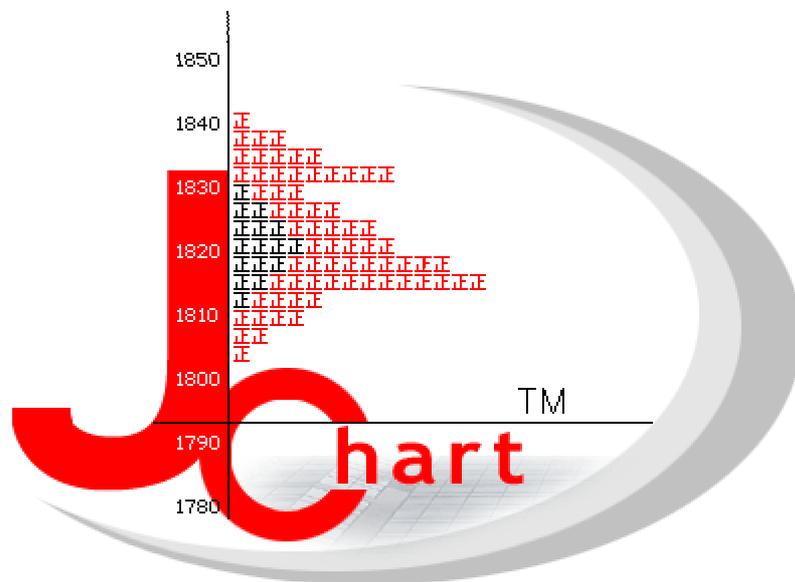


J-Chart

An Introductory Guide



Charting Markets into the Future

Futures. Forex. Stocks. Bonds.

Disclaimer

All intellectual property, proprietary and other rights and interests in this material and the subject matter hereof (other than certain trademarks and service marks listed below) are owned by ATMOL Inc. including, but not limited to, all registered design, copyright and trademark rights.

While care has been taken in the preparation of this material to provide information that is accurate and not misleading at the time of publication, ATMOL Inc. and its respective representatives and agents (a) do not make any representations or warranties regarding the information contained herein, whether expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or any warranty with respect to the accuracy, correctness, quality, completeness or timeliness of such information, and (b) shall not be responsible or liable for any incidental, consequential or punitive damages, losses or claims in any way connected with or arising out of the use of any information contained herein, including, but not limited to, in connection with actual trading or otherwise or for any errors or omissions contained in this material.

This publication is educational and solely for informational purposes. Nothing herein should be construed as investment advice, trading recommendation or request to actively participate in the financial markets. Prices can rise as well as fall; performances or returns of the past are absolutely no guarantee for future results. All descriptions, examples and calculations contained in this material are for illustrative purposes only and should not be viewed as being based on actual events.

Trademarks and service marks

J-Chart™ is a registered trademark of ATMOL Inc. E-mini™ is a registered trademark of Chicago Mercantile Exchange Inc. “S&P®” and “S&P 500®” are registered trademarks of The McGraw-Hill Companies, Inc. The names of other companies and third party products may be the trademarks or service marks of their respective owners.

Reproduction – in total or in part – only with the written permission of ATMOL Inc.

Global Edition, July 2004

Table of Contents

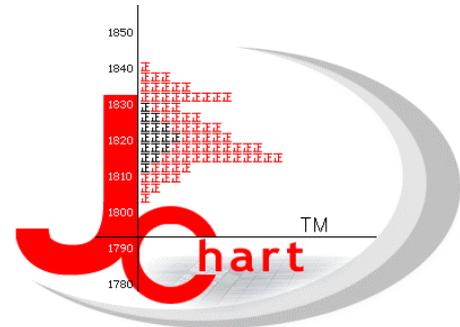
Table of Contents	i
Table of Figures	ii
Introduction	1
1 Theory and Application of J-Chart	3
1.1 J-Chart Philosophy – An Innovation of Price Forecasting Theory	3
1.1.1 The Long-term Demand for a New Pricing Theory.....	3
1.1.2 The Weakness of Technical Analysis and Application of Artificial Intelligence.....	3
1.1.3 The Philosophy of J-Chart	4
1.2 Theoretical Background	5
1.2.1 Basic principle of the Balance Theory: The Symmetry of Events.....	5
1.2.2 J-Chart Terminology	6
1.3 Principles of Application	10
1.3.1 Determination of Entry and Exit Points.....	13
1.3.1.1 Using Support and Resistance	13
1.3.1.2 Using Boundaries of the Actual Equilibrium.....	16
1.3.2 Identification of Trends	17
1.4 Advanced Application – Price Forecasting.....	18
2 Examples of Application	19
2.1 Basic Examples	19
2.1.1 Futures Contracts: E-mini S&P 500.....	19
2.1.2 Forex: EURUS	21
2.2 Advanced Examples.....	24
2.2.1 Futures Contracts: S&P 500.....	24
2.2.2 Forex: EURUS	25
2.2.3 Stocks: Intel	26

Table of Figures

Fig. 1: Describing markets with price, time and equilibrium	5
Fig. 2: Ideal display of J-Chart.....	6
Fig. 3: Counting prices with the Chinese character “Jeng”	6
Fig. 4: Using non-fixed time intervals to identify equilibriums.....	7
Fig. 5: Realization of the non-fixed time interval concept in J-Chart	7
Fig. 6: Display of J-Chart.....	8
Fig. 7: Identifying equilibriums of different sizes (cycles)	9
Fig. 8: Obtaining equilibrium: Type 1.....	11
Fig. 9: Obtaining equilibrium: Type 2.....	12
Fig. 10: Breaking equilibrium.....	12
Fig. 11: Short-term resistance and support levels.....	13
Fig. 12: Mid-term resistance and support levels.....	14
Fig. 13: Long-term resistance and support levels	15
Fig. 14: Market participation while obtaining equilibrium: Type 1	15
Fig. 15: Market participation while obtaining equilibrium: Type 2.....	16
Fig. 16: Market participation while breaking equilibrium.....	16
Fig. 17: Identifying a trend.....	17
Fig. 18: Basic price forecast	18
Fig. 19: Short-term support and resistance: E-mini S&P 500.....	19
Fig. 20: Mid-term support and resistance: E-mini S&P 500.....	20
Fig. 21: Long-term support and resistance: E-mini S&P 500	21
Fig. 22: Short-term support and resistance: EURUS.....	22
Fig. 23: Mid-term support and resistance: EURUS	23
Fig. 24: Long-term support and resistance: EURUS	24
Fig. 25: Examples of price forecasting: SPC	25
Fig. 26: Examples of price forecasting: EURUS.....	26
Fig. 27: Examples of price forecasting: INTC	27

Introduction

“J-Chart is a revolutionary market analysis tool applicable to all financial instruments. Its ability to anticipate future price movement has fulfilled an everlasting dream of investors. Through an innovative application of pricing theory, it provides groundbreaking comprehensive market insight, in a manner similar to that demonstrated by the Black-Scholes Options Pricing Model for the options world. It holds the potential to become the essential analyzing tool in the international financial arena for the next one-hundred years,” says T. Y. Chao, former Chairman of Taiwan’s Council for Economic Development and founder of China Steel Corporation.



At present, investors worldwide are relying on traditional Bar- and Candlestick Charts and their derivate indicators for making investment decisions. These mathematically derived figures are merely calculated by Open, High, Low and Close prices and are lacking a logical theory background. Relying on these ambiguous and often misleading indicators, the majority of investors are on the losing side.

To solve the discrepancy and overcome the blind spots of traditional analysis, we have devoted more than ten years of effort to looking for a **new logical and verifiable method other than mathematical derivations**. As a basic principle, J-Chart has moved beyond the concept of fixed time-intervals and integrates the **“Kinetic Equilibrium”** concept. Additionally, it utilizes the **“Pair-Production Phenomenon”** of Quantum Physics as the backbone for its ability of price forecasting:

- When new buying or selling prices occur in the markets, the new capital will cause certain chain-reactions that eventually will lead the markets' movements to certain **"Image-Price"** levels. This phenomenon can be seen as the equivalent of the "Pair Production Effect" in Quantum Physics.
- Markets tend to achieve a “Kinetic Equilibrium” and subsequently break it. It is an endless cycle of price equilibrium and imbalance. The markets’ balancing procedure resembles the equilibrium process in Thermodynamics.
- The direction of movement of the **Balance Points** (centers of the equilibriums) usually corresponds with the general direction of the market. The vertical distance between the Balance Points establishes an Image-Price, which the market will ultimately reach at a later point in time.

J-Chart is a powerful analyzing tool based on a logical theory, avoiding the ambiguities of traditional charts and capable to foreseeing price actions. With its innovative display of data, it

is a breakthrough in the field of technical analysis, which allows investors to get greater insight into the market than conventional charting methods.

An understanding of J-Chart is beneficial to every investor; however, one cannot expect to master the concept in a day. To help educate yourself on using J-Chart, we created this material to provide you with more information on the basics of application and the software itself. Before you continue reading, we want to remind you, that J-Chart is a “**bias-neutral**” tool but NOT a decision-making trading system providing ready-to-go buy and sell signals or trading recommendations. J-Chart can be compared with a high-quality cooking utensil – it is a valuable tool but the chef must decide what to prepare and how to do so. The more you deal with J-Chart and the more you get comfortable with it, the sooner you will appreciate it as your personal investment and trading tool.

1 Theory and Application of J-Chart

1.1 J-Chart Philosophy – An Innovation of Price Forecasting Theory

1.1.1 *The Long-term Demand for a New Pricing Theory*

In the late 1970s the U. S. government abandoned the "Bretton-Woods-System" which was mainly based on the classical gold standard. The resulting flexibility of currency exchange rates and popularity of currency market trading was a major step in creating a globalized economy and a worldwide financial arena. Globalization means free markets which are the battlefield of allocation for various kinds of resources. Consequently, economists and financiers worldwide advance the research for penultimate price modeling mechanisms.

In 1997 the Nobel Prize in Economics was awarded to Robert C. Merton and Myron S. Scholes for their work, along with Fischer Black, in developing the Black-Scholes Options Pricing Model¹. While it is a good example of a useful pricing model, it was only designed to determine the time value of derivatives but not the value of the underlying contract itself. Furthermore, this mathematical model contains blind spots due to the use of static parameters, which fail to perform price forecasts due to the **Random Walk** concept². As a matter of fact, this model can only find the derivatives' fair value at a specific point in time and does not eliminate the risk component or clarify the long-term questions – are market prices following a Random Walk or are they predictable? The failure of LTCM proved the weakness of this model in kinetic markets.

1.1.2 *The Weakness of Technical Analysis and Application of Artificial Intelligence*

Although technical analysis was commonly used as far back as the 19th century, economists and fundamentalists have avoided it due to its unreliability. Most believe that such analyses are vague and price forecasting is impossible. Nevertheless, technicians have persistently attempted to find workable parameters while using Candlestick- or Bar Charts to forecast prices. Unfortunately, for the most part their efforts have been in vain.

¹ Black-Scholes Options Pricing Model: A mathematical formula designed by Robert C. Merton, Fisher Black and Myron Scholes to derive the theoretical value of a stock option. The use of this model is pervasive in financial markets.

² Random Walk concept: A stochastic process (price action in time sequence) consisting of a series of changes (i.e. market prices), the character of which (magnitude, direction etc.) are randomly determined and have no correlation. Basically, it states that market prices are random and therefore future movements cannot be forecasted. If this were true, technical trading would not work.

There has been no new ball game until the later part of the 20th century; Wall Street communities began to hold biannual conventions on the application of Artificial Intelligence in financial trading. During those conferences there were a lot of discussions about utilizing Neural Networks, Genetic Algorithms, Fuzzy Logic or Chaos Theory with modern computers in searching for ultimate solutions but developers have not yet been able to develop a reliable mechanism. To sum up, there has not been any breakthrough-method of price forecasting in the financial industry for several decades.

1.1.3 The Philosophy of J-Chart

In the 1960s market academicians discussed the process of stock pricing. The main focus of this discussion was the interrelationship of stock prices and whether they are independent or dependent events. In terms of statistical and financial studies, the question remained – do price fluctuations follow a **Random Walk** premise or not?

Nowadays most mathematicians (and fundamental analysts) believe that the market is fully efficient and adheres to the Random Walk theory. We acknowledge that it is very difficult to make a quantitative analysis concerning the interrelationship of price movement. But we do not view the Random Walk effect as an eternal truth. Nevertheless, many scholars continue to explain the market efficiency theory in terms of Random Walk, an approach to which market technicians take exception.

J-Chart's philosophy is based on the assumption that using **fixed time-sequence intervals** is the major weakness in the currently accepted way doing market analysis. Time is an irreversible vector, which has no meaning without **events**. There is actually no image point or cycle if nothing significant happens. People use hourly, daily, weekly or even monthly time-sequence intervals to analyze markets but this approach is fundamentally flawed. For example, we would not remember 911 if there had not been a terrorist attack. It would just be another day in the calendar. Similarly, J-Chart's philosophy is based on the following principles:

- History repeats itself.
- Only the "**Event**" matters and "**Price**" is the event.
- The event happened for the purpose of achieving **equilibrium**.
- The outcome of equilibrium is **chaos** – with an **endless cycle** between these two states.

The problems caused by the application of Random Walk occur to both dimensions of traditional market analysis:

- The **Y-axis (price)** generally relies on the use of tick increments of the underlying security and is a fixed scale. As a result, Random Walk applies – you can't predict if the upcoming future price is an up tick or a down tick. To overcome Random Walk effects in price movement, J-Chart utilizes the **Pair Production Effect** of Quantum Physics for its ability to forecast prices. Pattern recognition is possible if enough data is available.

- Random Walk does play a major role when people randomly cut the **X-axis (time)** into fixed time intervals. To overcome Random Walk effects of time slicing, J-Chart has used a non-fixed interval concept that allows a flexible handling of time. This is an essential requirement to identify “**Kinetic Equilibriums**”.

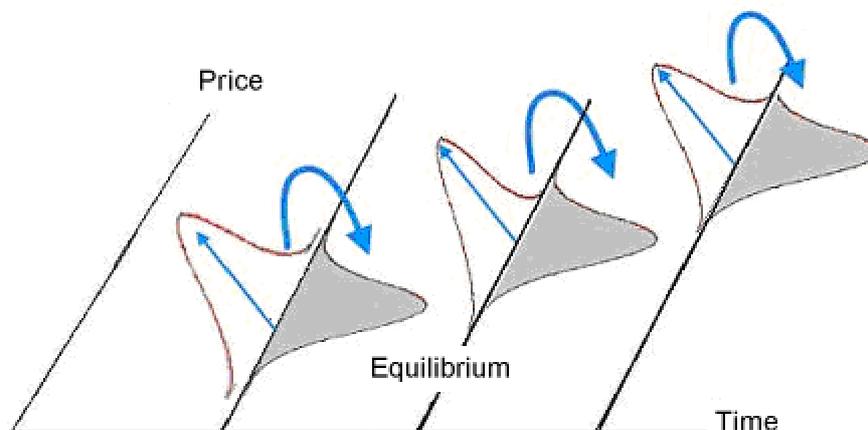
1.2 Theoretical Background

1.2.1 Basic principle of the Balance Theory: The Symmetry of Events

J-Chart’s Balance Theory is based on the following assumptions:

- Investor’s (market participant’s) **behavior** is the important contributor to market price activities and considered as an “**Event**”.
- Every individual’s present behavior (event) has a “**Cause and Effect**” relationship with the individual’s behavior in the future. Cause and effect can be viewed as a **symmetry** which means what person A decides today will definitely have a specific effect on his future decision and may not have any direct interrelationship with the decision of other participants today. In other words, person A’s decision to buy or sell at a certain price today does not necessarily influence person B’s buying or selling decision (Random Effect) but definitely has “Cause and Effect” on his own decision in the future.
- J-Chart emphasizes that in the process of market trading, price changes have an implicit and also important purpose, which is the search for a **balance (equilibrium)**. It is the same analogy for every event that occurs in the universe. Every event is searching for a balance and has as well a symmetrical appearance such as Day/Night, Yin/Yang, Birth/Death, etc. Nevertheless, it is important to realize that the state of balance (equilibrium) is not infinite but always collapses from time to time due to internal and external influences. With this process of **destruction**, the actual **Kinetic Equilibrium** is lost and a new equilibrium with a new Balance Point will develop.

Fig. 1: Describing markets with price, time and equilibrium



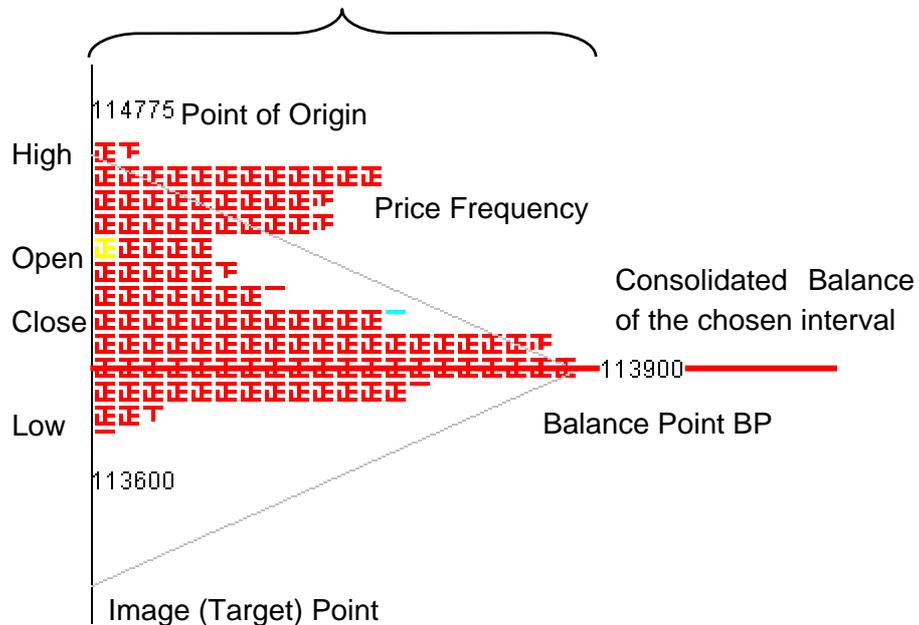
The above 3-dimensional representation visualizes this continuous cycle of achieving equilibrium following destruction as well as the “Inner Force” of the market.

1.2.2 J-Chart Terminology

J-Chart’s uniqueness does not only arise from its logical theory background but also from its innovative data display which allows you to get a much better insight into the markets. The following figure shows the basic organization of the display:

Fig. 2: Ideal display of J-Chart

Adjustable time intervals (30 min., 55 min., 130 min., 2 days, 3.5 days, etc.). In contrast to traditional charts, J-Chart allows you to choose the interval settings in order to find support and resistance (Balance Points) as well as perfect and saturated equilibriums.



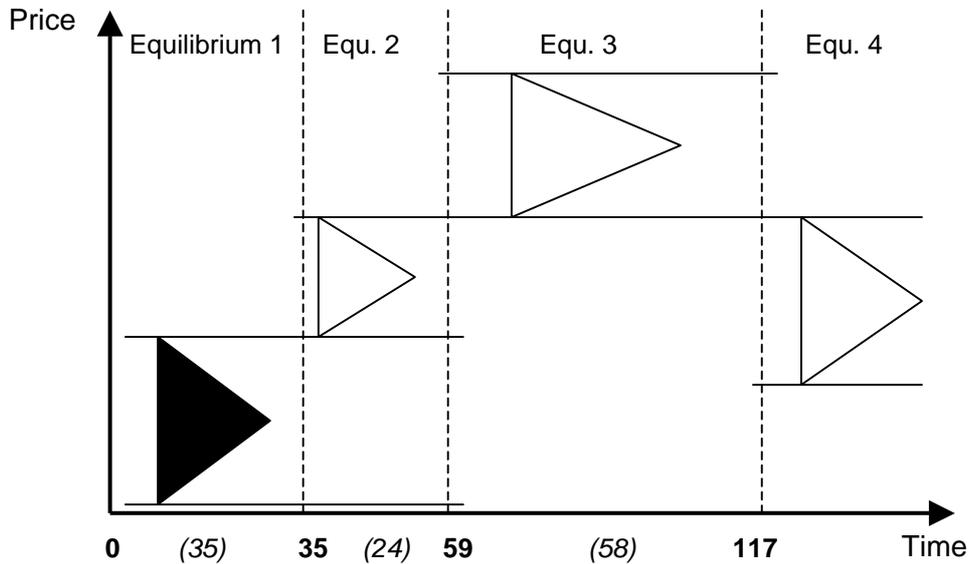
On the X-axis, time is split into flexible intervals. Within each period the price frequency is counted with the Chinese character “Jeng” from 1 to 5. Every time the same price occurs one line is added and after 5 times a new character will develop. The Open of each interval is displayed in yellow, the actual price and the Close of the period in light-blue color.

Fig. 3: Counting prices with the Chinese character “Jeng”

— 下 正 正 正 正

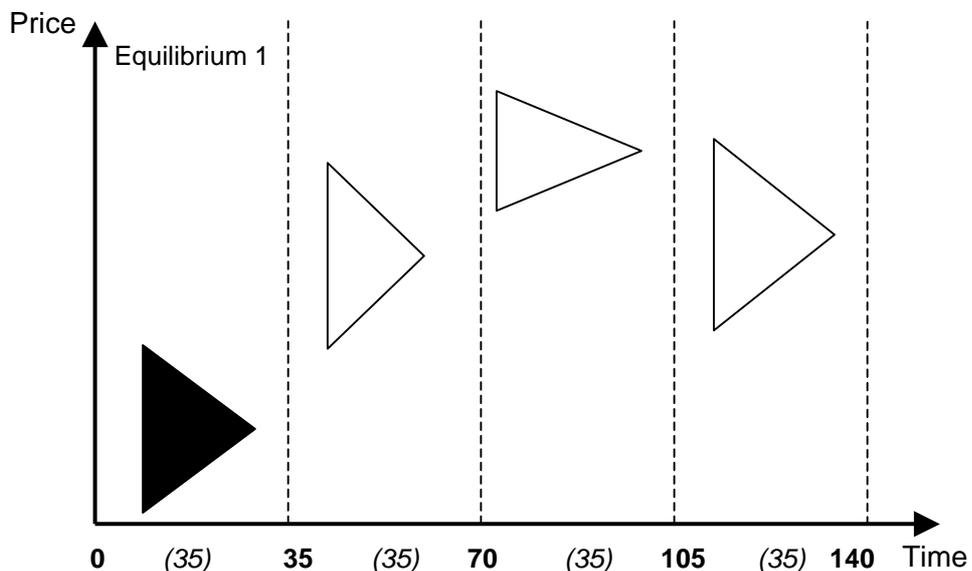
It is important to understand the **general concept of non-fixed time intervals** and **how it is realized in the J-Chart software**. In the following figure we can see that the equilibriums we are trying to identify need different time periods to develop. The first requires 35 units of time (minutes, hours, days, etc.), the second 24, the third 58 and so on.

Fig. 4: Using non-fixed time intervals to identify equilibriums



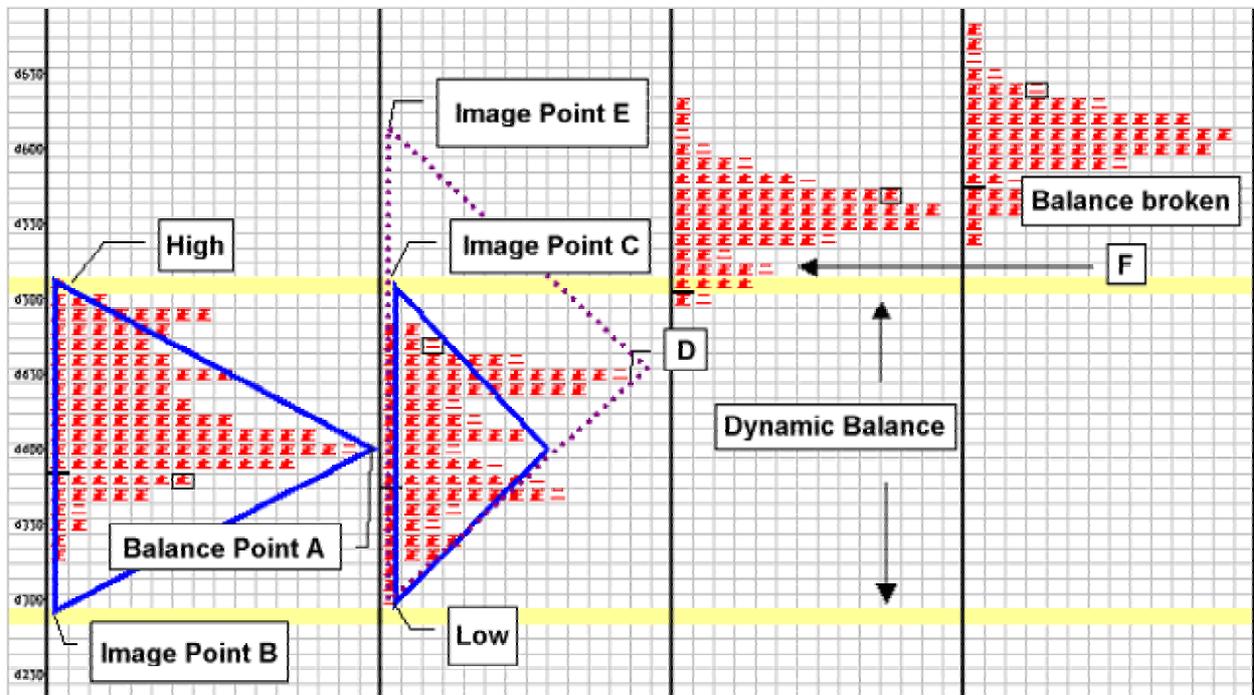
Ideally, we would need a function to flexibly split “time” into **intervals with each of different size** pattern (first 35, second 24, third 58, etc.). To make the software-based application user friendly, the realization of this concept is slightly different. According to your trading habits, J-Chart offers you the ability to flexibly adjust time **intervals with each of the same size** pattern. By using 35 as interval size we are able to identify the first equilibrium as a starting point for further analyses. By setting 24 (58) as interval size we can identify equilibrium 2 (3).

Fig. 5: Realization of the non-fixed time interval concept in J-Chart



Nevertheless, the logical basis is always as shown in the first figure above. In the following we describe the basic terminology, which you will need when using J-Chart. You can use the following figure as a reference.

Fig. 6: Display of J-Chart



- **Point of Origin**

The High, Low or the Balance Point of a period. The Point of Origin is a significant point, which is used as the first point for finding the corresponding Image point.

- **Balance Point (BP)**

Within any given period of time (1 min., 5 min., 10min., 30 min., 60 min., 1 day, 3 days, etc.) price movement will create a Balance Point (A and D). It is the price that occurred most within this interval and is the center of the actual equilibrium. Accordingly, there are many Balance Points that can be identified (hourly, daily, etc.) and each has its specific function for the process of price forecasting. Market price movement constantly creates equilibrium and chaos as an endless cycle, which is the core assumption of the J-Chart Balance Theory – and that is why Balance Points are significant. They change in the course of time, while their strength (duration) and path are the keys for finding an equilibrium. From the analysis of Balance Points we can assume upcoming tendencies of the market.

Consolidated Balance (Point) arises from the combination of price data within different periods of time into one consolidated triangle. For example, the consolidated balance point of the day is the pivotal price occurring through the entire trading day. You can see the consolidated balance for the past 3 days by combining 3 trading days into one single interval.

- **Image Point (Target Point)**

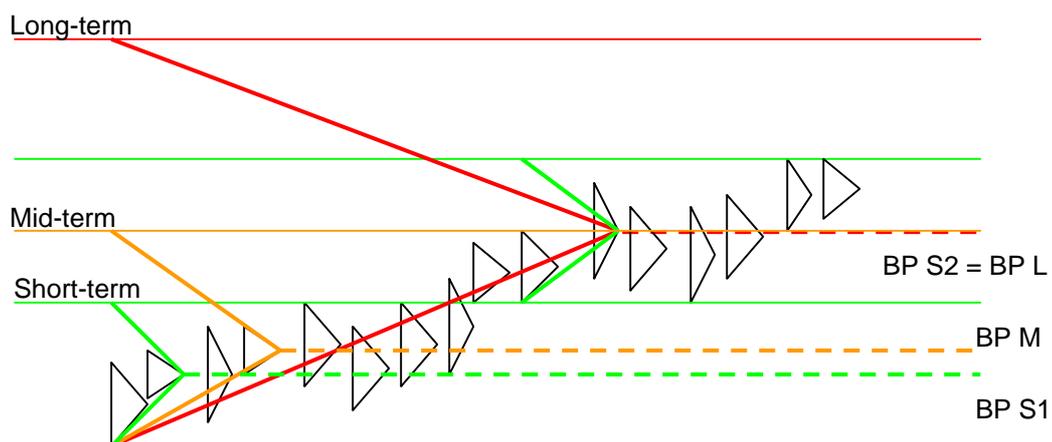
The resulting mirror price is called Image Point. If the Point of Origin was a Low, the resulting mirror price will be a projected Image High Point (Target HP). The Image Point is the outer tip of an anticipated equilibrium (B, C and E). The Image Point function is core to J-Chart and a valuable tool for performing reliable price forecasts.

- **Kinetic Equilibrium (Dynamic Balance)**

A Kinetic Equilibrium results from a Balance Point with 2 corresponding prices. The theoretical background is based on the Pair Production Effect of Quantum Physics.

The determination of an equilibrium depends on your preferred trading cycle – accordingly, there is **no fixed size of the equilibriums**. As already mentioned, the flexible handling of time allows you to adjust the intervals and combine data according to your preferences. As a result, you can identify different Balance Points and as a consequence different equilibriums with different interval settings and data combinations. J-Chart offers the possibility to identify balances for both short-term and long-term traders (day traders and position traders).

Fig. 7: Identifying equilibriums of different sizes (cycles)



The figure above shows that markets are moving from one equilibrium to another as well as that there is no fixed size of equilibriums. We can identify short-term, mid-term and long-term equilibriums each with a different Balance Point (BP S1, BP S2, BP M, BP L).

More precisely, we are looking for **Perfect (Ideal) Equilibriums** (of different sizes) as well as **saturated and unsaturated price areas**. The normal process of the change between equilibrium and chaos consists of the following 3 interrelated steps:

- Step one is market's creation of a perfect equilibrium (one Balance Point with 2 corresponding prices (edges) which are both reached).
- Step two is the saturation of the actual equilibrium (movement between the 2 edges of the equilibrium in order to achieve a symmetric saturation of price frequency).

- Finally, after the perfect equilibrium is formed (saturated or unsaturated), price will break in either direction and move towards the creation of a new balance which depends on buying and selling pressure.

For instance, the short-term equilibrium with BP S1 in the above figure reaches its upper boundary in the 5th period. In the 6th, 7th, and 8th period price was moving within the equilibrium for the purpose of saturation. At the end of the 8th period, price was breaking the actual short-term equilibrium and started to move towards a new balance (with BP S2).

- **Marginal Point**

An Image Point becomes a Marginal Point, if the price breaks the actual dynamic equilibrium (F). At the same time, Marginal Points mark the beginning of a new Kinetic Equilibrium. Due to internal and external forces, markets move from one equilibrium to another.

- **Turning Point**

A Turning Point is either a relative High or Low within a specific time frame. If the price reaches this level, the driving power of the actual direction dies off and price movement reverses.

- **Resonance**

Although the driving power of market movement can lead the price in the same direction for many periods, market movement is striving for price symmetry as a whole. This phenomenon results in a continuous pressure into the opposite direction. At a specific point in time a Turning Point will be the result. Hence, the phenomenon of Resonance explains the occurrence of Turning Points.

1.3 Principles of Application

Traditional analysis utilizes linear and non-linear methods to derive different kinds of indicators in order to search for suitable **entry and exit points, support and resistance** as well as **markets' trends**. For instance, it uses Moving Averages, breaking of trend lines (with different formations such as W bottom and M top), or breaking of a High and Low as market entry points. Unfortunately, these indicators are merely mathematically derived numbers without any further logic. Most of them turn out to be fuzzy or even misleading.

J-Chart's unique theory and its method of visualization allows a new way of performing market analysis and developing price forecasts which is an important break-through feature in the area of technical analysis. J-Chart is capable of solving the following two critical problems in trading:

1. To identify good **market entry and exit points** (see 1.3.1).
2. To distinguish whether the market is **trending** or not (see 1.3.2).

There are **two principle scenarios** in examining market participation:

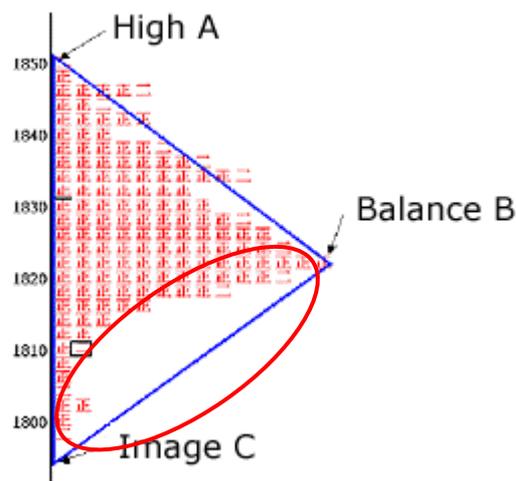
1. Market participation, when the market is undergoing the **process of obtaining equilibrium**.
2. Market participation, when the market is undergoing the **process of breaking equilibrium**.

Scenario 1: Obtaining Equilibrium

Type 1

The highest point A, the Balance Point B and the Image Point C result in an unbalanced equilibrium. Before the price breaks above A or below C, there is a high probability that the market price will drop to complete the equilibrium and the symmetric distribution of market prices. If the market price breaks either above A or below C, the actual equilibrium would be broken and destroyed. The market would then move towards a new equilibrium.

Fig. 8: Obtaining equilibrium: Type 1



Type 2

The next figure shows two Balance Points (D and E) of two partial triangles. If the actual price is in between this two price levels, the probability is high that the price has to “pave the cave” (fill the gap in between) and form a bigger triangle.

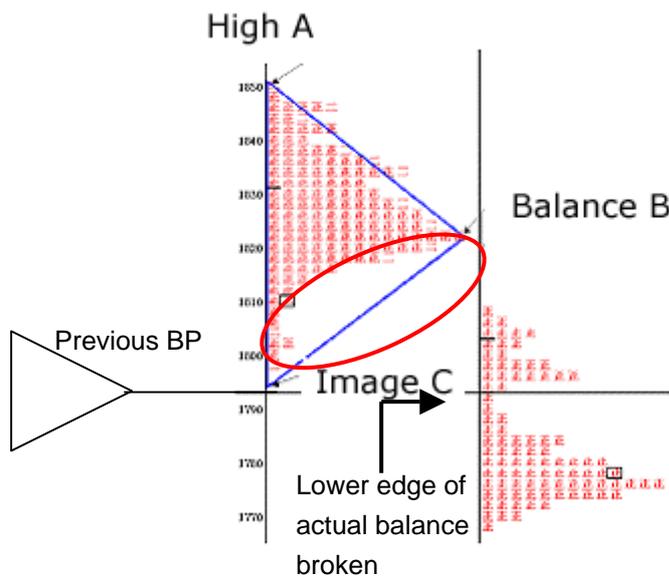
Fig. 9: Obtaining equilibrium: Type 2



Scenario 2: Breaking Equilibrium

The highest point A, the Balance Point B and the Image Point C result in an unbalanced equilibrium (see Type 1 above). As already mentioned, the probability is very high that the market price will move lower to complete the unsaturated triangle, if there was a previous balance point as support. However, whether saturated or not, if during the next period the price breaks Point C, the actual balance is destroyed and price has to move lower to form another equilibrium.

Fig. 10: Breaking equilibrium



1.3.1 Determination of Entry and Exit Points

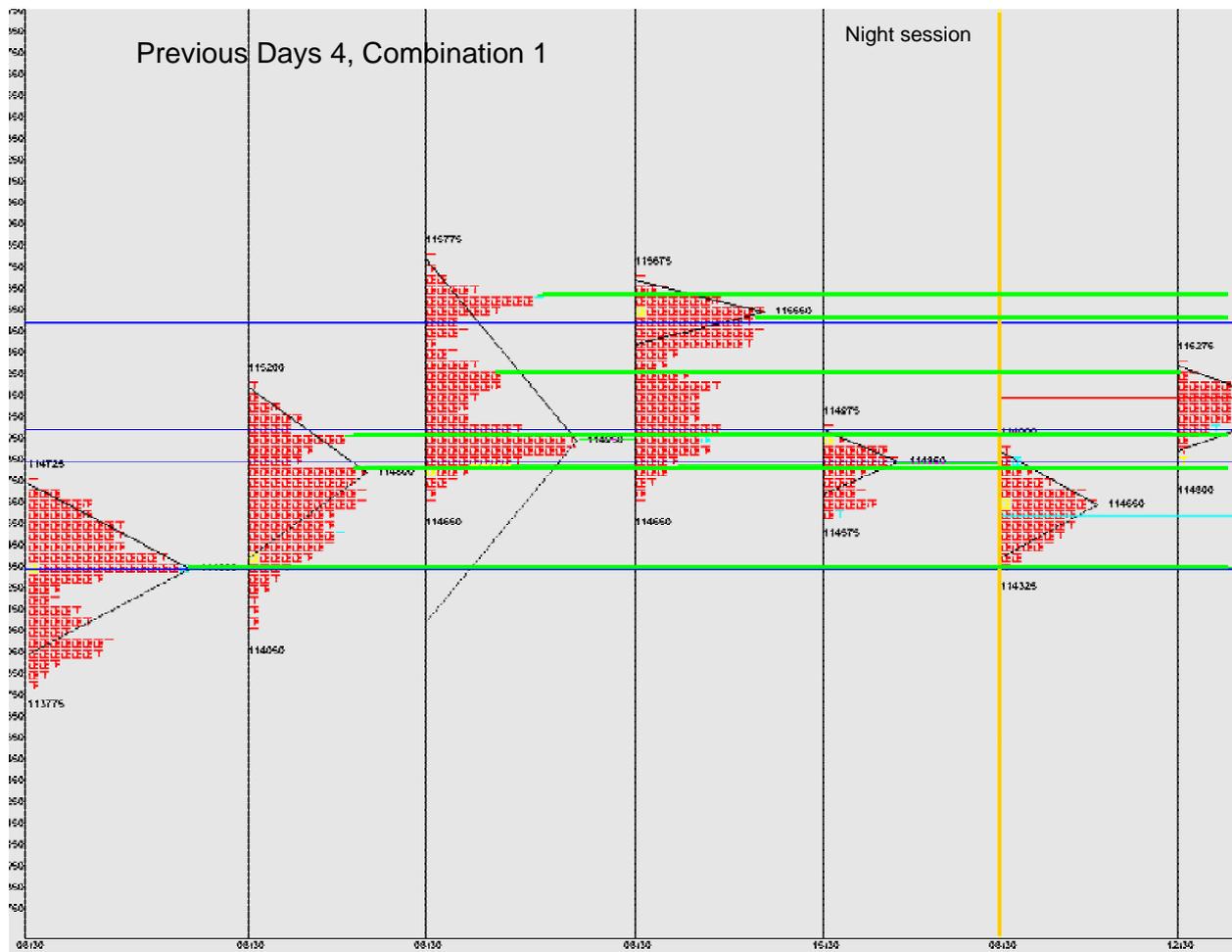
1.3.1.1 Using Support and Resistance

Generally, a profitable entry point is one with ultimate support or resistance, which investors will use to buy or to sell and gain certain monetary benefit. Therefore, to find support and resistance levels becomes a vital issue in market trading.

Keep in mind, that using **support and resistance** is one way to determine entry and exit points (second method see 1.3.1.2). It refers to our principle “**Market participation, when the market is undergoing the process of obtaining equilibrium**”. Based on J-Chart’s Balance Theory, the calculated **Balance Points** are meaningful support and resistance. In this situation we enter and trade “*against the market*” within the boundaries of the actual equilibrium. Secondly, using Balance Points as support and resistance is also one way for pursuing your **risk management control**.

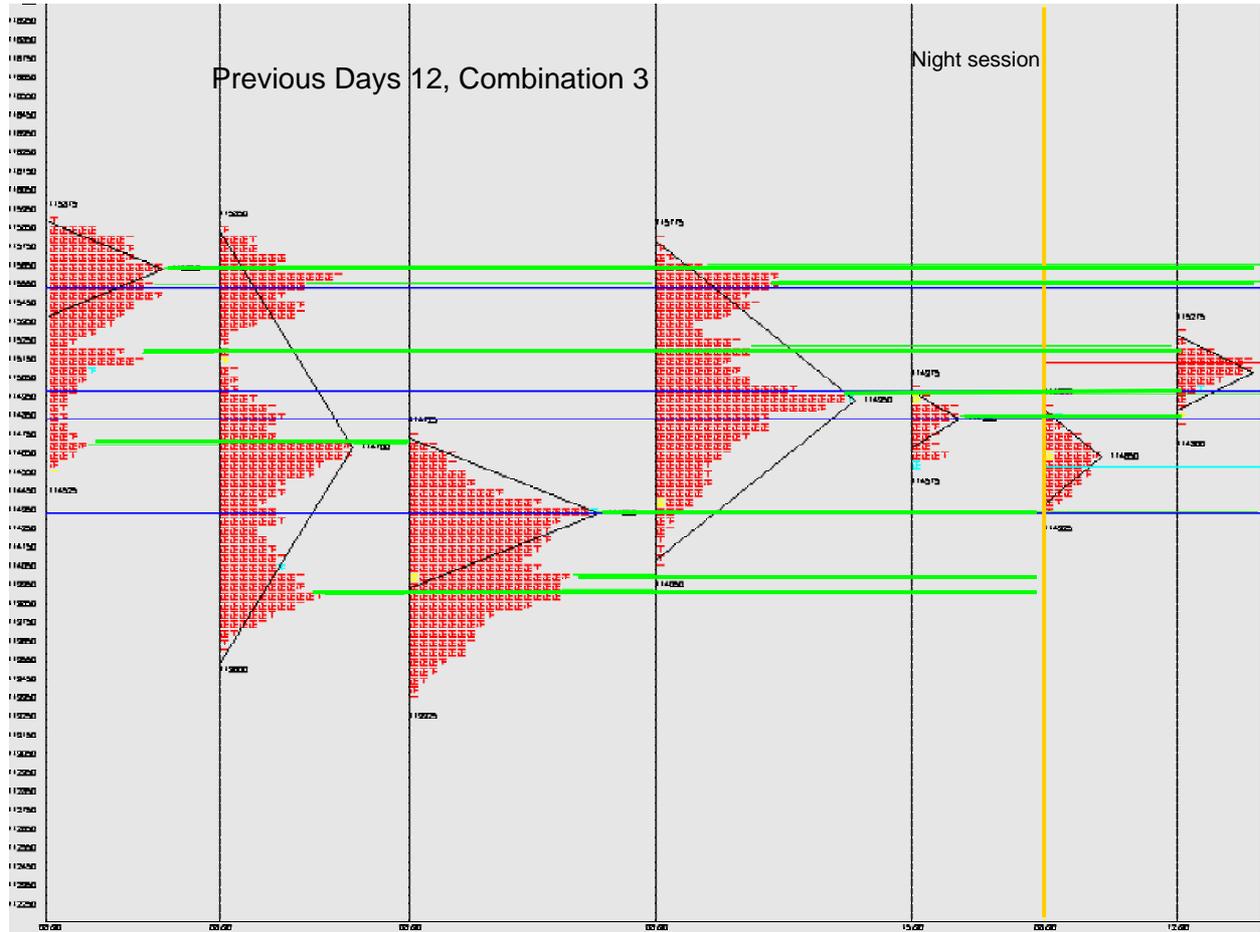
According to your trading habit (cycle), you might want to look for different levels of support and resistance. The following 3 examples show the identification of short, mid and long-term levels using different settings for historical trading days and data combination.

Fig. 11: Short-term resistance and support levels



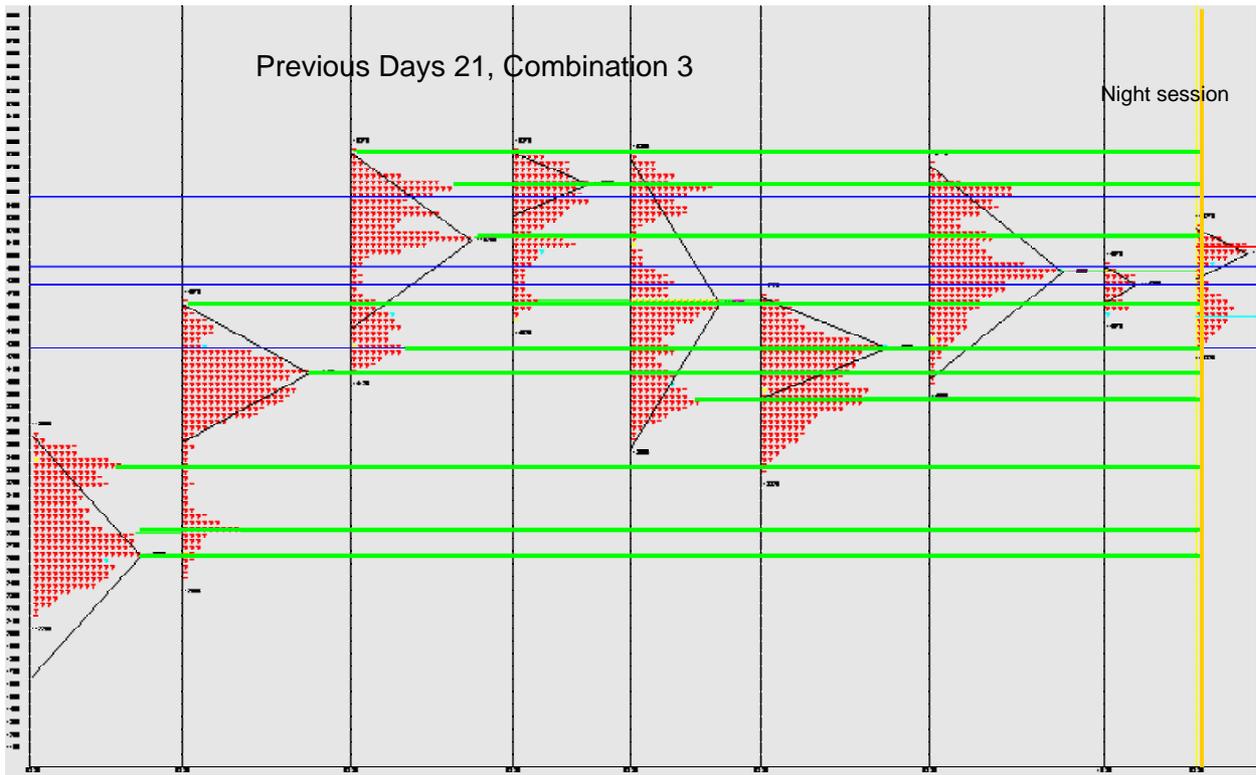
The first figure above shows data of the 4 previous trading days with each day in a separate interval (Combination 1). The data of the last night session (if any) is shown in an own interval on the left side of the vertical yellow line which marks the beginning of the actual trading day. According to these settings, we can identify support and resistance levels (with different strength and significance) for short-term (day) traders.

Fig. 12: Mid-term resistance and support levels



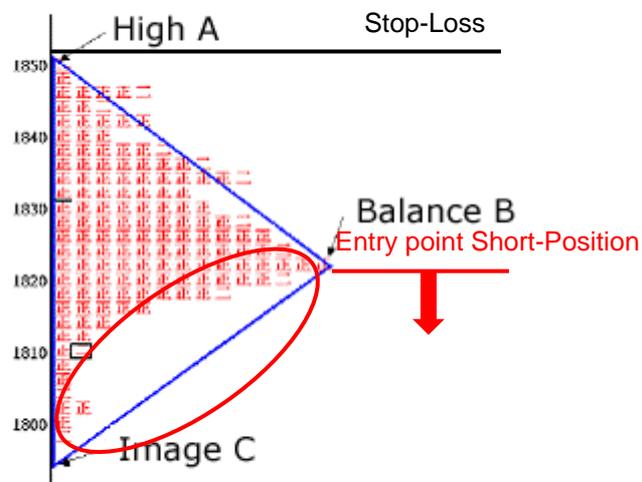
The second example shows the same product with 12 previous days and a combination value of 3. As a result, we get 4 intervals each containing the combined data of 3 trading days. Again, the night session is shown in a separate interval on the left side of the vertical yellow line. This way we can identify relevant (significant) support and resistance levels for day traders and mid-term position traders.

Fig. 13: Long-term resistance and support levels



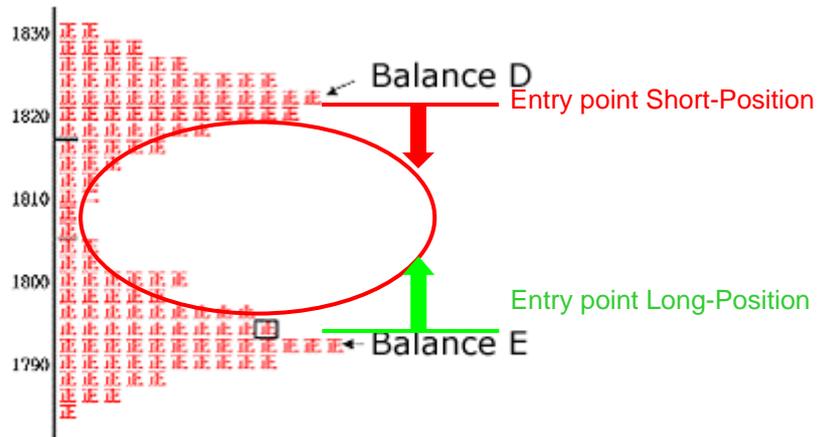
The third example shows the previous 21 days with a 3-days data combination. By analyzing this chart we are able to identify longer-term levels for position traders. Referring to our first principle (“Obtaining equilibrium”) mentioned at the beginning of this chapter, we could identify entry points for both Type 1 and Type 2:

Fig. 14: Market participation while obtaining equilibrium: Type 1



You can use this situation by setting Balance Point B as an entry point for a short position and by setting a stop-loss at or slightly above point A.

Fig. 15: Market participation while obtaining equilibrium: Type 2

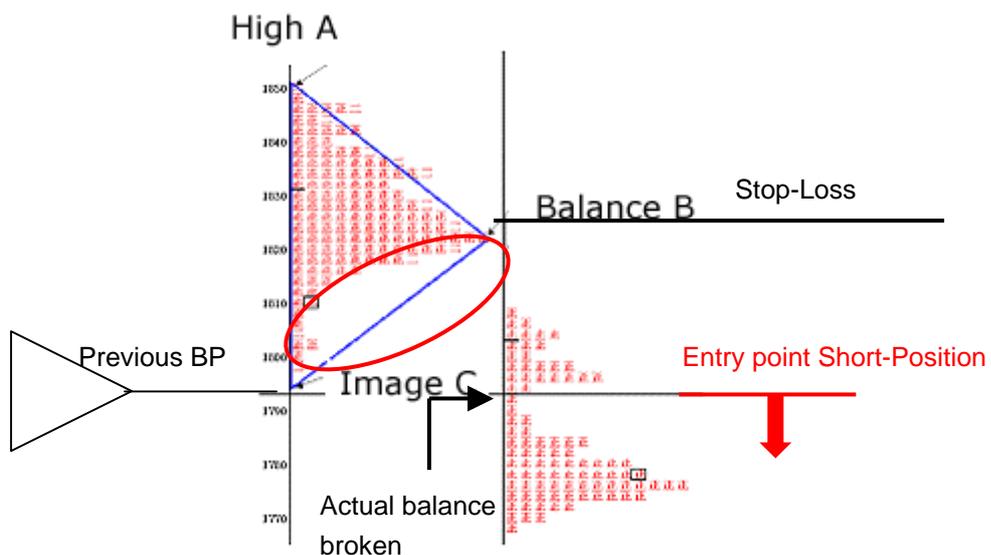


In this situation you can sell (short-position) at the level of D and buy (long-position) at the level of E.

1.3.1.2 Using Boundaries of the Actual Equilibrium

The second way of determining entry and exit points relies on our second principle “**Market participation, when the market is undergoing the process of breaking equilibrium**”. In this situation, we are trading “with the market” as either the upper or lower boundary is broken and the actual balance destroyed. The market will continue to move either upwards or downwards towards a new equilibrium.

Fig. 16: Market participation while breaking equilibrium



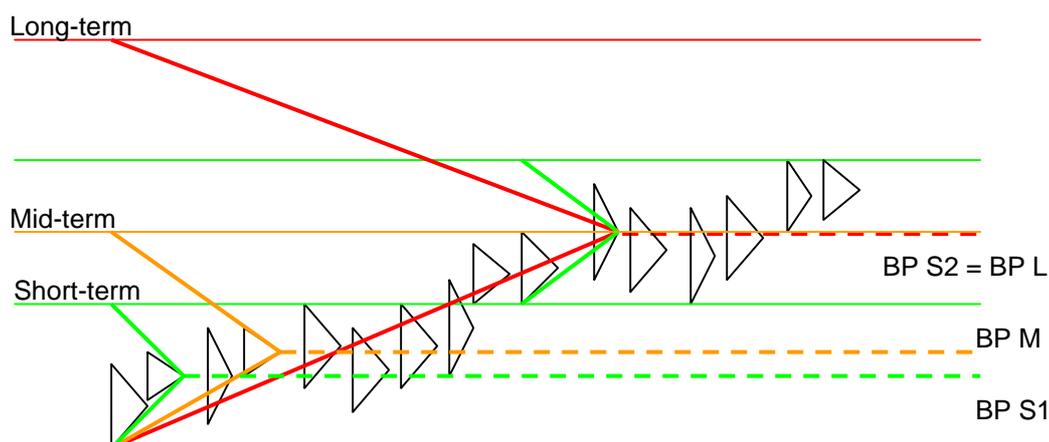
You can utilize this situation by setting the lower edge of the actual equilibrium as an entry point for a short position and setting a stop-loss at or slightly above Balance Point B.

1.3.2 Identification of Trends

In order to identify market trends, we are mainly looking at the movement of **Balance Points** (forming of the newer balance point) and the **Consolidated Balance**. Of course, we also have to watch if the actual price is moving above (or below) those Balance Points. As J-Chart measures the strength of Balance Points, a stronger BP will result in a stronger level of support (resistance), and a stronger level of support (resistance) results in a more reliable confirmation of an upward (downward) trend. If the actual price is below (above) the Balance Point, the BP will become a level of resistance (support).

Generally speaking, in order to perform reliable trend analysis, you should observe the **combination of actual prices, Balance Points and the Consolidated balance**.

Fig. 17: Identifying a trend



We can use the same figure already shown in a previous chapter as an example for trending. The figure shows that markets are moving from one equilibrium to another as well as that the consolidated Balance Points of the bigger equilibriums are moving in the same direction. Therefore, we can identify short, medium and long-term equilibriums each with a different Balance Point (BP S1, BP S2, BP M, BP L). We can see that the BP S2 of the second short-term equilibrium is higher than the first one (BP S1). Generally, when the market is trending upwards, the Balance points (and markets' inner force) will be shifted higher and vice versa. During this process, J-Chart monitors its path and degree of movement.

However, you have to keep in mind that the identification of a trend **depends on your preferred trading cycle length** and therefore on the time frame chosen. The identified upward trend could be 3 weeks while a bigger equilibrium demands price to go lower after reaching the upper border of the actual (smaller) equilibrium. An upward trend for a day trader may not

qualify as such for a position trader. Therefore it is crucial to define your trading cycle in order to identify trends.

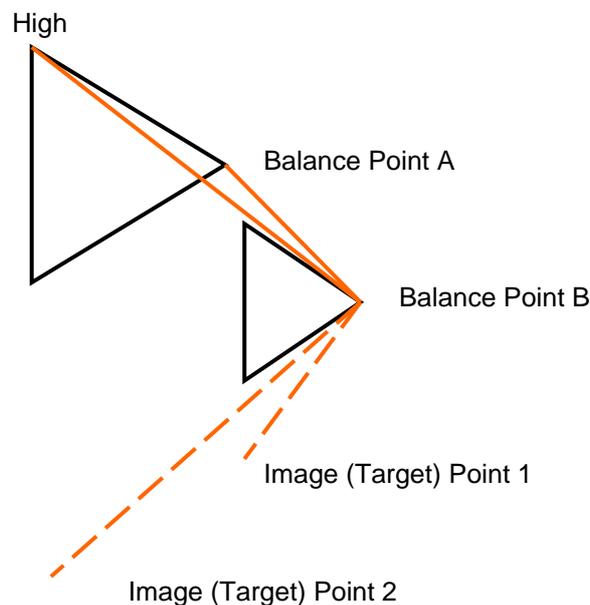
1.4 Advanced Application – Price Forecasting

As already often stated, price-forecasting capability is one of J-Chart's unique functions. A Point of Origin and a Balance Point are used to project a future Image (Target) price. As stated in our philosophy, **the event always has its images and price is the event**. Accordingly, we can identify 3 main events that are used for making price forecasts:

1. **High**
2. **Low**
3. **Balance Point**

Accordingly, you can use any of these 3 events of any interval as a Point of Origin and a Balance Point of any (same or other) interval as the second point in order to figure the corresponding Image Point.

Fig. 18: Basic price forecast



If you choose to connect Balance Point A of the first interval and Balance Point B of the second interval you will get Image (Target) Point 1. And if you connect the High of the first period and the same Balance Point B of the second period you will get another Target Price 2 which is of course lower than Target Price 1. Accordingly, Target Price 2 will be reached once Target Price 1 was hit and provided that the market price does not move above the High which is the upper edge of this balance (usually, it should not even go above the previous Balance Point A which was used as the Point of Origin for identifying the first equilibrium).

2 Examples of Application

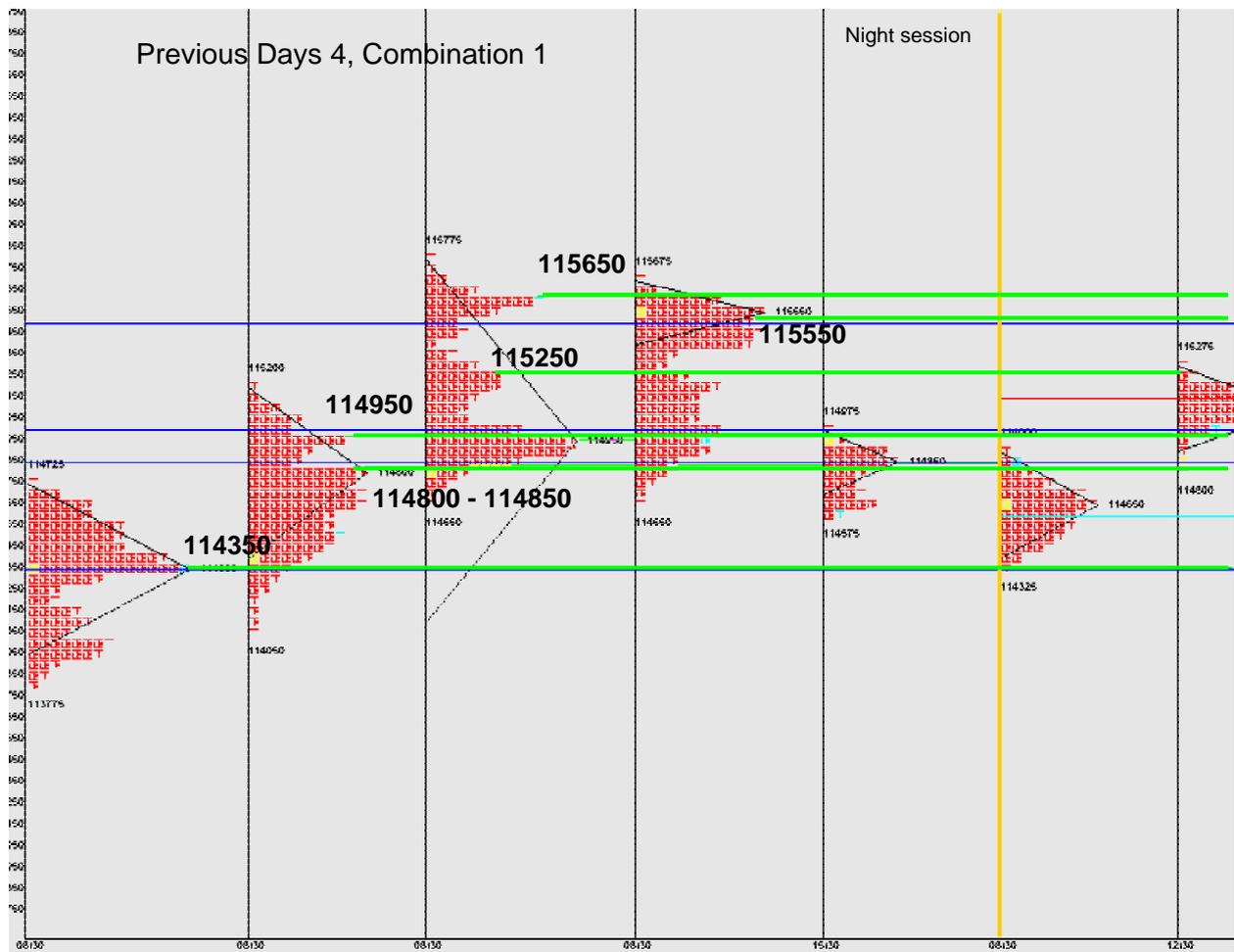
2.1 Basic Examples

2.1.1 Futures Contracts: E-mini S&P 500

Date	Symbol	Interval	Filter	PreDays	Combination	Scale
2004/03/03	ESP 2004/03	240	12	4	1	50

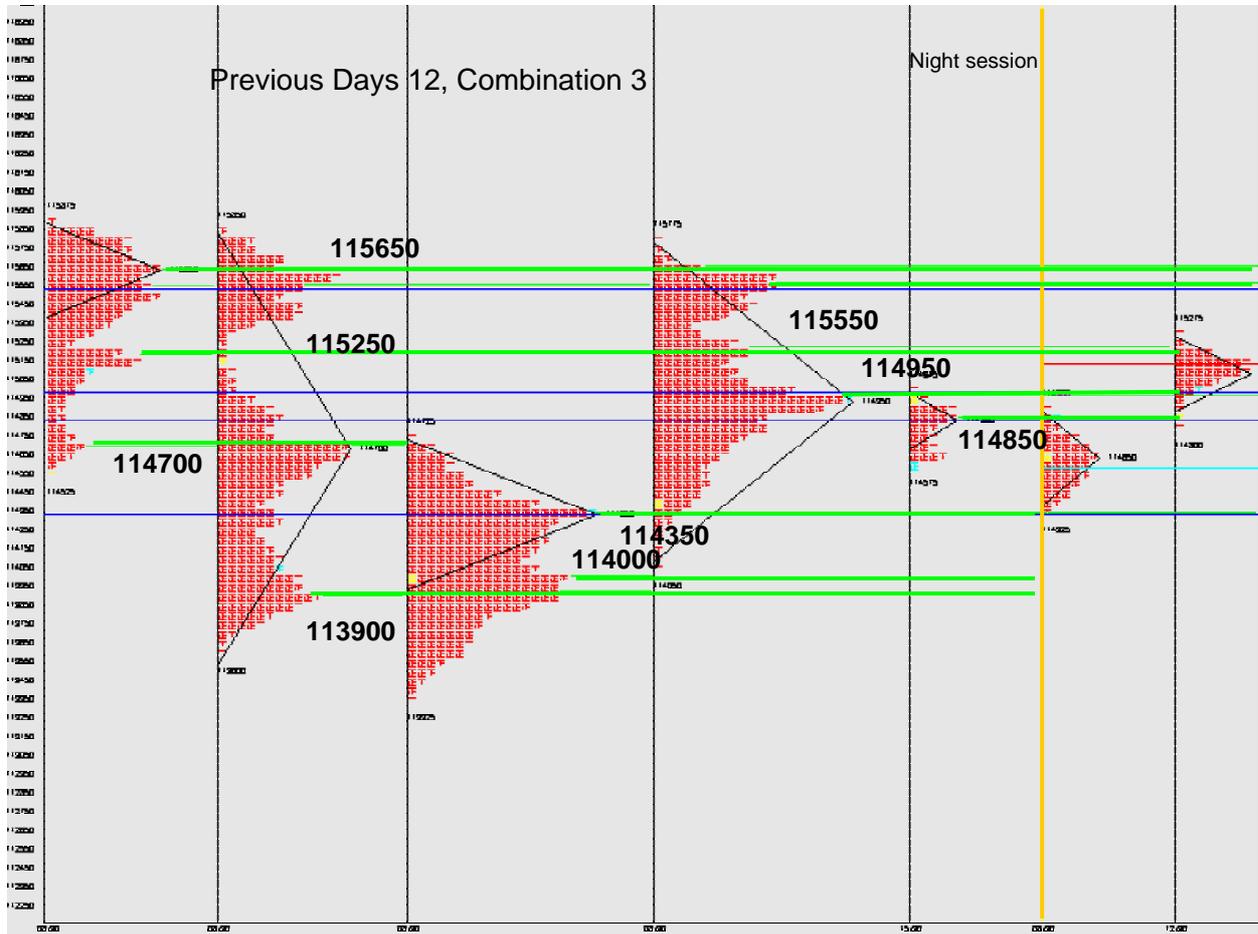
The Balance Point BP 114350 and the Balance Point BP 115250 result in a support level (114350) and resistance level (115250) for the trading session on March 3rd. On this day the price was roaming within these levels with a High of 115275 and a Low of 114325.

Fig. 19: Short-term support and resistance: E-mini S&P 500



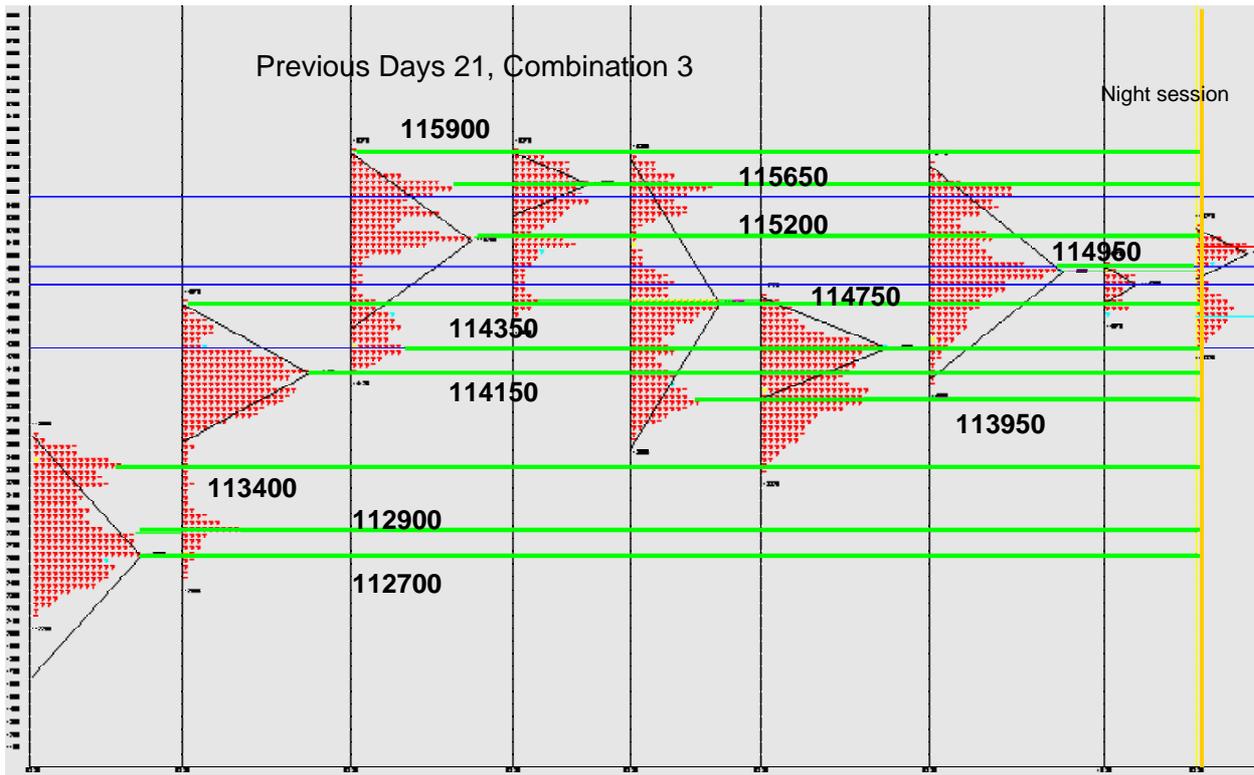
The first figure shows support and resistance levels for short-term traders such as (intra) day traders. For the next figure we change PreDays to 12 and Combination to 3.

Fig. 20: Mid-term support and resistance: E-mini S&P 500



The second example shows the identification of relevant support and resistance for day traders and medium-term position traders. For the next figure we change PreDays to 21 and keep a Combination value of 3.

Fig. 21: Long-term support and resistance: E-mini S&P 500



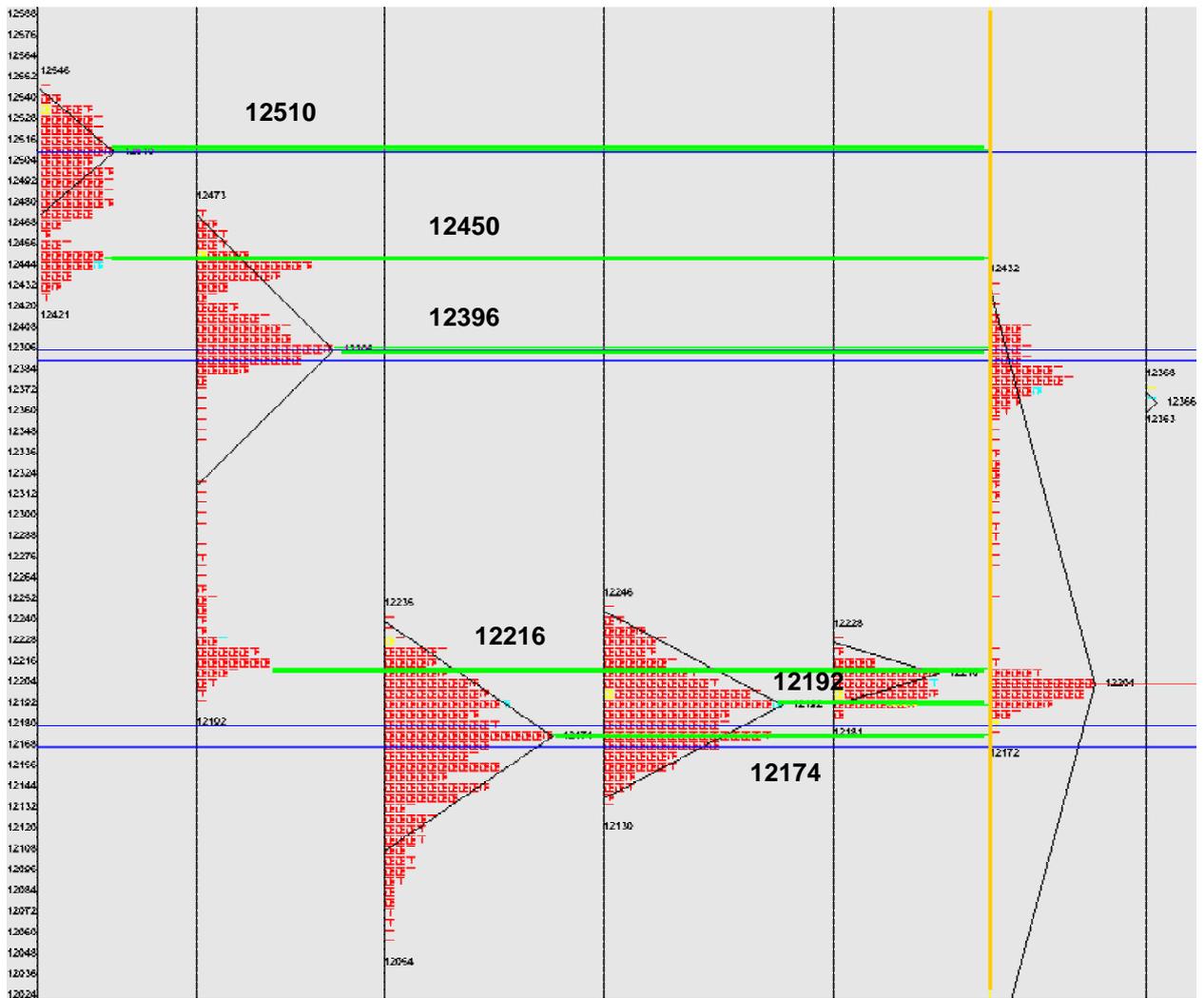
The third example shows longer-term levels for position traders.

2.1.2 Forex: EURUS

Date	Symbol	Interval	Filter	PreDays	Combination	Scale
2004/03/05	EURUS	960	20	4	1	6

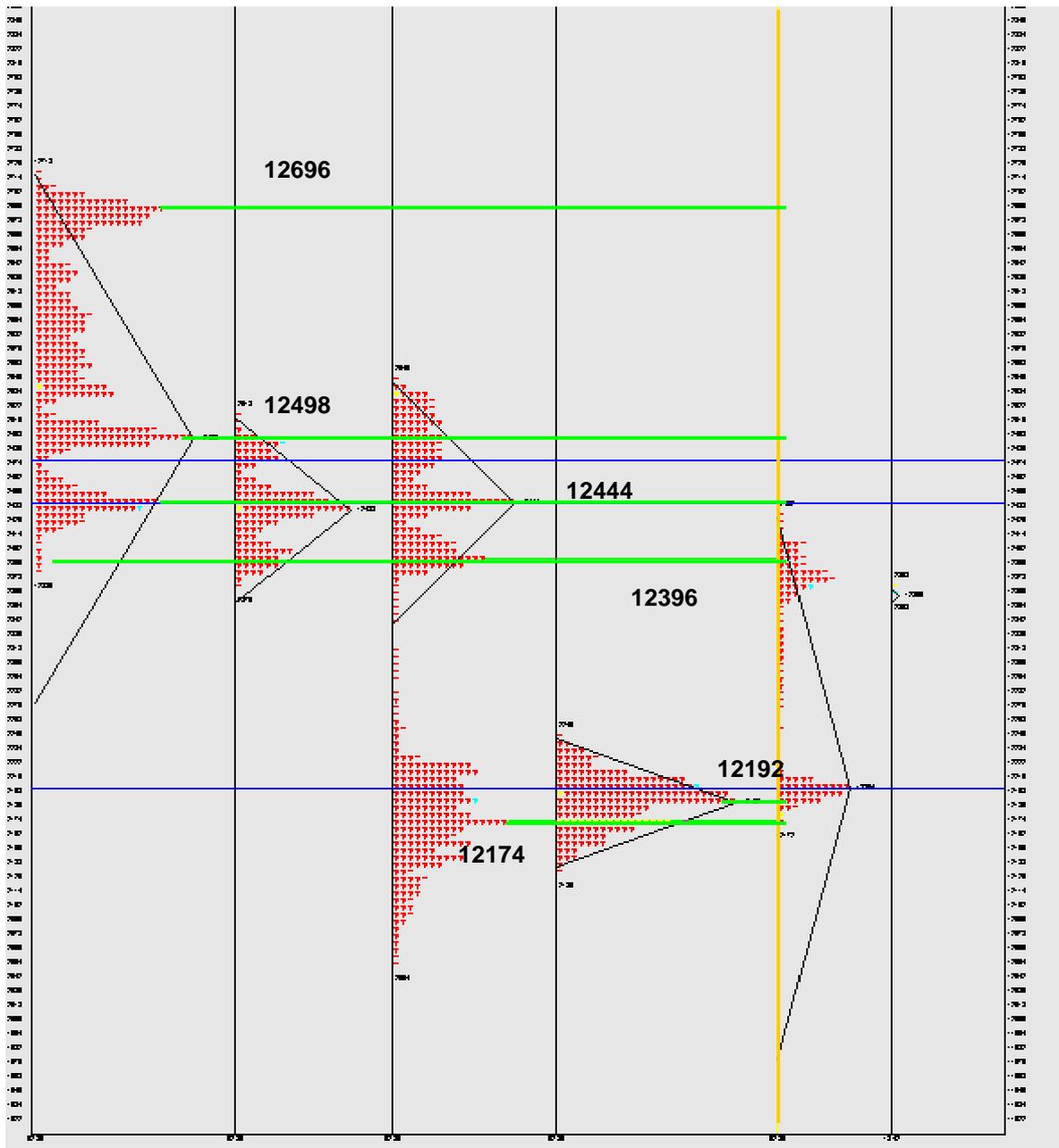
The Balance Point BP 12174 and the Balance Point BP 12450 result in a support level (12174) and resistance level (12450) for the trading session on March 5th. On this day the price was roaming within these levels with a High of 12432 and a Low of 12172.

Fig. 22: Short-term support and resistance: EURUS



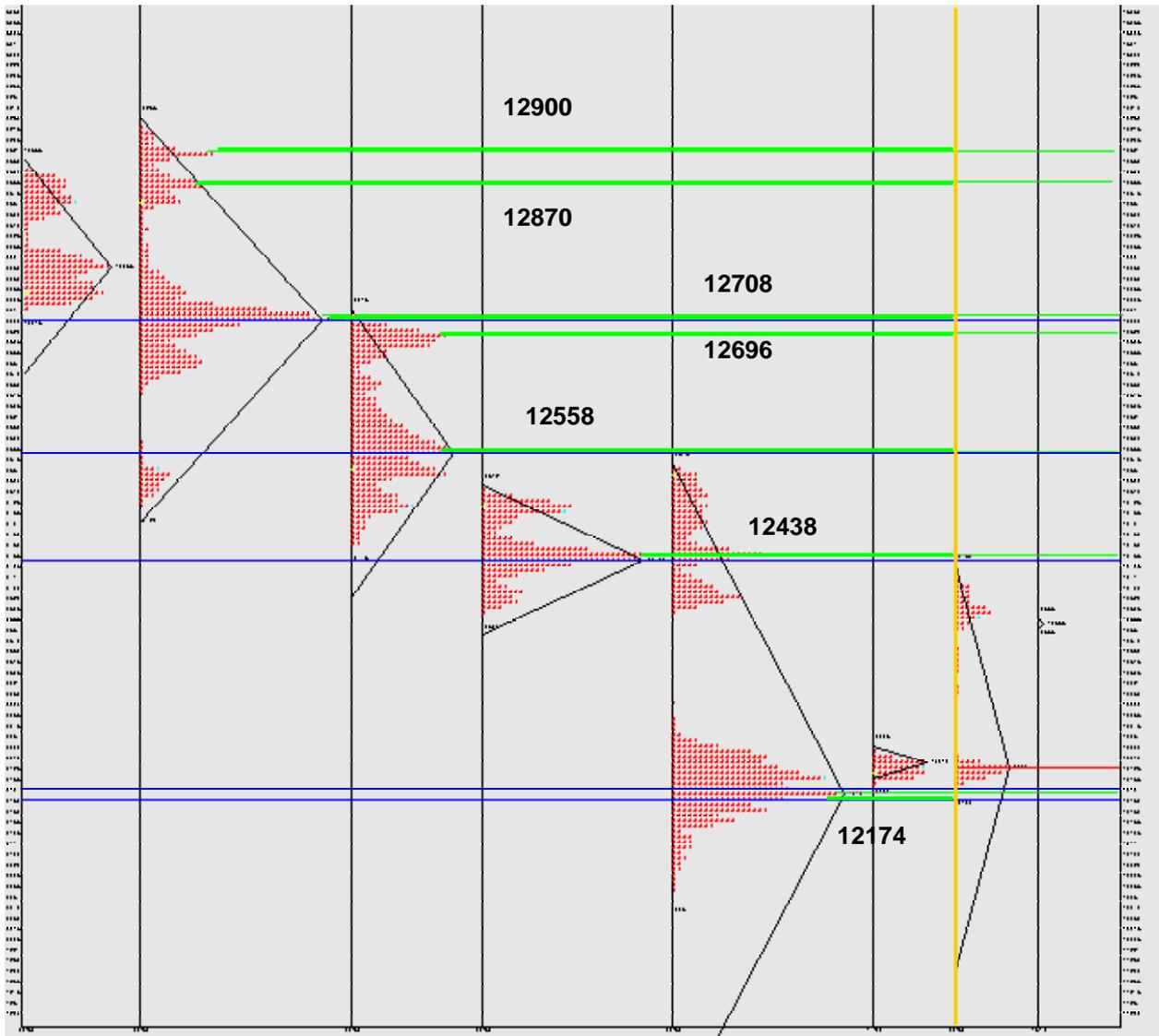
For the mid-term analysis we change PreDays to 10 and Combination to 3.

Fig. 23:Mid-term support and resistance: EURUS



For the long-term analysis we use PreDays 20 and a combination value of 4.

Fig. 24: Long-term support and resistance: EURUS



We can see that the longer the time frame we used the more resistance we can identify in comparison to support (referred to the Close of 12372). We can assume that market is going lower from a longer point of view (with data of 20 days as a background).

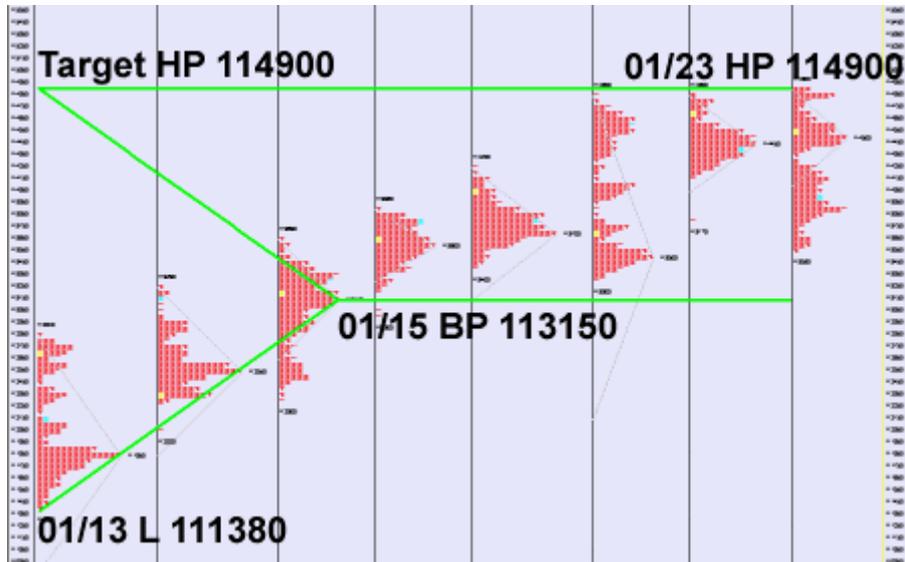
2.2 Advanced Examples

2.2.1 Futures Contracts: S&P 500

Date	Symbol	Interval	Filter	PreDays	Combination	Scale
2004/01/24	SPC 2004/03	420	6	8	1	50

The Low on 01/13 (111380) and the Balance Point on 01/15 (BP 113150) result in the mirror price (Image High Point) 114900.

Fig. 25: Examples of price forecasting: SPC



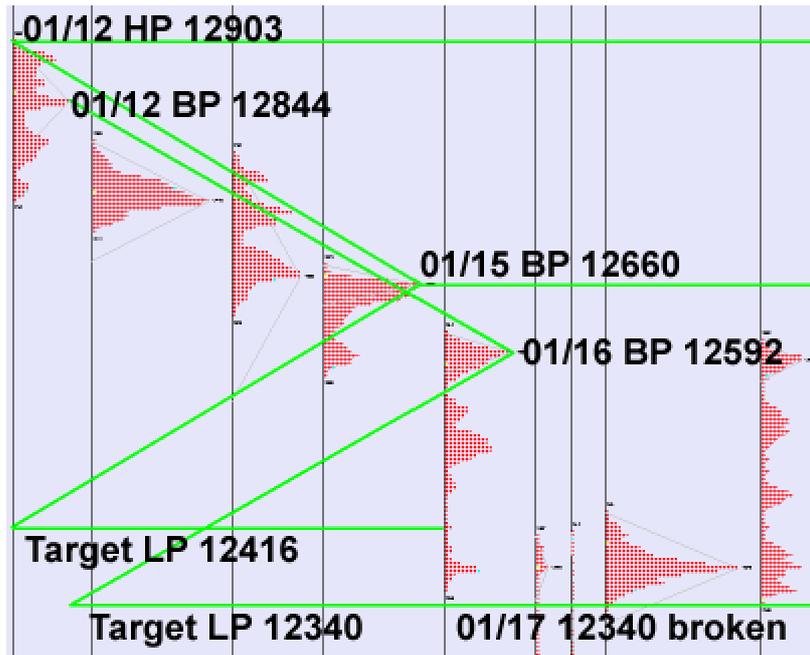
The triangle of 111380 - 113150 - 114900 represents a temporary equilibrium, within which the market was roaming on 01/13, 01/14 and 01/15. It is obvious that the lower portion of the triangle had already been saturated. The sole purpose of the price movement is to search for an equilibrium, which requires price symmetry. As a consequence, on 01/15 one could assume that in the following days the price will move upwards and it could eventually reach the level of the Image High Point of 114900, as long as the lower border of the equilibrium (111380) holds.

Should the price continue to move upwards, the actual border of the equilibrium would be broken and the equilibrium destroyed. The Balance Point 113150 would result in a point of support. On the other hand, if the upper edge of the actual equilibrium holds and the price movement changes direction, the actual equilibrium would still be intact provided that the price did not break the lower border of 111380.

2.2.2 Forex: EURUS

Date	Symbol	Interval	Filter	PreDays	Combination	Scale
2004/01/24	EURUS	60	8	20	1	4

Fig. 26: Examples of price forecasting: EURUS

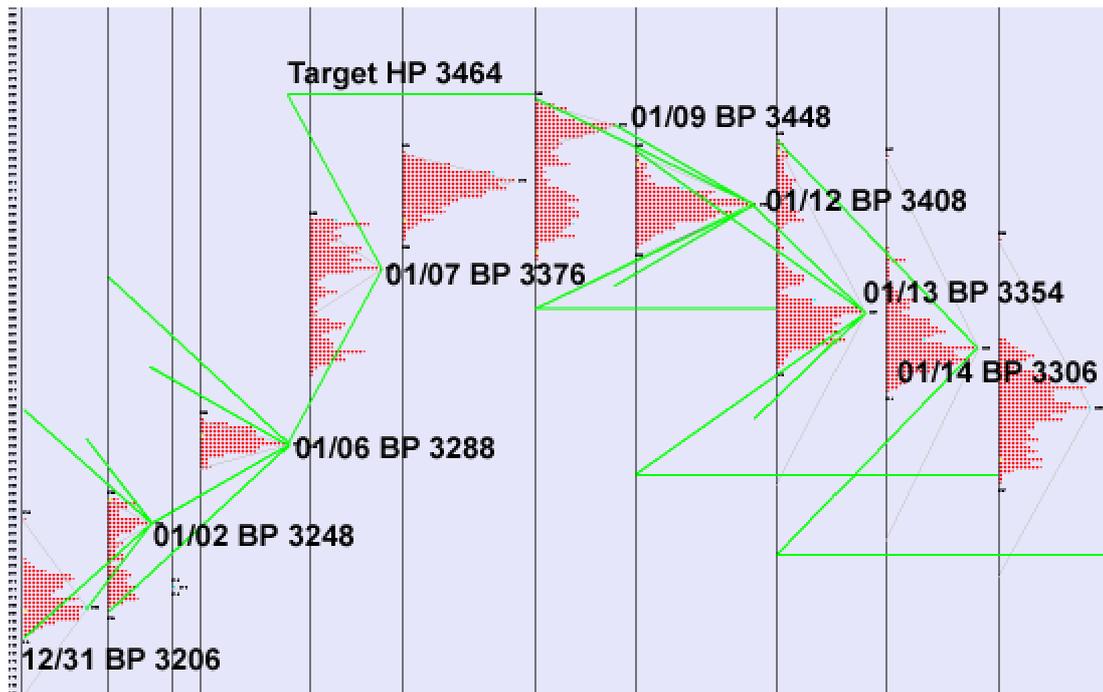


This example shows the price movement EURO-US Dollar. The High on 01/12 (12903) and the Balance Point on 01/15 (12660) result in the Target LP 12416. The Balance Point on 01/12 (12844) and the Balance Point on 01/16 (12592) result in the Target Low of 12340. On 01/17 and 01/18 this boundary was broken if only briefly. On the next two days price moved back up to the level of the Balance Point of 01/16.

2.2.3 Stocks: Intel

Date	Symbol	Interval	Filter	PreDays	Combination	Scale
2004/01/18	INTC	60	7	12	1	2

Fig. 27: Examples of price forecasting: INTC



The example shows the price movement of the Intel stock from 12/31/2003 to 01/15/2004. The following table shows how each of the Targets is determined:

Date/Point of Origin	with Date/2nd Point	result in the Image/Target
31.12. BP 3206	02.01. BP 3248	3290
31.12. L 3191	02.01. BP 3248	3304
02.01. BP 3248	06.01. BP 3288	3328
02.01. L 3204	06.01. BP 3288	3372
06.01. BP 3288	07.01. BP 3376	3464
09.01. BP 3448	12.01. BP 3408	3368
09.01. H 3460	12.01. BP 3408	3356
12.01. BP 3408	13.01. BP 3354	3300
12.01. H 3433	13.01. BP 3354	3276
13.01. H 3439	14.01. BP 3336	3234

Each of the projected targets were hit and afterwards broken through until the target of 3464 was actually reached with a High of 3460. Due to the effect of Resonance, market movement changed its direction. Afterwards, the projected lows were consequently broken again.

IMPRINT

ATMOL Inc.

3F., No. 105 Roosevelt Road, Sec. 2

Taipei, Taiwan

Internet: www.j-chart.com

E-mail: service@j-chart.com

Tel: +886 2-2363-3576

Fax: +886 2-2365-1776

© Copyright 2004 ATMOL Inc. All rights reserved.