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# HGSi Volume Price Analysis Indicator

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## INTRODUCTION

This document provides detailed information about the HGSi VPA Charting Indicator and the VPA database fields associated with the indicator.

When a new copy of HGSi software is installed it comes with a large variety of ready to use VPA Charting Views and Warehouse Views of the database fields. It also contains many Filters needed for doing scans and Combo Ranks to create viable lists of stocks. Filters, Views and Combo Ranks in the HGSi product can be found in folders under the name of *HGSi Volume Price Analysis*. After installation of the software, when new or changed filters, views and combo ranks become available they are provided as add-ons that can be downloaded from the HGSi Website or from the help menu on the HGSi software toolbar.

## ACKNOWLEDGEMENTS

HGSi Volume Price Analysis (VPA) is based upon concepts originally popularized by Richard Wyckoff and Jesse Livermore nearly a century ago to read “the tape” to determine what the "smart money" was doing.

Tom Williams of TradeGuider was the first to computerize the indicator which he refers to as Volume Spread Analysis (VSA). Others have followed Tom William's lead. Both VPA and VSA use the same concepts. Karthik Marar who coded VPA for AmiBroker, placed his code in the public domain.

The best explanations of VPA are by Anna Coulling in her book, [\*A Complete Guide to Volume Price Analysis\*](#)

# VOLUME PRICE ANALYSIS CHARTING INDICATOR OPTIONS

## GLOSSARY

**VPA Flag - definition:** The chart is annotated with a unique image for a price bar when that price bar meets specific conditions. Those images are identified and explained in the *HGSI Volume Price Analysis Flag Guide* table in this document.

**VPA Signal - definition:** The chart is annotated with a vertical bar from the top to bottom of the window for a price bar. For a "VPA Signal" to appear, the price bar must have 100,000 or more daily volume. It also has to meet other internal conditions that do not appear on the chart.

**IMPORTANT:** The VPA Signals and VPA Flags are independent of each other. Flags can occur without a VPA Signal and VPA Signals can appear without any VPA Flags.

**Data Requirements:** This indicator requires at least 120 (24 weeks/6 months) days of data to compute moving averages, plus an additional 30 days for the standard deviation computation. If the stock does not meet these data requirements no VPA Signals or VPA Flags will appear. IPOs are one example of where VPA signals will not appear. Another is the first 24 weeks of any multi-year stock.

**Name:** Volume Price Analysis

**Comment:** Volume Price Analysis Indicator.

Use Private Scale

**Display Options**

- Display VPA analysis in upper corner of chart window.
- Draw VPA Flags on chart.
- Include VPA commentary in data window.
- Highlight VPA Signal days on chart.

VPA Signal Color: [Color Picker]

**Price Indicator Options**

Draw price indicator using VSA colors: No Price Indicator

Price Style: Open/Hi/Lo/Close

Line Type: [Line Style]

**Trend Analysis Options**

Short Term Min Periods: 2

Short Term Max Periods: 8

Long Term Min Periods: 10

Long Term Max Periods: 40

**Name:** Your name for the indicator

**Comment:** Your description for this indicator

**Use Private Scale:** Not recommended

This indicator annotates price bars with VPA Flags.

If the Private Scale option is used the VPA Flags will not be aligned correctly on the price bars.

## DISPLAY OPTIONS

### Display VPA analysis in upper corner of chart window

VPA: AAPL - Daily - 11/20/15 - Volume: 34,287,000 -- No demand. A sign of weakness.  
 Volume: Low Spread: **Very Narrow** Close: **Mid** Sentiment: **Neutral**  
 Major Trend: **No Trend**  
 Minor Trend: **No Trend**  
 Immediate Trend: **Immediate Trend Up**

**VPA:** Shows stocks symbol, mode of the chart, date, volume, text description of the VSA signal. The VPA analysis will also appear in the Data Window (see below).

**Volume:** The volume compared to the 90 day average volume.

Very High	Twice average volume
High	1.3 times average volume
Above Average	Higher than average volume
Less than Average	Below average volume but above 70% of average volume
Low	Below one standard deviation of the average volume

**Spread:** The day's price range compared to the average spread. The spread is the stock's intraday high minus its low. The average spread is a 90 day simple moving average of the spread. So for example if a stock's intraday high is 100 and intraday low is 90, the spread is 10. This is computed for every day of the chat, then averaged over 90 days.

Wide	Greater than 1.5 times the average spread
Above Average	Above the average spread
Below Average	Below the average spread but above 70% of the average spread
Narrow	Above 50% but less than 70% of the average spread
Very Narrow	Less than 50% of the average spread

**Close:** The day's close value compared to the spread and the day's low value.

Very High	Close above 75% of spread
High	Close above 70% of spread
Mid	Close between 30% and 70% of spread
Down	Below 30% of spread

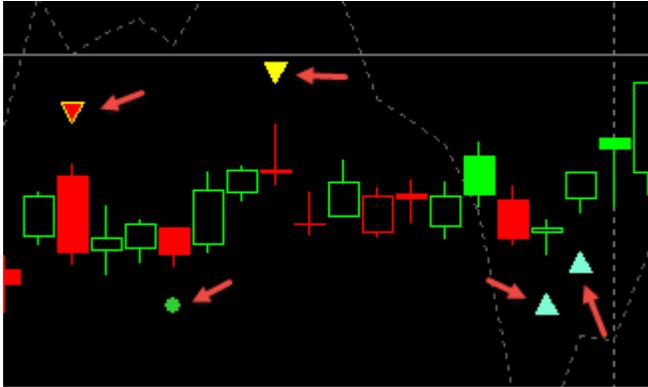
**Sentiment:** The day's sentiment **Bullish**, **Bearish**, **Neutral**

**Trends:** All three of the trends are determined through the use of a long and short term Random Walk Indicator (RWI). The parameters for controlling the RWI are shown below under *Trend Analysis Options*.

Trends	Trend Direction Displayed	Comments
<b>Major Trend:</b>	Up/Down/No Trend	Major Trend has an additional status description of Major Uptrend Ended and Major Down Trend Ended. E.g. No Trend Major Down Trend Ended.
<b>Minor Trend:</b>	Up/Down/No Trend	
<b>Immediate Trend:</b>	Up/Down/No Trend	

Draw VPA Flags on chart.

When this option is turned on Flags will be annotated on the price bar indicating a certain condition had occurred. See the VPA Indicator Flag Guide below for explanations of the various flag conditions.



Include VPA commentary in data window

The data window displays data for the price bar under the chart cross hairs.

```
Apple Inc (AAPL)
Date: 11/20/15 Fri
High: 119.9200
Low: 118.8500
Close: 119.3000
Open: 119.2000
Volume: 34,287,000
Force Index: 14547995.6625
Force Index: 14547995.6625
Force Index: 38442459.4729
Force Index: 38442459.4729
Group Index: 104.6781
VPA: No demand. A sign of weakness.
VPA Volume: Low
VPA Spread: Very Narrow
VPA Close: Mid
VPA Major Trend: No Trend
VPA Major Trend Status:
VPA Minor Trend: No Trend
VPA Immediate Trend: Immediate Trend Up
VPA Signal: Yes
VPA Signal Description: A sign of weakness.
VPA Signal Condition: No demand. A sign of weakness.
VPA Flag Sentiment: Neutral
```

## Highlight VPA Signal days on chart

**VPA Signal Color button:** The default color is gray. Press the VPA Signal Color button to change the color.

For the VPA Signal (vertical colored bar) to be annotated on the chart it needs to have at least 120 records to compute fully, plus 30 days for standard deviation computation, about 24 weeks/6 months of data. IPOs are an example where VPA Signals will not be available for the first 120 days. Once the number of record requirements are met, the daily volume must be higher than 100,000

On the chart snippet below are two instances of the VPA Signal (vertical bar). They are pointed to with the red arrows. Those VPA Signals shown below also have VPA Flags. Those flags have a their own meaning (see the VPA Flag Guide below). It is not necessary for a VPA Signal to also have a VPA Flag.

There are also numerous examples on the snippet were VPA Flag images are present but without the VPA Signal. (The VPA Signal and the VPA Flags are two separate systems for generating annotations on the VPA chart indicator).



## PRICE INDICATOR OPTIONS

Price Indicator Options

Draw price indicator using VSA colors: VSA Colored Price Indicator

Price Style: Candlesticks

Line Type: ————

No Price Indicator  
VSA Colored Price Indicator  
Trend Colored Price Indicator

### Draw Price Indicator using VSA colors:

- The default is No Price Indicator.
- The VSA coloring rules are based on volume.  
(see VSA Colored Price Indicator Color Guide)
- The trend coloring rules are based on the trend direction.  
(see Trend Colored Price Indicator Color Guide)

**NOTE:** When the VSA or Trend Colored Price Indicator option is selected the normal default Charting Price Indicator should be removed from the window where the VPA Indicator will be used, otherwise two copies of the price will be drawn in the window.

### Price Style:

- Open/Hi/Lo/Close
- Candlesticks
- Line
- Hi/Lo/Close

### Line Type:



## VSA Colored Price Indicator Color Guide

Colors are based on the condition of various signals. **The color of the price bar is determined by whatever signals are positive for that day starting at the top of this table.** First signal to match decides the day's color.

Color		Flags	Condition
Turquoise		lowVolTest	Test for Supply
Pink		distributeBar	High volume up bar closing down in uptrend.
Dark Red		ownerTransfer	Wide-range bar on volume at least 1.5 times avg
Yellow		upThrustBar	Price moves above resistance of trading range
Lime		bullBar	Bullish Bar
Red		bearBar	Bearish Bar
White		noDemandBar	Sign of weakness
Magenta		noSupplyBar	Sign of strength
Green		upBar	Todays close is up vs yesterday
Orange		downBar	Todays close is down vs yesterday
Blue		---	Flat line. Neither up or down

## Trend Colored Price Indicator Color Guide

Trend is determined by computing 3 best fit lines (40 period, 10 period and 3 period) against a 5DMA. A value above 0 means the stock is trending up during that time period, less than 0 the stock is trending down.

Color		3 Period	10 Period	40 Period	Condition
Lime		ShortTerm > 0	MediumTerm > 0	LongTerm > 0	All three time periods are trending up.
Green		ShortTerm > 0	MediumTerm > 0	LongTerm < 0	Trending up in short and medium time periods, down in long time period.
Pale Green		ShortTerm > 0	MediumTerm < 0	LongTerm < 0	Trending up in the short time period only.
Red		ShortTerm < 0	MediumTerm < 0	LongTerm < 0	Trending down in all three time periods.
Pale Green		ShortTerm < 0	MediumTerm > 0	LongTerm > 0	Trending up in the medium and long time periods only.
Orange		ShortTerm < 0	MediumTerm < 0	LongTerm > 0	Trending up in only the long time period.
Blue		---			Neutral

## TREND ANALYSIS OPTIONS

These control the length of the Random Walk Indicator used to compute the trend direction. The default settings are a short term minimum of 2 and a maximum of 8, a long term minimum of 10 and a long term maximum of 40.

These defaults are also used to compute the HGSI Warehouse columns for VPA Signal. You can alter these time frames to change the Random Walk Index to get a faster or slower trend, but your results will no longer match the fixed Warehouse column computations.

Trend Analysis Options	
Short Term Min Periods:	<input type="text" value="2"/>
Short Term Max Periods:	<input type="text" value="8"/>
Long Term Min Periods:	<input type="text" value="10"/>
Long Term Max Periods:	<input type="text" value="40"/>

# VPA WAREHOUSE AND FILTER FIELDS

The HGSI Warehouse and Filter have a number of data fields with values computed using the same calculations as the VPA Charting Indicator. These fields are described below.

<b>Warehouse VPA Signal Color Guide</b>		
Warehouse column colors used for the VPA Signal Condition and the VPS Signal Descriptions.		
<b>Color</b>		<b>Condition</b>
Yellow		strengthDown or strengthDown1
Pale Green		buyCond
Pale Green		strengthDown2
Light Orange		upThrustBar or upThrustCond1
Orange		upThrustCond2 or upThrustCond3
Lime		effortUp
Red		effortDown
Light Orange		PseudoUpThrust
Orange		pseudoUtCond or noDemandBar
Yellow		strengthDown0 or noSupplyBar or lowVolTest or lowVolTest1 or lowVolTest2
Yellow		stopVolume or revUpThrust
Orange		upThrustCond1
Light Orange		distributeBar
Light Orange		trendChange

<b>Warehouse &amp; Filter Fields</b>	<b>Filter Values</b>	<b>Warehouse Value</b>
Days Since Last VPA signal	Number	0,20,13
Last VPA Signal Condition	Text for string search	(e.g. "No Demand")
Last VPA Signal Description	Text for string search	(e.g. "A sign of weakness")
VPA BF Trend Long	Up/Down	Up/Down
VPA BF Trend Medium	Up/Down	Up/Down
VPA BF Trend Short	Up/Down	Up/Down
VPA BV Trend Percent	% of the Up/Down Warehouse Values	-100%/100%/33.33%/-33.33%
VPA Flag No Supply Bar	Yes/No	Yes/No
VPA Flag Reverse Up Thrust	Yes/No	Yes/No
VPA Sentiment	Bullish/Bearish/Neutral/(no flag)	Bullish/Bearish/Neutral/Blank
VPA Flag Stopping Volume	Yes/No	Yes/No
VPA Flag Transfer of Owner	Yes/No	Yes/No
VPA Signal	Yes/No	Yes/No
VPA Signal Condition	Text for string search	(e.g. "No Demand")
VPA Signal Description	Text for string search	(e.g. "A sign of weakness")

# VOLUME PRICE ANALYSIS (VPA) INDICATOR FLAG GUIDE

Flags are the image-shapes associated with a price bar. Price Bar Description describes the condition of the price bar.

FLAG NAME AND DESCRIPTION	FLAG	PRICE BAR DESCRIPTION	VPA TEXT DESCRIPTION (Shown in upper left corner of chart window)	SENTIMENT
<b>Bc:</b> Red down triangle with yellow border, above daily high		Wide-spread high volume up bar. Often closes near its low in an uptrend, but not always. If it does close near the low of its range, it is a stronger signal.	<b>An upthrust bar. A sign of weakness</b>  A potential buying climax, a wide range bar on heavy volume. (buying climax)	Neutral
<b>buyCond:</b> Lime up triangle below daily low		Wide-spread high-volume up bar closing near high, with previous high-volume bar	<b>An up bar closing near its high. Confirms return of strength.</b>	Bullish
<b>confirmWeak1:</b> White box below daily low		Price dips below daily low but closes above it. Sentiment is bearish, but easing.	<b>Test for Supply.</b> (this text is added to beginning of other text messages so it appears first)  Selling pressure is easing in a downtrend as price closes off of the daily low. (test for supply)	Bearish
<b>distributeBar:</b> Blue box above daily high		Wide-spread high-volume up bar closing near its low in an uptrend	<b>Pseudo upthrust. A sign of weakness</b>  A wide range, high volume bar in an uptrend. Closing down is an indication that distribution is in progress. (smart money selling)	Bearish
<b>effortDown:</b> Yellow circle at midpoint of bar		Wide-spread high-volume down bar closing near its low. Fear dominates.	<b>Effort to fall. Bearish sign.</b>  The security is showing signs of weakness with a close near the low of its daily range on a wide range bar. (effort to fall)	Bearish

FLAG NAME AND DESCRIPTION	FLAG	PRICE BAR DESCRIPTION	VPA TEXT DESCRIPTION (Shown in upper left corner of chart window)	SENTIMENT
<b>effortUp:</b> Turquoise circle at midpoint of bar		Wide-spread high-volume up bar closing near its high	<b>Effort to rise. Bullish sign.</b>  Normally found in the beginning of a markup phase and is a bullish sign. These may be found at the top of an Upmove as the Smart money makes a last effort to move the price to the maximum. (effort to rise)	Bullish
<b>effortUpfail</b>			<b>Effort to move up has failed. Bearish sign.</b>	Bearish
<b>lowVolTest:</b> Magenta box below day low		Wide-spread low-volume bar closing near its high and above prior day's low <u>in a downtrend</u>	<b>Low Volume Test.</b>  Bar closes near the top of its daily range as traders "test" the market for supply and find that demand is greater than supply. Volume is generally light. (test for supply)	Bullish
<b>lowVolTest1:</b> Lime box below daily low		Wide-spread low-volume bar closing near its high <u>in a downtrend</u>	<b>Strength seen returning after a down trend.</b>  The current bar is a upbar with higher volume. This confirms strength is returning after a down trend. (test for supply in a downtrend)	Bullish
<b>lowVolTest2</b> Yellow up triangle below day low		Wide-spread low-volume bar closing near its high <u>with prior bar printing a test for supply</u>	<b>An upbar closing near high after a test confirms strength.</b>  The previous bar was a successful test of supply. The current bar is a upbar with higher volume. This confirms strength (second test for supply)	Bullish
<b>noDemandBar:</b> Magenta box above day high		Any low-volume bar closing near its low in an uptrend	<b>No demand. A sign of weakness.</b>  Any up bar which closes in the middle or low, especially if the volume has fallen off, is a potential sign of weakness. (test for demand)	Neutral

FLAG NAME AND DESCRIPTION	FLAG	PRICE BAR DESCRIPTION	VPA TEXT DESCRIPTION (Shown in upper left corner of chart window)	SENTIMENT
<b>noSupplyBar:</b> Lime circle below day low		Any low-volume bar closing near its low	<b>No supply. A sign of strength.</b>  Security closes in the lower part of its daily range, but on lighter volume. This indicates selling is subdued, even though the close is generally lower than the open. It is better to wait for confirmation. (test for supply)	Neutral
<b>Nut:</b> Lime down triangle above day high		Wide-spread high-volume bar closing near its low after a new high (rare). Potential end of a rising market or a buying climax.	<b>Reached new recent high on higher volume but failed to hold.</b>  Example of nut: ACTG on 4/20/2012	Bearish
<b>ownerTransfer:</b> Hollow red circle at day midpoint		Wide-spread high-volume (>1.5x avg vol) bar closing about mid range	<b>Transfer of ownership.</b>  A wide-range bar on volume at least 1.5 times average where the bar closes around mid-range. Bulls and Bears transfer shares as they fight for control. (indecision)	Neutral
<b>PseudoUpThrust:</b> Blue box above day high		Wide-spread bar closing near its low in an uptrend	<b>Pseudo upthrust. A sign of weakness</b>  This looks like an upthrust bar closing down near the low but the volume is normally lower than average. This is a sign of weakness. If the volume is high then weakness increases. (Smart money is selling)	Bearish
<b>pseudoUtCond:</b> Blue down triangle above day high		Wide-spread bar closing near its low in an uptrend <u>with prior bar printing a pseudo upthrust</u>	<b>A down bar closing down after a pseudo upthrust confirms weakness.</b>  Confirms weakness. If the volume is above average the weakness is increased. (confirms smart money is selling)	Bearish

FLAG NAME AND DESCRIPTION	FLAG	PRICE BAR DESCRIPTION	VPA TEXT DESCRIPTION (Shown in upper left corner of chart window)	SENTIMENT
<b>revUpThrust:</b> Yellow box below day low		Wide-spread up bar closing near its high in a <u>downtrend</u>	<b>Strength seen returning after a down trend. High volume adds to strength.</b>  Reverse upthrust. Indicates strength. (demand returning)	Neutral
<b>sellCond:</b> Red down triangle above day high		Wide-spread down bar closing near its low	<b>A downbar after an upthrust. Confirms weakness.</b>  Similar to the topRevBar. Bulls lost control of the security as the day progressed. An upthrust bar after a move up is a sure sign of weakness. (supply returning)	Bearish
<b>stopVolume:</b> Hollow lime circle below day low		Wide-spread high-volume down bar closing about mid-range in a downtrend	<b>Stopping volume. Normally indicates end of bearishness is nearing.</b>  A stopping volume normally indicates smart money is absorbing the supply. An indication that they are bullish on the market. A potential reversal in the down trend.	Neutral
<b>strengthDown:</b> Lime box below daily low		Wide-spread high-volume up bar closing near mid-range in a downtrend	<b>Strength seen returning after a down trend.</b>  The stock has been in a down trend. An upbar with higher volume closing near the high is a sign of strength returning. The Down trend is likely to reverse soon. (stopping volume)	Neutral
<b>strengthDown1:</b> Lime box below daily low		Wide-spread high-volume up bar closing near high in a downtrend	<b>Strength seen returning after a down trend.</b>  A security in a down trend is now showing signs of strength on higher than normal volume. (stopping volume)	Neutral

FLAG NAME AND DESCRIPTION	FLAG	PRICE BAR DESCRIPTION	VPA TEXT DESCRIPTION (Shown in upper left corner of chart window)	SENTIMENT
<b>strengthDown2:</b> Aqua up triangle below day low		Wide-spread upbar closing near its high in consolidation.	<b>High volume upbar closing on the high indicates strength.</b>  High volume upbar closing on the high indicates strength. (demand returning)	Neutral
<b>topRevBar:</b> Blue circle above day high		Wide-spread high-volume down bar following an up bar (rare)	<b>Reached new recent high but failed to hold.</b>  Example of topRevBar: MSFT on 06/04/2013	Neutral
<b>trendChange:</b> Yellow down triangle above day high		Wide-spread high-volume down bar in an uptrend	<b>High volume downbar after an upmove on high volume indicates weakness.</b>  The stock has been moving up on high volume. The current bar is a downbar with high volume. Indicates weakness and probably end of the up move. (supply returning)	Bearish
<b>upThrustBar:</b> Red with yellow border down triangle above day high		Wide-spread high volume up bar closing near its low	<b>An upthrust bar. A sign of weakness.</b>  Up-thrusts are seen after there has been weakness in the background. Market makers know the market is weak, so the price is marked up to encourage traders to go long in a weak market, and panic traders that are short into covering their position. (supply returning)	Bearish
<b>upThrustBartrue:</b> White box above day high		Wide-spread high-volume down bar closing at its low	<b>An upthrust bar after up move. A sure sign of weakness.</b>  Volume is above average. (supply returning)	Bearish
<b>upThrustCond1</b>			<b>A downbar after an upthrust. Confirms weakness.</b>	Bearish