

Drummond Geometry- Mapping Future Market Activity

Chicago based bond and S&P trader Ted Hearne shares the potential of a powerful form of technical analysis in the first of a two-part series on Drummond Geometry.

In London, Hong Kong, Singapore, Tokyo, Sydney, and New York - exchanges and trading offices around the world see billions of shares traded each day using conventional technical analysis tools. Insofar as these decisions are based on chart patterns and technical considerations, they are almost all rooted in a few basic schools of thought - Elliott waves, Fibonacci retracements, and trend-following momentum studies. Strip away the inconsequential variants and one would think that there are but a few main approaches to technical analysis.

But there is one major new school of thought that has been attracting increasing attention in dealing rooms around the world. It is called Drummond Geometry and many think it is a significant break-through in the field of financial technical analysis.

What is Drummond Geometry?

It is a unique form of market analysis developed over a thirty-year period by the legendary Canadian trader Charles Drummond.

Drummond Geometry is both a trend-following and a congestion-action methodology. It leads rather than lags the market, and uses projected charts to map future market activity. It foretells the most likely scenario that shows the highest probability of occurring in the immediate future. It can be custom-fitted to one's personality, trading style, and time-frame preference.

Although Drummond methods have not been widely known, this unique form of market analysis has been worked out in great detail. The techniques have been tested over several decades by traders on five continents and have been applied in many different markets employing various trading styles and timeframes, from intra-day to multi-year trades. Drummond's writings and the current work of the P&L

School contain a number of trade plans with impressive pro-forma track records, and the profitability and efficacy of the methodology have been attested by a number of successful traders.

The key elements of Drummond Geometry include a combination of the following three basic categories of trading tools and techniques:

- A series of short-term moving averages
- Short-term trend lines
- Multiple time-period overlays

Many of the fundamental concepts of this methodology are simple in nature, but they have been worked out to a high degree of sophistication. In this introduction, we will look at the PLdot, the first major building block of Drummond Geometry. PL stands for Point and Line, two of the main techniques of Drummond Geometry.

PLdot

The PLdot can be applied to any commodity, future or stock and is a short-term moving average based on three bars of data that captures the trend/non-trend activity of that time frame which is being charted. The PLdot from the last three bars is plotted as a dot or line on the next bar to appear. The formula for the PLdot is the average of the high, low, and close of the last three bars. chart, we see each bar close above the PLdot, indicating a trend to the upside.

$$\text{PLdot} = \frac{\{\text{Avg}[\text{H}(1),\text{L}(1),\text{C}(1)] + \text{Avg}[\text{H}(2),\text{L}(2),\text{C}(2)] + \text{Avg}[\text{H}(3),\text{L}(3),\text{C}(3)]\}}{3}$$

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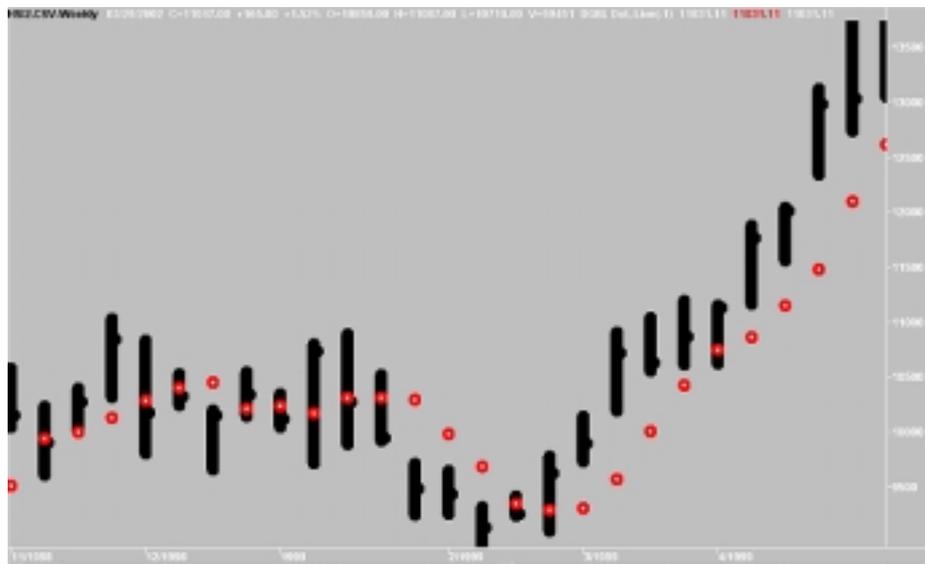
The PLdot is a series of points that describe the consensus of market activity in a mathematical sense. The first thing to note is that the dot bears a constant relationship to the immediate past — something that captures the recent energy of the hour, of the day, or of whatever time period the trader is looking at.

Think for a moment about the human activity that lies behind the charted record of trading. The PLdot is a short-term average, and it represents the collective activity of the three latest bars (or time periods). One could say it is the center, the gut, the solar plexus or the heart of all this activity. One can say that it represents the collective opinion, expressed in action, of the current group, crowd or mob as you may prefer to call it (depending on the intensity of market activity). This is important, because the concept of the crowd is one of the key elements of trading, of market psychology and of market activity.

We all know that a crowd can be an incredibly powerful force. When it moves, the crowd wants to move everything and everyone with it. When it stops, it wants to make everything around it stop as well. The crowd is collective energy and manifests attractive energy. It is built out of the need to belong, the need for protection, the need for safety, and the need to feed, reproduce, and continue in its existence. The crowd has momentum, and it has power. If a trader follows the crowd, or “goes with the flow,” he will not be hurt, because that is the nature of the crowd, to protect its members.

Of course the crowd does not always go in the same direction — it stops, and it considers, and it changes direction. But the crowd is always overshooting its goal, because in its wild rush it does not realize that it has gone too far until it sweeps past the target.

Chart 1: Hang Seng Index (Hong Kong)

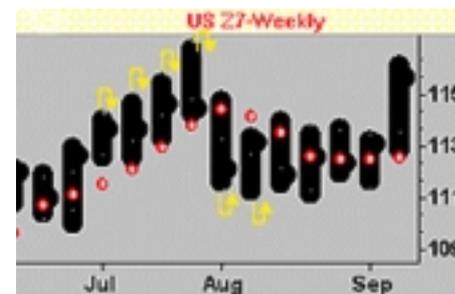


On Chart 1 of the weekly Hang Seng Index, we see the PLdot move in a relatively straight line horizontally across the first half of the chart. Then we see a short down trend, and following that the dots move in a straight line upward until the end of the chart. The tendency of the PLdot to move in a straight line can be very helpful in monitoring a trend.

Many traders find that just one simple observation – trade with the trend if the market is on one side of the dot and in congestion if the market closes on both sides of the dot – is enough to bring profitable participation in the markets. In the Hang Seng chart above, on the left hand side of the chart we see the closes of the bars first on one side of the PLdot and then on the other side of the PLdot. This is a sign of the market in congestion. In the bars in the middle of the chart, we see closes below the PLdot, indicating trending activity to the downside. In the bars on the right hand side of the chart, we see closes below the PLdot, indicating trending activity to the downside. In the bars on the right hand side of the chart, we see each bar close above the PLdot, indicating a trend to the upside.

As you examine market activity through the lens of the PLdot, we see that prices will often veer away from the PLdot, but then come back to it. The pattern in this next chart is called the “Return to the PLdot”. It is a very simple, tradable pattern. When prices get a long way away from the PLdot, it is likely that they will return to the PLdot to check out the warmth, safety, and acceptance of the center of the crowd. The trick is to know exactly when and where “a long way away from the dot” actually is. The action of the PLdot along with short-term trend lines, time frame analysis and many other Drummond Geometry tools and techniques can help traders determine when that point is likely to be occurring with a high degree of certainty. The art of Drummond Geometry as a method of technical analysis comes in the application of these tools in various combinations under various market conditions.

Chart 2: 30 Year US Treasury Bond



On this chart 2 of the 30-year US Treasury Bond we see a number of bars marked with the “Return to the PLdot” pattern. When prices move far away from the dot, the trader would be alert to signs that the market will turn and return to the PLdot. Thus in the fourth full bar we see that the market is far away from the PLdot, and moves back to it. The market continued through the PLdot and in the next nine bars we see good examples of this tendency for price to return to the vicinity of the PLdot. In each of these situations the trader would take a position against the trend by going short at the apex of the bar.

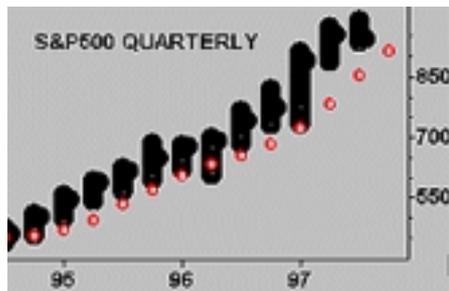
The exact price at which to take a position would be marked by other Drummond Geometry tools such as the short-term trend lines and the time frame overlays. But the tendency of the market to turn and retrace its path when it is far away from the PLdot and move back to the PLdot is a constant in the market that is enormously helpful to the trader as he or she attempts to anticipate direction.

Another observation based on the PLdot is the “PLdot Push.” In this pattern, when a trend is

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underway, the PLdots seem to be pushing the bars in the direction of the trend, either upwards or downwards, depending on the direction of the move. You can imagine that the dots are doing the work, that they are “pushing” the market up. In fact, in Drummond Geometry the trader generally envisions that the dots contain a lot of energy, and that their energy waxes and wanes depending on the circumstances. If the dots push strongly, they create a very strong trend; if they sometimes lose energy, the trend weakens. This methodology has created a metaphor for market energy that can reap rich rewards as these techniques are further developed.

Chart 3: S&P500



In Chart 3 of quarterly S&P we see the “PLdot Push” pattern at work in a strong up-trend. The PLdot gives traders a great deal of support in trending markets. When an up-trending market retraces to the area of the PLdot (or the “live PLdot,” which is “tomorrow’s dot today”), the trader goes long or adds to his long position. When in a down-trending market the trader goes short or adds to his short position. When the market moves to a position far away from the dots, the trader takes partial profits or reverses position, depending on his or her trading style. Thus in this S&P chart we can see that the trader could initiate or add to a long position at any time that the market retraced to the PLdot. The concept also holds for the “live dot” as well, as shown in the last two bars on the chart. (The “Live dot” is an advanced concept in Drummond Geometry that indicates the point on the current bar where the PLdot for the next bar is forming.)

Once these first concepts are grasped, then the trader applies these in multiple timeframes — another big concept of Drummond Geometry. The idea of timeframe coordination is a concept that Drummond originated and has been teaching to a select group for more than 20 years.

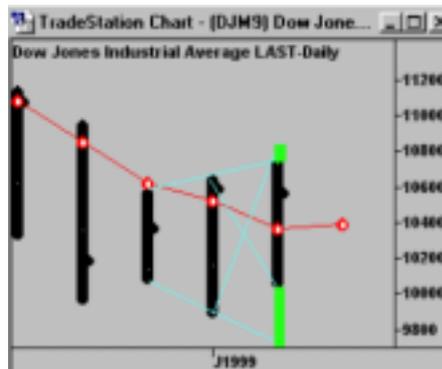
Short-term trend lines

Let’s pause and review for a moment. We have seen that there are three fundamental elements

to Drummond Geometry. The first is the use of short-term moving averages such as the PLdot. The second fundamental element is the use of short-term, two-bar trend lines. Like the PLdot, these short-term trend lines are projected into the future, where they indicate points of interest on the first upcoming bar, the future bar that has yet to trade. The “Drummond Lines” indicate areas of energy termination, where the market is likely to stop its movement. There are a number of these lines and in the world of Drummond Geometry they are drawn in various configurations under different market conditions.

When used by a trader knowledgeable in Drummond Geometry, these two main sets of tools — the short-term moving averages and the short-term termination trend lines — can establish support and resistance areas in the near-term future with surprising accuracy.

Chart 4: DJIA



On Chart 4 of the US Dow Jones Industrial Average these two tools are shown in action. The trend is defined and supported by the PLdots, and the Drummond termination lines forecast the extremes of the bars. The green areas above and below the last bar to the right show the support and resistance zones. The Drummond Lines define these zones.

Although it is obviously very helpful to know where support and resistance will form in the upcoming bar, the bar that has not yet traded, this information alone is not enough to trade successfully.

Success in trading depends not just on knowing where support and resistance is located, but whether or not that support or resistance will be strong or weak. Strong resistance will hold, and drive the market back down, whereas weak resistance will break and permit the market to rise higher. Similarly, strong support will hold, and send the market higher, while weak support will break, and let the market move lower.

Knowing when support or resistance is strong and when it will be weak is the name of the game in trading. Once a trader can reliably make that determination, then it is possible to trade with confidence.

This challenge has perplexed traders for many decades. The problem is especially thorny because there is often little if anything on any single timeframe chart that will tell a trader if support or resistance will hold. And yet without question this is the fundamental problem of trading — will the support or resistance hold, or will it break?

Multiple Timeframes

The trader who wishes to make progress in resolving this question must learn to look at the market in context. Establishing market context, and showing how market context can be used to determine if support or resistance will be strong or weak, is what Drummond Geometry accomplishes through time frame coordination. The coordination of support and resistance in different timeframes is the third major tool of Drummond Geometry and is perhaps Charles Drummond’s most important contribution to the field of technical analysis.

In principle, the concept of timeframe coordination is simple and clear. Basically, it is this: If you can align support and resistance levels on various time frames and take action when they coincide, and avoid action when they do not reinforce each other, your success ratio will be much better than if you rely on a single timeframe alone.

Charles Drummond came to his understanding of time period interaction empirically, some thirty years ago, as he was establishing for himself the ways that chart patterns played out in a single timeframe chart. As he was looking at the short-term moving average and some of the short-term, two-bar trend lines that form the basis of his methodology, he realized that these patterns existed on any chart. It did not matter if they were on an hourly, daily, weekly, monthly, or yearly chart.

Reflecting on this simple observation, Drummond realized that it would be interesting to see what happened when the charts were superimposed one onto one another. And furthermore, he thought it might be relevant to see when the support of one timeframe would line up with the support of a higher timeframe. Thus he would look at the daily support or resistance in the area of weekly support or resistance, and weekly resistance in the area of monthly resistance, and so forth. When this was done, *voila!*

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Drummond came to this insight about timeframes independently of other analysts and was in the early years likely the only one effectively coordinating the higher timeframes with the lower timeframes, and using a still lower timeframe to monitor the activity at key decision points. Over several years Drummond codified and taught this concept to his private students, and enhanced his methodology with more elaborate and sophisticated tools and guidelines. The multiple timeframe approach has proven to be a fundamental advance in the field of technical analysis and one that can significantly improve trading results.

Let's look at the concept in detail. What is meant by the word "timeframe" anyway? A timeframe is any regular sampling of prices in a time series, from the smallest such as one minute up to the longest, which might for practical purposes be capped out at in a ten-year bar chart (each bar representing ten years), although there is no theoretical limit. A single timeframe chart might commonly be hourly, daily, weekly, or monthly.

There is no magic in selecting one timeframe over another as a starting point. All timeframes are somewhat arbitrary and are set more by custom than by science. With the advent of 24-hour global trading even the commonsense division into "daily" and "weekly" charts can be called more arbitrary than not. In purely theoretical terms, there is no difference in validity between a weekly chart and a nine-day chart, nor any intrinsic superiority of a 16-hour chart over a daily. In practical terms, however, Drummond Geometry analysts generally stick with conventional customary divisions into hourly, daily, weekly and the like.

The essential starting point for timeframe coordination is to note that the Drummond support and resistance tools are valid for any chart based on any timeframe. Minute, hour, day, week, month — it does not matter, the patterns formed and the termination points indicated flagged by the tools of Drummond Geometry lines will appear and can be followed on bar charts in any timeframe.

Consider:

- 1) The Drummond Dot and the Drummond Geometry support and resistance lines appear on any timeframe, e.g. daily, hourly and 15 minute.
- 2) If market analysis is coordinated to show the interaction of these timeframes, then the trader can monitor what happens when the

support and resistance lines of the different timeframes coincide. This is an extremely powerful concept, because support or resistance on one time period has a much higher likelihood of holding when it is backed up by support or resistance on a higher time period.

How does Drummond Geometry approach time period coordination?

First, the trader must decide what he or she is trying to do, for that will determine the arrangement of timeframes. If the trader is trying to take as much as is possible out of a weekly bar (i.e., to sell the weekly high and buy the weekly low), then the trader has a "weekly focus" and the weekly chart would be the trader's "focus time-period." The focus time frame creates that bar chart on which the trader is trying to place his or her trades.

Second, to see the market in context, the trader would then select a higher time period. If the focus time-period is daily, then the higher time-period would be weekly. If the focus time period is weekly, then the higher time period would be monthly.

Third, the trader would select a lower timeframe. The lower timeframe would be used to monitor the market at key decision points and to determine at the earliest possible moment exactly what is occurring at those areas where the market is encountering significant support or resistance levels.

Let's say that you wish to trade a weekly focus. If this is so, and you would like to see if the integration of timeframes holds potential, then you need to look at both a higher timeframe and a lower timeframe. The next higher timeframe would be the monthly and the next lower timeframe would be daily.



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Chart 5: Hang Seng Index (Hong Kong)



This series of Hang Seng charts shows an example of a coordinated look at three time periods. Now what can be observed?

On the monthly chart of the Hang Seng Index we see the Pldot forming resistance in February 2002, and the Drummond line defining support for that month. On the weekly chart during the first week in February 2002, (the fourth bar from the right) we see a Drummond Line establishing support for the weekly bar, and that support falling at the same location as the Drummond support line for the monthly bar. On the daily chart for February 8, 2002 (the second bar from the right) last bar to the right) we see daily support set up by all three time-periods. This coordination of monthly, weekly, daily support means that the support will likely be strong.

Note that this powerful technique of time-frame coordination combined with the projection of support and resistance areas permits the trader to accurately and confidently make a hypothesis in advance about where the market would react to predicted resistance. This ability to predict an event and then to monitor it as it occurs is very powerful.

Chart 6: DJIA

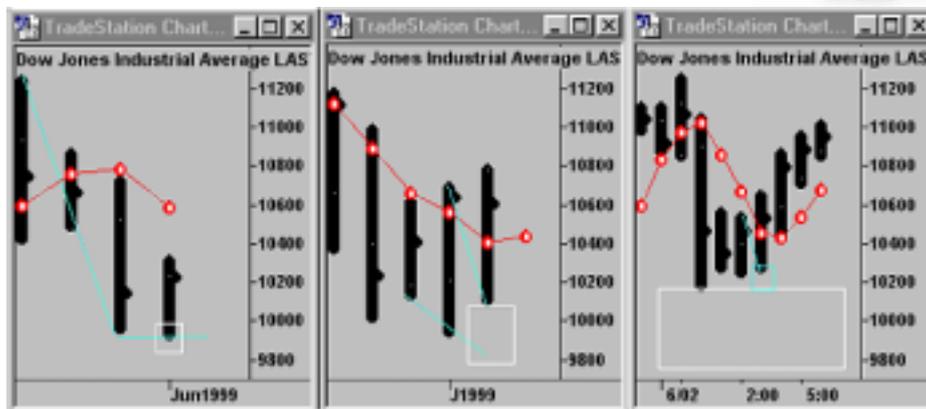


Chart 6 on the Dow Jones Industrial Average presents another example. The same principle is in evidence here but it is shown in much faster timeframes. The focus is the daily, the higher timeframe is the weekly, and the lower timeframe is the hourly.

The situation is very similar to the previous example although the timeframes are different. Support is established on the Weekly Chart, and in the same area on the daily chart. On the 60-minute chart we see support from the daily area represented by the large white rectangle as well as support from the 60-minute chart, shown in light blue. This coordination of multi-period support gives the trader a clear indication of a good place to buy.

Note that in these examples the technique works regardless of the timeframes used.

This multi-time period of analysis is very helpful. When combined with other elements of Geometry or other technical analysis tools, traders develop an understanding of how support and resistance reinforce each other and weave together into a coordinated approach to market analysis that helps them approach the market with confidence.

Summary and conclusion

Traders who analyze support and resistance will have much greater success if they coordinate these support and resistance levels on several time periods. Daily resistance sold in the area of weekly and/or monthly resistance has up to three times the likelihood of being strong and holding than does daily resistance taken in places where it exists by itself. The determination of whether or not resistance is strong or weak can be seen at the earliest by monitoring the trade on a timeframe that is lower than the timeframe in which the trade is taken. A trader who understands the context of a market will always be better off than one who trades by looking only at a single timeframe. Drummond Geometry offers a comprehensive methodology of establishing support and resistance areas in multiple timeframes, and then coordinating their locations to determine their strength or weakness.

In the next issue, we'll discuss trading exhausts with Drummond Geometry.

Ted Hearne is a bond and S&P trader based in Chicago. The material in these articles is adapted from the 30 Lessons of the P&L School of Drummond Geometry (Copyright © 2000-2002 by Ted Hearne and Charles Drummond). Contact Hearne via the websites www.tedtick.com and www.pldot.com.

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Drummond Publications may be ordered through www.PLdot.com or www.tedtick.com.

Who is Charles Drummond?

Drummond is now in his late sixties, and is currently living on the East Coast of Canada. He spent most of his career in Toronto where he traded a wide range of markets and for a time ran a trading company.

Charlie is a unique sort of guy, and as he first approached the markets he found the traditional methods of analysis inadequate and frustrating. His early experiences were characteristic: he lost money and got a lot of bad advice about what to do next. After spending some time losing money in the conventional ways, he made a key career decision: if he was going to lose money, he would at least lose money in his own way, and not follow the advice of the existing conventional wisdom. In short, he determined to develop his own methodology, and not rely on what others had done.

This began a remarkable career of quiet innovation and exceptional trading success that ultimately led to the creation of a complete, coherent, and unique method of technical analysis that today is known as "Drummond Geometry." The methodology has stimulated great interest among those who have studied it and Drummond has a devoted band of followers. A small but elite group of traders around the world have been using these techniques for many years.

As his trading career progressed, Drummond experienced very significant financial rewards. The exact dimensions of his trading accomplishments remain his personal business but it is safe to say that his winnings place him among the great "super-traders" of the 20th century (he is rumored to have taken nine figures from the markets!). Today Charlie lives in semi-retirement and is happily engaged in organic farming, trading, and developing software embodying his methods.

Drummond is a modest man and points out that the proof of the pudding is when traders understand his theories and make money from them, and not in any particular success that Drummond himself has achieved. He regards his personal financial success as irrelevant to the value of the technical analysis methodology.

During his career, Drummond wrote nine volumes on technical analysis. His first book is the only one that has received even modest public distribution: "How to Make Money in the Futures Market... And Lots of It" (1978). His eight subsequent works were typed by himself and distributed only to his private students, each of who signed a non-disclosure agreement.