The POWERTOOL strategy

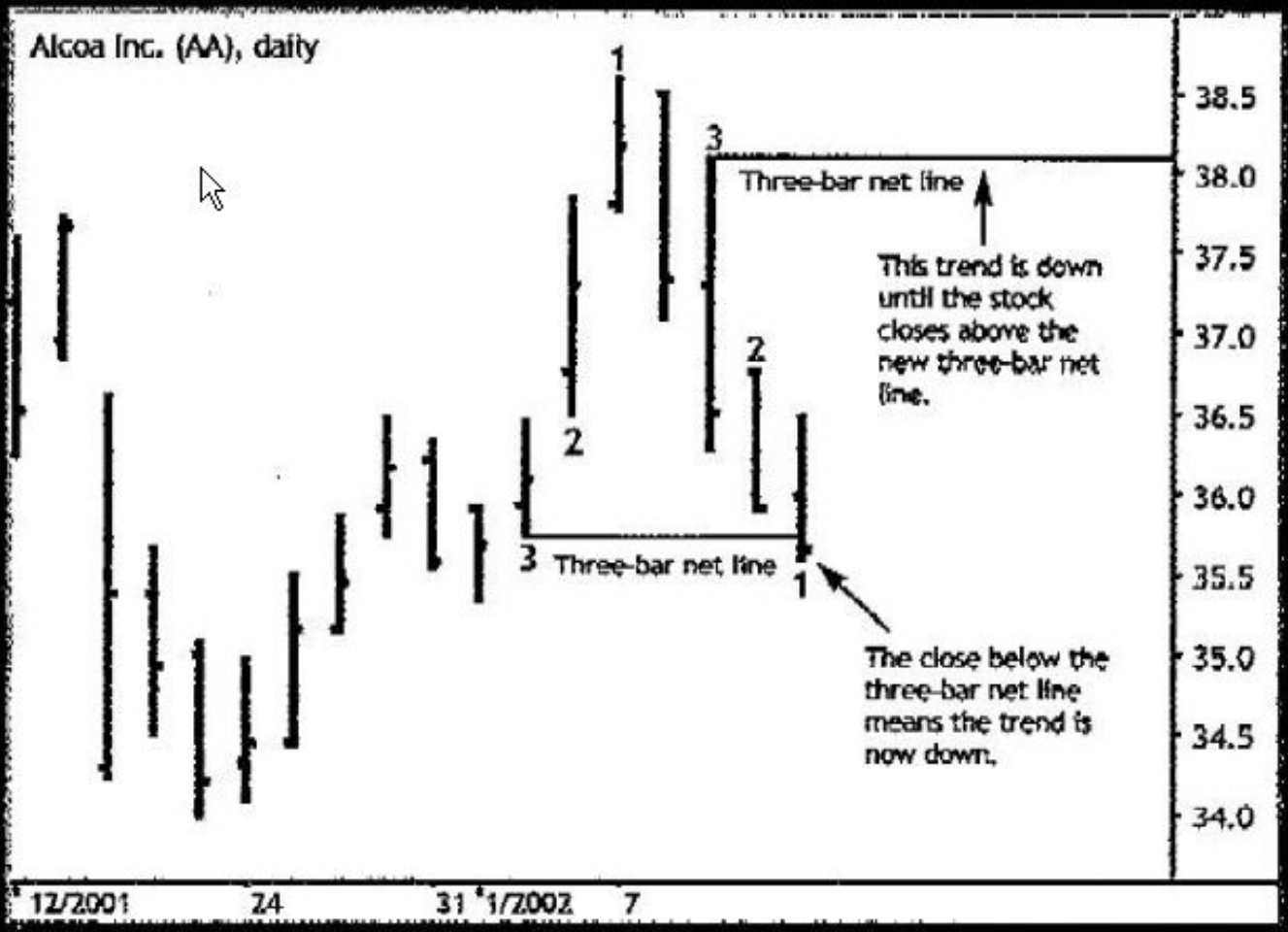
Like any other craft, trading requires the right tool(s) for the job. In this case, combining a simple trend indicator with a bull/bear momentum calculation creates an excellent timing tool for short-term traders.

FIGURE 1 DEFINING THE TREND: THE THREE-BAR NET LINE

The bar labeled with a blue 1 is the highest high of that upswing. The bar to its left, labeled bar 2, has a lower low than bar 1. The bar to the left of bar 2, labeled bar 3, has a lower low than bar 2. The horizontal line extending from the right of bar 3's low is the three-bar net line. The last bar on the chart (labeled with a red 1) closes below the three-bar net line, so the new trend is down. The bar to its left has a higher high than the last bar, so it's

Many winning trading strategies rely on two technical indicators — one to determine a market's underlying trend and another to time a trade. The Powertool strategy is a good example: It uses Joseph Stowell's three-bar net line as the trend indicator

from the right of bar 3's low is the three-bar net line. The last bar on the chart (labeled with a red 1) closes below the three-bar net line, so the new trend is down. The bar to its left has a higher high than the last bar, so it's labeled bar 2. The bar to the left of bar 2 has a higher high than bar 2, so it's labeled bar 3. The new three-bar net line extends to the right of bar 3's high. The trend is down until price closes above the most recent three-bar net line.



Source: TradeStation Platform by TradeStation Group

ker's underlying trend and another to time a trade. The Powertool strategy is a good example: It uses Joseph Stowell's three-bar net line as the trend indicator and Dr. Alexander Elder's bull power/bear power as the timing indicator.

Together, the two indicators create synergy — i.e., a whole greater than the sum of its parts: Trading with the three-bar net line is more precise when trades are timed with bull power/bear power; and trading with bull power/bear power is more consistent when trades are taken in the direction of the three-bar net line.

Stowell's three-bar net line

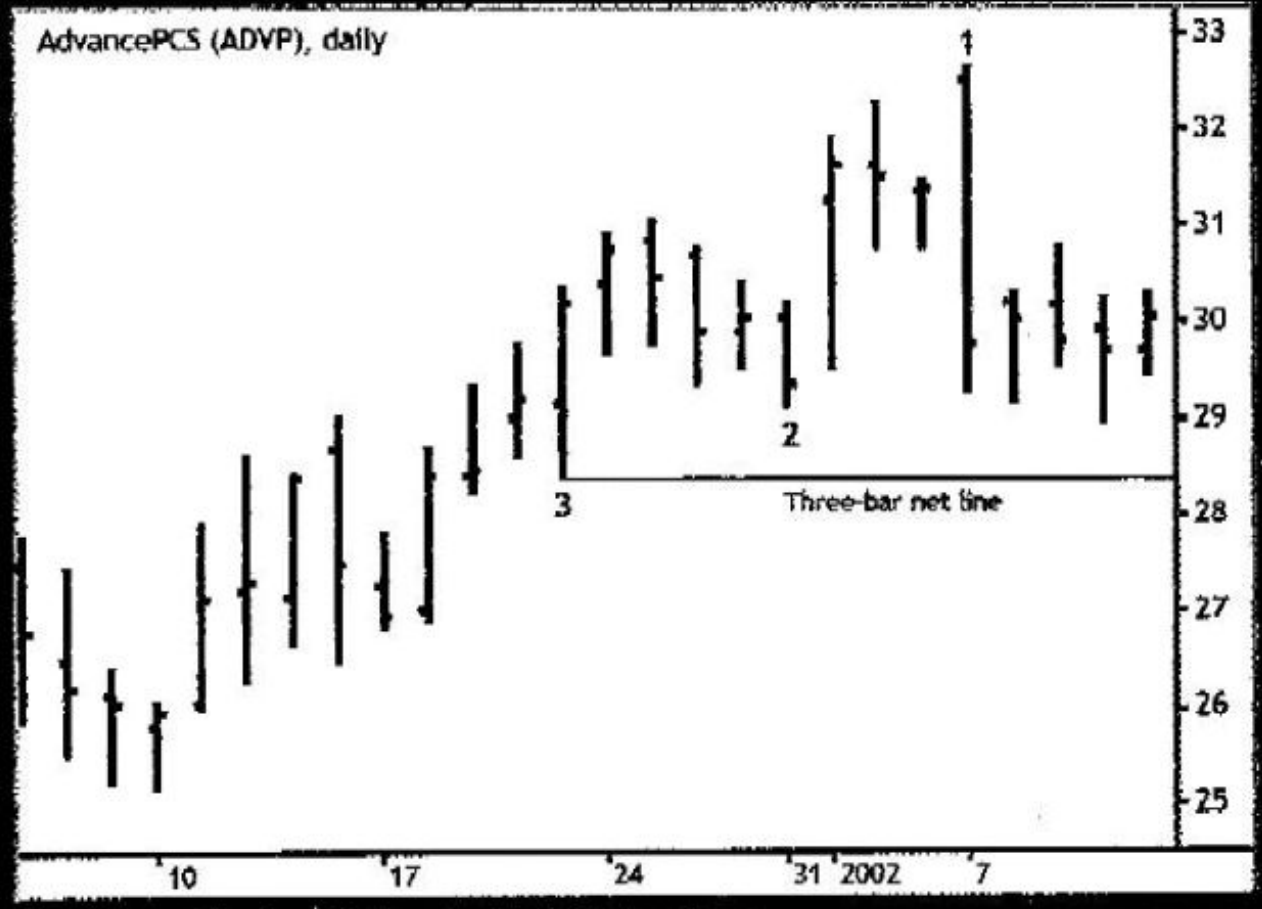
To draw a three-bar net line (see Figures 1, left, and 2, opposite page) when price has been rising recently, first find the highest high for the current upswing and label it bar 1. Next, look to the left and find the most recent low that is lower than the low of bar 1 and label it bar 2. Finally, look left again and find the most recent low that is lower than the low of bar 2 and label it bar 3. The three-bar net line is a horizontal line extending right from bar 3's low. The

3-BAR NET LINE: (1) TREND BEGINS
(2) EXITS - TREND STOPS

BY THOMAS A. BIEROVIC

FIGURE 2 THREE-BAR NET LINE IN AN UPTREND

Bar 1 is the highest high of the current upswing. Bar 2 is the first bar left of bar 1 with a lower low than bar 1. Bar 3 is the first bar to bar 2's left with a lower low than bar 2. The three-bar net line is drawn to the right of bar 3's low. The trend is up until price closes below this three-bar net line.



Source: TradeStation Platform by TradeStation Group

trend is up until price closes below the current three-bar net line.

The process is inverted for drawing a three-bar net line when prices have been falling (see Figures 1 and 3, p. 42). Bar 1 is the lowest low of the downswing. Look to the left: The most recent high that is higher than the high of bar 1 is bar 2. Look left again: The most recent high that is higher than the high of bar two is bar 3. Now, draw the three-bar net line to the right across the chart from the high of bar 3. The trend is down until price closes above the current three-bar net line.

One note: Inside bars (those with lower highs and higher lows than the bars preceding them) don't count, so just skip over them.

Bull power/bear power indicators

Calculating an EMA

An exponential moving average (EMA) uses a "smoothing factor" to give

One note: Inside bars (those with lower highs and higher lows than the bars preceding them) don't count, so just skip over them.

Bull power/bear power indicators

Dr. Elder's bull power measures the bulls' ability to pull price higher; his bear power measures the bears' ability to push price lower.

Bull power is the current price bar's high minus a 13-bar exponential moving average (EMA) of closing prices. Bear power is the current price bar's low minus the 13-bar EMA (see "Calculating an EMA," right, for more information on exponential moving averages).

The logic behind bull power/bear power is that the price high represents the maximum power of bulls, the price low represents the maximum power of bears, and the EMA represents, in Dr. Elder's words, the "average consensus of value." The distance between the high and the EMA defines bull power, while the distance between the low and the EMA defines bear power (see Figure 4, p. 42).

continued on p. 42

Calculating an EMA

An exponential moving average (EMA) uses a "smoothing factor" to give more emphasis to recent prices, thus making the indicator more responsive to directional changes as they occur. The shorter the EMA, the more the most recent price action is emphasized. The opposite is true for longer EMAs.

Expressed in terms of daily bars, the EMA formula is:

$$\text{Today's EMA} = (C*(P - \text{EMA}_{-1})) + \text{EMA}_{-1}$$

where

P = current price (typically, the closing price)

EMA_{-1} = previous period's EMA

C = smoothing constant

Because you need to know the previous day's EMA value to calculate today's EMA, it is necessary to begin the EMA calculation using a simple moving average (SMA) value. The following formula relates the smoothing constant used in an EMA to the number of bars in an equivalent SMA:

$$\text{Smoothing constant (SC)} = 2/(1+N)$$

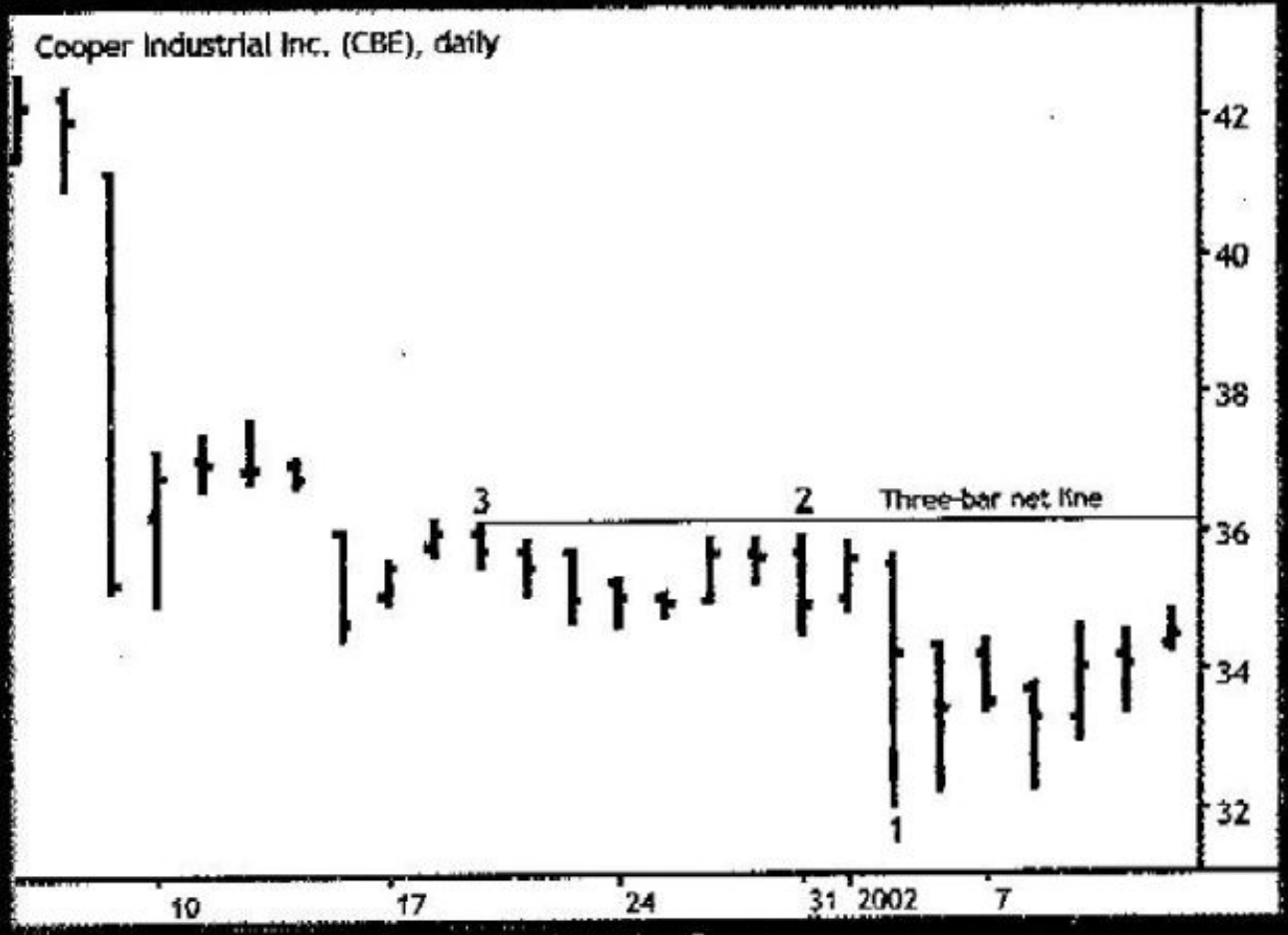
where

N = number of periods in SMA

For example, the smoothing constant to produce a "20-day" EMA is .095 (2/{1+20}).

FIGURE 3 THREE-BAR NET LINE IN A DOWNTREND

Bar 1 is the lowest low of the current downswing. Bar 2 is the first bar to bar 1's left that has a higher high than bar 1 (remember that inside bars, like the one to bar 1's immediate left, don't count). Bar 3 is the first bar to bar 2's left that has a higher high than bar 2. Draw the three-bar net line to the right from the high of bar 3. The trend is down until price closes above the most recent three-bar net line.



Source: TradeStation Platform by TradeStation Group

FIGURE 4 BULL AND BEAR POWER

Bull power is the high of the current bar minus the 13-bar exponential moving average (EMA) of the close. When the high is above the EMA, bull power is

Bull power and bear power are plotted as separate histograms below a bar chart (see Figure 5, opposite page).

Interpreting bull power/bear power

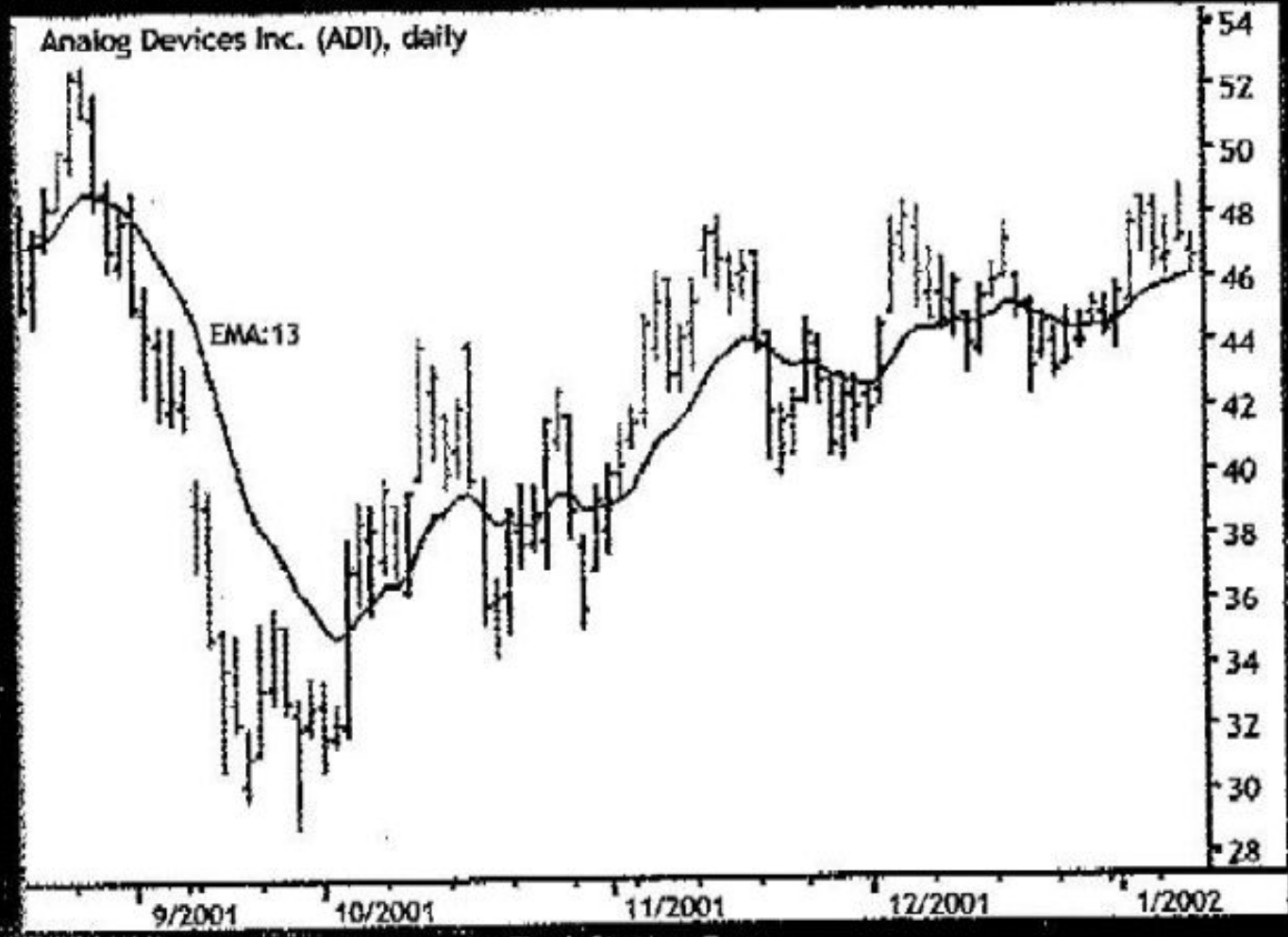
In a neutral (sideways) market, bull power is usually above zero (i.e., the high is above the EMA), and bear power is usually below zero (i.e., the low is below the EMA.) In an uptrend, however, both bull and bear power are frequently above zero (the high and low are both above the EMA). In a downtrend, both bull and bear power are frequently below zero (the high and low are both below the EMA). Figure 5 illustrates this.

You probably won't want to buy a market when price has already climbed so steeply that the low is above the EMA, or sell it short when it has already declined so sharply that the high is below the EMA.

Instead, when price is in an uptrend,

FIGURE 4 BULL AND BEAR POWER

Bull power is the high of the current bar minus the 13-bar exponential moving average (EMA) of the close. When the high is above the EMA, bull power is positive. Bear power is the low minus the 13-bar EMA. When the low is below the EMA, bear power is negative. When both the highs and lows are above or below the EMA (the green and red bars), the market may be overbought or oversold, respectively.



Source: TradeStation Platform by TradeStation Group

so steeply that the low is above the EMA, or sell it short when it has already declined so sharply that the high is below the EMA.

Instead, when price is in an uptrend, wait for bear power to cross below zero (e.g., for the low to fall below the EMA) to avoid buying when the market is overbought. Then wait for bear power to tick up (to be greater than it was yesterday), which indicates the countertrend decline has lost its downward momentum. With that setup in effect, place an order to buy above the previous price bar's high.

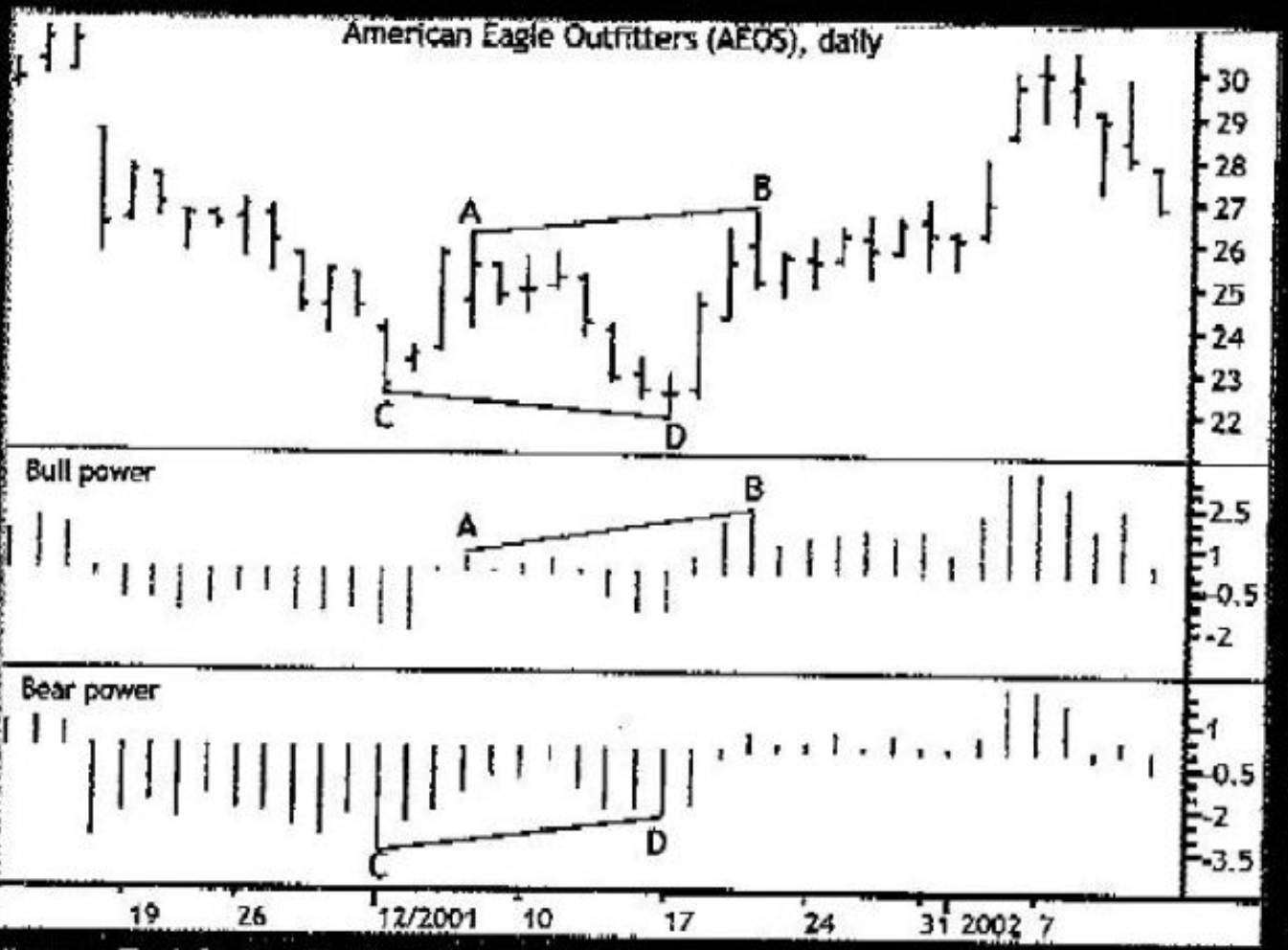
Similarly, in a downtrend, wait for bull power to cross above zero (e.g., for the high to rise above the EMA) so you won't be selling short when the market is oversold. Then wait for bull power to tick down (to be less than it was yesterday), suggesting the countertrend rally has run its course. With the setup in effect, place an order to sell short below the previous price bar's low.

The Powertool rules are:

Long
Setup:
1. The close is above the three-bar net line.

FIGURE 5 CONFIRMING STRENGTH OR WEAKNESS

The price high at B is higher than the price high at A. Bull power at B is higher than bull power at A, confirming the strength of the uptrend. The price low at D is lower than the price low at C, but bear power at D is higher (less negative) than bear power at C. In the best buy setups, bull power confirms the recent price high, but bear power does not confirm the recent price low. The reverse is true for the best short setups.



Source: TradeStation Platform by TradeStation Group

2. Bull power is above 0.
3. Bear power crosses from above 0 to below 0.
4. Bear power is greater than it was yesterday.

Entry: Buy tomorrow above today's high.

Exits:

1. Set an initial protective stop below the three-bar net line.
2. Trail a stop below the three-bar net line.

Short Setup:

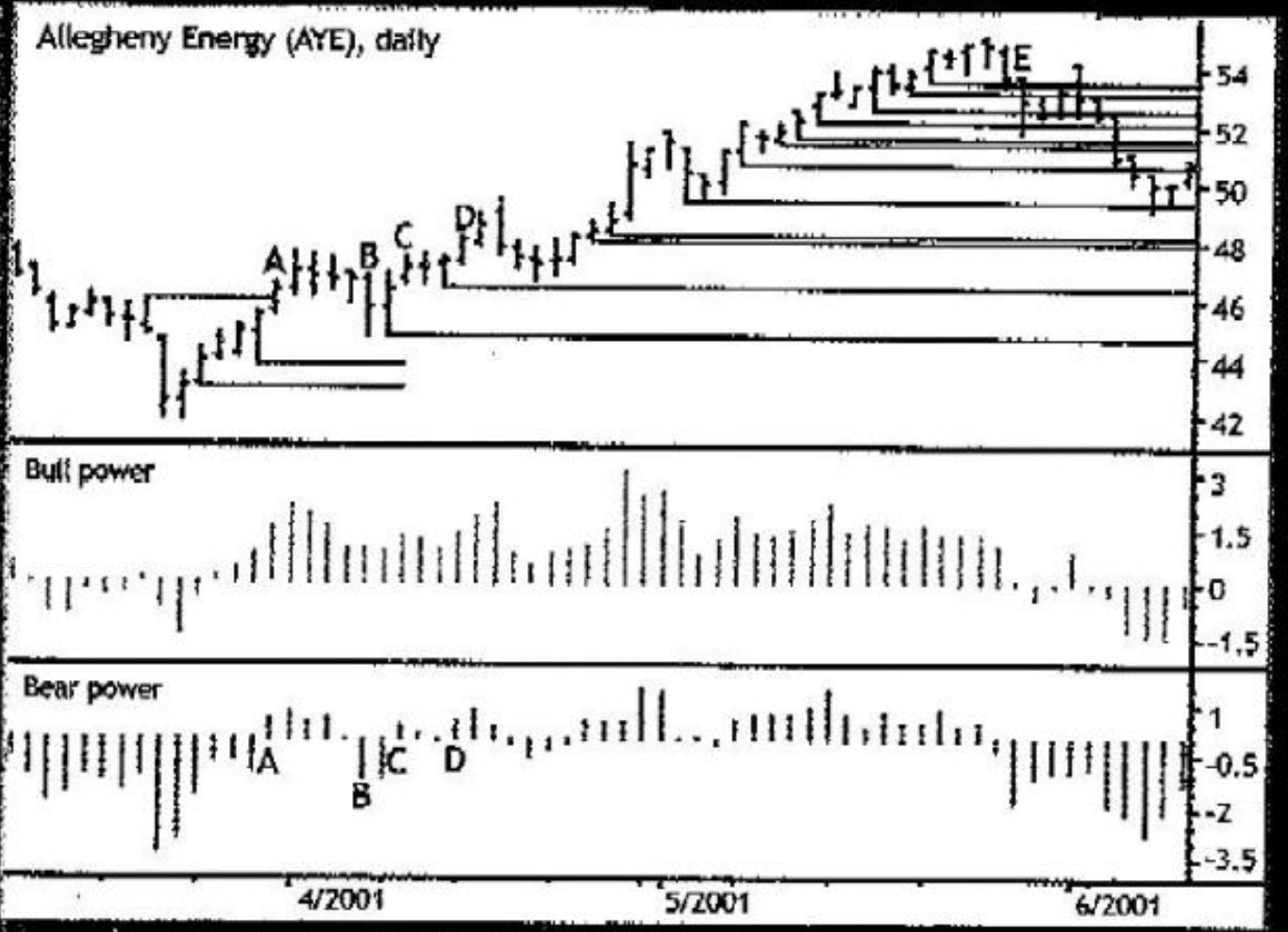
1. The close is below the three-bar net line.
2. Bear power is below 0.
3. Bull power crosses from below 0 to above 0.
4. Bull power is less than it was yesterday.

Entry: Sell short tomorrow below today's low.

Source: TradeStation Platform by TradeStation Group

FIGURE 6 POWERTOOL LONG TRADE

A long signal is given on bar D after it moves above bar C's high (which was the bar when bear power upticked). The exit is on bar E. The three-bar net line is progressively raised as the stock rallies, locking in increasing profits.



Source: TradeStation Platform by TradeStation Group

Entry: Sell short tomorrow below today's low.

Exits:

1. Set an initial protective stop above the three-bar net line.
2. Trail a stop above the three-bar net line.

Note: "Above" means any small amount above the high or the three-bar net line, e.g., 10 cents for a stock or one tick for a commodity. "Below" means any small amount below the low or the three-bar net line, e.g., 10 cents for a stock or one tick for a commodity.

Two Powertool long trades

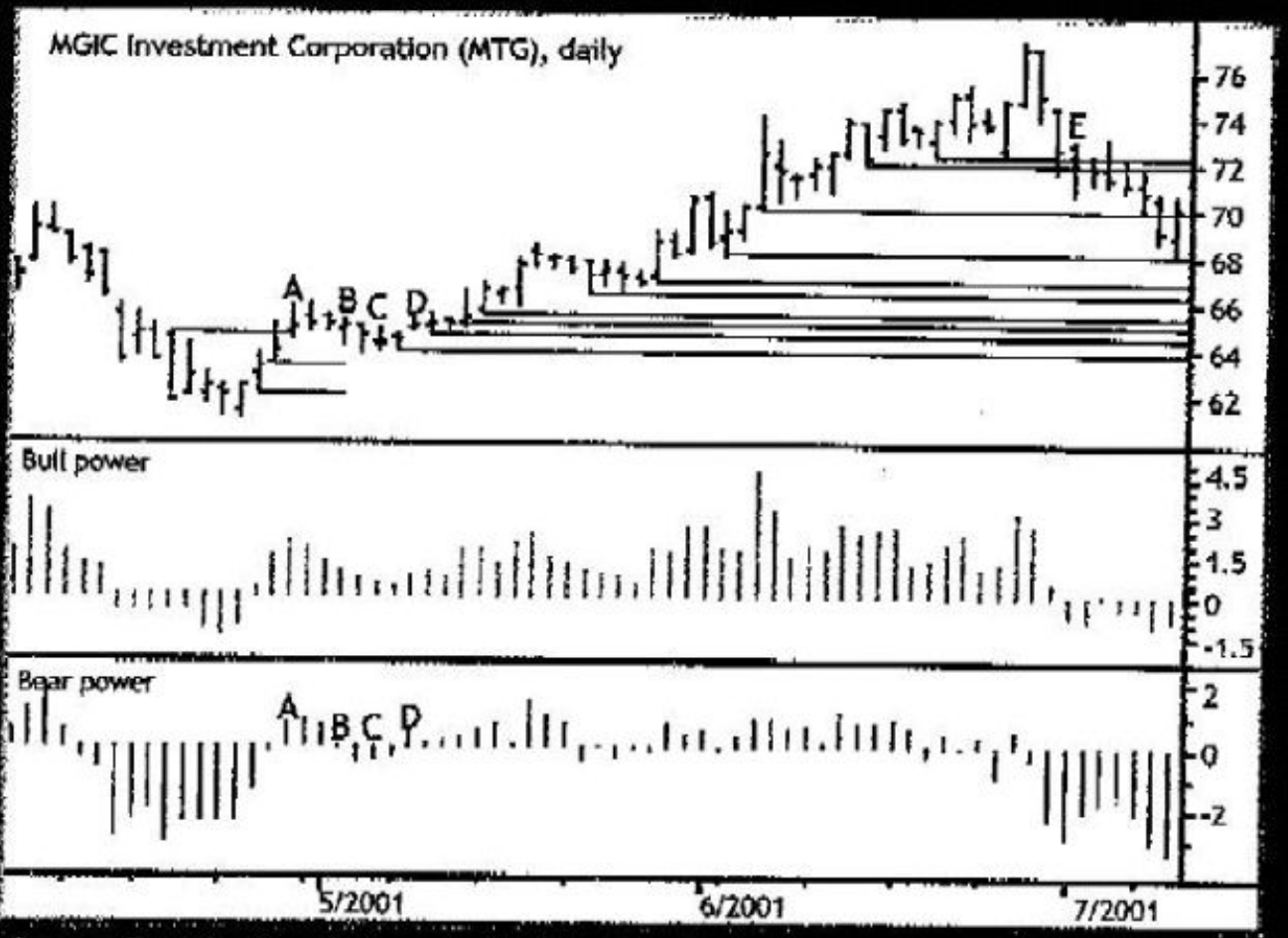
In Figure 6 (left), price closes above the three-bar net line on bar A, which means the trend is up. Both bull power and bear power are greater than zero. On bar B, bear power crosses below zero, indicating the market is not too overbought to buy. On bar C, bear power ticks up, so we place a buy stop above the bar-C high.

The next two bars don't penetrate the previous bar's high, so a long trade is not triggered until bar D, which rallies

continued on p. 44

FIGURE 7 CATCHING THE TREND

Here's another winning trade on the long side. Like the example in Figure 6, the trade captured a great deal of the uptrend, entering near its beginning and exiting just after the market peaked.



Source: TradeStation Platform by TradeStation Group

FIGURE 8 ON THE SHORT SIDE

In this example, a short trade was opened at bar D and exited at bar E. The tall price bar two days after bar D almost stopped out the trade, but fortunately, the three-bar net line held, and Powertool hammered out another successful trade.

above the previous bar's high. We exit the trade profitably on bar E on a close below the three-bar net line.

The second long trade example (see Figure 7, top left) is similar to the first: The main difference is that the entry buy stop is hit on the second bar after C, not the third bar as in Figure 6.

Powertool short trade

In Figure 8 (bottom left), price closes below the three-bar net line on bar A, so the trend is down. Both bull power and bear power are less than zero. On bar B, bear power crosses above zero, indicating that the market is not too oversold to sell short. On bar C, bear power ticks down, so we place a sell stop below the bar-C low and get short on bar D. We exit this winning trade on bar E, which closes above the three-bar net line.

Trading Powertool intraday

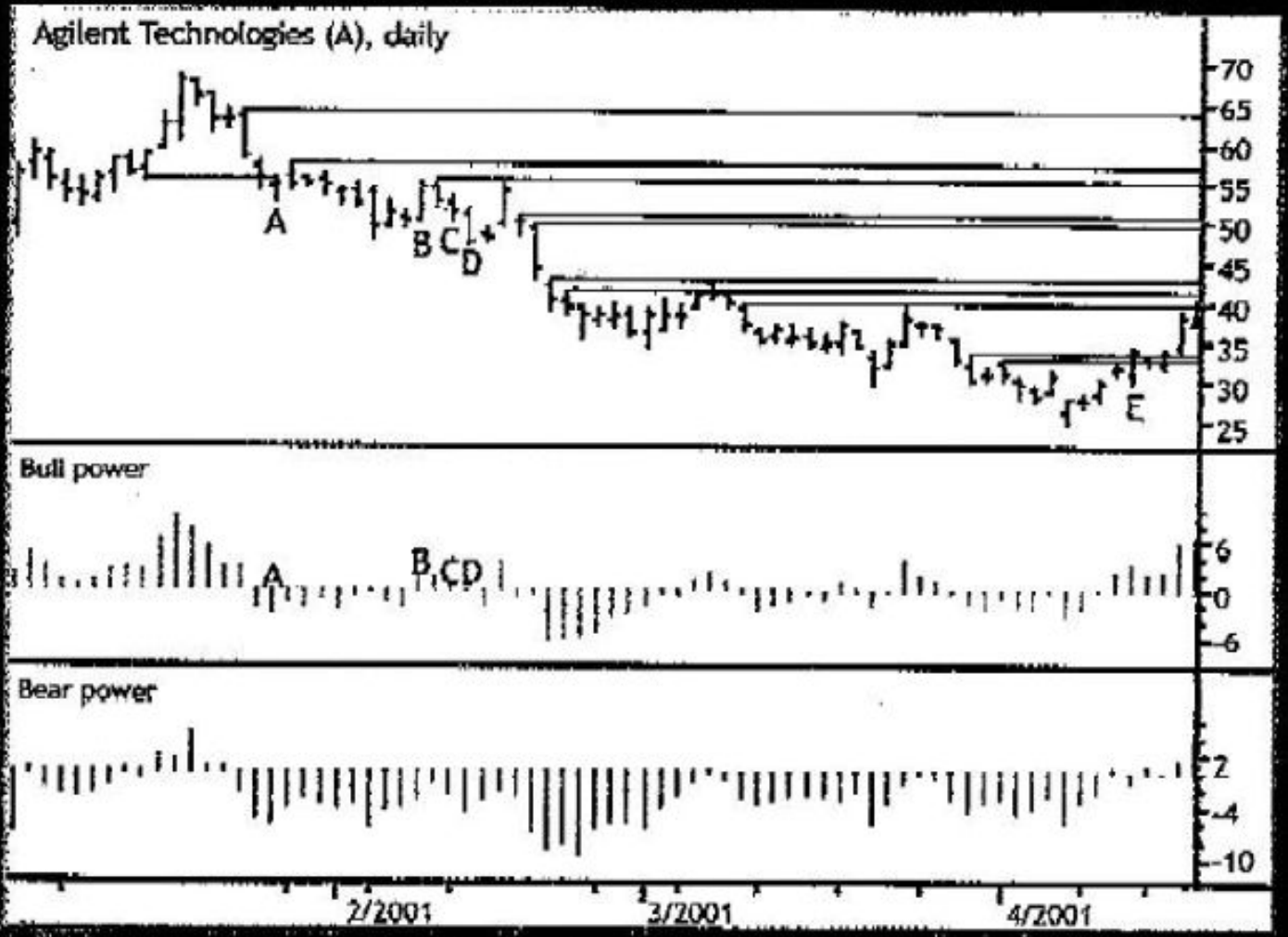
The first intraday trade example (see Figure 9, opposite page, top) occurs on a 30-minute chart of AXP. Price moves above the three-bar net line on bar A, indicating an uptrend. Both bull power and bear power are greater than zero.

On bar B, bear power crosses below zero, indicating the market is not too

Source: TradeStation Platform by TradeStation Group

FIGURE 8 ON THE SHORT SIDE

In this example, a short trade was opened at bar D and exited at bar E. The tall price bar two days after bar D almost stopped out the trade, but fortunately, the three-bar net line held, and Powertool hammered out another successful trade.



Source: TradeStation Platform by TradeStation Group

Trading Powertool Intraday

The first intraday trade example (see Figure 9, opposite page, top) occurs on a 30-minute chart of AXP. Price moves above the three-bar net line on bar A, indicating an uptrend. Both bull power and bear power are greater than zero.

On bar B, bear power crosses below zero, indicating the market is not too overextended to buy. On bar C, bear power ticks up, so we place a buy stop above the bar-C high and go long on bar D. We exit the trade with a significant profit on bar E when price penetrates the three-bar net line.

The reason we don't wait for price to close below the three-bar net line on intraday charts is that intraday bars don't really have closing prices, except for the last bar of the day. The closes of all the previous intraday bars are really just the last trades of those particular intraday periods, so they have far less significance than the closes of daily or weekly bars.

The second intraday example (see Figure 10, opposite page, bottom) is found on a 15-minute chart of MXIM. Price moves below the three-bar net line on bar A, so the trend is down. Both bull power and bear power are less than

zero. On bar B, bull power crosses above zero, indicating the market is not too overextended to sell short. On bar C, bull power ticks down, so we place a sell stop below the bar-C low and get short on bar D. We exit this winning trade on bar E, when price penetrates the three-bar net line.

Why Powertool works

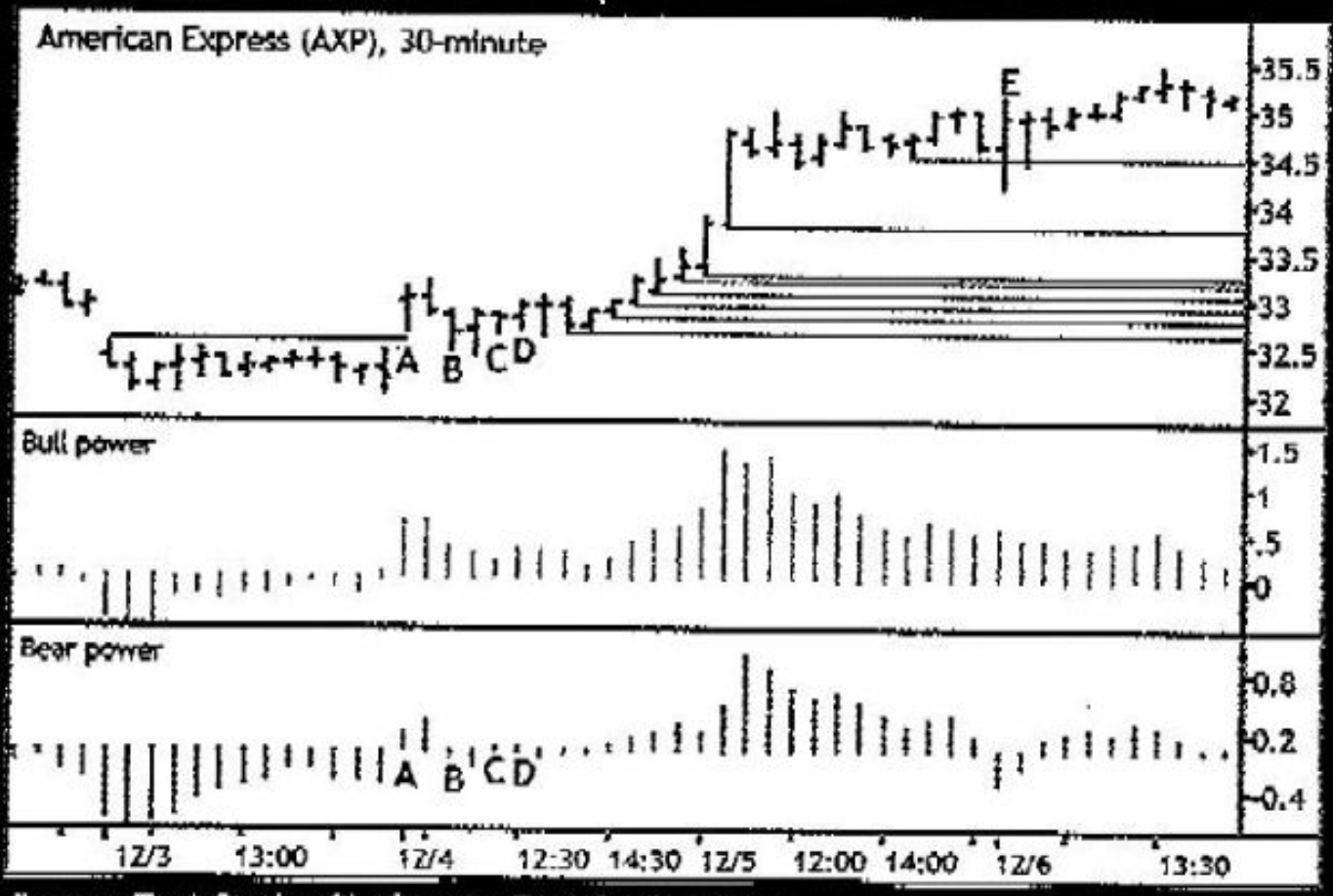
It is very difficult — perhaps impossible — to make money consistently over the long term in stocks or futures by basing trades on one indicator alone. Fortunately, it's not difficult to integrate two or more indicators into a synergetic strategy that features the positive aspects of each.

The Powertool strategy capitalizes on Joseph Stowell's three-bar net line's ability to identify the trend and Dr. Alexander Elder's bull power/bear power indicator's ability to time trades. The result is a strategy that's more reliable than single-indicator strategies and more powerful than many complex, esoteric ones.

For more information on the author see p. 12.

FIGURE 9 WORKING INTRADAY

On intraday bars Powertool exits trades based on a penetration of the three-bar net line instead of waiting for a close above or below it. On a 30-minute chart, only the last bar of the day has an actual closing price. The closing prices of all the other bars are really just the last prices of each 30-minute period.



Source: TradeStation Platform by TradeStation Group

FIGURE 10 INTRADAY DOWNTREND

Here, Powertool captures a lengthy downtrend on a 15-minute chart. Price moves below the first three-bar net line at bar A, indicating the stock is in a

able than single-indicator strategies and more powerful than many complex, esoteric ones.

For more information on the author see p. 12.

Further reading

Playing for Keeps in Stocks & Futures: Three Top Trading Strategies that Consistently Beat the Markets
by Thomas A. Bierovic
John Wiley & Sons, New York, 2001

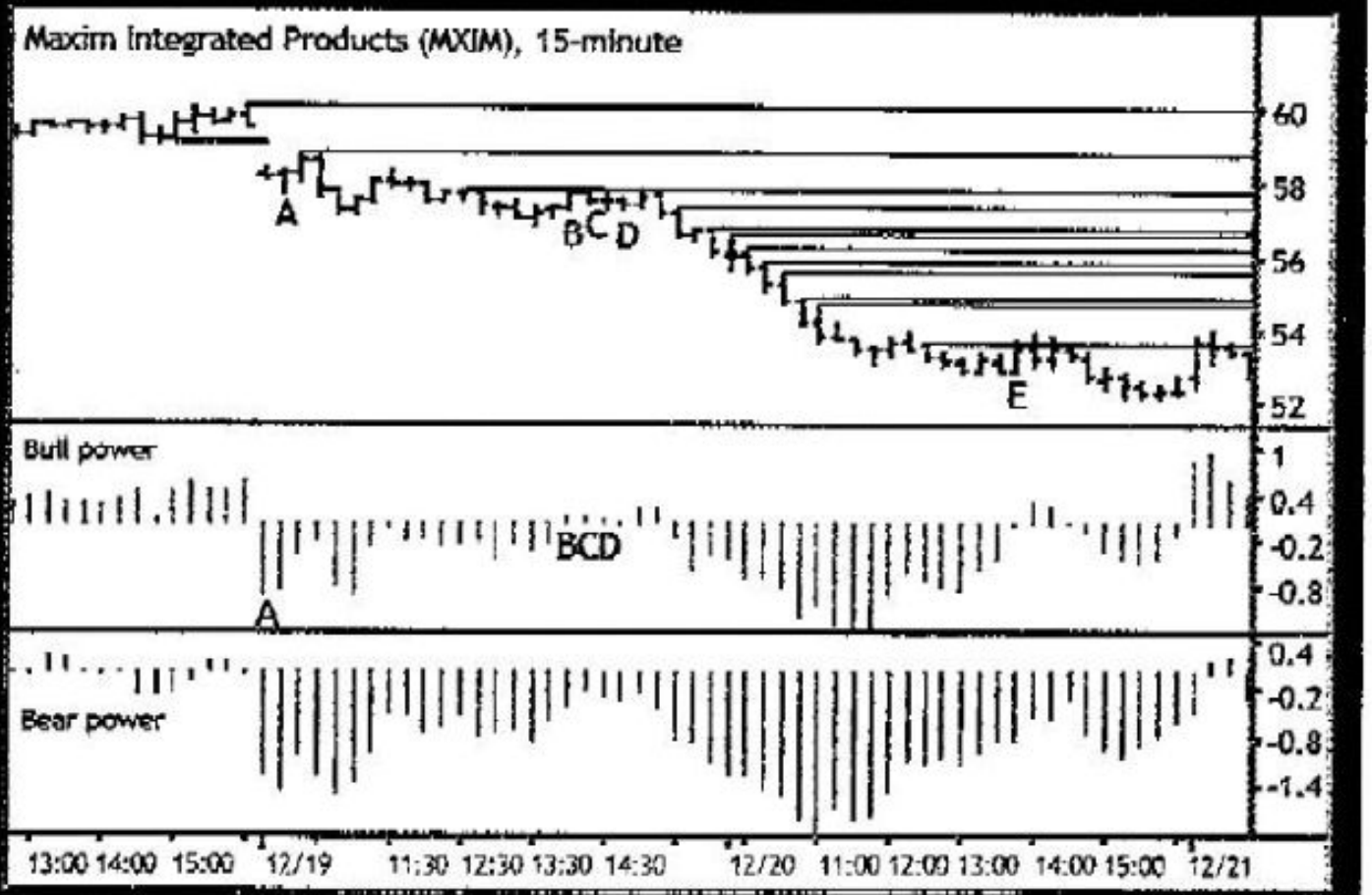
Trading for a Living
by Dr. Alexander Elder
John Wiley & Sons, New York, 1993;
www.elder.com.

Tips for Traders and Investors: Trading U.S. Bonds and Stocks
by Joseph Stowell
Money Management Institute
North Rose, New York.

Source: TradeStation Platform by TradeStation Group

FIGURE 10 INTRADAY DOWNTREND

Here, Powertool captures a lengthy downtrend on a 15-minute chart. Price moves below the first three-bar net line at bar A, indicating the stock is in a downtrend.



Source: TradeStation Platform by TradeStation Group