

Options Application Agreement

Option Trading Rules

Calls.

1. Underlying stock for listed calls may have contracts written against it in multiples of one call option contract per hundred shares, unless otherwise specified.
2. Securities purchased for covered call writing must be paid for by the standard two-day settlement date. Proceeds from the option will be credited to the investor's account, unless otherwise specified.
3. All underlying securities not already held in an account at Schwab must be delivered FREE AND IN GOOD DELIVERABLE FORM before covered calls may be written.
4. Covered call writing may be done against marginable securities held in an account, provided the account is in compliance with the Federal Reserve Board's Regulation "T" and Schwab's Margin and Short Account Rules.
5. Convertible or exchangeable securities may, in some cases, be available for covered call writing, at Schwab's discretion. Contact your Investment Advisor or Schwab for specific information.

Puts.

1. A short put is considered covered when a put is written against stock sold short. Listed puts may be written against the underlying short stock in multiples of one put contract per hundred shares, unless otherwise specified.
2. A put is also covered when there is sufficient cash to cover the stock purchase if the put is assigned.
3. No additional margin will be required if a put is written against stock sold short if the margin requirements are met on the short stock.

Qualified Spreads. A "spread" involves being both the buyer and writer of the same type of options (puts or calls) on the same underlying interest, with the options having different exercise prices and/or expiration dates.

The purchased option is required to expire on the same or later expiration date than the option sold. When there is more than one possible way to pair available options in your Account, Schwab has the discretion to determine spread pairings. Schwab may pair options in a manner that does not produce the lowest possible margin requirements.

Straddles and Combination. A "straddle" is an equal number of calls and puts purchased (or written) on the same security with the same strike price and same expiration. If the strike prices and/or the expiration differ, the order or position is defined as a "combination."

Writing Uncovered Options. Before placing an order to sell uncovered options on equities and narrow-based indexes, \$25,000 in equity must be on deposit, and before placing an order to sell uncovered options on broad-based indexes, \$25,000 in equity must be on deposit in your Schwab Account. In calculating equity, the market value of any security, bond or stock may be included and any existing debit balance must be subtracted. Premiums obtained from option writing will be applied against Schwab's equity requirements. The total equity requirement must be in the Account prior to entering the order. Funds in your money market portfolio or Schwab One® Account qualify as money in your brokerage account and are considered good equity. In addition, if you write an uncovered call option contract and are allocated an exercise of the option, you may be required to borrow shares in order to satisfy the delivery requirement of the option contract. In that event, you will be treated as if you had sold the shares short and may be subject to margin fees and stock loan fees.

Payment and Settlement. Unless the amount required for an option trade is met by one of the following methods, we may, at our discretion, decline to accept your order.

1. Cleared funds in Account;
2. Funds in our between-investment money market funds;
3. Making the trade versus executed market sell orders, or on the margin loan value of securities held in your Account in an adequate amount.

Funds may be wired to:

Citibank, NA, New York, NY 10043
ABA #021-000-089
FBO Charles Schwab & Co., Inc.
Acct. #40553953

For the account of: (the full title on your Schwab Account)

Account #: (your Schwab Account number)

Funds in your Schwab money market portfolio or Schwab One Account qualify as "money in your Schwab Account" for purposes of entering or opening an option transaction. Deposits, interest distributions, withdrawals and payments for option trades (if sufficient funds are available) are all calculated automatically if you participate in our money market fund or Schwab One Account. (If you would like an application for our money market fund or Schwab One Account, contact Schwab.)

Option Contract Assignments. Short option contract assignments will be allocated among position holders on an automated random selection basis.

OCC Disclosure Document. Before trading options, read the booklet "Characteristics and Risks of Standardized Options" (the "OCC Disclosure Document"). A copy will be sent when your Account is approved for option trading.

Manipulation of Auto-Execution Prohibited. Most options exchanges have automated execution (Auto-ex) systems that provide rapid executions for retail-size market and marketable limit orders in listed options at the quoted bid or offer, up to a maximum number of contracts. This maximum number varies by options class and generally ranges between 20 and 100 contracts per order. Exchange rules prohibit investors from engaging in "order splitting," i.e., dividing a large order that is ineligible for Auto-ex because of its size into two or more smaller orders to make them eligible for Auto-ex treatment. Orders placed within less than 15 seconds of each other will be aggregated for purposes of evaluating whether impermissible order splitting has occurred. For example, if the option ABCDE had a maximum Auto-ex size of 50 contracts, it would be impermissible to divide a 100-contract order and enter two 50-contract orders contemporaneously for the purpose of receiving Auto-ex treatment. Orders of this type should be entered either for the full, undivided amount or more than 15 seconds apart. Depending on the facts and circumstances, multiple orders placed more than 15 seconds apart may still be evaluated for order splitting if submitted for the purpose of obtaining Auto-ex treatment. SEC and Exchange rules regarding market manipulation and Auto-ex systems also prohibit investors from submitting orders into the limit-order book of an options exchange for the purpose of influencing the prices at which subsequent Auto-ex orders could be executed. (Typically, this is a limit order that improves the Exchange's quoted market.) For example, it may be manipulative for an investor to enter a limit order to buy a small number of options contracts at a price above the prevailing inside bid, and enter a contemporaneous Auto-ex order to sell a larger number of those options (which could be executed at the new, higher bid price set by the investor's own limit order). The order-splitting and manipulation prohibitions apply even when the orders are coming from multiple accounts if these accounts have a common beneficial owner. The prohibitions may also apply to orders in separate options series if these series are substantially similar. Violation of antimanipulation laws and Exchange Auto-ex rules could result in the imposition of criminal penalties, fines and other sanctions against you by regulatory agencies; the reversal of trades executed in violation of Exchange rules; and/or the removal of options trading privileges or closing of your Schwab Account(s).

Option Equity Requirements*

Underlying Securities	Long Purchase	Uncovered	Spread [†]	Short Straddle
Equities & Narrow-Based Indexes	100% of cost, cash-up-front	20% of the underlying security's market value, minus any out-of-the-money amount, plus the current option premium (marked to the market). Minimum: The greater of \$25,000 equity, or the option premium plus 10% of the underlying security's market value (option premium plus 10% of the strike price for puts), or \$100 per contract.	100% of the long contract premium, plus: Call Spread —The value of the difference between the strike prices, if the exercise price of the long contract is greater than the exercise of the short contract. Minimum: \$2,000 /\$25,000. [‡] Put Spread —The value of the difference between the strike prices, if the exercise price of the short contract is greater than the exercise of the long contract. Minimum: \$2,000 /\$25,000. [‡]	The greater of the two uncovered contract requirements, plus the current option premium of the other contract (marked to the market). Minimum: \$25,000.
Broad-Based Indexes	100% of cost, cash-up-front	15% of the underlying index, minus any out-of-the-money amount, plus the current option premium (marked to the market). Minimum: The greater of \$25,000 equity, or the option premium plus 10% of the underlying security's market value (option premium plus 10% of the strike price for puts), or \$100 per contract.	100% of the long contract premium, plus: Call Spread —The value of the difference between the strike prices, if the exercise price of the long contract is greater than the exercise of the short contract. Minimum: \$2,000 /\$25,000. [‡] Put Spread —The value of the difference between the strike prices, if the exercise price of the short contract is greater than the exercise of the long contract. Minimum: \$2,000 /\$25,000. [‡]	The greater of the two uncovered contract requirements, plus the current option premium of the other contract (marked to the market). Minimum: \$25,000.

*Subject to change at any time by Schwab. To protect itself, Schwab may, at its discretion and without prior notice to you, revalue securities, reset requirements or adjust the inflated SMA (Special Memorandum Account) at any time.

[†]Schwab retains complete discretion to determine how to pair options that may constitute a qualified spread. See "Qualified Spreads."

[‡]IRA account initial minimum requirement for spreads is \$25,000; special minimums, when applicable under select offers, supersede published minimums.

Option Agreement

Terms and Conditions. In consideration of our accepting your orders to trade option contracts for your Account referenced in Section 1 of the Add Options Trading and Margin to Your Account Application ("Account"), you agree that the following terms and conditions apply to your Account, in addition to the other terms and conditions contained in the Schwab Account Agreement applicable to your Account.

1. Risks of Option Trading. The purchase or writing of option contracts involves a high degree of risk and is not suitable for all investors.

By applying to add the option trading feature to your Account, you represent that you:

- Understand the risks inherent in option trading;
- Are financially able to withstand option trading losses, including the loss of your entire investment; **and**
- Have determined that option trading is suitable for you, considering your financial situation and investment objectives.
- Neither Schwab nor its officers, employees or agents is authorized to give tax advice. You should consult a professional tax advisor regarding the tax effect of option transactions in your Account.

2. Special Statement for Uncovered Option Writers. There are special risks associated with uncovered option writing that expose the investor to potentially significant loss. Therefore, this type of strategy may not be suitable for all investors approved for options transactions.

- Potential loss of uncovered call writing is unlimited. The writer of an uncovered call is in an extremely risky position and may incur large losses if the value of the underlying instrument increases above the exercise price.
- As with writing uncovered calls, the risk of writing uncovered put options is substantial. The writer of an uncovered put option may incur large losses if the value of the underlying instrument declines below the exercise price.
- Uncovered option writing is thus suitable only for the knowledgeable investor who understands the risks, has the financial capacity and willingness to incur potentially substantial losses, and has sufficient liquid assets to meet applicable margin requirements. In this regard,

if the value of the underlying instrument moves against an uncovered writer, we may request significant additional margin payments. If you do not make such margin payments, we may liquidate stock or options positions in your Account, at our discretion without prior notice, in accordance with your margin agreement.

- For combination writing, where the investor writes both a put and a call on the same underlying instrument, the potential risk is unlimited.
- If a secondary market in options were to become unavailable, investors could not engage in closing transactions, and an option writer would remain obligated until expiration or option contract assignment.
- The writer of an American-style option is subject to being assigned at any time until the option expires. By contrast, the writer of a European-style option is subject to option contract assignment only at expiration.

NOTE: It is expected that you will read the booklet entitled "Characteristics and Risks of Standardized Options." Direct your attention to the chapter entitled "Risks of Option Writers." This Statement is not intended to enumerate all of the risks entailed in writing uncovered options.

3. OCC Disclosure Document. When we approve your Account for option trading, we will give you the booklet "Characteristics and Risks of Standardized Options," published by the Options Clearing Corporation (the "OCC Disclosure Document"). You agree not to enter any orders for option transactions until you have read and understood the OCC Disclosure Document. Any information contained in the OCC Disclosure Document, including information regarding the federal income tax consequences of option transactions, is subject to change.

4. Importance of Accuracy on Your Application. You represent that the information you've provided on the Add Options Trading and Margin to Your Account application is accurate. You agree to notify Schwab if there are important changes in the investment objectives or financial situation you have described in your application.

5. Provision of Services. When we approve your Account for option trading, we will act as your broker to purchase, sell, assign, transfer, exercise, endorse, clear or otherwise handle puts, calls and other contracts relating to securities, securities-related indexes and

other underlying instruments. You agree that if you place orders for option trading in more than one market, we may use our discretion in selecting the market in which to enter your order in the absence of specific instructions from you. **We may, at our discretion and without notice, restrict or prohibit option trading or certain types of option transactions or specific option transactions in your Account.**

Unless we otherwise agree with you in writing, Schwab does not monitor your account(s) or investments and has no obligation to update an investment recommendation, financial advice, or financial plan we may give you. Such recommendation, financial advice, or financial plan only applies at the point in time we provide it to you.

6. Payment. Option transactions are settled on the first business day after the day your order is executed. We may decline to accept your order to purchase option contracts if there are not sufficient cleared funds (that is, funds on which no holds or other restrictions are imposed) available in your Account to pay the purchase price, if you do not have sufficient equity in your Account to meet applicable margin requirements, or for other reasons subject to our discretion. In all cases, option transactions must be settled on the first business day after the day your order is executed, and it is your responsibility to deposit necessary funds and maintain sufficient equity in the Account.

7. Covered Option Transactions. If you are approved for covered options and cash-secured equity put transactions only, you may sell call (put) option contracts when you hold in your Account a sufficient long (short) position in the securities underlying the contracts; purchase call (put) option contracts when you hold in your Account a sufficient short (long) position in the securities underlying the contracts; or sell put option contracts when you hold cash in your Account equal to the aggregate exercise value of the put contracts sold.

8. Maintenance of Required Equity and Liquidation. If you write option contracts, you agree to maintain equity collateral in your Account in accordance with the terms of the Account Agreement. If you do not maintain enough equity in your Account to secure your option obligations adequately, or if you do not satisfy, in a timely manner, any money or collateral call (relating to settlement of a trade or otherwise), we may (but are not required to), without prior notice, take any action with respect to and for your Account that we, in the reasonable exercise of our discretion, consider necessary for our protection.

These actions may include:

- Buying or selling short;
- Hedging existing security positions;
- Risking any or all securities underlying options purchased, endorsed or handled for your Account; **and/or**
- Buying or selling for your Account any option contract we consider necessary or appropriate. Our failure to take any of these actions in any particular instance will not be considered a waiver of our right to take such actions in later instances. You agree to reimburse us for all expenses, fees, commissions or losses (including taxes and transfer and other fees) we incur as a result of such actions.

9. Short Option Positions. If you write a call option contract, you agree to honor all option contract assignments by delivering to us the underlying securities in negotiable form or cash (in the case of index options) at the times prescribed by the securities exchanges and/or the Financial Industry Regulatory Authority. In the event that the call option is uncovered, we will attempt to borrow the securities on your behalf. If we borrow the securities, you agree to pay any fees imposed by us for lending you the securities. If we cannot borrow securities, we may act as your agent to buy in such securities at the current market price and deliver these securities or cash to fulfill your delivery commitment. We may exercise our discretion regarding the timing and manner of any such purchases. In case the following situations occur:

- You write a call option contract in a security that becomes subject to a reorganization transaction (such as a tender offer or other offer in which value is offered in exchange for or with respect to ownership of such security); **and**

- You are assigned an exercise notice on such contract; **and**
- You are unable to cover your obligation to deliver, either through delivery of the security to us, our borrowing the security on your behalf, or our buying in the position; **then**
- You agree to pay us the losses that we sustain as a result of your failure to deliver. If you write a put option contract, you agree to honor all option contract assignments in a timely manner. You agree to pay all expenses, fees, commissions and/or losses (including taxes) incurred as a result of the transactions described above.

In addition, at our discretion, we will pair options positions in the Account that constitute a spread position. You agree to accept the matching logic employed by Schwab to determine spread pairings and you agree to maintain sufficient equity in your Account to meet the equity requirements that may result from such pairings as determined by Schwab in its discretion.

10. Exercises. If you exercise a long option contract, you agree to pay the full aggregate exercise price provided for by the option contract. We'll accept exercise instructions for same-day execution on business days prior to 4:00 p.m. Eastern time for index option contracts, and prior to 5:00 p.m. Eastern time for equity option contracts. We will accept exercise instructions until 5:00 p.m. Eastern time on the last trading day of expiring options. The exercise of a put option is considered a short sale unless you have the underlying securities in your Account. You acknowledge that the Options Clearing Corporation (OCC) and the national securities exchanges have established cutoff times for delivering exercise instructions. Your long option contracts may expire worthless if you do not deliver your instructions by the expiration time noted in the OCC Disclosure Document. We are not obligated to give you prior notice of option expiration dates, and you will have sole responsibility for taking action to exercise an option contract before the option expires.

However, if you hold in your Account long equity option contracts that are greater than or equal to \$0.01 in-the-money, and we do not receive exercise instructions from you on the last trading day of the option, we may, at our discretion (but are not required to), take action.

We may place a market order to sell the long option position at or before, in our discretion, market close on the last trading day of the expiring option. We may instruct the OCC not to exercise valuable options. Or we may exercise valuable option contracts for your Account, and in the absence of instructions from you, new positions we create in this way may be closed out at the opening of the next business day. In the case of long put options, we will only exercise those options if we are able to lend the securities to you for delivery, in which case you may be charged a fee that may change on a daily basis. By allowing us to exercise your put option on the last day of trading, you agree to pay any fees imposed for borrowing shares. An exercise of a put option will be considered a short sale of the underlying security. We may exercise for cash settlement long index option contracts that are any amount in-the-money. If you do not notify us to exercise a valuable option contract by the prescribed time and the right to exercise expires, you agree to waive, and to release us and our officers, employees and agents from, any and all claims of damage or loss, then or at a later time sustained, as a result of an option contract not being exercised.

11. Option Contract Assignments. We allocate option contract assignment notices among customer short positions according to an automated procedure. This procedure randomly selects from among all customer short option positions (including positions established on the date of option contract assignment) those contracts that are subject to exercise. All American-style short option positions are liable for option contract assignment at any time. You acknowledge that the option contract assignment process may result in multiple partial option contract assignments and/or multiple transactions to fulfill a single option contract assignment, and a separate commission charge will apply to each partial option contract assignment or transaction needed to complete an option contract assignment.

At your request, we will furnish you with a more detailed description of the automated option contract assignment process.

12. Position and Exercise Limits—Rules. You agree that you will not, acting either individually or together with others, directly or indirectly:

- Hold or control any number of option contracts that exceed the position limitations, or
- Exercise a long position in any option contract that exceeds the exercise limitations, all as set from time to time by the exchanges or markets where such option contracts are traded.

We may, at our discretion and without prior notice, impose house option position limitations. All option trading activity in your Account will be conducted according to the constitutions, rules, regulations and usages of the Options Clearing Corporation, the Financial Industry Regulatory Authority and any applicable exchange and/or regulatory agency.

13. Account Agreement. All option transactions will be conducted through your Account and are subject to the Account Agreement between you and Schwab. As used here, "Account Agreement" means: the terms and conditions stated in this Option Agreement; the applicable Schwab Account Application; the applicable Schwab Account Agreement; the Margin and Short Account Agreement; the Disclosure of Credit Terms and Policies; the Money Market Fund Agreement, if any; and any other written agreements between you and Schwab, all as amended from time to time.

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