

OPTION AGREEMENT

In connection with any transactions in options which have been or may be purchased, sold, exercised or endorsed for the undersigned's account with an introducing broker(s) which clears through TradeUP Securities Inc., the undersigned agrees as follows:

1. Definitions. "Introducing broker" means any brokerage firm which introduces security transactions on behalf of the undersigned, which transactions are cleared through TradeUP Securities, whether one or more. "Obligations" means all indebtedness, debit balances, liabilities or other obligation of any kind of the undersigned to TradeUP Securities, whether now existing or hereafter arising. "Options" means all types of options, including puts, calls, equity, debt, index or otherwise. "Securities and other property" shall include, but shall not be limited to money, securities, commodities or other property of every kind and nature and all contracts and options relating thereto, whether for present or future delivery. "TradeUP Securities" refers to TradeUP Securities Inc..
2. Limits. The undersigned shall not, acting alone or in concert with others, exceed the position/exercise limits set forth by any exchange or market or by any other regulatory authority having jurisdiction.
3. Authority, Execution of Orders, Security Interest. The undersigned hereby authorizes TradeUP Securities in its discretion, should TradeUP Securities deem it necessary for TradeUP Securities' protection for any reason, including death of the undersigned, to buy, sell, or sell short for the undersigned's account any risk, puts, calls or other forms of option and/or to buy, sell or sell short any part or all of the underlying shares represented by options endorsed by TradeUP Securities for the undersigned's account. Any and all expenses incurred by TradeUP Securities in connection with such transactions shall be reimbursed by the undersigned to TradeUP Securities. The undersigned understands and acknowledges that when transactions on the undersigned's behalf are to be executed and the options are traded in more than one marketplace TradeUP Securities may use its discretion in selecting the market in which to enter the undersigned's order unless the undersigned specifically instructs otherwise. All monies, securities, or other property which TradeUP Securities may hold in any account of the undersigned shall be held subject to a general lien for the discharge of the undersigned's obligations to TradeUP Securities under this Agreement or otherwise. The decision to enter into options transactions was made entirely by the undersigned without any investment advice from TradeUP Securities or the introducing broker.
4. Notice, Exercise, Random Allocation. The undersigned is aware of TradeUP Securities' requirements and time limitations for accepting an exercise notice and expiration date. The undersigned understands that the undersigned may not receive actual notice of exercise until the week following exercise. The undersigned bears full responsibility for taking action to exercise or sell valuable options; however, in the absence of the undersigned notifying the introducing broker to exercise a valuable options contract by 3 P.M. Central Standard Time on the last business day prior to the expiration date of the options contract, and the introducing broker instructing TradeUP Securities to sell valuable options on the undersigned's behalf within such time, the undersigned agrees that TradeUP Securities may exercise the options contract on the undersigned's behalf. In the event of such exercise, the profit in excess of commission costs created thereby will be credited to the undersigned's account. In the event that the commissions to be charged for such an expiration transaction exceeds the proceeds to be realized, the undersigned agrees and hereby relinquishes the undersigned's ownership in said option to TradeUP Securities, and TradeUP Securities may exercise such option for its own account. If the undersigned does not instruct the introducing broker to exercise the valuable option by the time stated above, and TradeUP Securities for whatever reason, does not exercise such option on the undersigned's behalf, the undersigned hereby waives any and all claims for damage or loss which the undersigned might at the time or any time thereafter have against TradeUP Securities arising out of the fact that the option was not exercised. The undersigned is aware that TradeUP Securities utilizes a random method of allocation for all option(s) assignments received from the Option Clearing Corporation. Exercise assignment notices for options contracts are allocated among all customers' short options, including positions established on the day of assignment, those contracts which are subject to exercise. All American short positions are liable for assignment at any time. The undersigned understands that a more detailed description of this procedure is available upon request by the undersigned.
5. Uncovered Options. The undersigned agrees that in connection with any uncovered options(s) for the undersigned's account, uncovered options are prohibited in IRA accounts. The undersigned agrees not to sell, during the life of the options in the account, the underlying securities collateralizing such options, including any cash or securities which may accrue on the underlying covered securities until such options are closed, exercised or expired or the undersigned has met the collateral requirements established by TradeUP Securities and or the introducing broker for carrying uncovered options. The undersigned also agrees that the introducing broker and or TradeUP Securities, in its respective sole discretion, may refuse any order to sell such underlying securities received from the undersigned or by means of a "give up" basis through another firm unless, prior to such sale, the undersigned has met the collateral requirements established by TradeUP Securities and/or the introducing broker for carrying uncovered options. TradeUP Securities has the right, in its sole discretion, to permit the undersigned to apply the proceeds of such sale to such collateral requirements.
6. Risks. The undersigned is aware of the high degree of risk involved in options transactions and has given the introducing broker, in strict confidence, information to demonstrate that this account and the trading anticipated in connection therewith is not unsuitable for the undersigned in light of the undersigned's investment objectives, financial situation and needs, experience and knowledge. The undersigned agrees to advise the introducing broker of any changes in the undersigned's investment objectives, financial situation or other circumstances that may be deemed to materially affect the suitability of executing options transactions for the undersigned's account.
7. Options Account Form, Disclosure Documents. The undersigned has reviewed the contents of the options account form and represents that they are accurate. Although certain types of transactions are indicated as anticipated, TradeUP Securities and the introducing broker may execute any other types of transactions for the undersigned's account upon the undersigned's instructions. The undersigned has received an Options Disclosure Document relating to options on the categories of underlying securities which the undersigned has been approved for trading.
8. Accounts Carried as Clearing Broker. The undersigned understands that TradeUP Securities is carrying the accounts of the undersigned as clearing broker by arrangement with the undersigned's introducing broker through whose courtesy the account of the undersigned has been introduced to TradeUP Securities. Until receipt from the undersigned of written notice to the contrary, TradeUP Securities may accept and rely upon the introducing broker for (a) orders for the purchase or sale in said account of securities and other property, and (b) any other instructions concerning the undersigned's accounts. The undersigned represents that the undersigned understands that TradeUP Securities acts only to clear trades introduced by the undersigned's introducing broker and to effect other back-office functions for the undersigned's introducing broker. The undersigned confirms to TradeUP Securities that the undersigned is relying for any advice concerning the undersigned's accounts solely on the undersigned's introducing broker. The undersigned understands that all representatives, employees and other agents with whom the undersigned communicates concerning the undersigned's account are agents of the introducing broker, and not TradeUP Securities' representatives, employees or other agents. The undersigned understands that TradeUP Securities will not review the undersigned's accounts and will have no responsibility for trades made in the undersigned's accounts, including but not limited to for appropriateness or suitability. TradeUP Securities shall not be responsible or liable for any acts or omissions of the introducing broker or its representatives, employees or other agents. The execution of any such trades shall not be deemed to be an approval of such trades.
9. ARBITRATION AGREEMENT. THIS AGREEMENT CONTAINS A PREDISPUTE ARBITRATION CLAUSE. BY SIGNING AN ARBITRATION AGREEMENT THE PARTIES AGREE AS FOLLOWS:

- a. ALL PARTIES TO THIS AGREEMENT ARE GIVING UP THE RIGHT TO SUE EACH OTHER IN COURT, INCLUDING THE RIGHT TO A TRIAL BY JURY, EXCEPT AS PROVIDED BY THE RULES OF THE ARBITRATION FORM IN WHICH A CLAIM IS FILED.
- b. ARBITRATION AWARDS ARE GENERALLY FINAL AND BINDING; A PARTY'S ABILITY TO HAVE A COURT REVERSE OR MODIFY AN ARBITRATION AWARD IS VERY LIMITED.
- c. THE ABILITY OF THE PARTIES TO OBTAIN DOCUMENTS, WITNESS STATEMENTS AND OTHER DISCOVERY IS GENERALLY MORE LIMITED IN ARBITRATION THAN IN COURT PROCEEDINGS.
- d. THE ARBITRATORS DO NOT HAVE TO EXPLAIN THE REASON(S) FOR THEIR AWARD.
- e. THE PANEL OF ARBITRATORS MAY INCLUDE A MINORITY OF ARBITRATORS WHO WERE OR ARE AFFILIATED WITH THE SECURITIES INDUSTRY.
- f. THE RULES OF SOME ARBITRATION FORUMS MAY IMPOSE TIME LIMITS FOR BRINGING A CLAIM IN ARBITRATION. IN SOME CASES, A CLAIM THAT IS INELIGIBLE FOR ARBITRATION MAY BE BROUGHT IN COURT.
- g. THE RULES OF THE ARBITRATION FORUM IN WHICH THE CLAIM IS FILED, AND ANY AMENDMENTS THERETO, SHALL BE INCORPORATED INTO THIS AGREEMENT.

THE FOLLOWING ARBITRATION AGREEMENT SHOULD BE READ IN CONJUNCTION WITH THE DISCLOSURES ABOVE. ANY AND ALL CONTROVERSIES, DISPUTES OR CLAIMS BETWEEN THE PARTIES, OR THE INTRODUCING BROKER, OR THE AGENTS, REPRESENTATIVES, EMPLOYEES, DIRECTORS, OFFICERS OR CONTROL PERSONS OF TRADEUP SECURITIES OR THE INTRODUCING BROKER, ARISING OUT OF, IN CONNECTION WITH FROM OR WITH RESPECT TO (a) ANY PROVISIONS OF OR THE VALIDITY OF THIS AGREEMENT OR ANY RELATED AGREEMENTS, (b) THE RELATIONSHIP OF THE PARTIES HERETO, OR (c) ANY CONTROVERSY ARISING OUT OF YOUR BUSINESS, THE INTRODUCING BROKER'S BUSINESS OR THE CUSTOMER'S ACCOUNTS, SHALL BE CONDUCTED PURSUANT TO THE CODE OF ARBITRATION PROCEDURE OF THE FINANCIAL INDUSTRY REGULATORY AUTHORITY ("FINRA"). ANY AND ALL CONTROVERSIES, DISPUTES OR CLAIMS SHALL BE SUBMITTED TO ARBITRATION BEFORE THE NEW YORK STOCK EXCHANGE, INC., ANY OTHER NATIONAL SECURITIES EXCHANGE ON WHICH A TRANSACTION GIVING RISE TO THE CLAIM TOOK PLACE (AND ONLY BEFORE SUCH EXCHANGE), OR THE NATIONAL ASSOCIATION OF SECURITIES DEALERS, THE DECISION AND AWARD OF THE ARBITRATOR(S) SHALL BE CONCLUSIVE AND BINDING UPON ALL PARTIES, AND ANY JUDGMENT UPON ANY AWARD RENDERED MAY BE ENTERED IN A COURT HAVING JURISDICTION THEREOF, AND NEITHER PARTY SHALL OPPOSE SUCH ENTRY.

No person shall bring a putative or certified class action to arbitration, nor seek to enforce any pre-dispute arbitration agreement against any person who has initiated in court a putative class action; or who is a member of a putative class who has not opted out of the class with respect to any claims encompassed by the putative class action until: (i) the class certification is denied; or (ii) the class is decertified; or (iii) the customer is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this agreement except to the extent stated herein.

10. Other Agreements. The undersigned agrees to be bound by the terms TradeUP Securities' Customer Account Agreement and/or other related Agreement. The undersigned understands that copies of this agreement are available from TradeUP Securities and, to the extent applicable, are incorporated by reference herein. The terms of this other agreement is in addition to the provisions of this Agreement and any other written agreements between TradeUP Securities and the undersigned.
11. Data Not Guaranteed. The undersigned expressly agrees that any data or online reports is provided to the undersigned without warranties of any kind, express or implied, including but not limited to, the implied warranties of merchantability, fitness of a particular purpose or non-infringement. The undersigned acknowledges that the information contained in any reports provided by TradeUP Securities are obtained from sources believed to be reliable but is not guaranteed as to its accuracy or completeness. Such information could include technical or other inaccuracies, errors or omissions. In no event shall TradeUP Securities or any of TradeUP Securities' affiliates be liable to the undersigned or any third party for the accuracy, timeliness, or completeness of any information made available to the undersigned or for any decision made or taken by the undersigned in reliance upon such information. In no event shall TradeUP Securities or TradeUP Securities' affiliated entities be liable for any special incidental, indirect or consequential damages whatsoever, including, without limitation, those resulting from loss of use, data or profits, whether or not advised of the possibility of damages, and on any theory of liability, arising out of or in connection with the use of any reports provided by TradeUP Securities or with the delay or inability to use such reports.
12. Credit Check. TradeUP Securities is authorized, in TradeUP Securities' discretion, should TradeUP Securities for any reason deem it necessary for TradeUP Securities' protection to request and obtain a consumer credit report for the undersigned.
13. Miscellaneous. The undersigned is aware of and agrees that this Agreement and all transactions in the undersigned's accounts shall be governed by the constitution, rules, regulations, customs, usages and bylaws of the Options Clearing Corporation and the Financial Industry Regulatory Authority, and all exchanges or other facilities upon which options are traded for the account of the undersigned. If any provisions of this Agreement are held to be unenforceable, it shall not affect any other provisions of this Agreement. The headings of each section of this Agreement are descriptive only and do not modify or qualify any provision of this Agreement. This Agreement and its enforcement shall be governed by the law of the state of New York and shall cover individually and collectively all accounts which the undersigned has previously opened, now has open or may open or reopen with TradeUP Securities, or any introducing broker, and any and all previous, current and future transactions in such accounts. Except as provided in this Agreement, no provision of this Agreement may be altered, modified or amended unless executed in writing by TradeUP Securities' authorized representative. This Agreement and all provisions shall inure to the benefit of TradeUP Securities and TradeUP Securities' successors, whether by merger, consolidation or otherwise, TradeUP Securities' assigns, the undersigned's introducing broker, and all other persons specified in Paragraph 9. TradeUP Securities shall not be liable for losses caused directly or indirectly by any events beyond TradeUP Securities' reasonable control, including without limitation, government restrictions, exchange or market rulings, and suspension of trading or unusually heavy trading in securities, a general change in economic, political or financial conditions, war or strikes. TradeUP Securities may transfer the accounts of the undersigned to TradeUP Securities' successors and assigns. This Agreement shall be binding upon the heirs, executors, administrators, successors and assigns of the undersigned.

SUPPLEMENTAL STATEMENT

Undersigned acknowledges, agrees and represents:

1. I have received a copy of the document entitled "Characteristics and Risks of Standardized Options." A current Options Clearing Corporation Prospectus is available from TradeUP Securities upon request.
2. I understand that the purchasing or selling of options may involve a high degree of risk and speculation. When purchasing options there is the risk that the entire premium paid (purchase price) for the option can be lost if the option is not exercised or otherwise sold. When selling (writing) options, the risk of loss can be much greater if such options are written uncovered ("naked"). In such case the risk of loss can exceed the amount of premium received.
3. Index options have special characteristics and risks. Index option exercises are settled with cash, not securities. In addition, because the exercise price of an index option is always based on the closing index value, an index option that is in the money during trading hours may be out of the money when the closing value is calculated — a risk to consider whenever you place an exercise order before the closing value is known.
4. I am capable of evaluating and bearing the financial risks attendant to the writing (selling) or purchasing of options. My capabilities are based on my income, net worth, experience and knowledge of security investing, my financial needs and investment objectives.
5. I fully understand that an active program of purchasing and or selling (writing) options may involve concomitant purchases and sales of the underlying stocks to which the options relate, and that such a program may produce a high level of trading activity and commission costs.
6. I agree to be bound by your policies and rules, as they exist now and may be amended related to trading options; particularly margin requirements and payment requirements. You may, whenever your sole discretion determines that there is danger of financial loss to you or me, request additional margin, deposit, purchase or sale of additional stock, or the closing out of a margin position.
7. I understand that settlement (payment date) for option trades is the business day following the purchase or sale of the option. However, you may require deposits at the time of purchase or sale.
8. I understand that there are strict rules governing the cutoff time for exercising long options. I understand and agree that it is my sole responsibility to learn and keep track of the cutoff times applicable to the options in my account.
9. All options transactions executed on a national securities exchange shall be subject to its rules, regulations, customs and usages and to those of The Options Clearing Corporation, and I agree to comply with all such rules as they may apply to my transactions.
10. I understand that when transactions on my behalf are to be executed in options traded on more than one exchange, in the absence of my specific instructions, you may use discretion in selecting the market in which to enter my order.
11. In transactions involving Exchange or NASDAQ listed options I will comply with all the Rules and Regulations of said market, and the Options Clearing Corporation, including, but not limited to, limitations on the number of options I individually, or in concert with others, may have, long or short, or may exercise.
12. It is understood that if options are purchased, it shall be my sole responsibility to sell or exercise in a proper and timely manner as set forth by The Options Clearing Corporation and TradeUP Securities. I agree that in the event less than three days remain until expiration of an option, and when you have been unable to contact me regarding any positions in my account about to expire, you then may exercise the limited discretion granted to liquidate those positions as you may see fit. This limited discretionary authority shall not require you to take any action whatsoever. In the event that you should liquidate any options positions, my account will be credited in a fair and equitable manner.
13. I understand that exercise assignment notices for options contracts are allocated among the client's short positions by a manual procedure which randomly selects from among all clients' short positions by a manual procedure, including positions established on the day of assignment, and those contracts which are subject to exercise. All short American-style option positions are liable for assignment at any time. All short European-style option positions are liable for assignment only on their expiration date. More detailed information on TradeUP Securities' assignment procedure is available by calling TradeUP Securities.
14. I understand that TradeUP Securities, may from time to time, purchase or sell options and/or underlying securities for TradeUP Securities' own account that has been recommended to me.
15. Payment for Order Flow: TradeUP Securities transmits customer orders for execution to various exchanges or market centers based on a number of factors. These include: size of order, trading characteristics of the security, favorable execution prices (including the opportunity for price improvement), access to reliable market data, availability of efficient automated transaction processing and reduced execution costs through price concessions from the market centers. Certain of the market centers may execute orders at prices superior to the publicly quoted market in accordance with their rules or practices. While a customer may specify that an order be directed to a particular market center for execution, the order-routing policies, taking into consideration all of the factors listed above, are designed to result in favorable transaction processing for customers. TradeUP Securities may receive remuneration, compensation or other consideration for directing customer orders for equity securities to particular broker/dealers or market centers for execution. Such consideration may take the form of financial credits, monetary payments or reciprocal business.
17. I understand that options are exercised in accordance with the rules of The Options Clearing Corporation and that I will bear full responsibility for taking or failing to take action to exercise a valuable option.
I also understand that:
 - a) If I wish to exercise an option prior to the Friday before expiration, I must inform you by 4:05PM (ET) in the case of an index option and prior to 5:00PM (ET) in the case of an equity option.

- b) Long options that expire 0.25 in-the-money will be automatically exercised unless I inform the Options Department not to exercise them before 4:30 PM (ET) on the Friday before expiration. If I wish to exercise an option which expires less than 0.25 in-the-money, I must inform the Options Department before 4:30 PM (ET) on the Friday before expiration.
- c) Short equity options that expire 0.25 in-the-money will be automatically assigned.
- d) All index options that expire in-the-money are automatically assigned and exercised.
- e) If I am automatically exercised and a margin call results, TradeUP Securities reserves the right to close out the position caused by the exercise, unless I contact the Options Department by noon (ET) on the Monday after expiration.
- f) If an exercise or an assignment result in a short position and TradeUP Securities cannot borrow the stock-or if the short is in an IRA account-TradeUP Securities reserves the right to cover the short stock position unless I notify the Options Department before 3:30 PM (ET) on the Monday after expiration.
- g) TradeUP Securities will not notify me by telephone of automatic exercises or assignments. Written confirmation will be sent on the Monday after expiration.
- h) American-style index options (e.g., OEX, XOI and XAU) may be assigned at any time.



Risk Disclosure for Uncovered Option Writers

There are special risks associated with uncovered option writing which expose the investor to potentially significant loss. Therefore, this type of strategy may not be suitable for all customers approved for options transactions.

1. The 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.
2. As with writing uncovered calls, the risk of writing uncovered put options is substantial. The writer of an uncovered put option bears a risk of loss if the value of the underlying instrument declines below the exercise price. Such loss could be substantial if there is a significant decline in the value of the underlying instrument.
3. 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 underlying instrument moves against an uncovered writer's options position, the investor's broker may request significant additional margin payments. If an investor does not make such margin payments, the broker may liquidate stock or options positions in the investor's account, no prior notice in accordance with the investor's margin agreement.
4. For combination writing, where the investor writes both a put and a call on the same underlying instrument, the potential risk is unlimited.
5. 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 assignment.
6. The writer of an American-style option is subject to being assigned an exercise at any time after he has written the option until the option expires. By contrast, the writer of a European-style option is subject to exercise assignment only during the exercise period.

NOTE: It is expected that you will read the booklet entitled **CHARACTERISTICS AND RISKS OF STANDARDIZED OPTIONS** given to you at the time you opened your account. Additional copies are also available upon request from your broker. In particular your attention is directed to the chapter entitled Risks of Buying and Writing Options. This statement is not intended to enumerate all of the risks entailed in writing uncovered options.

Client Name

Date

Client Signature

Client Name

Date

Client Signature