

Through the Eyes of the Mountain Man: Ichimoku Charting Revealed

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Introduction

Ichimoku charting has been a mystery to Western technical analysts, yet it is the technique of choice in Asia. Comprehending the nuances of this method requires an Eastern approach: examining how simple elements in nature interact in their environment. This concept is better understood through a more prevalent Asian import.



The martial art Kung Fu has many different styles, some with exotic names such as White Crane, Praying Mantis and the Drunken Monkey. These styles developed from observing the simple movements of animals in combat. In the West we also use animal analogies—we speak of the market in terms of the interaction between Bulls and Bears. The “movements” of these animals depict the dynamics of upward and downward price trends.

Ichimoku charts describe the broad, pictorial view of a man standing on a mountain observing market activity and making projections to future behavior. Instead of kicks and punches the elements are time shifts and moving averages. The charts unveil their buy/sell signals with nature-based expressions like “buying when the price is above the clouds and the sun shines brightly” and “selling when the price does not have the support of the mountains and it is raining.”

Kung Fu and Ichimoku charts are both examples of the Asian concept of defining a methodology through a system of basic movements, which can have such subtlety that their power must be experienced to be fully appreciated.

Historical Background

Writing under the name Ichimoku Sanjin, which literally means “a glance of a mountain man,” Goichi Hosoda described his technical analysis technique in his guidebook published in 1969, long after he had developed his theories. It is rumored that Hosoda would only divulge the secret of his forecasting model once the student had signed a letter of confidentiality. Hosoda died in 1983.

DRAFT**The Basics: Buy/Sell Signals**

An Ichimoku chart is composed of the following seven elements (along with their colors as shown in the GOC function):

1. The Conversion line (magenta),
2. The Base line (yellow),
3. The Lagging Span (gray),
4. Leading Span 1 (orange),
5. Leading Span 2 (green),
6. Cloud,
7. Price (candlesticks).

Figure 1 shows an example of an Ichimoku chart:



Figure 1

The “Cloud” is the shaded blue area between Leading Span 1 and Leading Span 2. The price is depicted with candlesticks since that is the common practice in Asia, though it can also be shown with a bar chart.

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Several attributes of an Ichimoku chart must be examined when determining buy/sell signals:

1. Conversion line – Base line crossing point;
2. Position of the closing price in relation to the Cloud;
3. Position of the Lagging Span;
4. Cloud composition.

The more of these signals that are in sync then the greater the probability of catching the indicated trend, be it an upward or downward movement.

Conversion Line – Base Line Crossing

When this occurs it is a major event and should trigger a check of the other attributes.

Buy Signal: When the Conversion line crosses the Base line in an upward direction.

Sell Signal: When the Conversion line crosses the Base line in a downward direction.



Figure 2

DRAFT***Closing Price Position***

Table 1 describes Closing Price characteristics along with their interpretations.

Interpretation	Closing Price Description
Bullish	The Closing Price is above the Cloud and has little downward fluctuation.
Bullish Tendency	The Closing Price is beneath or within the Cloud, but over the past two to three days it has shown upward movement.
Bearish	The Closing Price is beneath the Cloud and has little upward fluctuation.
Bearish Tendency	The Closing Price is above or within the Cloud, but over the past two to three days it has shown downward movement.
Neutral	Closing Price is within the Cloud and fluctuates little. For an example of this take a look at Figure 2, for the period December 22 nd , 2000 through December 29 th , 2000, where the Closing Price was between \$29 - \$31.

Table 1

Note that there is a distinction in degree between a “bullish or bearish” signal versus a “bullish tendency or bearish tendency” signal. A tendency is not as intense as simply bullish or bearish. This is where both science and art intermingle in Ichimoku chart analysis and the balance between the two can only be acquired through experience.

Lagging Span (the Mountain)

Buy Signal: When the Lagging Span crosses the Closing Price from below.

Sell Signal: When the Lagging Span crosses the Closing Price from above.

There are cases with this attribute where the Lagging Span may already be above or below the Closing Price. If this occurs then:

Buy Signal: Lagging Span is above the Closing Price; price is protected by the mountain.

Sell Signal: Lagging Span is below the Closing Price; price does not have the support of the mountain.

The Lagging Span is checked by looking 26 trading days in the past from the date that caught your interest from another indicator. For example, looking back at Figure 2, the Conversion line crossed the Base line in an upward movement on December 11th, 2000; this is a buy signal. To see if the Lagging Span agrees we need to look back 26 trading days from this date, or November 2nd. The Lagging Span value of \$31 15/16 is greater than the Closing Price of \$29 9/16 on that day, so this is another buy signal.

DRAFT**Cloud Composition**

Buy Signal: Leading Span 1 is above Leading Span 2. This is a sign of a rising market;

Sell Signal: Leading Span 2 is above Leading Span 1. This indicates a declining market.

Buy Signal Example

Assuming that in January 2001 we started keeping track of Dell Computer (DELL), looking for a buying opportunity, let's analyze the Ichimoku chart shown in Figure 3. Though this chart was for the period of July 24th, 2000 through January 24, 2001, will we focus on December 2000 and January 2001.

**Figure 3****Conversion Line – Base Line Crossing**

The Conversion line crosses the Base line on January 10th, 2001 and this is a bullish sign. It indicates that a buying opportunity is opening up, but this isn't enough information to make a decision and we need to take a look at the other indicators.

DRAFT**Price Position Relative to the Cloud**

On January 9th, 2001 and January 10th, 2001, DELL has a price of \$19 3/4 and \$21 5/16 respectively. This is an up ward trend and a bullish tendency even though the Closing Price is beneath the Cloud.

Lagging Span

Mapping back 26 trading days from January 10th to December 1st, we see that the Lagging Span value (\$21 5/16) is above the closing price in December of \$18 7/16. This is a bullish signal.

Cloud Composition

Leading Span 2 is above Leading Span 1 and this is a bearish signal.

Tallying up the signals we get:

Indicator	Interpretation
Conversion Line-Base Line Crossing	Bullish
Price Position Relative to Cloud	Bullish Tendency
Lagging Span	Bullish
Cloud Composition	Bearish

Table 2

The conclusion here is that we should buy at this point.

DRAFT**Sell Signal Example**

In this example we start with the premise that we already own DELL stock and are watching out for a chance to sell.

**Figure 4**

Taking a look at the chart in Figure 4, let's see what information we can learn.

Conversion Line – Base Line Crossing

The Conversion line crosses the Base line on September 13th, 2000 in a downward fashion. This is a bearish signal.

Price Position Relative to the Cloud

The price is below the Cloud and has been declining for days, another bearish sign.

Lagging Span

If we look back 26 trading days to August 7th we see that Closing Price for that day is \$42 11/16—greater than the Lagging Span value of \$36 1/4. We don't have the support of the mountain so this is yet another bearish signal.

Cloud Composition

Leading Span 1 is below Leading Span 2, clear indication to sell.

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Summing up our results in Table 3:

Indicator	Interpretation
Conversion Line-Base Line Crossing	Bearish
Price Position Relative to Cloud	Bearish
Lagging Span	Bearish
Cloud Composition	Bearish

Table 3

Our indicators unanimously tell us that this is the time to sell. An important point to note is that even though the Lagging Span had been beneath the Closing Price for several weeks, and Leading Span 1 slipped below Leading Span 2 several days before the Conversion line dived below the Base line, it is this crossing point that is the major signal. Without this signal the other indicators just aren't strong enough factors to warrant a sell decision.

DRAFT**Buy Signal Example Incorporating Candlestick Analysis**

Candlesticks are of course an analysis technique in their own right and though this paper will not delve into a detailed discussion of candlestick patterns, we will cover some basics. As with a bar chart, the opening price, high, low and closing price for the day are shown. A candlestick is displayed as a rectangle and if the closing price is greater than the opening price then the rectangle is not colored; on the Bloomberg it has a white outline. If the closing price is less than the opening price then the rectangle is colored; it is blue on the Bloomberg. Take a look at Figure 5 and you will notice that some of the rectangles have stems at the tops and bottoms. These are called “shadows” and they represent the high and low of the day respectively. The rectangle itself is known as the “real body.”

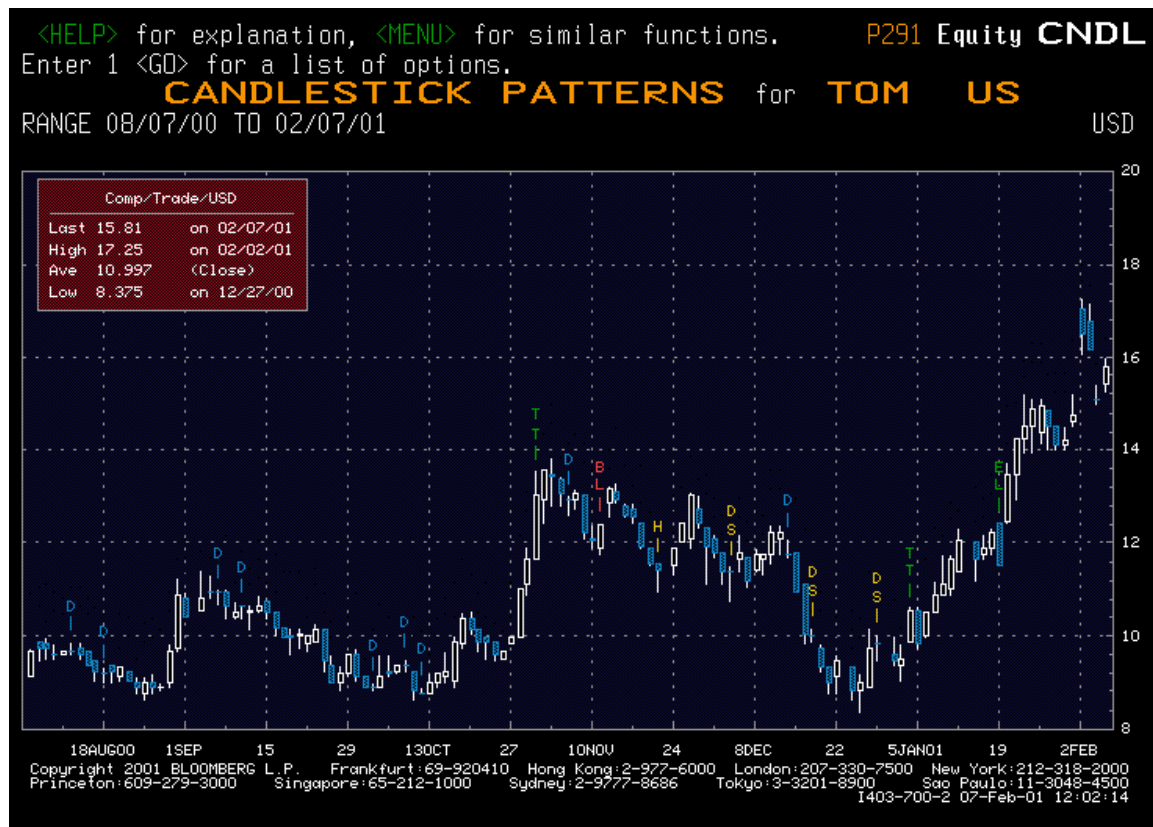
What catches our attention with candlesticks are trend reversal patterns. Table 4 gives brief descriptions of some of these patterns, but the references listed in the bibliography should be consulted for an in depth understanding. These patterns are made up of one or two candlesticks.

Pattern Name	Pattern Notation in Bloomberg CNDL Function	Description
Doji (several types)	ED, DS, D, DD	The market is in transition.
Hammer	H	Signals possible bottom of downward trend.
Shooting Star	SS	Bearish signal if seen during an upward trend
Bearish Engulfing	EL	Can either be bullish or bearish, depending on the two candles in the pattern.
Bullish Engulfing	BL	Can either be bullish or bearish, depending on the two candles in the pattern.
Rising Window	—	Increase in upward market movement—a bullish signal. There is an upward gap between the closing price of the first candle and the opening price of the second candle.
Falling Window	—	Increase in downward market movement—a bearish signal. There is a downward gap between the closing price of the first candle and the opening price of the second candle.
Tweezer Top	TT	Signals upward trend is exhausted.

Table 4

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Patterns can be easily identified using the CNDL function on the Bloomberg. For example, typing the command **TOM <EQUITY> CNDL <GO>** will give us the candlestick chart shown in Figure 5.

**Figure 5**

Note that sections of the chart have colored lettering above the candlesticks and these identify the specific patterns.

As you noticed in the previous examples the indicators do not always agree. Candlestick analysis will give us additional information and may identify a trend sooner, but there may also be conflicts with the other Ichimoku chart elements. A candlestick reversal pattern also carries a lot of weight—equal to that of a Conversion line—Base line crossing.

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Now let's walk through an analysis using an Ichimoku chart for the security Tommy Hilfiger (TOM). Let's say that we started keeping an eye on TOM in mid-October 2000, looking for a buying opportunity. On October 23rd we noted that the Conversion line crossed the Base line in an upward direction as shown in Figure 6.

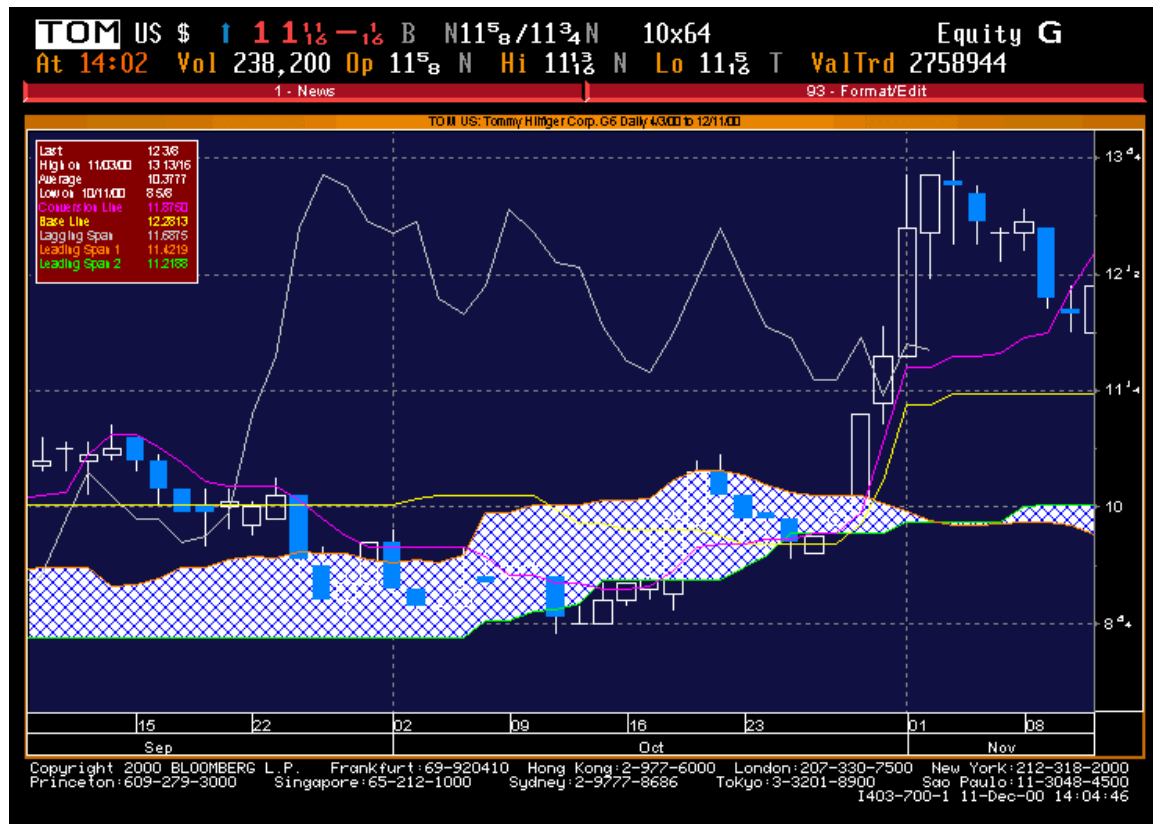


Figure 6

So now we have one buy signal, but what do the other indicators have to say?

Price Position Relative to the Cloud and Candlestick Interpretation

The closing price is in the Cloud, in itself a neutral sign, but noting that this is a blue candle (closing price is less than the opening price) and looking at the past couple of days we see additional evidence of a downward trend since the price seemed to have peaked on October 19th and is now falling. This is a bearish signal.

Lagging Span

We take the closing price for this day, \$9 7/8, and plot it 26 days ago, September 15th, as is shown in Figure 6. Since the Lagging Span is beneath the actual closing price of \$10.50 (see the Appendix for a table of historical prices), we don't have a buy signal.

Cloud Composition

Leading Span 1 is above Leading Span 2, a bullish sign.

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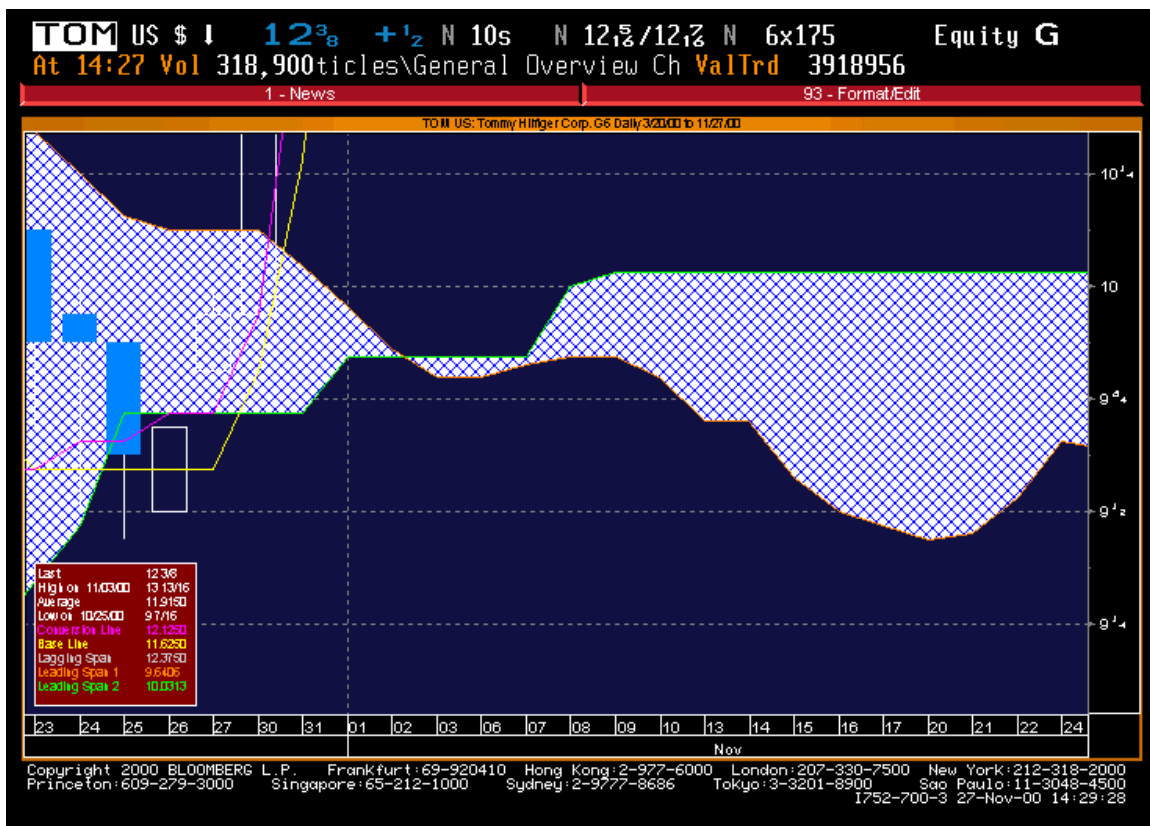
So let's summarize:

Indicator	Interpretation
Conversion Line–Base Line Crossing	Bullish
Price Position Relative to Cloud	Neutral
Candlestick Analysis	Bearish
Lagging Span	Bearish
Cloud Composition	Bullish

Table 5

We have two indicators telling us that we should buy, one neutral and two saying that this is not the time to buy – so what do we do with this information? Here is where relative weights of the indicators come into play. The Conversion line – Base line Crossing is of heavy importance along with the candlestick analysis, so in this case they cancel each other out. However, the Lagging Span has a greater weight than the Cloud Composition so the final outcome from this exercise is that we should hold off buying.

As we continue to monitor TOM we see that the price continues to fall even further until October 26th, when the closing price is higher than the opening price. On October 27th we see a significant sign – a Rising Window (a gap between the closing price of one day and opening price of the next) in the candlestick pattern, which is a reversal signal in price movement. This is shown in Figure 7.

DRAFT**Figure 7**

Candlestick Interpretation

The Rising Window is a definite buy signal.

Conversion Line – Base Line Crossing

The Conversion line is above the Base line so this is a bullish sign.

Price Position Relative to the Cloud

Once again the candle has the neutral position of being located within the cloud, so the buy/sell decision is deferred to the candlestick analysis.

Cloud Composition

Leading Span 1 is above Leading Span 2, so we have a buy signal.

Lagging Span

Mapping back 26 days from October 27th to September 21st, we see that the Lagging Span is beneath the actual closing price so this is a bearish signal.

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Summing up the signals in Table 6:

Indicator	Interpretation
Conversion Line-Base Line Crossing	Bullish
Price Position Relative to Cloud	Neutral
Candlestick Analysis	Bullish
Lagging Span	Bearish
Cloud Composition	Bullish

Table 6

So three out of five of our indicators direct us to buy at this time and it should also be noted that the two heavily weighted indicators, candlestick analysis and the Conversion line -- Base line Crossing, agree with the buy recommendation.

Sell Signal Example Incorporating Candlestick Analysis

Now let us take a look at a sell scenario. As we continue to monitor TOM we notice something disturbing in the candlestick pattern.

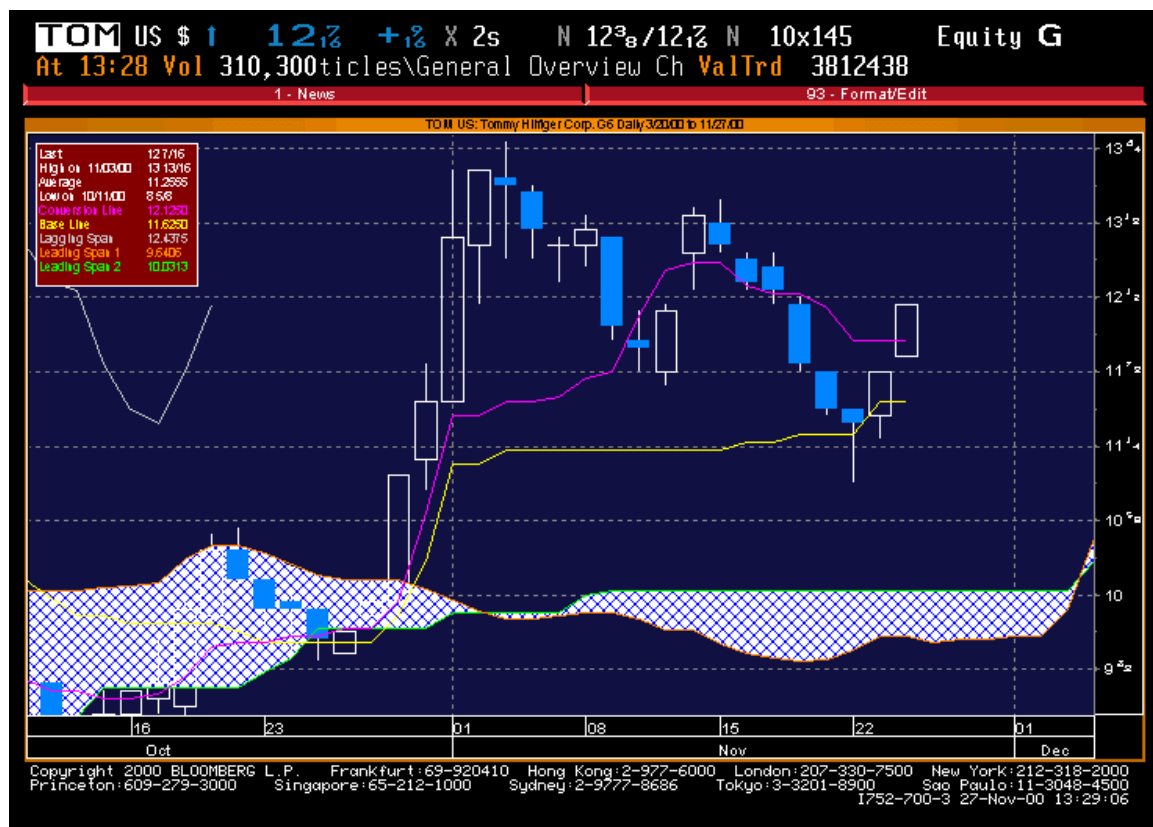


Figure 8

Candlestick Interpretation

Examining Figure 8, we see that the two-candle pattern composed of the candles seen on November 1st and 2nd is a Tweezer Top. The candle on the 1st is long and white and the

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second candle is white as well, though for purposes of interpretation the color of the second candle does not matter. What is important is that the candles must have matching highs.

A Tweezer Top is a reversal signal during an up trend. So now we have one indication of a reversal and therefore should sell. What do the other indicators have to say?

Conversion Line – Base Line Crossing

The Conversion line is above the Base line so this is a bullish sign.

Price Position Relative to the Cloud

The position of the price candle is above the Cloud so this is still a bullish sign and therefore we should hold on to the stock.

Lagging Span

Since November 2nd is where we noted the Tweezer Top pattern we'll use the close of that day, \$13 9/16, as the Lagging Span value. Plotting this 26 days in the past we see that the actual close for that day, September 27th, was \$9—a bullish sign since the Lagging Span value is greater.

Cloud Composition

Leading Span 1 is above Leading Span 2, normally a bullish sign, but Leading Span 1 is declining and thus indicates that we should sell.

Table 7 shows our results:

Indicator	Interpretation
Conversion Line-Base Line Crossing	Bullish
Price Position Relative to Cloud	Bullish
Candlestick Analysis	Bearish
Lagging Span	Bearish
Cloud Composition	Bearish

Table 7

The conclusion here is that we should sell.

Now that we have covered the basics we can delve deeper into underlying formulas of the various elements.

DRAFT**The Math Beneath the Mountain**

This is a technical analysis approach where *time* is the primary element and price is secondary. Five of the elements have a mathematical base:

1. The Conversion line,
2. The Base line,
3. The Lagging Span,
4. Leading Span 1,
5. Leading Span 2.

In calculating a point on the Conversion Line we use the highest and lowest closing prices for the past 9 days. Nine days corresponds to 1½ weeks at the time Hosoda developed his theories and this was based on a six-day work week.

$$\text{Conversion Line} = \frac{\text{Highest High} + \text{Lowest Low}}{2}$$

A point on the Base Line is calculated using the highest and lowest closing prices for the past 26 days, including today. Note that in all of these calculations when we refer to “days” we mean trading days. Using Hosoda’s assumption of a six-days work week, 26 days corresponds to a month of trading days.

$$\text{Base Line} = \frac{\text{Highest High} + \text{Lowest Low}}{2}$$

This is similar to a 26-day moving average but a significant difference is that we are using the **midpoint** between the high and low over the 26 days instead of the average of the closing prices. Hosoda felt that midpoints over a time period gave a better description of price behavior than the average.

To determine a point on the **Lagging Span**, take today’s closing price and plot it 26 days in the *past*, hence the time lag.

To plot a point on Leading Span 1, we use the values calculated for the Base line and Conversion line.

$$\text{Leading Span 1} = \frac{\text{Base Line} + \text{Conversion Line}}{2}$$

This value is plotted 26 days into the *future*.

Leading Span 2 is calculated from prices for the past 52 days (two months of trading days) using the formula:

$$\text{Leading Span 2} = \frac{\text{Highest High} + \text{Lowest Low}}{2}$$

This value is plotted 26 days into the *future*.

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As you have probably noted from the formulas, various expressions of time permeate this system.

Cloud Dynamics

The **Cloud** is the area between Leading Span 1 and Leading Span 2 and is a measure of support and resistance. The thicker the Cloud, the greater the strength of the support or resistance. An example of support is shown in Figure 9, roughly from August 8th through September 12th.



Figure 9

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Resistance can be seen in Figure 10 from November 15th through January 23rd.

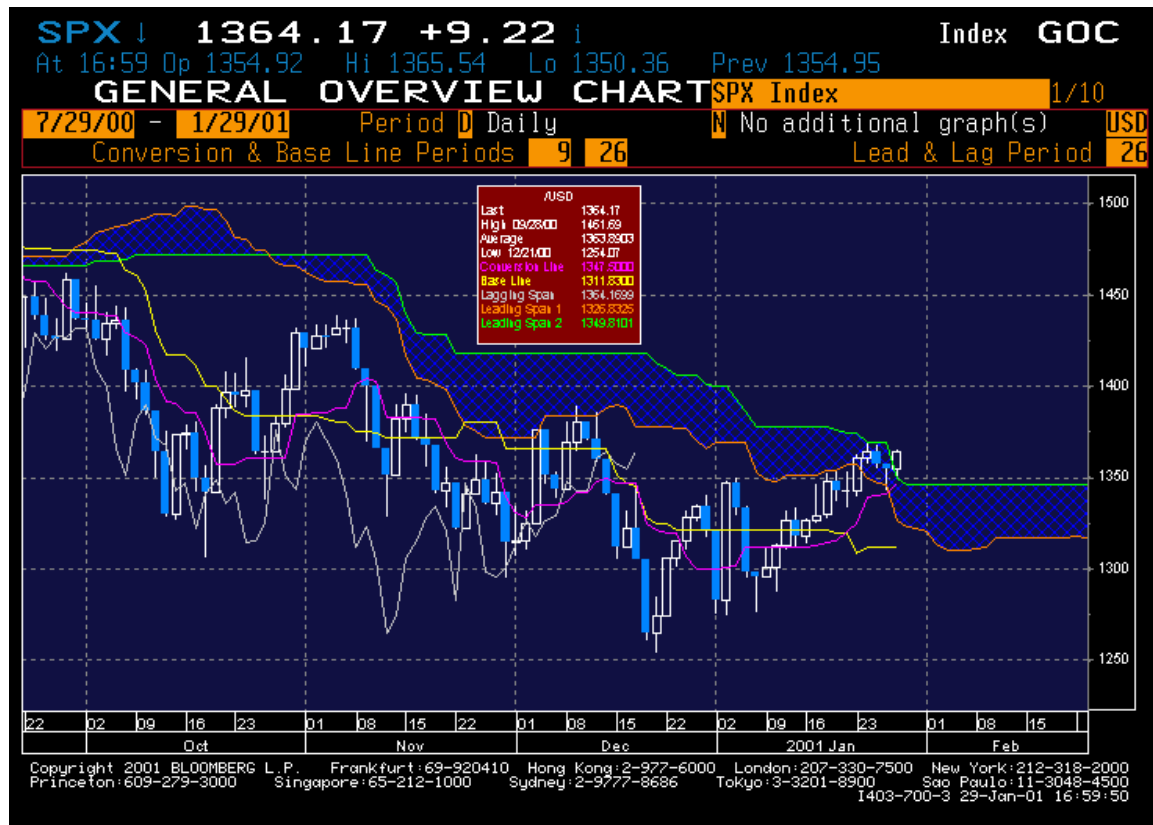


Figure 10

Experience

Through experience an Ichimoku chart analyst can learn to assign relative weights to the various indicators. The Conversion line – Base line Crossing and candlestick patterns, for example, are major signals and have a greater impact than say, the Cloud composition. This weight assignment may include different values for a particular indicator, depending on the scenario, for example, buying or selling.

Conclusion

Ichimoku charting takes a further step into the realm of Japanese technical analysis and gives another perspective of how Japanese players look at the market.

DRAFT**Appendix**

The following screen shots show the historical prices for Dell Computer Corporation (DELL):

<HELP> for explanation, <MENU> for similar functions. P291 Equity HP

Comp/CLOSE/PRICE Page 1 / 3

DELL COMPUTER CORP (DELL US) PRICE 28 1/2 Q \$

Range **7/31/00** to **1/29/01** HI 43 1/8 ON 7/31/00

AVE 28.886 VL 37974009

LOW 16 5/8 ON 12/20/00

Period **D** Daily Market **I** Trade

DATE	PRICE	VOLUME	DATE	PRICE	VOLUME	DATE	PRICE	VOLUME
F 1/29	28 1/2	36165300	F 1/12	22 1/8	48560300	F 12/22	18 3/8	33893600
T 1/26	26 1/2	28121900	T 1/11	22 1/2	60930800	T 12/21	17 1/2	38964700
W 1/25	26 1/2	44248400	W 1/10	21 5/8	46802600	W 12/20	16 5/8	53674100
T 1/24	27 1/8	45586300	T 1/ 9	19 3/4	32306300	T 12/19	18 1/4	36845400
T 1/23	26 3/8	46871300	M 1/ 8	19 1/8	29727600	M 12/18	19 1/2	32087100
M 1/22	25 1/2	73967700	F 1/ 5	19	28582500	F 12/15	19 7/8	62411400
F 1/19	25 5/8	59032800	T 1/ 4	19 1/2	55122500	T 12/14	19 1/2	34646600
T 1/18	24 1/2	40341100	W 1/ 3	20	51285400	W 12/13	20 1/2	44640000
W 1/17	22 1/2	38893900	T 1/ 2	17 1/2	28728800	T 12/12	21 1/4	50877100
T 1/16	21 1/2	25841200	M 1/ 1			M 12/11	20 1/8	60965100
M 1/15			F 12/29	17 1/2	42604300	F 12/ 8	18 1/2	64888300
			T 12/28	17 1/2	42494900	T 12/ 7	17 1/2	35035200
			W 12/27	18	35715700	W 12/ 6	18	54952200
			T 12/26	17 1/2	24756400	T 12/ 5	20 1/4	38369600
			M 12/25			M 12/ 4	18 1/2	26410600

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 Princeton: 609-279-3000 Singapore: 65-212-1000 Sydney: 2-9777-8686 Tokyo: 3-3201-8900 Sao Paulo: 11-3048-4500
 1403-700-2 30-Jan-01 8:23:45

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<HELP> for explanation. P291 Equity HP

Comp/CLOSE/PRICE Page 2 / 3

DELL COMPUTER CORP (DELL US) PRICE 28 $\frac{1}{2}$ Q \$

Range **7/31/00** to **1/29/01** Period **D** Daily HI 43 $\frac{5}{8}$ ON 7/31/00
 USD Market **I** Trade AVE 28.886 VL 37974009
 LOW 16 $\frac{5}{8}$ ON 12/20/00

DATE	PRICE	VOLUME	DATE	PRICE	VOLUME	DATE	PRICE	VOLUME
F 12/ 1	18 $\frac{1}{2}$	55373500	F 11/10	23	122MLN	F 10/20	28 $\frac{1}{2}$	33364700
T 11/30	19 $\frac{1}{4}$	60412700	T 11/ 9	28 $\frac{3}{8}$	45034900	T 10/19	28 $\frac{1}{2}$	40155200
W 11/29	21 $\frac{1}{2}$	34056200	W 11/ 8	30 $\frac{1}{2}$	21971100	W 10/18	26 $\frac{1}{4}$	46393800
T 11/28	22 $\frac{1}{2}$	33312900	T 11/ 7	32 $\frac{1}{2}$	23288800	T 10/17	24 $\frac{3}{8}$	27052500
M 11/27	24 $\frac{1}{2}$	18722600	M 11/ 6	31 $\frac{1}{2}$	17065800	M 10/16	25 $\frac{3}{4}$	29600200
F 11/24	24 $\frac{3}{8}$	10594700	F 11/ 3	32 $\frac{1}{2}$	24103600	F 10/13	27 $\frac{5}{8}$	59570700
T 11/23	23	18118800	T 11/ 2	31 $\frac{1}{2}$	25696400	T 10/12	23 $\frac{3}{8}$	46334300
W 11/22	23	18118800	W 11/ 1	30 $\frac{1}{2}$	25336600	W 10/11	23	45076800
T 11/21	23 $\frac{5}{8}$	21434700	T 10/31	29 $\frac{1}{2}$	26504100	T 10/10	24 $\frac{1}{4}$	40751900
M 11/20	23 $\frac{3}{8}$	30739300	M 10/30	28 $\frac{1}{2}$	27110400	M 10/ 9	25 $\frac{5}{8}$	37370000
F 11/17	24 $\frac{1}{2}$	32498200	F 10/27	27 $\frac{5}{8}$	22430800	F 10/ 6	25 $\frac{5}{8}$	48934800
T 11/16	24 $\frac{1}{2}$	23730800	T 10/26	27 $\frac{3}{4}$	28426900	T 10/ 5	25 $\frac{3}{8}$	117MLN
W 11/15	25 $\frac{1}{2}$	37499700	W 10/25	25 $\frac{7}{8}$	27784000	W 10/ 4	28 $\frac{1}{2}$	64200000
T 11/14	25 $\frac{1}{2}$	32129200	T 10/24	26 $\frac{1}{2}$	26306900	T 10/ 3	28 $\frac{1}{2}$	48022200
M 11/13	24 $\frac{1}{8}$	55058900	M 10/23	27 $\frac{1}{2}$	27904900	M 10/ 2	29 $\frac{1}{4}$	51486500

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 Princeton:609-279-3000 Singapore:65-212-1000 Sydney:2-9777-8686 Tokyo:3-3201-8900 Sao Paulo:11-3048-4500
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<HELP> for explanation. P291 Equity HP

Comp/CLOSE/PRICE Page 3 / 3

DELL COMPUTER CORP (DELL US) PRICE 28 $\frac{1}{2}$ Q \$

Range **7/31/00** to **1/29/01** Period **D** Daily HI 43 $\frac{5}{8}$ ON 7/31/00
 USD Market **I** Trade AVE 28.886 VL 37974009
 LOW 16 $\frac{5}{8}$ ON 12/20/00

DATE	PRICE	VOLUME	DATE	PRICE	VOLUME	DATE	PRICE	VOLUME
F 9/29	30 $\frac{1}{2}$	57730800	F 9/ 8	38 $\frac{7}{8}$	25413600	F 8/18	38 $\frac{3}{4}$	23750800
T 9/28	33 $\frac{1}{2}$	41886300	T 9/ 7	40 $\frac{1}{2}$	26922100	T 8/17	39 $\frac{1}{8}$	28419500
W 9/27	32 $\frac{1}{2}$	44866000	W 9/ 6	39 $\frac{1}{2}$	32303100	W 8/16	38 $\frac{1}{2}$	29344300
T 9/26	33 $\frac{5}{8}$	35246000	T 9/ 5	41	32852400	T 8/15	38 $\frac{1}{2}$	46628400
M 9/25	34 $\frac{1}{8}$	28996200	M 9/ 4			M 8/14	36 $\frac{1}{2}$	45800100
F 9/22	35 $\frac{1}{2}$	80207904	F 9/ 1	43 $\frac{1}{2}$	28358900	F 8/11	37 $\frac{1}{2}$	76060896
T 9/21	37 $\frac{1}{2}$	42150100	T 8/31	43 $\frac{5}{8}$	64212600	T 8/10	41 $\frac{3}{4}$	19620300
W 9/20	38 $\frac{1}{2}$	44806200	W 8/30	39 $\frac{1}{2}$	20794000	W 8/ 9	41 $\frac{1}{2}$	25988500
T 9/19	36 $\frac{1}{2}$	29821400	T 8/29	40 $\frac{1}{2}$	29104800	T 8/ 8	41 $\frac{1}{2}$	16860300
M 9/18	34 $\frac{1}{2}$	29941900	M 8/28	39 $\frac{1}{2}$	22937600	M 8/ 7	42 $\frac{1}{2}$	22915000
F 9/15	35 $\frac{3}{4}$	34854300	F 8/25	38 $\frac{5}{8}$	16750400	F 8/ 4	41 $\frac{3}{8}$	15720600
T 9/14	36 $\frac{5}{8}$	27105900	T 8/24	39	23308700	T 8/ 3	40 $\frac{1}{2}$	28634900
W 9/13	36 $\frac{1}{4}$	39597600	W 8/23	38 $\frac{1}{2}$	31816600	W 8/ 2	39 $\frac{1}{2}$	47988200
T 9/12	37 $\frac{1}{2}$	29686600	T 8/22	37 $\frac{1}{2}$	33376700	T 8/ 1	41 $\frac{1}{2}$	22596300
M 9/11	38 $\frac{1}{2}$	19673700	M 8/21	38 $\frac{3}{4}$	16731500	M 7/31	44 $\frac{1}{2}$	17664700

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 1403-700-2 30-Jan-01 8:24:17

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The following screen shots show the historical prices for Tommy Hilfiger (TOM):

<HELP> for explanation, <MENU> for similar functions. **P291 Equity HP**

Comp/CLOSE/PRICE Page 1 / 3

TOMMY HILFIGER CORP (TOM US) PRICE 11 $\frac{1}{2}$ X \$

Range **6/12/00** to **12/11/00** HI 13 $\frac{1}{2}$ ON 11/ 2/00

AVE 9.7661 VL 830793

LOW 6 $\frac{1}{2}$ ON 6/21/00

Period **D** Daily Market **I** Trade

DATE	PRICE	VOLUME	DATE	PRICE	VOLUME	DATE	PRICE	VOLUME
F 12/11	11 $\frac{1}{2}$	113100	F 11/24	11 $\frac{7}{8}$	266900	F 11/ 3	13 $\frac{1}{2}$	1196600
T 12/ 8	11 $\frac{3}{4}$	563400	T 11/23			T 11/ 2	H13 $\frac{1}{2}$	1473700
W 12/ 7	11 $\frac{1}{2}$	300800	W 11/22	11 $\frac{1}{2}$	438200	W 11/ 1	13	4297000
T 12/ 6	11 $\frac{1}{2}$	1025900	T 11/21	11 $\frac{1}{2}$	360000	T 10/31	11 $\frac{5}{8}$	1870500
M 12/ 5	11 $\frac{3}{8}$	1115400	M 11/20	11 $\frac{1}{2}$	844000	M 10/30	11	1170700
M 12/ 4	11 $\frac{3}{8}$	770100	F 11/17	12 $\frac{1}{2}$	217100	F 10/27	9 $\frac{1}{2}$	349400
F 12/ 1	11 $\frac{1}{2}$	524800	T 11/16	12 $\frac{5}{8}$	210000	T 10/26	9 $\frac{1}{2}$	718400
T 11/30	11 $\frac{1}{2}$	1369900	W 11/15	12 $\frac{1}{2}$	480900	W 10/25	9 $\frac{5}{8}$	590000
W 11/29	12 $\frac{1}{2}$	711100	T 11/14	13 $\frac{1}{2}$	835200	T 10/24	9 $\frac{7}{8}$	830900
T 11/28	13	1256400	M 11/13	12 $\frac{3}{8}$	541200	M 10/23	9 $\frac{7}{8}$	422200
M 11/27	12 $\frac{1}{2}$	446500	F 11/10	12 $\frac{1}{2}$	637700	F 10/20	10 $\frac{1}{8}$	328600
			T 11/ 9	12 $\frac{1}{4}$	790900	T 10/19	10 $\frac{3}{8}$	1903200
			W 11/ 8	13 $\frac{1}{2}$	558100	W 10/18	9 $\frac{7}{8}$	1133500
			T 11/ 7	12 $\frac{1}{2}$	607700	T 10/17	9 $\frac{1}{4}$	810600
			M 11/ 6	13 $\frac{1}{2}$	1121700	M 10/16	9 $\frac{1}{2}$	400400

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 1403-700-3 11-Dec-00 11:53:53

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<HELP> for explanation. P291 Equity HP

Comp/CLOSE/PRICE Page 2 / 3

TOMMY HILFIGER CORP (TOM US) PRICE 11 $\frac{1}{2}$ X \$

Range 6/12/00 to 12/11/00 Period 0 Daily HI 13 $\frac{1}{2}$ ON 11/ 2/00

USD Market 1 Trade AVE 9.7661 VL 830793

LOW 6 $\frac{1}{2}$ ON 6/21/00

DATE	PRICE	VOLUME	DATE	PRICE	VOLUME	DATE	PRICE	VOLUME
F 10/13	9	306000	F 9/22	10	351800	F 9/ 1	10 $\frac{1}{2}$	893700
T 10/12	8 $\frac{3}{4}$	606300	T 9/21	10 $\frac{1}{2}$	647600	T 8/31	10 $\frac{7}{8}$	5510700
W 10/11	8 $\frac{1}{2}$	656900	W 9/20	9 $\frac{1}{2}$	848700	W 8/30	9 $\frac{1}{2}$	3487000
T 10/10	9 $\frac{3}{8}$	445400	T 9/19	9 $\frac{1}{2}$	480300	T 8/29	8 $\frac{1}{2}$	257600
M 10/ 9	9 $\frac{3}{8}$	444300	M 9/18	10 $\frac{1}{2}$	527200	M 8/28	8 $\frac{1}{2}$	360100
F 10/ 6	9 $\frac{1}{2}$	511800	F 9/15	10 $\frac{1}{2}$	350600	F 8/25	9	258900
T 10/ 5	9 $\frac{1}{8}$	889400	T 9/14	10 $\frac{5}{8}$	457700	T 8/24	8 $\frac{7}{8}$	579800
W 10/ 4	8 $\frac{1}{2}$	211200	W 9/13	10 $\frac{1}{2}$	334000	W 8/23	9 $\frac{1}{2}$	502200
T 10/ 3	8 $\frac{1}{2}$	411000	T 9/12	10 $\frac{5}{8}$	487300	T 8/22	9 $\frac{1}{2}$	339700
M 10/ 2	9 $\frac{1}{8}$	402300	M 9/11	10 $\frac{1}{2}$	660800	M 8/21	9 $\frac{1}{4}$	430600
F 9/29	9 $\frac{5}{8}$	271200	F 9/ 8	10 $\frac{5}{8}$	3718000	F 8/18	9 $\frac{1}{2}$	658600
T 9/28	9 $\frac{1}{2}$	332700	T 9/ 7	10 $\frac{1}{2}$	396500	T 8/17	9 $\frac{1}{4}$	458800
W 9/27	9	790400	W 9/ 6	10 $\frac{1}{2}$	462100	W 8/16	9 $\frac{3}{8}$	391900
T 9/26	9 $\frac{1}{2}$	731200	T 9/ 5	10 $\frac{1}{2}$	1442000	T 8/15	9 $\frac{5}{8}$	574400
M 9/25	10 $\frac{1}{8}$	387300	M 9/ 4			M 8/14	9 $\frac{1}{2}$	477900

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