

VolX[®]

RealVol[™] SPY Options

“Risk comes from not knowing what you’re doing.”
— Warren Buffet

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$$\sqrt{\frac{252}{n} \sum_{t=1}^n R_t^2}$$

The Company

VolX has developed a number of RealVol Instruments and RealVol Indices based on realized volatility as defined by the RealVol Formulas.

Realized Volatility

Realized volatility, as defined by the RealVol Daily Formula, measures the actual daily movement of the underlying asset regardless of direction. It is functionally different than instruments based on implied volatility.

The Product

RealVol SPY Options are standard exchange-traded options that cash settle to the RealVol SPY Index.

RealVol Indices

There are many RealVol Indices. For purposes of this brochure, the focus will be on only one — the RealVol SPY Index. Please request a separate brochure for an explanation of the other RealVol Indices.

RealVol Formula

At the heart of the RealVol Indices is the RealVol Formula. It is a simple, modified standard deviation formula that sets the degrees of freedom to zero, the mean to zero, and the annualization factor to a constant 252 trading days.

RealVol SPY Index

This index comes in two forms: a daily version and a real-time version. The resulting values for both versions are the same at the close of trading each day.

RealVol Daily SPY Index

The RealVol Daily SPY Index is based on a 21-trading-day (approximately 1-month) rolling realized volatility of the daily closing price on the primary market of the SPDR[®] S&P 500[®] ETF (symbol SPY). This index is used to settle all RealVol SPY Options.

RealVol Real-Time SPY Index

The RealVol Real-Time SPY Index uses the current day’s real-time SPY price to estimate the RealVol Daily Index throughout the trading day.

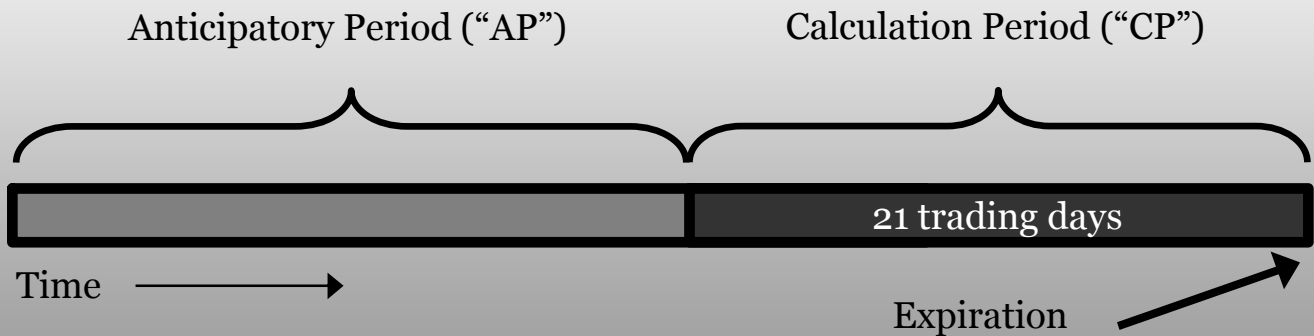
Contract Types

RealVol Options will include in-the-money, at-the-money, and out-of-the money strikes and expire every Friday.

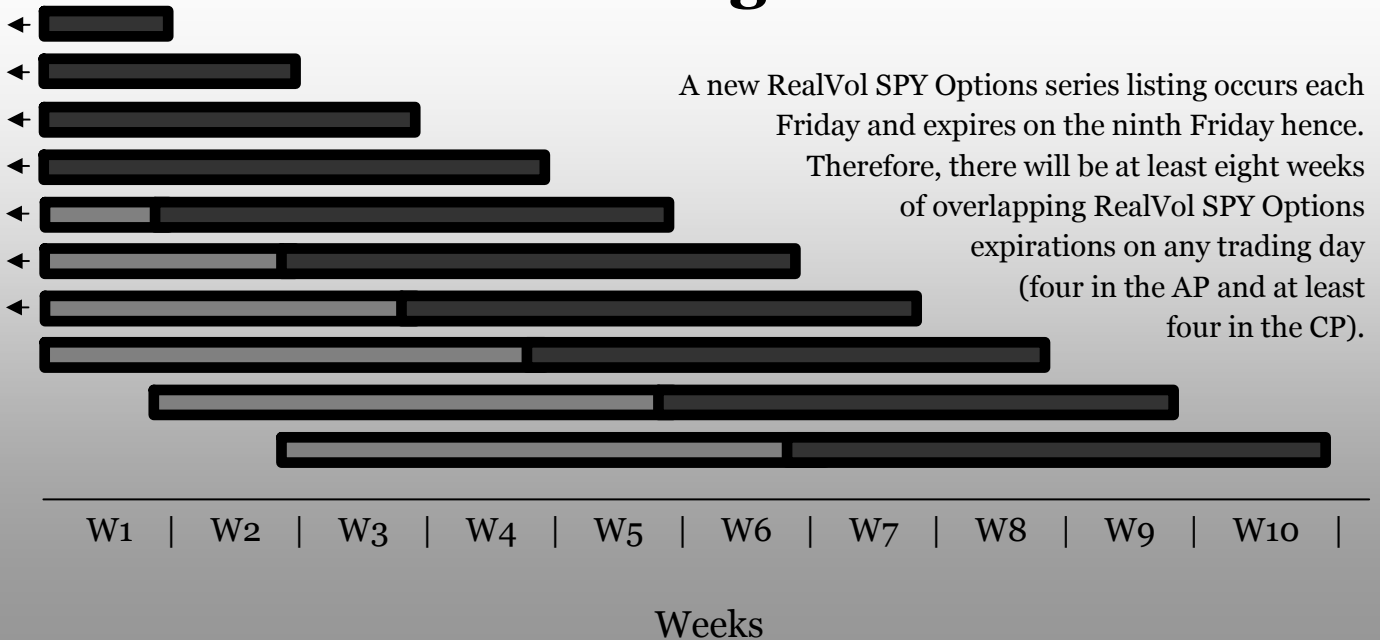
Uses

RealVol Options allow market participants to hedge against, invest in, or speculate on realized volatility. They are especially useful for hedging standard options, spreading with implied volatility products, and enhancing an S&P 500 index portfolio.

The Life of RealVol SPY Options



Listing Pattern*



*All time frames are approximate.

Comparison to Existing Products

Features	RealVol Options (realized volatility)	VIX [®] Futures (implied volatility)	Volatility & Variance Swaps (realized volatility)	Delta-Neutral Hedging (realized volatility)
Expires to actual, or realized, volatility or variance	✓	X Expires to a forecast	✓	X Path dependency does not provide "pure" volatility exposure
Appeals to retail traders	✓	X Very difficult to understand	X No access	X Too complicated
Appeals to option market-makers	✓	X Not a good options hedge	? May be difficult to execute quickly and at favorable prices	✓
Appeals to investment banks and institutions	✓	X Difficult to hedge	✓	✓
Appeals to portfolio managers	✓	X No exposure to actual price movement	? Losses can be extreme for variance swaps	X Requires constant monitoring
Exchange-cleared (regulated with no credit risk)	✓	✓	X Subject to credit risk	✓
Difficult to manipulate market	✓	X Special opening quote at expiration that depends on liquidity	✓	✓
Transparency and price discovery	✓	✓	X No public quote	✓
Could be traded on all assets	✓	X Only on very liquid option markets	? Typically traded only in large size	✓
Easy to calculate	✓	X Formula is very complex	✓	X Calculation requires execution prices and commissions for each transaction
Execution costs low	✓	✓	? No direct expense, but execution cost built into market quote	X Market spreads and commissions on all legs and follow-up trades

Detailed Information*

Symbol

VOLS

Underlying Index

The RealVol SPY Index. This index is based on the rolling 21-trading-day realized volatility (adjusted for dividends and any market disruption events) of the daily closing prices of the SPDR® S&P 500® ETF (symbol SPY) as calculated by the RealVol Daily Formula.

Index Price

Volatility, which is typically expressed as a percentage, will be quoted without the percentage sign; e.g., 23.45% is quoted as 23.45.

Premium Quotation

Stated in points and fractions; one point equals \$100. Minimum tick for series trading below \$3 is 0.05 (\$5.00); above \$3 is 0.10 (\$10.00).

Margin:

Purchases of puts or calls with 9 months or less until expiration must be paid for in full. Writers of uncovered puts or calls must deposit and maintain 100% of the option proceeds plus 20% of the aggregate contract value (current index value x \$100) minus the amount by which the option is out-of-the-money, if any, subject to a minimum for calls of option proceeds plus 10% of the aggregate contract value and a minimum for puts of option proceeds plus 10% of the aggregate exercise price amount.

To calculate maintenance margin, current market value is used instead of option proceeds. Additional margin can be required pursuant to Exchange Rules.

Trading Hours

9:30 AM to 4:15 PM ET

Strike Price Increment

0.50 point below 15.00; 1.00 point between 15.00 and 30.00; 2.50 points between 30.00 and 50.00; 5.00 points above 50.00.

Strike Prices

Strike prices are listed in-, at-, and out-of-the-money. New series generally are added when the underlying index exceeds the highest or lowest strike price available.

Listing Pattern

- ≈52 weekly VOLS per year with eight or nine VOLS listed on any given day.

First Trading Day

Eighth Friday prior to expiration Friday.

Expiration Dates

Correspond to the Friday expirations of standard SPY options.

Final or Contract Settlement

All RealVol SPY Options are automatically settled to the RealVol SPY Index at expiration.

Exercise Style

European (only at expiration)

Settlement Style

Cash

The RealVol Daily Formula

A formula used to calculate the annualized standard deviation of continuously compounded daily returns of SPY, assuming zero degrees of freedom, a zero mean, and a constant 252 trading days in a year.

$$\text{Vol} = 100 \cdot \sqrt{\frac{252}{n} \sum_{t=1}^n R_t^2}$$

Where

- Vol = realized volatility
- n = number of trading days in the period (in this case n = 21)
- R_t = continuously compounded daily returns as calculated by the formula:

$$R_t = Ln \frac{P_t}{P_{t-1}}$$

Where

- Ln = natural logarithm
- P_t = Underlying Reference Price at time t
- P_{t-1} = Underlying Reference Price at the time period immediately preceding time t

Special Events

The RealVol Formula must be adjusted for dividends and market disruption events. Please visit volx.us for details.

The RealVol Real-Time Formula

The RealVol Real-Time Formula is used to calculate the RealVol Real-Time SPY Index. This index provides an estimate of the RealVol Daily SPY Index throughout the trading day. Please visit volx.us for details.

For more information

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*Subject to change. Details may vary according to the underlying asset. RealVol SPY Options are not currently listed for trading on any exchange. See our web site volx.us for detailed information. The information provided herein is for informational purposes only; it must not be relied upon and The VolX Group Corporation will not be liable for actions taken or not taken in reliance thereon.