

RSI: The Complete Guide

Bearish Divergence and is not very potent. In the Intel Chart #13 the interval is indicated by 'N'p.

As the time interval between the RSI peaks and troughs increases, the likelihood of seeing multiple divergences also increases. Multiple bearish divergences occur when there are successively higher price rallies while the RSI has successive lower rally highs. Here is the paradox of divergences; simple divergence provides a strong indication that the preceding trend will resume as soon as the retracement is completed. But, multiple long-term divergences increase the likelihood that the preceding trend has ended. This concept is illustrated below in Chart #15.

CHART # 15 – LONG-TERM MULTIPLE BULLISH DIVERGENCE



In Chart #15, there are three bullish divergences where the price has made three consecutive lower lows while the RSI made three consecutive higher lows. These higher bullish divergences would be classified as multiple long-term bullish divergences. They are indicating that there is an increasing probability of a trend reversal occurring.

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The most powerful divergence signals are called hidden divergences. They are called hidden divergences because they are not obvious to the untrained trader. These divergences do not occur at the bottom or top of the RSI chart like their more common cousins. They appear after the RSI has either rallied (bullish hidden divergence) or after the RSI has dropped from its high (bearish hidden divergence). Hidden divergence typically occurs in the 40 to 60 ranges. When hidden divergence occurs, it is classified as the strongest divergence possible. The market will do exactly as the name indicates. A hidden bullish divergence is a very strong indication that prices are about to strongly rally. Put another way, a hidden bullish divergence that appears in a bear market is a strong indication that the trend is about to reverse. Chart #16 shows hidden bullish divergence. You can also see a 3p Hidden Bear Divergence in Chart #13 of Intel.

CHART # 16 — HIDDEN BULLISH DIVERGENCE



In Chart #16 Note a hidden bullish divergence showed up beneath the 30 level after a 9 period simple bullish divergence. Immediately after forming the pattern, prices had a significant bear rally. Notice that the Bears stopped the advance when the RSI value approached 60.

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Building a chart that combines a 9 period RSI and a 9 period Stochastic Indicator (slow) is a method that can be used to identify strong multiple divergences indicating strong contra-trend retracements or possible trend reversals. The exact pattern that we are looking for is three or more simultaneous long-term divergences in the RSI and Stochastic charts. When this occurs, you not only exit your position but reverse positions by taking a smaller than normal position 1 or 2 ticks above the high or low of the second peak or trough.

CHART # 17 – RSI & STOCHASTIC WITH 3 SIMULTANEOUS BULL DIVERGENCES

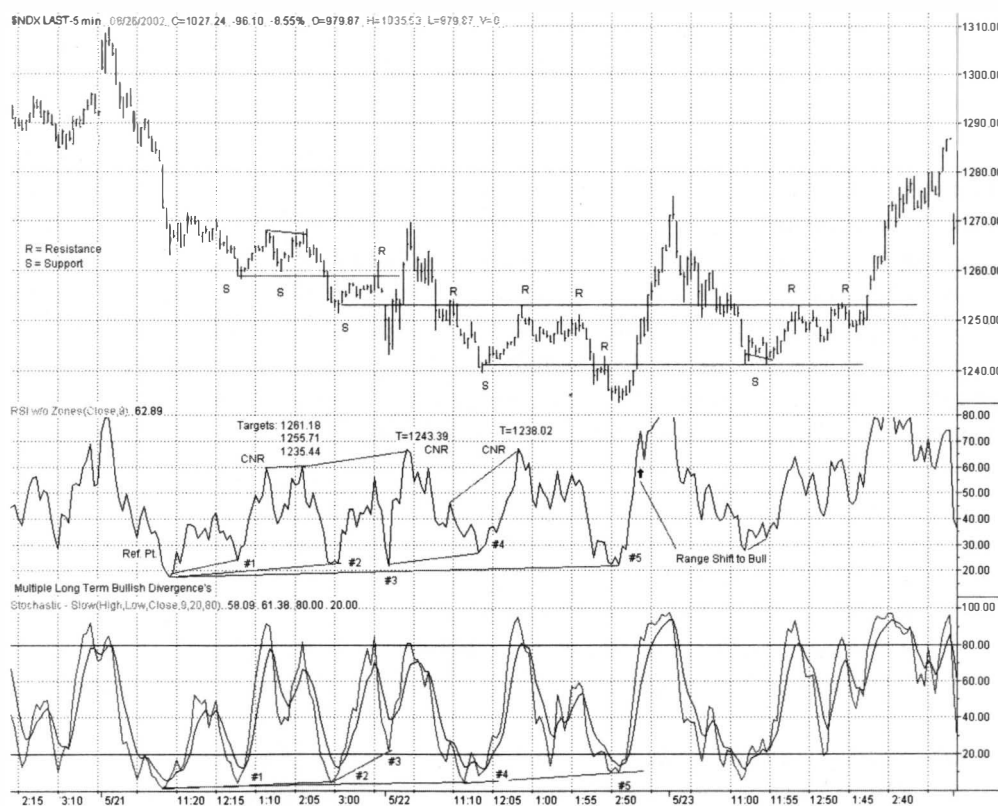


Chart #17 Notes:

In the RSI, we have multiple medium term bullish divergences at: 1 (against the reference point) and 3 (using 4 as a reference point). We have long-term multiple divergences at: 2, 3, and 5 all against the reference point. Point # 4 is not a long-term multiple divergence as it is not under #3 and above the reference point. In the Slow Stochastic, we have medium term bullish divergences at 1 (against the reference point), 2 (using 1 as a reference point) and 3 (using 2 as a reference point). We have multiple long-term divergences at 2, 4, and 5 (all against the reference point). Point #3 is not a long-term bullish divergence for the same reason #4 in the RSI was not.

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I added some information to this chart regarding MDRP DOWN signals. We will discuss these signals in the next section. What is noteworthy is that we were able to project downside targets that were eventually hit. This entire time, we did not see any bearish divergences and the RSI stayed under 60. I marked the chart showing when the Bulls were able to gain control when they were able to push the RSI above 60. Also, take note of the semi-hidden bullish signal on May 23, 2002 around 11:30. We can see how the price that coincides with the divergence point often becomes future support or resistance, which will be useful with our stop placement.

End of Chart # 17 Notes.

As in life, there are exceptions to every rule. With the exception of three or more long-term bearish/bullish divergences and hidden divergences, the appearance of a simple divergence is a very strong indication that the trend is opposite of what the name implies. When a simple divergence is encountered, the only trade strategy that can be employed is to exit some (or all) of the trade position. Once prices begin to retrace the preceding trend and a contra-trend move or retracement is seen, the price that coincides with the RSI peak or trough becomes a key price. This price will often prove to be temporary support/resistance once the preceding trend re-asserts itself. Once the price has negated this temporary support, this price area may be used as a stop.

Rule # 3:

An Uptrend is indicated when:

1. RSI values remain in an 80/40 range
2. The chart exhibits simple bearish divergence
3. Hidden bullish divergence are seen

A Downtrend is indicated when:

1. RSI values remain in a 60/20 range
2. The chart exhibits simple bullish divergence
3. Hidden bearish divergence is seen

CHAPTER 5

MOMENTUM DISCREPANCY REVERSAL POINTS

The RSI behaves at times in a manner that indicates prices have retraced part of their preceding move too quickly. When this occurs, the shorter timeframe traders have overextended themselves in the retracement. If prices on a 5-minute chart were rallying in a strong uptrend and the 5-minute traders became overextended, prices would begin retracing some of the prior move in a contra-trend retracement to the down side. However, as prices headed lower, they would become overextended because of the 1-minute timeframe traders. Since the RSI is a very sensitive momentum based indicator, it has the ability to detect these hysterical overextended retracements.

When the RSI retracement exceeds the previous peak or trough and price has not exceeded its previous peak or trough, this is called a Momentum Discrepancy Reversal Point. Andrew Cardwell discovered this pattern and has taught many traders how to recognize and implement this pattern into their overall trading strategy.

MOMENTUM DISCREPANCY REVERSAL UP – MDRP UP FOR THE BULLS!

This pattern only occurs when the Bulls are pushing prices higher in a bullish trend. Occasionally, prices will retrace some of the previous rally, while staying above a prior price trough. The RSI simultaneously retraces beyond a previous RSI trough where the price that coincides with this RSI trough is lower than the current price. This is a Momentum Discrepancy Reversal Up (MDRP UP). Described another way, a Momentum Discrepancy Reversal Up (MDRP UP) occurs when the RSI value is lower than a prior RSI trough, and the price is higher. Until the RSI “hooks up,” the formation is a “tentative” MDRP UP. Once the RSI has hooked to the upside, the formation is a “locked in” MDRP UP. The price that coincides with this trough is a significant price. Chart #18 illustrates this concept:

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CHART # 18 – MOMENTUM DISCREPANCY REVERSAL POINT UP



Chart # 18 Notes:

This is a 3-minute chart of the E-Mini S&P 500 from June 26, 2002. Early in the trading day, the market was bearish because the RSI value was under 40. There was a small rally and resistance was encountered at RSI 40 value. Normally, this is a good indication that the market is about to get hammered. In this case, the market made a 3 period bullish divergence at 8:39. When the cash market opened at 9:30, the Bulls made a small opening gap pushing prices higher, negating the RSI 60 level. At this point, we know that the trend has probably changed to UP. We receive confirmation of this when the RSI retraces lower and finds support at 60 (#1 on the RSI chart and the "Ref" bar on the price chart). The ensuing rally found prices at point "A" before retracing lower to point "B" on the price chart. At this point, we see that the RSI value is lower at point "B" than at point "A," but the price is higher. This formation is a Momentum Discrepancy Reversal Up (MDRP UP).

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We can calculate the strength by determining the number of bars preceding point “B.” In this case, it is an 8 period MDRP UP, which is a medium strong signal. Like the strength indication of a divergence signal, the strongest Momentum Discrepancy Reversal Point signals are 2 to 4 periods in length. A medium strength signal is 5 to 15 time periods and a weak signal is anything over 16 time periods. We can also calculate the upside target by obtaining the difference between points “B” and “Ref” and adding the difference to point “A.”

$$(956.00 - 953.75) + 963.0 = 965.25$$

The next question that arises is where do we get long? We must consider our risk to reward ratio that we ideally want to be a minimum of 1:3. Since the close of bar “B” was 956.0 and our upside target is 965.25, our potential profit is 9.25 points. To maintain our risk to reward ratio, we must risk no more than 3.0 points. My preference is to not risk more than one point on a 3 minute S&P trade. We need to find a point to exit the trade in the event the Momentum Discrepancy Reversal Up fails. Careful examination of the chart shows that the high for the “Ref” bar was 955.25 and the low of bars “1” and “B” were both 955.00. This would be a double bottom in a timeframe that is smaller than 3 minutes. We can surmise that the Bulls will probably protect 955.00, so our stop can be placed at 954.75. Since we are trading in a 3-minute time window, the odds of using a limit order, which is the preferred method, to enter the trade are not very good because of the double bottom. Because of this, we should enter a “buy at market” order, which will get us long at approximately 956.00 with a stop placed at 954.75.

We could have entered one bar earlier at bar “1” because with the close of bar “1,” we had a MDRP UP which can be seen by carefully looking at the RSI chart. See how the downward slant changes just before the ultimate low? If we had observed this, we could have entered a buy limit order at 955.25 with a stop placed at 954.75. The reason that the low was made in bar “1” was because the traders in a smaller timeframe saw the high at 955.25, which was resistance at that time. When that point was negated, it should become support. The traders in the smaller timeframe entered their buy orders at 955.25. With the close above the previous close in bar “C,” the formation is a “locked in” MDRP UP. We can move our stop to 955.75, which is a tick below the close of 956.00.

At this point, we are long and want to maximize our profits on this trade. The upside target for this trade is 965.25. Prices rally to a high of 964.5 closing on the high of the bar, which is a bullish sign. In the next bar, prices collapse and the high is the same as the open, which is a very bearish sign. Prices were within 0.75 points of our target. With the collapse in prices, we have a bear divergence, making two medium term diver-

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gences. We do not have a long-term bearish divergence as the RSI at (#4) is not above (#2) and below the RSI peak.

Since prices must close at or above the target to confirm the bull market, we should be somewhat nervous about ever seeing a profit. The Bears push prices down to a low of 956.75 before the Bulls begin to buy again. Our stop is still at 955.75 and we are still long the market. As the Bulls begin to push prices higher, we begin trailing our stop higher. Why didn't we trail our stop earlier? When we entered the trade, all indications were that prices were headed higher. Once we begin trailing our protective stop, the probability of being stopped out in a minor retracement increases. So we wait for the first minor retracement before moving our initial stop.

The reason that we began using a trailing stop is because prices should have reached our target and didn't! With the close on bar "D," we have confirmation that the Bulls are going to push prices higher. How do we know this? "D" is the first bar since the low of 956.75 where the Bulls managed to close a 3-minute bar above the high of *the preceding bar*. After the close of "D," we can move our stop from 955.75 to 956.50, which is one tick below the low. This is not much, but every little bit helps. The Bulls once again rally prices before faltering and retracing to "E". The next bar after "E" sees the Bulls closing the bar above the high of bar "E" confirming the validity of the Bulls intentions and the swing point low of "E." We can move our stop from 956.50 to 958.75.

The Bulls rally prices to our target price of 965.25. The price just touches it before closing under it at bar "F." In all probability, our sell limit order of 956.25 would not have been filled. However, three bars later at bar "G," the Bulls extend prices to just above 965.25 before closing the bar out under it. With bar "H," we finally achieved our upside target of 965.25! With bar "G" pushing prices just above 965.25, we could have exited our trade with a "sell 965.25 or better" order. If our position had only one lot, that is what we should have done. If our position had multiple contracts, we should have exited 50% of our trades and kept the rest of the position in case the trade turned into a big winner.

Assuming that we had multiple positions, we would be long with the close of bar "H." We need to move our trailing stop to just under the latest swing low at bar "G." The price level for the stop is 962.75. Naturally, the Bulls encounter resistance after the next bar after "H." We had an idea that there would be resistance at this level because there was a fairly large upper shadow in "H." Prices retrace lower in the next two bars making a low at "I" before rallying again. With the second bar after "I," we can move our stop from 962.75 to 966.00.

The question that naturally arises is "Where do we exit our remaining position?" Previously, we discussed that trendlines on the RSI chart are as strong as trendlines on

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the price chart. The problem with drawing trendlines on price charts is that their placement is largely subjective. Ask 100 technical analysts to draw trendlines on the same chart and you will get 100 different trendlines! By using the RSI, very accurate trendlines can be drawn. We can draw a valid trendline whenever we can identify a Momentum Discrepancy Reversal Point. In Chart #18, we have the bottom trendline, which is based on the Close of the “Ref” bar and the Close of bar “B.” After drawing this trendline, we can draw a parallel trendline and place it on the highest Close between the reference and end bar of the Momentum Discrepancy Reversal Point pattern. You can see this bar in Chart #18. We will discuss RSI and MRDP point based trendlines on page 80.

When prices rallied to the upper trendline at bar “K,” we should have exited our remaining position. Should you have kept one contract “just in case” prices continued on their rocket trajectory, you should have exited the last contract when the swing low point “I” was negated 2 bars after “I.” Additional emphasis should have been placed on exiting the remainder of the position when the upper trendline was negated because we were also seeing a very bearish long-term divergence in the RSI and multiple long-term bear divergences in the Stochastic indicator that is not shown.

End of Chart #18 comments.

MOMENTUM DISCREPANCY REVERSAL DOWN — MDRP DOWN FOR THE BEARS!

A Momentum Discrepancy Reversal Down (MDRP DOWN) is the exact inverse of an MDRP UP. However, I will describe it in a slightly different way to aid in clarity. As prices fall, there will be the occasional bar(s) that closes higher than the previous bar causing the RSI to generate various lower peaks. As more traders become convinced that prices will continue to fall, the plunging prices slow before reversing higher in a contra-trend rally. After all, if everybody has sold, who will continue to hit the buyers lower bids? If the bids are not being hit, then prices are unable to fall. In any case, as prices begin to rally so does the RSI. For every instance, where there was a close higher than the previous bar in the preceding downward plunge, the RSI also rallied. This gives the RSI the appearance of a jagged downward sloping line. If you remember, successive lower peaks and troughs indicate a bear market.

The RSI rallies as prices begin their contra-trend retracement higher. As the RSI rallies, the RSI value exceeds one of these previous RSI peaks and should the price that created the previous RSI peak be lower than the current price, we are seeing a “tentative” MDRP DOWN. Once the price drops and hooks the RSI down forming a peak in the RSI indicator, we have a “locked in” MDRP DOWN. This locked in MDRP DOWN gives us a significant price that coincides with the peak. Chart #19 illustrates this principle.

CHART #19 – MOMENTUM DISCREPANCY REVERSAL DOWN



Chart # 19 Notes:

This chart is the September 2002 30-year T-Bond futures contract. The T-Bonds rallied to make a high close of 101²⁷, shortly before 10:50. As it was making a high close, the RSI was generating multiple short-term bearish divergences and one long-term bearish divergence. A bearish divergence indicated that the trend was up, but the multiple bearish divergences told us that the trend was in danger of failing. With the close of 101¹⁷ at Noon, the RSI negated the support level at 40 indicating that the uptrend was “probably over.” The following rally to a close of 101²⁴ while the RSI stayed below 60 generated a Momentum Discrepancy Reversal Down with a downside target of 101¹⁶. The math for this calculation is:

$$101^{17} - (101^{25} - 101^{24}) = 101^{16}$$

Since an MDRP DOWN only occurs in a bear market, we already know that the trend is down. The MDRP DOWN has a period of 19, which makes it a weak signal. Attempting to enter the market on a limit order would not have worked

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because after closing on the high, prices gapped lower opening the next bar at the low of the previous bar. For this reason, a market order was required. For the shorter intra-day timeframe, market orders must be used when trading with Momentum Discrepancy Reversal Points. As the timeframe expands to 30 minutes and daily bars, limit orders should be used for market entry.

Prices fell for the next two bars to Bar "C." The close at C was 101¹⁵, which was under our downside target allowing us to exit our trade and confirming the downtrend. The next bar closed up at 101¹⁸ and then the market fell for 2 bars, closed unchanged the next bar and rallied to make a hidden bull divergence. This formation should have been a very bullish indication, but the next bar closed below the divergence price giving us a valuable clue as to how serious the Bears were about taking prices lower. It is important to remember that when a "probable" price behavior is immediately negated, the market has just provided a very valuable piece of information.

This failure of a hidden bullish divergence raises an interesting point. When a strong indication that something is supposed to occur (in this case, prices were to "rally") and the market does the opposite of what it "should," a longer timeframe has entered the game. In effect, you are seeing and feeling the force of a longer timeframe.

The Bears pushed prices lower to 101⁰⁸ before allowing the prices to rally for two bars before pushing prices to a new low close at 101⁰⁷ making a 4 period bullish divergence. Going into the close of the trading day, the Bulls managed to rally prices to a close of 101¹². A trader who held overnight positions could have gone short on the close as prices made a MDRP DOWN with a downside target of 101⁰².

When the market opened the next morning, it gapped lower. The Bulls ran prices up to close the gap and almost generated another MDRP DOWN (it would have been a MDRP DOWN if the look-back period was 9 instead of 14) before selling the market to push prices lower to a low close of 100²⁴. The downside target from the second MDRP DOWN had been met. Prices rallied until the RSI ran into resistance at 60 with a close of 101⁰⁴.

At this time, we had a long- term MDRP DOWN giving us a downside target of 100²⁰. Entering a limit order for 101⁰⁴ would have gotten us short and our stop would have been a tick above the high at 101⁰⁷. Price action proceeded to make a hidden bearish divergence, followed immediately by a hidden bullish divergence, and another hidden bearish divergence. This is highly unusual – it is a witness to the struggle between the Bulls and the Bears, which the Bears won as they were the last ones to make a meaningful pattern. Prices collapsed to 100¹⁵. The RSI made a low of 22.94 before making a bullish divergence with the close of 100¹⁵.

End of chart # 19 notes.

DRAWING TRENDLINES BASED ON MOMENTUM DISCREPANCY REVERSAL POINTS

Looking at Charts #18 and #19, you can see that trendlines can be drawn based on the RSI and Momentum Discrepancy Reversal Points. In Chart #18, we used the upper parallel trendline as our exit point. As mentioned before, there are many methodologies used to draw trendlines. By taking our knowledge of Momentum Discrepancy Reversal Points, we can then draw very accurate and significant trendlines.

In an ideal world, a trendline represents either a floor (support) or a ceiling (resistance) that prices will only negate when the trend has actually changed. The reason that many traders are leery of entering a trade based on a trendline is because they do not know how to draw statistically significant trendlines. When a trendline is drawn using the RSI in junction with a Momentum Discrepancy Reversal Point, the “reliability” of the trendline is significantly increased.

To draw an up trendline, we would look for a “locked in” MDRP UP. Then, we would draw the trendline from the close of the reference point (on the left) to the close of the MDRP UP (on the right) and extend the line to the right.

As a general rule, we are only concerned with where the close is in relationship to the trendline. This means that if prices are falling toward an up trendline, we would expect the Bulls to defend the trendline keeping the Bears from closing the bar below the trendline. Should the Bears close the bar below the up trendline, the trend is in jeopardy. Should the bar go below the trendline with the close being above it, we would not consider the uptrend to be in danger of failing.

As the timeframe of a chart increases, the significance of “N” closes under the up trendline increases. If we have drawn an up trendline based on an MDRP UP and the upside target has not been hit, the Bears closing the price below this line on a 5-minute chart is considerably less significant than if the trendline was drawn on a daily chart. The analogy is the same for the reliability of an MDRP UP or MDRP DOWN; a longer timeframe has more power and significance.

When a “locked in” Momentum Discrepancy Reversal Point is generated, a trendline using the correlated closing points can be drawn. Should this line be negated by a closing price, an early indication is given that the price target will NOT be met. When this occurs, we can exit the trade or move the protective stop.

CHAPTER 6

TREND DIRECTION USING MOMENTUM DISCREPANCY REVERSAL POINTS

When a Momentum Discrepancy Reversal Down (MDRP DOWN) forms, we know that the preceding trend has been down. We also know that prices are currently experiencing a retracement higher, if the prior trend was valid then the contra-trend retracement should end and the dominant trend should reassert itself. Momentum Discrepancy Reversals Down only occur in downtrends and Momentum Discrepancy Reversals Up only occur in uptrends. When we see one of these reversal patterns, we instantly know the probable trend direction.

DETERMINING TARGET LEVELS

When we see a Momentum Discrepancy Reversal Point, we can easily determine the upside or downside target that prices should hit. In fact, prices must hit the target if the preceding trend is still intact. These target prices are significant numbers. *If the target price is NOT exceeded on a closing basis, then the market is telling us that the current trend is finished.*

Upon seeing an MDRP UP, the upside target can be determined by obtaining the difference in price that coincides with the prior RSI trough and the current price. This difference is added to the intervening high close price giving us the upside target. The process is the same for determining downside target objectives. To determine an upside target, obtain the price that coincides with the two RSI troughs and add it to the highest close between these two troughs. To determine the downside target, obtain the closing price that coincides with the two RSI peaks and subtract this difference from the lowest close between these two peaks. These concepts were illustrated and previously discussed in the notes for Charts #17, #18 and #19.

THE MOST POWERFUL REVERSAL SIGNALS

The most powerful reversal signals occur when multiple timeframes with simultaneous reversal signals point in the same direction. If a 5-minute chart shows a Momentum Discrepancy Reversal Up, and a 30-minute chart simultaneously has a tentative Momentum Discrepancy Reversal Up, we have a very strong indication that the coming up move will be explosive. The Momentum Discrepancy Reversal Point signal becomes more significant as the length of the timeframe increases.

The second most powerful Momentum Discrepancy Reversal Point signal occurs when the time interval between the peaks or troughs is less than 5 bars. However, even long time intervals can result in powerful moves. Typically, if the time interval is more than 5 bars, we would like to see a price retracement that is less than 38.2%. This provides a very good indication that we will have a good up move and that the target price will be achieved. As the retracement level becomes deeper and the time period increases, it becomes less likely that the target price will be hit.

Of the many uses of the RSI, the MDRP Up or Down Reversals are the most powerful and profitable. The reversal signals tell us the direction of the trend, NOW is the time to enter the trade and the target price so we know where to exit the trade. By taking note of the corresponding price of the “locked in” MDRP UP or MDRP DOWN, we have a key price to work with. We also have another key price when we calculate the upside or downside target level.

Rule # 4

An Uptrend is indicated when:

1. RSI is in the 80/40 range
2. The chart shows simple bearish divergence
3. The chart shows Hidden bullish divergence
4. The chart shows Momentum Discrepancy Reversal Up

A Downtrend is indicated when:

1. RSI is in the 60/20 range
2. The chart shows simple bullish divergences.
3. The chart shows Hidden bearish divergence
4. The chart shows Momentum Discrepancy Reversal Down.

CHAPTER 7

THE RELATIONSHIP BETWEEN PRICE & RSI RETRACEMENTS

As previously discussed, retracement moves are the result of traders becoming too emotional and pushing prices either too high or too low. When they realize that prices have been pushed to “hysterical levels,” a contra-trend move commences where prices reverse and retrace some of the preceding move. The percentage that prices retrace a prior move is dependent upon the strength of the preceding trend, which is determined by the perception of the dominant traders.

We know that shallow retracements are less than 33%. Shallow retracements are a good indication that prices should extend higher by the same degree of the prior move. We also know that longer timeframe traders are either ignoring or agreeing with the price action, as the contra-trend move was less than 33% of the prior trend.

If a retracement of a rally in a 5-minute chart is hitting the 33% retracement level, and IF the 5-minute Bulls are in charge AND the longer timeframe traders (say the 15-minute traders) are asleep or in agreement with the prior rally, then we should see prices reverse higher now. The upside target is the same distance as the initial rally when calculated from the 33% retracement level. This was illustrated on page 26 in Table #9 of Section I.

We can use a similar line of reasoning with some modification when observing RSI behavior. Often, the RSI will show a shallow, medium, or deep retracement more distinctly than a price chart. We are not able to establish upside or downside target objectives using RSI retracement theory as we can with price retracement theory. For example, if the RSI rallies from 35 to 75, which is a move of 40 RSI points. If the RSI retraces 13 points to a value of 62, we know the retracement is shallow. Should there be no other timeframes in disagreement the RSI should rally to exceed its previous high. Unlike price, we cannot add 40 to 62 to obtain the upside RSI target of 102 because the RSI behaves as a logarithmic function with a maximum value of 100.