

- 2. EMA Periods:** The MACD is calculated using two exponential moving averages. To change the periods used in the formula, highlight the number and type in the new value desired.
- 3. Bull/Bear:** Change the color, line style, and line thickness of the Bullish and Bearish lines.
- 4. Trigger Period:** To change the number of days, click in the box, highlight the number, then type in the desired period.
- 5. Trigger:** Check this box to hide the Trigger line. You can also change the color and line style of the Trigger.
- 6. Display as:** The MACD indicator can be displayed differently. From the drop down menu, choose either to view it as a line or as a histogram.

7. **Calculation:** Choose how you would like your chart calculated. You can choose Standard Calculation or Extra Smoothing. Extra Smoothing is a proprietary formula developed by Lan H. Turner, president and CEO of Gecko Software, Inc. This method increases the movement in the MACD indicator and has shown to be more accurate (in Gecko Software's market testing) than the standard calculation. Click the Extra Smoothing option to test its accuracy for yourself. Its relationship to the MACD is similar to the relationship between the Fast and Slow Stochastics - think of this indicator as the "Fast MACD."
8. **Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
9. **Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

### Example of the MACD:



### Momentum (MOM)

The momentum indicator describes how price changes occur. It is a measure of the price change. It lets you know if prices are increasing at a continuous rate or decreasing at a continuous rate. Momentum can help gauge the current market trend. This indicator will sometimes shift ahead of a price change. It is both an indicator of trend as well as an indicator of a changing trend. The main thing to look for when using it is a divergence or difference between price behavior and the indicator's behavior.

### Interpretation

Momentum measures the rate of change in prices rather than actual price levels themselves. By measuring this rate of incline or decline, momentum tells whether the current trend is strengthening or weakening. If prices are rising and the momentum indicator is above the zero line, then the trend is gaining strength. If prices were rising but the indicator was sagging or went below the zero line, then we would interpret this as a sign of a coming change in trend. This is true because although prices were still increasing, they were doing so at a decreasing rate.

The reverse would be true during a declining market. For example, think of a race car gaining 20 miles an hour each lap, until it starts to only gain 15 miles an hour, then 10 mph, then 5 mph until eventually it reaches its top speed. Like a race car, a market can not sustain growing momentum forever, and in many occurrences momentum slows before prices change direction.

Typically, the trade signals are to buy when the momentum indicator crosses from below the zero line to above it. This indicates that a new upward trend has begun, as the market is able to violate resistance levels and continue higher with increasing speed.

The sell signal would be to sell when the line crosses from above the zero line to below it. This indicates that the market is picking up speed to the downside and should be able to violate support areas. It is in this way that this unique indicator is a trend following tool.

Another way to use momentum is to establish regions of overbought or oversold. For example, when, in a declining market, the prices continue downward and the momentum indicator moves toward more negative but begins to level out, we would be looking for a buy signal when the indicator turned upward and out of that oversold region. It is in this way that momentum can sometimes shift ahead of the price movement. This use of the momentum indicator is a counter trend usage.

In either implementation of this indicator the key is divergence: seeing momentum make lower highs while prices are making higher highs, or momentum making higher lows while prices are making lower lows. Being aware of a difference in price movement and the momentum level can help the trader make informed trading decisions.

## Calculation

### Parameters:

Period (20) - the number of bars, or period, used to calculate the study. You must determine a value suitable to your trading needs and methods. Some technicians argue that the length of the momentum indicator should equal the normal price cycle. The best method is to experiment with different lengths until you find the length that works best for that particular commodity you are trading.

### Formula:

The general formula to calculate momentum is as follows:

$$MOM_t = P_i - P_{i-n}$$

**MOM<sub>t</sub>**: The momentum indicator for the current period.

**P<sub>i</sub>**: The price of the i interval.

**P<sub>i-n</sub>**: The price n intervals ago.

**n**: The number of intervals or length specified.

### Example:

Assume the current price is 7470. This example examines a momentum study using a length of ten trading intervals. The price ten intervals ago is 7400. The calculation is:

$$MOM = 7470 - 7400 = +70$$

The momentum value can have a very broad range. It is a function of the length you select for the momentum and the volatility of the underlying futures contract. Thus, it could swing very widely and wildly about the zero line.

### Buy/Sell Signals

- Buy Signal happens when:
  - If we draw the MOM with the MOMMA Line: MOM value today is greater than Trigger value today AND MOM value yesterday is less than or equal to yesterdays Trigger value AND today's Trigger is less than 0.
  - If we draw the MOM without the MOMMA Line: MOM value today is greater than 0 AND yesterdays MOM value is less than 0 AND MOM today is greater than or equal to Yesterdays MOM value.
- Sell Signal happens when:
  - If we draw the MOM with the MOMMA Line: MOM value today is less than Trigger value today AND MOM value yesterday is greater than or equal to yesterdays Trigger

value AND today's Trigger is greater than 0.

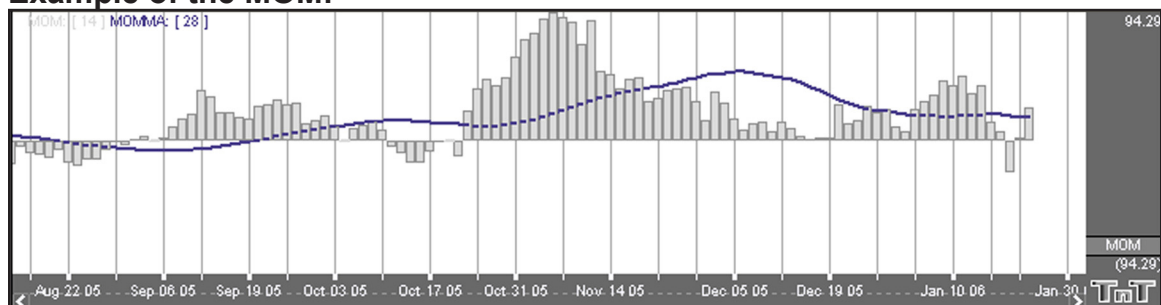
- If we draw the MOM with out the MOMMA Line: MOM value today is less than 0 AND yesterdays MOM value is greater than 0 AND MOM today is less than or equal to Yesterdays MOM value.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

The screenshot shows the 'Momentum' preferences window. It includes buttons for 'Restore Settings' (with 'TNT Default' and 'My Default' sub-buttons), 'Apply To All Charts', 'Save As My Default', and 'Help'. The 'Momentum' section has a 'MOM Period' field set to 14. Below it are 'MOM' and 'MA' settings, each with a color and line style dropdown. The 'Show MOMMA with Period' checkbox is checked, with a period of 28. The 'Display as' dropdown is set to 'Histogram'. The 'Thresholds' section has four rows, each with a checkbox, a value field (all set to 0.00), a unit dropdown (all set to 'Value'), and a color dropdown (all set to 'Yellow'). The 'Buy / Sell Arrows' section has a 'Not Displayed' dropdown and a 'MediumSeaGre' color dropdown.

- 2. MOM Period:** To specify the number of days used in calculating the Momentum (MOM) indicator, click in the box, highlight the current number, and type in a new value.
- 3. MOM/MA:** Change the color, line style, and line thickness of the Moving Average and Momentum lines.
- 4. Show MOMMA with Period:** Uncheck this box if you would like to hide the Momentum Moving Average (MOMMA) line. You can also specify the number of days used in calculating the MOMMA line.
- 5. Display as:** The Momentum Indicator can be displayed differently. From the drop-down menu, choose either to view it as a line or as a histogram.
- 6. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.
- 7. Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

**Example of the MOM:**

### Relative Strength Index (RSI)

The RSI was developed by J. Welles Wilder, Jr. as a measure of the market's strength or weakness. The principle idea of this study is that it will indicate a general zone that the market is in, either the buy zone or the sell zone. This indicator is similar to Stochastics in that it shows regions of overbought and oversold. This indicator should be incorporated into a system rather than using it by itself. Wilder's popular indicator is known for its accuracy and its ability to compensate for erratic price movement.

#### Interpretation

RSI computes the difference in recent prices as a solid line and plots this line on a scale similar to the scale used by Stochastics. The area above 70 is generally considered to be the overbought region, and the region below 30 is referred to as the oversold region. Simply selling in the overbought region and buying when the RSI is in the oversold region is not a consistent method of trade. Trade signals are not generated until the RSI leaves these regions. So a sell signal would not be present until the RSI has begun sloping down and leaves the 70 region.

A buy signal, in the simple methodology associated with this pattern, is derived when RSI leaves the oversold region, crossing from below 30 to above it. Just like sell signals, RSI buy signals are present when the market begins to turn and the indicator leaves the oversold region.

Another use of the RSI is to look for a divergence in prices; for instance, when a market makes higher highs or lower lows and the RSI fails to follow suit. This difference in the indicator and the market could be a signal that the market lacks the momentum to continue its current price direction. So, you may be able to take a position sooner using this strategy than you would with the previous way. Wilder says that this divergence is "the single most indicative characteristic of the RSI."

In its calculation, the RSI indicator uses a moving average of price changes over the period. You can select which type of moving average is used to produce the desired amount of smoothing on the RSI indicator.

#### Calculation

##### Parameters:

Period (14) - the number of bars, or period, used to calculate the study.

##### Formula:

The RSI computations are not difficult, but they are tedious. You first calculate the difference between the current closing price and the previous closing price. The general formula is:

$$DIF_t = Close_t - Close_{t-1}$$



If that difference is a positive value, it is an up period, which means the current close is higher than the previous close. If the difference is negative, it is a down period, which means the current close is below the previous close. The DOWN value is always a positive number for all computations. It is the absolute value of a negative DIF. The worksheet below shows the calculations needed to create a 9 period RSI.

Day	Current Close	Previous Close	Dif	Up	Down
1	7450	7430	+20	20	0
2	7460	7450	+10	10	0
3	7470	7460	+10	10	0
4	7480	7470	+10	10	0
5	7485	7480	+5	5	0
6	7490	7485	+5	5	0
7	7480	7490	-10	0	10
8	7470	7480	-10	0	10
9	7455	7470	-15	0	15
			Totals	60	35

You now compute the up and down averages, which are calculated as follows:

$$U_t = (UP_1 + \dots + UP_n) / n$$

$$D_t = (DOWN_1 + \dots + DOWN_n) / n$$

**UT:** The up average for the current period.

**DT:** The down average for the current period.

**UP<sub>n</sub>:** The UP value for the nth period.

**DOWN<sub>n</sub>:** The DOWN value for the nth period.

**n:** The number of periods for the RSI.

Now, use the values from the worksheet. The up average is:

$$\begin{aligned} U &= 60 / 9 \\ &= 6.67 \end{aligned}$$

and the down average is:

$$\begin{aligned} D &= 35 / 9 \\ &= 3.89 \end{aligned}$$

The general formula for the RSI is:

$$RSIt = ( UT / (UT + DT) ) * 100$$

If you use the above values and place them in the formula, it appears as follows:

$$\begin{aligned} RSI &= ( 6.67 / ( 6.67 + 3.89 ) ) * 100 \\ &= 63.16 \end{aligned}$$

Assume the market continues the downward trend. The next DIF value is -15, which sets the UP value to 0, and the DOWN value to 15. Calculate the next up and down average by using Wilder's accumulative moving average technique. The formulas are:

$$\begin{aligned} UT &= ( ( UT-1 * (n-1) ) + UPt ) / n \\ &= ( ( 6.67 * (9 - 1) ) + 0 ) / 9 \\ &= 5.93 \end{aligned}$$

$$\begin{aligned} DT &= ( ( DT-1 * (n-1) ) + DOWNt ) / n \\ &= ( ( 3.89 * (9 - 1) ) + 15 ) / 9 \\ &= 5.12 \end{aligned}$$

The value for the new RSI equals the following:

$$\begin{aligned} RSI &= ( ( 5.93 / ( 5.93 + 5.12 ) ) * 100 \\ &= 53.67 \end{aligned}$$

### Buy/Sell Signals

- Buy Signal happens when: RSI value today is greater than the Threshold 2 and yesterday's RSI value is less than or equal to Threshold 2.
- Sell Signal happens when: RSI value today is less than the Threshold 1 and yesterday's RSI value is greater than or equal to Threshold 1.

## Preferences for RSI - Relative Strength Index

- 1. Restore Settings:** *TNT Default:* Restores original software settings.

*My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

**1** — Restore Settings: TNT Default My Default  
Apply To All Charts Save As My Default  
Help

**2** — RSI Period 14

**3** — RSI LightPink — —

**4** — Calculation Exponential

**5** — Thresholds

<input type="checkbox"/> 1	70.00 %	Yellow
<input type="checkbox"/> 2	30.00 %	Yellow
<input type="checkbox"/> 3	0.00 %	Yellow
<input type="checkbox"/> 4	0.00 %	Yellow

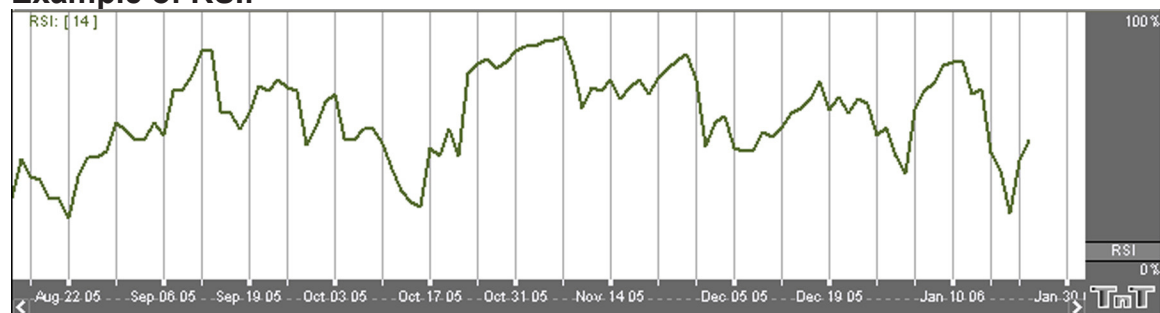
**6** — Buy / Sell Arrows

Not Displayed LightPink

When calculating Buy / Sell arrows for RSI:  
Threshold 1 is used as the upper threshold.  
Threshold 2 is used as the lower threshold.

- 2. RSI Period:** To specify the number of days used in calculating the RSI click in the box, highlight the current number, and type in a new value.
- 3. RSI:** Change the color, line style, and line thickness of the RSI.
- 4. Calculation:** Choose between Exponential, Simple, and Wilder's Smoothing calculations.
- 5. Thresholds:** You are given the option to view four threshold lines in the Indicator Window. The crossing of the RSI line below the Upper Threshold is a buy signal. The crossing of the RSI line above the Lower Threshold is a sell signal. You can also change the color of the threshold lines.
- 6. Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

## Example of RSI:



## Fast Stochastics (FSTO)

The Stochastic Process was invented by Dr. George C. Lane many years ago under this basic premise: During periods of decrease, daily closes tend to accumulate near the extreme low of the day and conversely, during periods of increase, daily closes tend to accumulate near the extreme highs of the day.

This indicator is designed to show conditions of overbought and oversold markets. Stochastics are divided into two types: Regular Stochastics, often referred to as Fast Stochastics, and Slow Stochastics. Fast Stochastics are said to be more sensitive to price changes and can give very greatly in the short-term, hence the need for Slow Stochastics.

## Interpretation

Stochastics display two lines that move in a vertical scale between 0 and 100 - representing percentiles from 0% to 100%. Think of the level of Stochastics as where the most current close is within a specific range. For example, if Stochastics are reading 50%, the current close is in the middle of the price range for a specified period of time. If Stochastics are reading 100%, the close is at the high of the range, and 0% represents the current close price being at the low of the range. Because Stochastics are smoothed, this is not exactly true, but should help you visualize the information being shown. This will also help you to understand why Stochastics are a counter trend indicator, in that the underlying principle behind Stochastics is that prices will move back to the center of the trading range, or the opposite extreme.

When both lines move to an area below 20 on this scale they are said to be in an oversold zone. Conversely, when both %K and %D move to above 80 on this same scale they are indicating an overbought zone. It is this indication of market sentiment that makes this counter trend indicator useful.

George Lane emphasized that the most important signal generated by this method was the difference or divergence between %D and the underlying market price. He said that the divergence is where %D line makes a group of lower highs while the market makes a series of higher highs. This would indicate an overbought condition. The reverse would be true of an oversold market, with %D making higher lows and prices making lower lows.

Trade triggers to buy are created when, during an oversold condition (Stochastics below 20) the slow line, %D is crossed by the faster moving line, %K.

The opposite would occur with a sell signal. The faster %K line crosses above the slower %D line, when both are at a reading above 80.

As with a dual moving average system, when the faster reacting indicator crosses the slower moving indicator, a buy or sell is signaled. Because Stochastics give an indication of either overbought or oversold, you would first want to see both lines in the above 80 or below 20

range, and sloping out of that range back to the middle before looking for these trade triggers.

### Calculation

#### Parameters:

- Overall Period (3) - the number of periods used to determine the highest high and lowest low.
- %D MA Period (14) - the number of periods used to determine the moving average for the %D value.

#### Formula:

The first step in computing the stochastic indicator is to determine the n period high and low. For example, suppose you specified twenty periods for the stochastic. Determine the highest high and lowest low during the last twenty trading intervals. It determines the trading range for that time period. The trading range changes on a continuous basis.

The calculations for the %K are as follows:

$$\%K_t = ( (\text{Close}_t - \text{Low}_n) / (\text{High}_n - \text{Low}_n) ) * 100$$

**%K<sub>t</sub>:** The value for the first %K for the current time period.

**Close<sub>t</sub>:** The closing price for the current period.

**Low<sub>n</sub>:** The lowest low during the n periods.

**High<sub>n</sub>:** The highest high during the n time periods.

**n:** The value you specify.

Once you obtain the %K value, you start computing the %D value which is an accumulative moving average. Since the %D is a moving average of a moving average, it requires several trading intervals before the values are calculated properly. For example, if you specify a 20 period stochastic, the software system requires 26 trading intervals before it can calculate valid %K and %D values. The formula for the %D is:

$$\%D_t = ( (\%D_{t-1} * 2) + \%K_t ) / 3$$

**%D<sub>t</sub>:** The value for %D in the current period.

**%D<sub>t-1</sub>:** The value for %D in the previous period.

**%K<sub>t</sub>:** The value for %K in the current period.

The values 2 and 3 are constants. You specify the constants and the length of the time period to examine for the trading range.

### Buy/Sell Signals

- Buy Signal happens when: %K value today is greater than the %D today AND yesterdays %K value is less than or equal to yesterdays %D AND Both %K and %D are less than Threshold 2.

- Sell Signal happens when: %K value today is less than the %D today AND yesterdays %K value is greater than or equal to yesterdays %D AND Both %K and %D are greater than Threshold 1.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

**1** — Restore Settings: TNT Default My Default  
Apply To All Charts Save As My Default  
Help

**2** — Fast Stochastic

**3** — FSTO Period 14

**4** — FSTO Smoothing %D 3

**5** — %K Red — — —  
%D LightPink — — —

**6** — Calculation Exponential

**7** — Thresholds

<input type="checkbox"/> 1	80.00 %	Yellow
<input type="checkbox"/> 2	20.00 %	Yellow
<input type="checkbox"/> 3	0.00 %	Yellow
<input type="checkbox"/> 4	0.00 %	Yellow

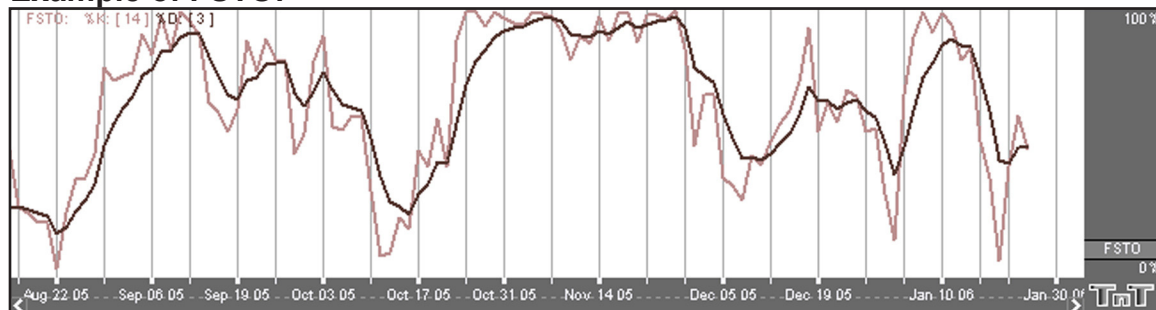
**7** — Buy / Sell Arrows  
Not Displayed Red

When calculating arrows for FSTO:  
Threshold 1 is used as the upper threshold.  
Threshold 2 is used as the lower threshold.

- 2. FSTO Period:** To specify the number of days used in calculating the Fast Stochastics indicator, click in the box, highlight the number, and type in a new value.
- 3. FSTO Smoothing:** To specify the number of days used in calculating smoothing, click in the box, highlight the number, then type in a new value.
- 4. %K/%D:** Change the color, line style and line thickness of the %K and %D lines.
- 5. Calculation:** Choose from Exponential, Simple, and Wilder's Smoothing for the type of formula used to calculate the indicator.
- 6. Thresholds:** You are given the option to view four threshold lines in the Indicator Window. The crossing of the %D line above the %K line is a sell signal and only confirmed if this crossing occurred above the Upper Threshold line. The crossing of the %D line below the %K line is a buy signal and only confirmed if this crossing occurred below the Lower Threshold line. You can also change the color of the threshold lines.

- 7. Buy/Sell Arrows:** Select to display the buy/sell arrows. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

### Example of FSTO:





## Slow Stochastics (SSTO)

The slower version of Stochastics is commonly believed to be a more reliable indicator. In this version of Stochastics the more sensitive %K line is dropped. The original %D now becomes the slower line %K. The new %D is a 3-day moving average of the %K. This basically gives you a smoothed version of the original indicator. This modified counter trend indicator is less reactive but considered to be more accurate.

### Interpretation

Slow Stochastics are interpreted the same as Fast Stochastics. Quite often the faster of the two indicators moves into and out of the overbought/oversold regions quickly.

### Calculation

#### Parameters:

- Overall Period (14) - the number of periods used to determine the highest high and lowest low.
- %K MA Period (3) - the number of periods used to determine the moving average for the %K value.
- %D MA Period (3) - the number of periods used to determine the moving average for the %D value.
- AdditionalLinePeriod (3) - the number of periods used to determine an additional moving average on the stochastic.

#### Formula:

The calculations for the slow stochastic are similar to the normal stochastic. The first step in computing the stochastic indicator is to determine the n period high and low. For example, suppose you specified twenty periods for the stochastic. Determine the highest high and lowest low during the last twenty trading intervals. It determines the trading range for that time period. The trading range changes on a continuous basis. The calculations for the %K are as follows:

$$\%K_t = ( (\text{Close}_t - \text{Low}_n) / (\text{High}_n - \text{Low}_n) ) * 100$$

**%K<sub>t</sub>:** The value for the first %K for the current time period.

**Close<sub>t</sub>:** The closing price for the current period.

**Low<sub>n</sub>:** The lowest low during the n periods.

**High<sub>n</sub>:** The highest high during the n time periods.

**n:** The value you specify.

Once you obtain the %K value, you start computing the %D value, which is an accumulative moving average. Since the %D is a moving average of a moving average, it requires several trading intervals before the values are calculated properly. For example, if you specify a 20 period stochastic, the software system requires 26 trading intervals before it can calculate valid

%K and %D values.

The formula for the %D is:

$$\%DT = ( (\%DT-1 * 2) + \%K_t ) / 3$$

**%DT:** The value for %D in the current period.

**%DT-1:** The value for %D in the previous time period.

**%Kt:** The value for %K in the current period.

The values 2 and 3 are constants. You specify the constants and the length of the time period to examine for the trading range.

Once the %K and %D values for the normal stochastic are derived, the slow stochastic can be computed. The formula for the slow stochastic is below:

$$\%KSLOW = \%DNORMAL$$

$$\%DSLOW_t = ( ( \%D_{SLOW_{t-1}} * 2 ) + \%K_{SLOW_{t-1}} ) / 3$$

**%KSLOW:** The %D for the normal stochastic.

**%DSLOWt:** Slow %D value for the current period.

**%DSLOWt-1:** The slow %D for the previous period.

**%KSLOWt-1:** The slow %K for the previous period.

The values 2 and 3 are the smoothing constants. You may select different values.

### Buy/Sell Signals

- Buy Signal happens when: %K value today is greater than the %D today AND yesterdays %K value is less than or equal to yesterdays %D AND Both %K and %D are less than Threshold 2.
- Sell Signal happens when: %K value today is less than the %D today AND yesterdays %K value is greater than or equal to yesterdays %D AND Both %K and %D are greater than Threshold 1.

## Preferences for SSTO - Slow Stochastics

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.

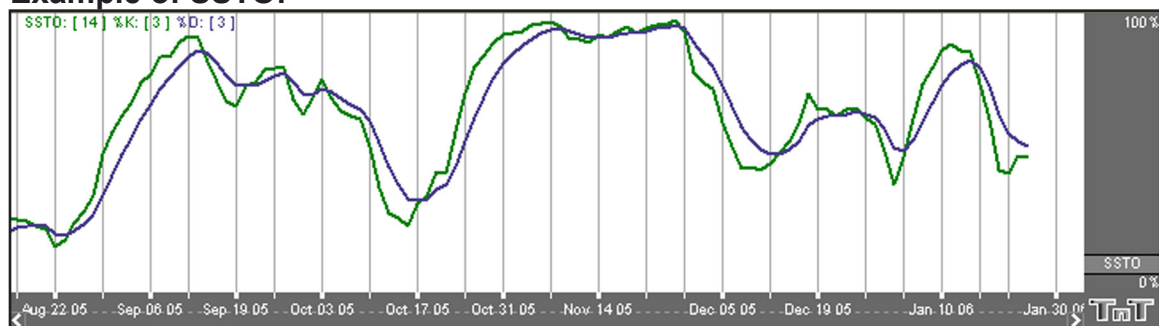
The screenshot shows the 'SSTO - Slow Stochastic' preferences window. It includes buttons for 'Restore Settings' (with 'TNT Default' and 'My Default' sub-buttons), 'Apply To All Charts', 'Save As My Default', and 'Help'. The 'Slow Stochastic' section contains:
 

- SSTO Period:** A text box with the value '14'.
- Smoothing:** Two text boxes for '%K' (value '3') and '%D' (value '3').
- %K/%D Color and Style:** Two rows. The first row for '%K' has a 'GreenYel' color box, a solid line style, and a medium thickness. The second row for '%D' has a 'DarkTurc' color box, a solid line style, and a medium thickness.
- Calculation:** A dropdown menu set to 'Exponential'.
- Thresholds:** A section with four rows. Each row has a checkbox, a percentage value, and a color dropdown.
 

Threshold	Value	Color
1	80.00 %	Yellow
2	20.00 %	Yellow
3	0.00 %	Yellow
4	0.00 %	Yellow
- Buy / Sell Arrows:** A section with a 'Displayed' dropdown and a 'GreenYellow' color box.

 At the bottom, a note states: 'When calculating arrows for SSTO: Threshold 1 is used as the upper threshold. Threshold 2 is used as the lower threshold.'

- 2. SSTO Period:** To specify the number of days used in calculating the Slow Stochastics indicator, click in the box, highlight the number, and type in a new value.
- 3. Smoothing:** To specify the number of days used in calculating smoothing, click in the box, highlight the number, then type in a new value.
- 4. %K/%D:** Change the color, line style and line thickness of the %K and %D lines.
- 5. Calculation:** Choose from Exponential, Simple, and Wilder's Smoothing for the type of formula used to calculate the indicator.
- 6. Thresholds:** You are given the option to view four threshold lines in the Indicator Window. The crossing of the %D line above the %K line is a sell signal and only confirmed if this crossing occurred above the Upper Threshold line. The crossing of the %D line below the %K line is a buy signal and only confirmed if this crossing occurred below the Lower Threshold line. You can also change the color of the threshold lines.
- 7. Buy/Sell Arrows:** You have the option to display buy/sell arrows on your chart according to the indicator. Click the arrow to view Displayed or Not Displayed. You also have the option to change the color of the buy/sell arrows.

**Example of SSTO:**

## Volume/Open Interest (VOL/OI) (Stocks only)

*Volume* is a measurement of the number of contracts traded in a day. It is a sign of market activity. In liquid markets these numbers will be consistently higher than in a thin or illiquid market. These numbers are always a day behind, because it takes the exchange that long to tabulate these figures. When displayed, Track 'n Trade Live offsets these values to put them beneath their respective data in the chart, consequently there is not a value for the most recent day of any contract. Volume indicates participation and urgency. This tells the trader which market is the correct one to be in based on its participation.

### Interpretation

Volume measures the number of contracts that changed hands during that trading session. This indicator of market activity can show whether trade was heavy or light. That will give you an idea of the possible volatility present in that market. Contracts that have not been settled at the end of the day are represented by open interest. New buyers and sellers entering or exiting the market change open interest.

The key to this indicator is to look at volume as a percentage of open interest. VOL does not give straight buy or sell signals or have set trading rules. Rather it shows the cyclical tendencies of the market. The flow of the underlying market can be represented. Looking at VOL shows whether new buyers or sellers are entering the market or if they are liquidating positions.

There are basic common sense rules for this indicator. If the prices are up and VOL is increasing, the market is strong. If the prices are up and VOL is declining, the market is getting weaker. If the prices are down and VOL is rising, the market is getting stronger. If the prices are down and VOL is declining, the market is getting weaker.

In bull markets, volume tends to increase during rallies, and tends to decrease on reactions. In bear markets, volume tends to increase on declines and decrease during rallies. Trading volume usually increases dramatically at tops and bottoms. Looking at the volume and open interest can help you determine the liquidity of the market.

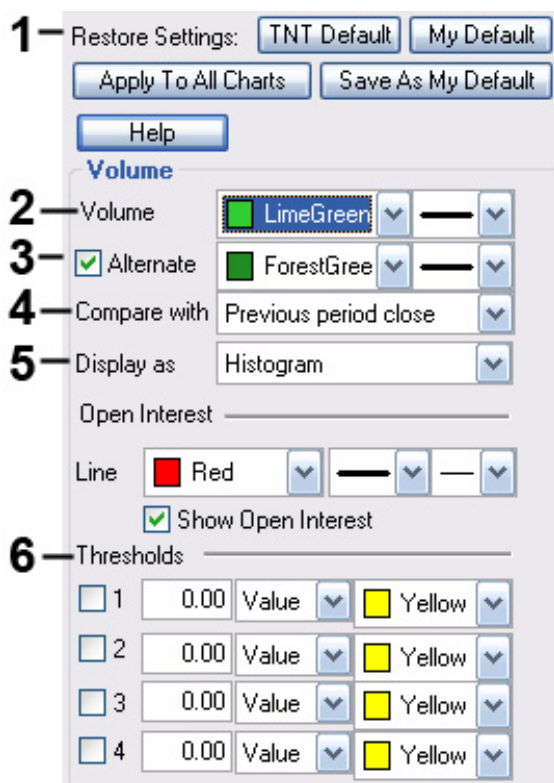
### Calculation

This study has no computations. The values for the volume and open interest are transmitted from the exchanges. However, the actual volume and open interest figures are always one day behind price information. You will not know Monday's volume and open interest until Tuesday at approximately noon (for U.S. markets - central time). That is due to the exchanges and their reporting requirements.

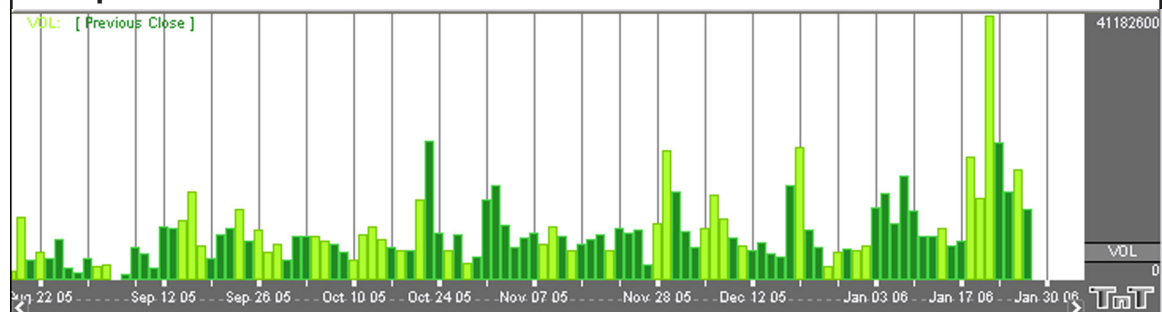
## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings.

*My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Volume:** Change the color, and the line style of the Volume line.
- 3. Alternate:** Select to view the Volume Indicator in two colors. You can change the color and line style as well.
- 4. Compare With:** When the Alternate options is selected you can compare the price day to day based on Previous Period Open: high low, and close, or the Current Period Open: high or low.
- 5. Display as:** View the Volume Indicator as a line, histogram, or filled line.
- 6. Thresholds:** Gives you the option of displaying four threshold lines, which can be displayed as a value or a percentage in the Indicator Window. You also have the option to change the color of the threshold line.

**Example of VOL/OI:**

## Overlay Indicators in the Chart Window

There are two Overlay Indicators that can be displayed in the Chart Window, Moving Averages and Bollinger Bands. To select these Indicators, right-click on the Chart Window and select the name of the indicator that you would like to display on the chart.

### Moving Average Lines

The moving average, or simple moving average as it is commonly referred to, represents the average of the last several closing prices. The moving average is simple to compute, easy to understand, and reliable under tests. This simplicity is the strength of the moving average.

The basic moving average is computed exactly the same as any other mathematical average. The most common way of determining the moving average of a market is to take the closing price over a certain number of days, add them together, and then divide by the select number of days.

### Interpretation

Generally, moving averages are thought to be indicators of trend. For example, conventional interpretation is that once prices cross from below the moving average to above it, the trend is considered up.

On the other hand, if prices go from above the moving average to below it, the trend of the market is considered down.

The purpose of the simple moving average is to track the progress of the trend. Moving averages potentially can keep you in the trend for a long time. The moving average gives you an indication of the trend being up (prices above the moving average) or down (below the moving average). However, the moving average gives you no indication of the length or duration of the trend.

### Double Moving Average

Double moving averages use two different averages in tandem. The first average is generally a faster reacting average using a shorter period of time, usually 10 days. The second average is a slower reacting average that will indicate longer-term price movement.

Using these two averages together helps to alleviate “whipsaws” by giving a basis of comparison. The faster average breaking above the slower average is a buy signal, the faster average breaking below the slower average is a sell signal.



## Interpretation

When using two different moving averages the trader gets a clearer picture of price indications. By combining a slower moving 20-day average with a quicker reacting 10-day average, you can see where the long-term indications are going.

The trend being your friend, until it ends, you would sell once the faster moving average crosses below the slower trend because that's an indication of change in trend. Near-term prices should be rising at a greater rate than longer-term prices in a good upward trending market, and vice versa for a down trend.

## Triple Moving Average

The system of triple moving averages is employed by plotting three different moving averages together. The first of these averages is a faster average that only looks at the short-term price direction. The second average is a medium average that reacts to a longer period of time, but not as long as the final average. The third average is the slowest to react, because it takes an average of the longest period of time.

## Interpretation

A 10, 20, and 40 day moving average system would be considered a triple moving average. The first average, the 10-day, is the quickest to move when prices show a change. The second average, the 20-day, is the medium average that does not show change until the prices have moved for a longer period of time. Finally, the slowest moving of the averages is the 40-day. This slow average will not indicate a difference until prices have made a significant move. Shorter-term moving averages, being more sensitive to changes in price, are said to follow the trend more closely. The middle or medium average would follow less closely and the slowest or least sensitive average would lag the most.

The use of the triple moving average is to buy when all three averages move to be in an upward trend or to sell when these averages are in a downtrend. The upward trend appears when the fastest average is higher than both of the other averages, the medium is above the slowest, and the longer term moving average is on the bottom.

This look would be reversed for a strong down trend with slow average on top, followed by the medium average, and the fastest on bottom.

## Calculation

### Parameters:

- Period1 (4) - the number of bars, or interval, used to calculate the first moving average.
- Period2 (9) - the number of bars, or interval, used to calculate the second moving average.
- Period3 (18) - the number of bars, or interval, used to calculate the third moving average.

### Formula:

The formula to calculate a moving average is as follows:

$$Mat = (P1 + \dots + Pn) / n$$

**Mat:** The moving average for the current period.

**Pn:** The price for the nth interval.

**n:** The length of the moving average.

Compute the average of the past n intervals using the price specified for that period. Now use real values to compute a five interval moving average. If you assume the following prices, the calculations are:

$$\begin{aligned} MA &= (7380 + 7375 + 7385 + 7390 + 7395) / 5 \\ &= 36925 / 5 \\ &= 7385 \end{aligned}$$

### Max Average

Max average is yet another variation on the moving average theme. By adding an additional power factor to the simple moving average formula, it allows the user to maximize the profit potential realized from minute moves experienced within any given market.

### Formula:

$$Max = (P1 + \dots + Pn) / D$$

Where p is the close \*  $i^{\text{power}}$

i is 1 through period.

D is the  $(1^{\text{power}} + 2^{\text{power}} + \dots + n^{\text{power}})$

Example:

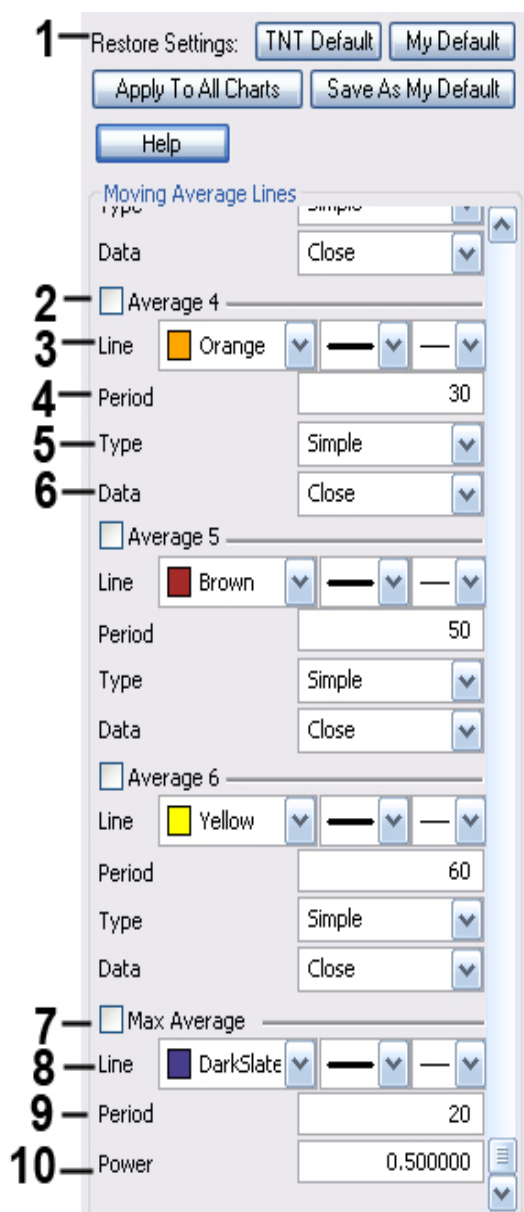
$$Pr = 0.5$$

$$Max = ((7380 * 1^{Pr}) + (7375 * 2^{Pr})$$

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings.

*My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Show On Screen Text:** Select to see the indicator value on your chart.
- 3. Placement of Text:** Display the on screen text either in the upper left corner of the chart, or the lower left corner.
- 4. Average:** Select the box in front of each average to display up to seven moving average lines.
- 5. Line:** Change the color, line style, and line thickness of the Moving Average lines.
- 6. Period:** To specify the number of days used in calculating the Moving Average indicator, click in the box, highlight the number, and type in a new value.
- 7. Type:** Change the type of the Moving Average line to simple, linear weight, or extra smoothed.
- 8. Data:** Choose either open, high, low, or close as the data used in calculating the moving average.
- 9. Max Average Period:** Adjust the period of days by which this indicator is calculated.
- 10. Max Average Power:** Adjust the exponentiation by which the max average is calculated.

## Example of Moving Averages:



## Bollinger Bands

Bollinger Bands are a type of trading envelope. They are lines at an interval around the moving average. They consist of a moving average and two different standard deviations represented as a line above the MA (Moving Average) and a line below the MA. The line above is the MA plus two standard deviations; the line below is the MA minus two standard deviations. Bollinger Bands are used to determine overbought and oversold conditions and to project price targets.

John Bollinger created Bollinger Bands in an effort to gage the volatility and condition of a market. These bands are used to determine the trading range and give an indication of when to buy and when to sell. Bollinger Bands are also used to indicate market volatility - the wider the bands the greater the volatility. Inversely, the narrower the bands, the lesser the volatility. By plotting two lines at an interval around a moving average, Bollinger bands give a good indication of market conditions and price relation. The moving average which the band is based on works as an indicator to confirm trade signals.

## Interpretation

The most basic use of the Bollinger Band is to look for a chart top that occurs above the uppermost band, followed by another top that is below the upper band. This set of chart tops would create a sell signal, as neither upward price direction was able to sustain a rally.

The opposite would occur for a buy signal. There would be a chart bottom below the lower band followed by a bottom above the lower band. This is a buy signal because neither sell was able to continue, indicated by one below and the other above the lowest band.

## Calculation

### Parameters:

- Period (20) - the number of bars, or period, used to calculate the study. John Bollinger, the creator of this study, states that those periods of less than ten days do not seem to work well for Bollinger Bands. He says that the optimal period for most applications is 20 or 21 days.
- Standard Deviation (2) - the percent of one standard deviation. John Bollinger suggests that if you reduce the number of days used to calculate the bands, you should also reduce the number of deviations and vice versa. For example, 200 percent of a standard deviation means two deviations above and two deviations below the moving average. If you use a period of 50, you may want to use 250 percent of a standard deviation. For a period of 10, you may want to use 150 or 100 percent.

**Formula:**

Calculate the moving average. The formula is:

$$MA = \frac{P_1 + . . . + P_n}{n}$$

**P<sub>n</sub>**: The price you pay for the nth interval.

**n**: The number of periods you select.

Subtract the moving average from each of the individual data points used in the moving average calculation. This gives you a list of deviations from the average. Square each deviation and add them all together. Divide this sum by the number of periods you selected.

$$d = \frac{(P_1 - MA)^2 + (P_2 - MA)^2 + \dots + (P_n - MA)^2}{n}$$

Take the square root of d. This gives you the standard deviation.

$$\sigma = \sqrt{d}$$

Compute the bands by using the following formulas:

$$\text{Upper Band} = MA + 2\sigma$$

$$\text{Middle Band} = MA$$

$$\text{Lower Band} = MA - 2\sigma$$

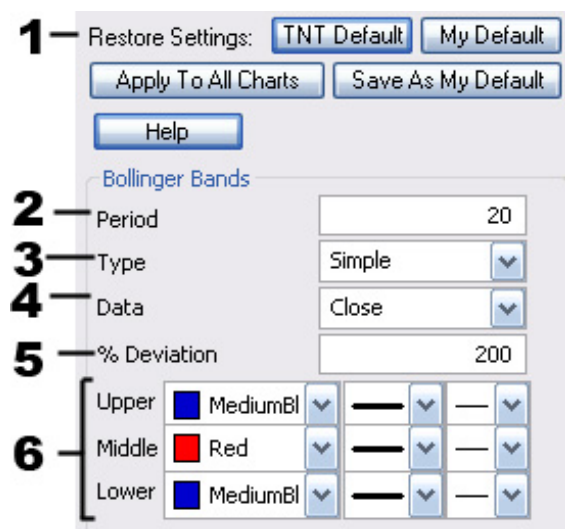
**P<sub>n</sub>**: The price you pay for the nth interval.

**n**: The number of periods you select.

## Preferences

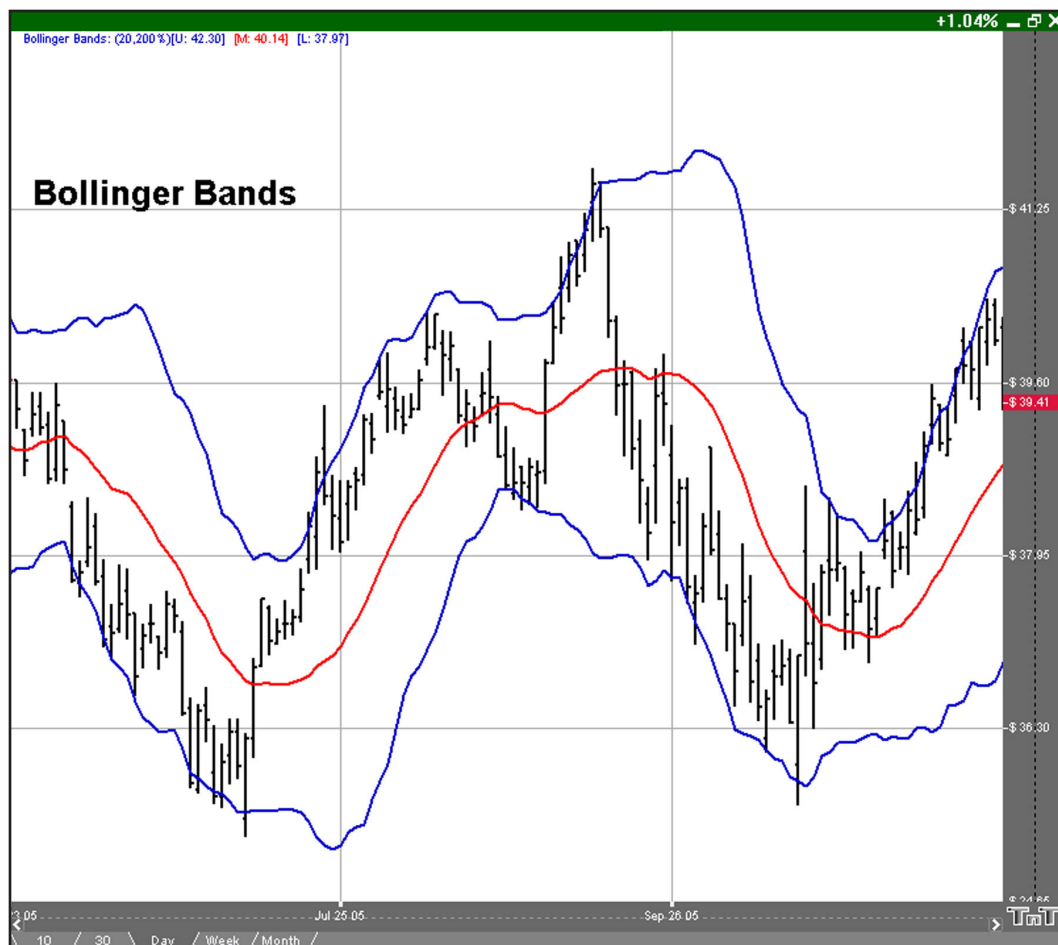
- 1. Restore Settings:** *TNT Default:* Restores original software settings.

*My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Period:** To specify the number of days used in calculating the indicator, click in the box, highlight the number, and type in a new value.
- 3. Type:** Change the type of the Moving Average line to simple, linear weight, or extra smoothed.
- 4. Data:** Choose either open, high, low, or close as the data used in calculating the moving average.
- 5. % Deviation:** Defines the displacement between the Bollinger Bands. Click in the box, highlight the number and type a new value to change the displacement.
- 6. Upper, Middle and Lower Band Lines:** Change the color, line style, and line thickness of the Bollinger Bands.

## Example of Bollinger Bands:





**List of Abbreviations for Indicators:**

% R	Williams Percent R
AD	William Accumulation/Distribution
CCI	Commodity Channel Index
DMI	Directional Movement Index
HVOL	Historic Volatility
MACD	Moving Average Convergence/Divergence
MOM	Momentum
RSI	Relative Strength Index
FSTO	Fast Stochastics
SSTO	Slow Stochastics
VOL/OI	Volume/Open Interest



# Bulls 'n Bears

Trading System

\*Plug-in - Purchase Required

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10

### Introduction

Bulls 'n Bears is the first trading system designed for Track 'n Trade Live users. This trading system includes easily usable tools to see if the market is bullish or bearish. Bulls 'n Bears allows you to change the sensitivity of the system according to your trading style; whether you are an aggressive trader, or a more traditional trader.

With the Bulls 'n Bears Red Light, Green Light, Blue Light trading method/system you have simple to understand entry and exit signals displayed visually on the chart.



### Red Light (Bearish Trend)

Indicates the beginning of a bearish trend, and that the contract has started to move downward, identifying a possible short entry point.

**Green Light (Bullish Trend)**

Indicates the trend of a market has begun to move upward, identifying a possible long entry point.

**Yellow Lights (Neutral or Sideways Trend)**

Indicates the trend of the market has entered a sideways or neutral time frame.



### Blue Lights (Stop Loss Placement)

The Parabolic stop is used within the Bulls 'n Bears system as the key point for managing your stop loss risk while trading, helping you to identify exit and stop loss placement points after entering a trade.

## Preferences

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Sensitivity:** A higher sensitivity will give you earlier bullish/bearish arrows, while a lower sensitivity will wait to give you the bullish/bearish arrows until a trend is established.
- 3. Style:** Choose the price bar style you want to view on your chart.
- 4. Formula:** A Traditional style will widen the neutral (yellow) positions and is a more conservative approach. A Progressive style will narrow the neutral positions, and an Aggressive style will eliminate the neutral positions on your chart.
- 5. Bearish/Neutral/Bullish:** You can change the color of the Bearish, Bullish, and Neutral price bar indicators.
- 6. Blue Light:** Much like the Parabolic SAR indicator, the blue light indicates where to place your stop loss. You can choose to view either the bullish or the bearish indicators, or view both.
- 7. Show Full History:** To view the bullish/bearish tendencies on all the price bars on your chart, check the box. To limit the bullish/bearish tendencies to a specific number of price bars at the end of a chart as well. Uncheck the box and enter the number of price bars you would like to view.

- 8. Bullish/Bearish Arrows:** Choose to display or not to display the Bullish/Bearish arrows and select the color of the arrows.
- 9. Inside Days Filter:** Excludes taking into consideration inside days/price bars when calculating bullish/bearish, buy/sell arrows. (An inside day, or inside price, is a price bar where the high of the bar is lower than the previous price bar high, and the low of the bar is higher than the previous price bar low.
- 10. High/Lower Filter:** Excludes taking into consideration price bars which have a lower close than its open when calculating a bullish/buy arrow, and a higher close than its open when calculating a bearish/sell signal. (Price bar closed :higher than it opened.) (Price bar closed “lower” than it opened.)
- 11. Higher/High, Lower/Low Filter:** Excludes taking into consideration price bars that do not have a higher close than the previous price bars highe for bullish/buy signals, or excludes price bars that do not have a lower close than the previous price bars low when calculating bearish/sell signals. (Close “higher” that previous price bar “high.”) (Close “lower” than previous price bar “low.”)

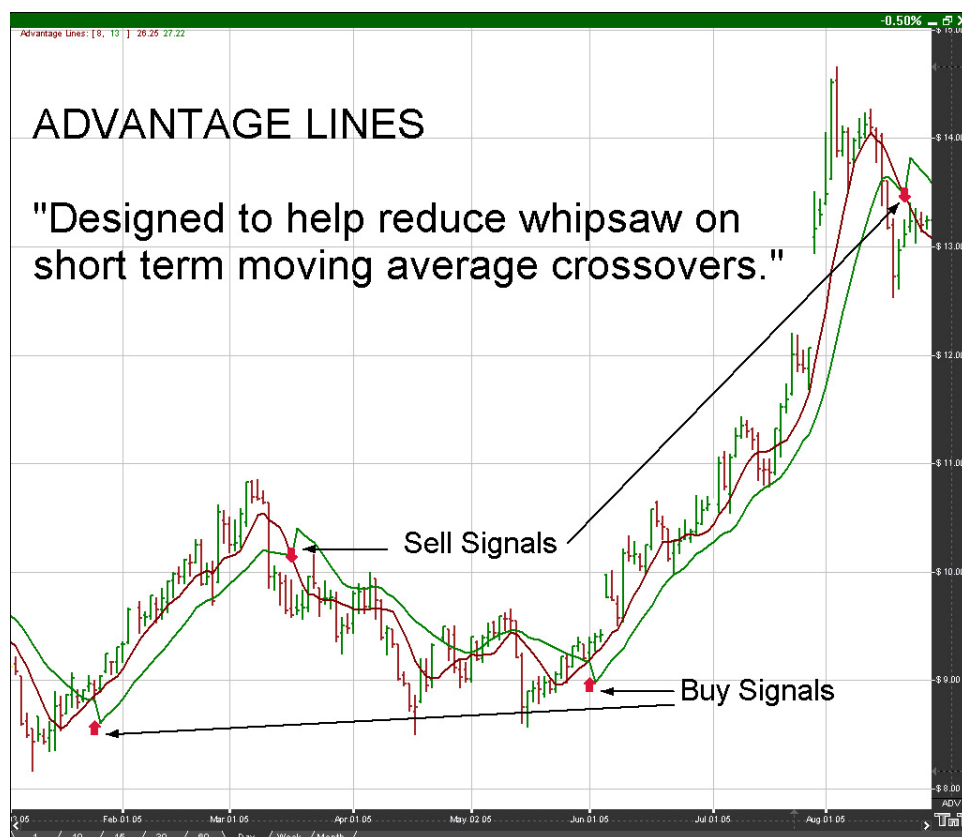


## Advantage Lines

Advantage lines were created in an attempt to help eliminate whipsaw from a short-term moving average trading system. The main advantage of a short term moving average trading system is that it provides early entry signals to potential trading opportunities and trend reversals. This is also the disadvantage to the same system.

Due to the early entry notification, you receive a lot of false signals, better known as whipsaw. To help eliminate many of these false signals, Mr. Turner created the Advantage Lines, which significantly help in reducing whipsaw, but also somewhat delayed the early entry signals. To enhance and help in getting back the early entry signals, the "projection" part of this indicator actually projects forward where we anticipate tomorrow's lines to be, and let us know if we are "anticipating" a crossover or not.

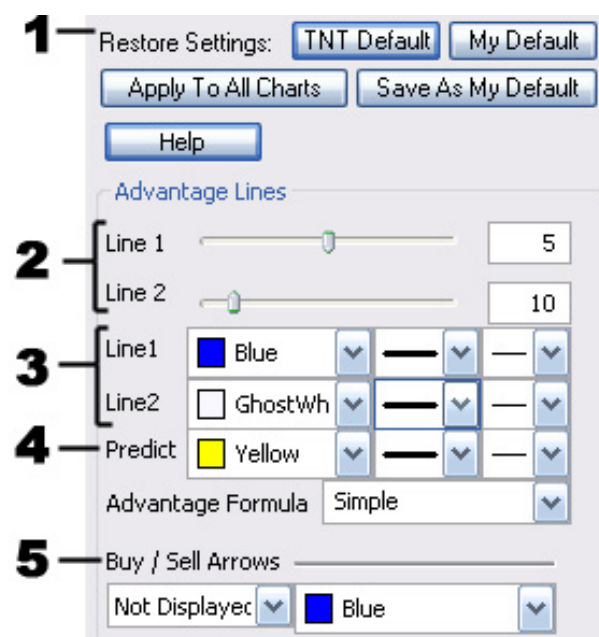
### Example of Advantage Lines:



## Preferences

Open the Preference tab from the Control Panel on the left of your screen. Select the Advantage Line on your screen. The preferences will appear in the Control Panel. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Indicator Line Values:** Change the price value by which the indicator is calculated here.
- 3. Indicator Line Properties:** Change the color, style, and thickness of the Indicator lines.
- 4. Predict Line Properties:** Change the color, style, and thickness of the Indicator Predict Line.
- 5. Buy/Sell Arrows:** Turns the display for buy/sell arrows on and off. You also have the option to change the color of the buy/sell arrows.

### Formula

-Proprietary

## Ribbon Indicator

The Ribbon Indicator is a series of moving averages lines used to identify trends. By placing 8 moving averages calculated with differing time periods onto the same chart, we can see the relative strength of a market trend. The indicator is very useful in highlighting and confirming trend changes with the Bulls 'n Bears Trading System.

### Convergence and Divergence

The most important signals are taken from the spacing between the Ribbon lines in each group, not from crossovers. When shorter-term lines (yellow) and longer-term lines (red) within a group are parallel and close together, the group are largely in agreement. When the Ribbon lines widen apart, this signals divergent views within the group. When Ribbon lines converge, this is a sign that the group view is changing.

**Trend Strength:** Parallel long-term Ribbon lines signal long-term investor support and a strong trend; and short-term Ribbon lines tend to bounce off the long-term Ribbon lines group.

**Trend Weakness:** Both groups of Ribbon lines converge and fluctuate more than usual.

**Trend Start:** A change in price direction accompanied by expanding Ribbon lines in both groups.

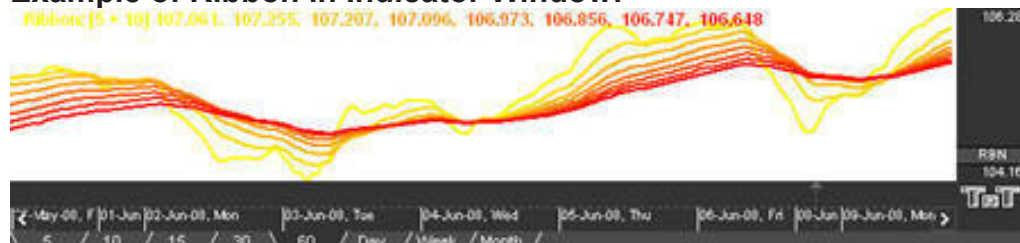
**Short-Term Reversals:** The short-term group crossover, diverge and then again converge; while the long-term group remain parallel.



1. Short-term retracement gives an entry long signal.
2. Another short-term retracement.
3. Moving averages diverge, increasing the risk of a reversal.
4. Strong retracement indicated changing short and medium-term views, but long-term view holds firm.
5. Short-term retracement signals recovery.
6. Moving averages diverge, warning of another reversal.

The Ribbon Indicator is unique in Track 'n Trade because it can be viewed both in the indicator window or as a chart overlay.

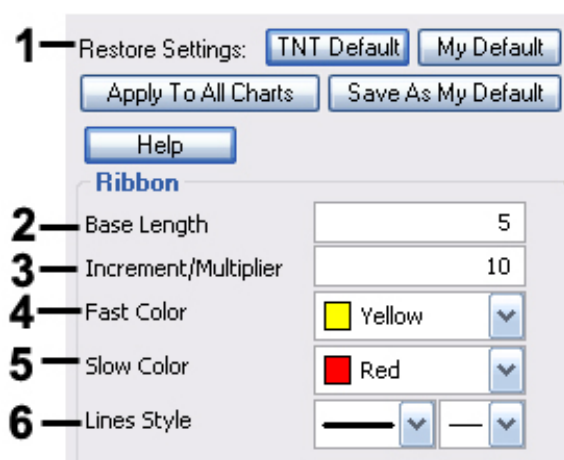
### Example of Ribbon in Indicator Window:



## Preferences

Open the Preferences Tab in your Control Panel. Select the RBN quick link at the right of the indicator window. (Once you click on the chart, the Preference tab will go back to chart settings.)

- 1. Restore Settings:** *TNT Default:* Restores original software settings. *My Default:* Return to your personalized default settings. *Apply To All Charts:* View your selected settings on all open charts. *Save As My Default:* Save your current personal settings. All charts opened from the time you save your settings will have those specific settings applied to them.



- 2. Base Length:** Specify the period of the first and “fastest” moving average.
- 3. Increment/Multiplier:** Specify the number by which the 7 additional moving averages periods will be incrementally calculated.
- 4. Fast Color:** Specify the color of the fastest moving average line.
- 5. Slow Color:** Specify the color of the slowest moving average line.
- 6. Lines Style:** Choose the line style and thickness of your indicator line.