



KEEPING IT simple

While software packages that provide the latest bells and whistles are fine, they sometimes obscure the benefits of a simple trading approach.

Short-term strategies based on price patterns are a robust alternative to complex indicators and formulas.

BY MICHAEL HARRIS

People often underestimate the effectiveness of simple trading methods, focusing more on advanced techniques — in essence, equating complexity with profitability.

Part of the problem is our fascination with technology. There are many soft-

ware programs that allow you to design, test and execute trading strategies. The multitude of indicators, pre-packaged trading systems and technical analysis tools these software platforms offer are of great benefit to the trading public, in that they give individual traders the ability to perform research and analysis previously in the domain of financial institutions.

However, this access to technology has a downside. In some ways, it has fooled many traders into believing the more complicated a trading strategy is, the better its chances of success. This is not necessarily the case. We will show that simple trading rules have real value and can result in profitable systematic trading approaches that are easy for all traders to implement and execute.

Pattern 1: The 3L-R

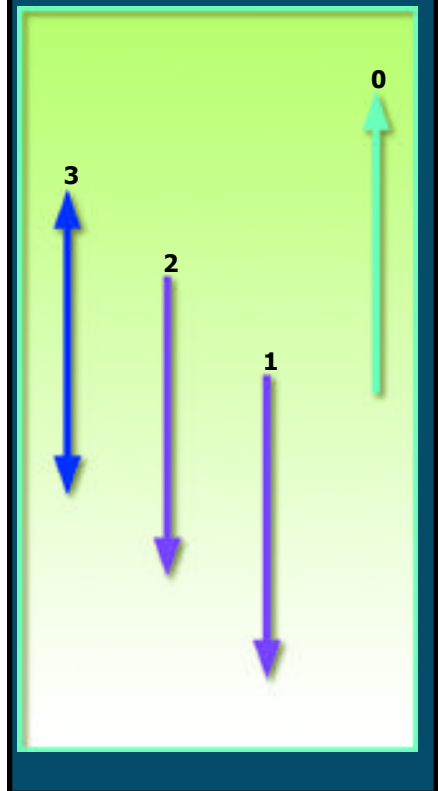
Figure 1 shows a price pattern formed by four consecutive daily bars. The bars are numbered from 0 (the most recent bar) to 3 (the most distant bar). The most recent bar is also referred to as “today,” bar 1 as “yesterday” and so on, as shown in Table 1).

TABLE 1 DAILY BAR LABELS

Bar number	Description
0	Today
1	Yesterday
2	Two days ago
3	Three days ago

FIGURE 1 THE 3L-R SETUP

The 3L-R pattern consists of four daily price bars.



We are not concerned with all price points (open, high, low, close) for each bar: For bar 0, only the value of the high is important; for bars 1 and 2, only the lows; for bar 3, both the high and low.

FIGURE 2 3L-R: TRADING INTEL

The results of trading the 3L-R pattern on Intel using an 8-percent stop-loss and profit target. Results shown on a per-share basis.



Source: TradeStation by TradeStation Group

FIGURE 3 3L-R: TRADING DELL

The results of trading the 3L-R pattern on Dell using an 8-percent stop-loss and profit target. Results shown on a per-share basis.



Source: TradeStation by TradeStation Group

This is because the objective of this four-day pattern is to determine when three consecutive lower lows are followed by a high above the high of the last bar. This simple pattern is called the “3L-R” (three lows followed by a reversal).

Generic price patterns – patterns good for trading everything with a high probability of success – do not exist.

The 3L-R pattern can be used to enter short-term trades. A new position is placed at the open of the next trading day following the confirmation of the pattern. One of the advantages of this type of pattern is that it can be described in simple language. In this case:

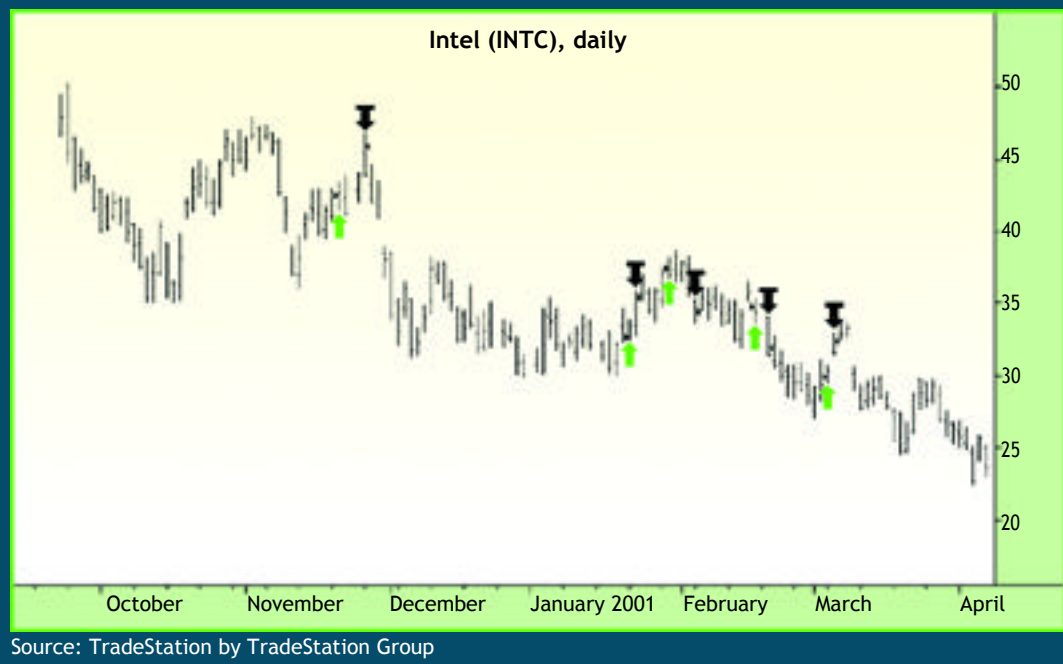
Buy on the open if:

- yesterday’s low is lower than the low of two days ago;
- the low of two days ago is less than the low of three days ago;
- today’s high is greater than the high of three days ago.

The rules above describe only the logic of the pattern; they are not useful trading rules by themselves. A more complete trading rule must include the market to be traded and risk-reward and money management parameters. A sample trading rule based on 3L-R would be to buy 100 shares of stock XYZ with a profit target of the entry price plus 7 per-

FIGURE 4 3L-R: BACK-TESTING INTEL

The 3L-R pattern produced several entries (up arrows) and exits (down arrows).



In some ways, technology has fooled many traders into believing the more complicated a trading strategy is, the better the chances of success. However, simple trading rules can produce profitable systematic trading approaches that are easy to understand and execute.

cent, and a stop-loss of the entry price minus 7 percent.

Figure 2 shows the historical test results for the 3L-R pattern on Intel (INTC), using profit target and stop-loss levels of 8 percent. The number of shares traded, 100, is the same for all trades because the object of the test is to study

the profitability of the basic pattern.

Note that other than risk-reward parameters, this kind of pattern has no other elements that can be varied. This avoids “curve-fitting” a system, a common practice of tailoring trading rules to produce excellent results on past price data. However, fitting leads to optimized

results that often fail in real trading. That price patterns cannot be fitted is another advantage they have over other popular approaches such as moving average crossovers and indicators.

The results in Figure 2 show the pattern had a historical profitability of 74.14 percent for the period between January 1990 and April 2001. A total of 58 trades were executed; the pattern never produced more than three consecutive losing trades and, at one point, had 13 straight winners. Figure 3 shows the test results for another stock, Dell Computer (DELL), with the same 8-percent profit-target and stop-loss levels. The profitability in this case was nearly 69 percent.

Skeptics often question the robustness of simple, pattern-based trading techniques during extended declining markets. Figure 4 shows the 3L-R trades for the period between October 2000 and April 2001, when INTC declined more than 50 percent. The up arrows indicate long entries; the down arrows indicate exits.

Of the five trades made during this

Using trading worksheets to monitor price patterns

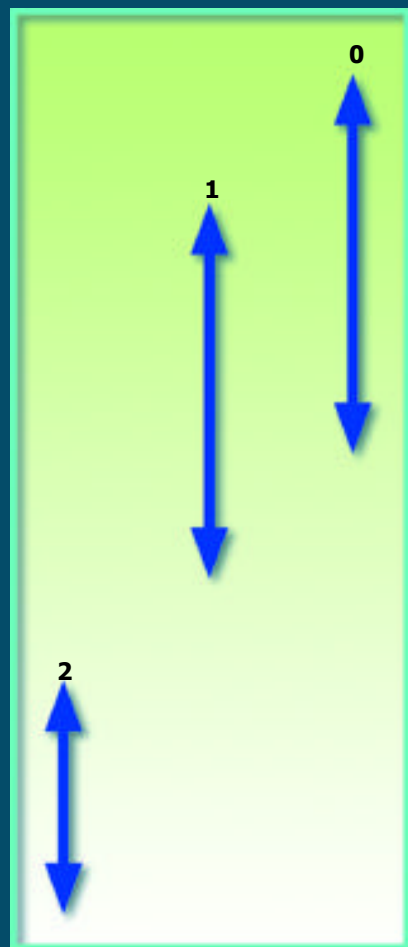
period, three were winners and two losers. Therefore, although market conditions were highly adverse, the 3L-R pattern strategy made a net profit, proving this simple price pattern remained viable in a down market. Table 2 shows the EasyLanguage code used to generate the back-testing results for the trading model based on the 3L-R pattern.

Pattern 2: GAP-2H

Figure 5 shows another simple price pattern. Again, the bars are labeled 0 for

FIGURE 5 THE GAP-2H SETUP

The GAP-2H pattern consists of three daily price bars.



There are several ways to monitor price patterns that generate trading signals for the open of the next trading day. For example, you can use charting software and visually monitor the pattern formation, or use more sophisticated software to track daily prices and generate alerts when a trading model issues a signal for a new position.

A simple method traders of all skill levels can use is a trading worksheet on which each of the conditions in the pattern logic are listed and evaluated on a daily basis. An example of the worksheet for pattern 3L-R is shown below.

On the top of the worksheet, the name of the pattern, the trade input type and the last trading day are listed. The trading rules for the pattern are included, with the conditions listed separately. On the right, the stock traded is listed along with the applicable profit target and stop-loss. The values required to evaluate each of the conditions in the pattern logic are also listed. These values are used to test the validity of the conditions and the result noted next to each condition – “yes” for valid and “no” for not valid.

In the example shown here, two of the conditions are not valid and one is. Because all conditions must be valid for the pattern to generate a trade signal, no trade is taken, which is noted at the bottom of the worksheet.

A separate worksheet must be used for each pattern and stock traded, and it must be evaluated on a daily basis. Although this is a manual method requiring extra effort, it has the advantage of helping you maintain contact with the markets while imposing a daily routine that enforces trading discipline.

MONITORING PRICE PATTERNS

Using a worksheet to track and evaluate price patterns can aid your trading.

Pattern: 3L-R

Trade input: Open of tomorrow

Date: 4/12/2001

Trading rule:

If low of yesterday is less than low of 2 days ago and low of 2 days ago is less than low of 3 days ago and high of today is greater than high of 3 days ago then buy tomorrow on the open.

Stock: INTC

Target: 8%

Stop: 8%

Condition	Valid?
Low of yesterday less than low of 2 days ago	No
Low of 2 days ago less than low of 3 days ago	No
High of today greater than high of 3 days ago	Yes

Values:

Low of yesterday: 27.17

Low of 2 days ago: 23.35

Low of 3 days ago: 22.25

High of today: 28.51

High of 3 days ago: 24.20

Result: No position

TABLE 2 PROGRAMMING CODE FOR 3L-R PATTERN

```

{*****}
Description   : 3L-R Pattern Entry Signal
Developed By : Michael Harris, Tradingpatterns.com
{*****}

if l[1] < l[2] and l[2] < l[3] and h[0] > h[3] then
    buy ("3L-R") next bar on the open;

{*****}
Description   : 3L-R Pattern Long Exit Signal
Developed By : Michael Harris, Tradingpatterns.com
Comments: ptarget and stopl are in percentage terms
{*****}

variables: profitprice(0), stopprice(0);
input: ptarget(8), stopl(8);

profitprice = entryprice*(1+ptarget/100);
stopprice = entryprice*(1-stopl/100);

if marketposition =1 then begin
    exitlong ("3L-R Exit") at profitprice limit;
    exitlong ("3L-R Stop") at stopprice stop;
end;

```

TABLE 3 PROGRAMMING CODE FOR GAP-2H PATTERN

```

{*****}
Description   : GAP-2H Pattern Entry Signal
Developed By : Michael Harris, Tradingpatterns.com
{*****}

if h[0] > h[1] and h[2] > l[2] and l[0] > l[1] and l[1] > h[2] and
    h[1] > l[0] then
    buy ("GPA-2H") next bar on the open;

{*****}
Description   : GAP-2H Pattern Long Exit Signal
Developed By : Michael Harris, Tradingpatterns.com
Comments: ptarget and stopl are in percentage terms
{*****}

variables: profitprice(0), stopprice(0);
input: ptarget(7), stopl(7);

profitprice = entryprice*(1+ptarget/100);
stopprice = entryprice*(1-stopl/100);

if marketposition =1 then begin
    exitlong ("GAP-2H Exit") at profitprice limit;
    exitlong ("GAP-2H Stop") at stopprice stop;
end;

```

This code can be downloaded at www.activetradermag.com/code.htm.

today's bar, 1 for yesterday's bar and 2 for the bar two days ago. The pattern contains a price gap from the high of bar 2 to the low of bar 1. In addition, the low and high of bar 0 are greater than the low and high of bar 1, respectively.

This price pattern is named "GAP-2H," indicating a price gap followed by two higher highs. It can be used to take long positions in select stocks.

Buy on the open if:

- the high of two days ago is higher than the low of two days ago;
- yesterday's low is higher than the high of two days ago;
- today's low is greater than yesterday's low;
- yesterday's high is greater than today's low;
- today's high is greater than yesterday's high.

Again, we will buy 100 shares and use a 7-percent target for the profitable exit or stop-loss.

Figure 6 shows the back-testing results for Intel from January 1990 to April 2001. The profitability is around 67 percent with a maximum of two consecutive losers. Figure 7 shows the results for a more recent stock issue, Amazon.com (AMZN), using profit target and stop-loss levels of 5 percent. Although only 13 trades were generated — not enough for a sufficient statistical sample — the results suggest this pattern is profitable even in highly volatile stocks. Table 3 shows the EasyLanguage code used to generate the back-testing results for the GAP-2H pattern.

Other considerations

The price patterns shown here illustrate the value of simple trading methods. However, careful analysis should always precede the actual application of any trading approach. Also, as with most trading methods, price patterns are also more effective when applied to liquid markets.

Generic price patterns — those good for trading everything with a high probability of success — do not exist. However, some price patterns seem to generate good results for a group of stocks. Identifying profitable price patterns is difficult and time-consuming, but that is where most of the benefit comes from. For a pattern trader to be profitable, a pattern must be thoroughly tested for a variety of stocks or futures contracts. 🕒

Additional research

- ▼ *Stock Trading Techniques Based on Price Patterns* by Michael Harris, Traders Press Inc., 2001.
- ▼ *Short-term Trading with Price Patterns* by Michael Harris, Traders Press Inc., 2000.

FIGURE 6 GAP-2H: TRADING INTEL

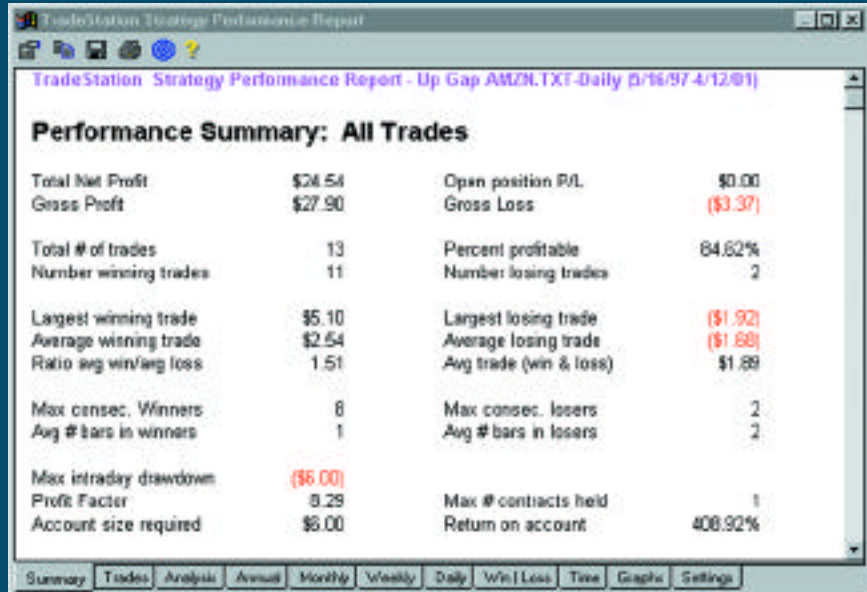
The results of trading the GAP-2H pattern on Intel using a 7-percent stop-loss and profit target. Results shown on a per-share basis.



Source: TradeStation by TradeStation Group Inc.

FIGURE 7 GAP-2H: TRADING AMAZON

The results of trading the GAP-2H pattern on Amazon using a 5-percent stop-loss and profit target. Results shown on a per-share basis.



Source: TradeStation by TradeStation Group Inc.

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