



# Brainy's Articles on Technical Analysis

## ATR — Average True Range

Article No:  
**TA-4320**  
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March 2012

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### Introduction

In the broad field of technical analysis there are a number of concepts that are very useful to understand. One of these is the notion of *Average True Range* (ATR). But ATR is more than a useful idea, there is a technical analysis chart indicator based on ATR that can be applied to a price chart, and there are other useful chart indicators based on ATR — such as the Wilson ATR Trailing Stop.

This article in Brainy's series on Technical Analysis (number TA-4320) describes *Average True Range*, how it is calculated, what it tells us, and how to use it.

### ATR (Average True Range) — introduction

The notion of ATR was developed by J. Welles Wilder<sup>1</sup> and, in simplistic terms, is a measure of the volatility of the share price of a stock (or index, commodity, etc.). It tells us how much the price has been moving up/down in recent periods. It does not tell us whether the price is up or down, only by how much it has been moving (so the ATR value is always a positive currency amount). If a share price is changing only small amounts from day to day, then the ATR value will be rather low; but if the share price has been swinging widely with high volatility, then the ATR value will be higher.

A very good example of this is shown in the weekly price chart of BHP in Figure 1 below during the dark days of the GFC in late 2008. The lower portion of this chart is the weekly candlestick share price chart of BHP, and the upper portion is a corresponding graph of the ATR value. Note that in April and May of 2008, the candles are about a "normal" size (about \$2 to \$3 high), and the ATR value at that time was about \$3. That is, the BHP share price had varied up and down *each week* by about \$3 in the recent weeks. But by October 2008 the BHP candlesticks were rather tall, and the ATR value was up over \$4.



Figure 1: Average True Range (ATR) indicator — BHP weekly chart 2008.

1 Wilder, J. Welles; *New Concepts in Technical Trading Systems*; Trend Research, 1978.



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