

If you are considering adding a margin feature to your account, it is important that you fully understand the rules and risks involved in trading securities on margin.

Please review the following overview of using margin. While the use of margin can be effective for the experienced investor, there are certain risks that always accompany the use of a margin account. You should consider how the use of margin fits your own investment philosophy.

Margin trading increases your level of market risk. Margin trading increases your buying power, allowing you to purchase a greater amount of securities with your investing dollar. Therefore, your exposure to market volatility increases - a declining market could result in even greater losses. A decline in the value of your securities that you purchase on margin may require you to provide additional funds to Schwab in order to avoid the forced sale of those securities or other securities in your account.

The downside is not limited to the collateral value in your margin account. If the securities in your account decline in value, so does the value of the collateral supporting your loan. When the value of the collateral falls below the maintenance margin requirements, or Schwab's higher "house" requirements, Schwab can move to protect its position. In order to cover margin deficiencies, Schwab may issue you a margin call - a request for additional cash - or sell securities from your account. If a sale does not cover the deficiency, you will be responsible for any shortfall.

Schwab may initiate the sale of any securities in your account, without contacting you, to meet a margin call. Schwab will attempt to involve you in the case of margin deficiency; however, market conditions may require the firm to quickly sell any of your securities without your consent. Because the securities are collateral for the margin loan, Schwab has the right to decide which security to sell in order to protect its interests. Even if Schwab has contacted you and provided a specific date by which you can meet a margin call, the firm can still take necessary steps to protect its financial interests, including immediately selling the securities without prior notice to you.

Schwab may increase its "house" maintenance margin requirements at any time and is not required to provide you with advance written notice. Changes in Schwab's policy regarding "house" maintenance margin requirements often take effect immediately and may result in the issuance of a maintenance margin call. Your failure to satisfy the call may cause Schwab to liquidate or sell securities in your account.

You are not entitled to an extension of time on a margin call. While an extension of time to meet margin requirements may be available to customers under certain conditions, a customer does not have a right to the extension.

Stocks paying dividends in taxable accounts may have tax implications. Some accounts that carry a margin loan balance and hold dividend-paying securities may receive a "substitute income payment in lieu (PIL) of a dividend," which may be taxable as ordinary income. Taxable accounts that receive a PIL instead of a qualified dividend may also receive a supplemental credit from Schwab. This will be described on customer statements as a "Schwab substitute income credit." Schwab will not credit your account with this additional payment when we can identify instances where a dividend is not qualified.

- This credit is NOT "payment in lieu," and is unrelated to any payment from either the security issuer or the borrower.
 - It is a discretionary credit from Schwab which may be discontinued in the future with or without notice.*
 - It may be subject to tax at your ordinary income tax rate. Please consult your tax advisor about your specific tax situation.
 - Because individual tax situations differ, Schwab cannot precisely calculate the additional tax costs a client might incur. We therefore do not intend, nor should clients expect, for this payment to be an exact reimbursement of any excess tax cost.
- * Please refer to the "Loan Consent" section of your Account Agreement, which states that no compensation is due in connection with such loans and that Schwab "is not required to compensate you for any differential tax treatment between dividends and payments in lieu of dividends."

If you have any questions, please call 1-800-515-2157 or contact your Investment Advisor.

These terms relate to your account and are part of the Account Agreement between each account holder and Schwab. Please retain for your files.

I hereby request that Charles Schwab & Co., Inc. ("Schwab") open a brokerage account (the "Account") in the names listed as Account Holders on this Schwab One Account Application ("AA"). I agree to read and be bound by the terms of the Account Agreement (which includes information on the Cash Account and, if applicable, the Schwab Sweep Funds, the Margin and Short Account, Disclosure of Credit Terms and Policies, the Schwab StockBuilder Plan® and other written agreements between me and Schwab that apply to my brokerage account) as currently in effect and as amended from time to time. If, in the future, I add features to this Account governed by the foregoing agreements (e.g., a money fund or margin trading), I agree to be bound by their terms and conditions. If I do not receive or understand the Account Agreement, I will notify Schwab.

In accordance with Section 7 of Brokerage Services in the Schwab One Account Agreement, I agree that all debts and other obligations owed to Schwab by any party to the Account Agreement will be secured by a lien on all Securities and Other Property now or hereafter held, carried or maintained in any of my present or future brokerage accounts with Schwab, whether individually or jointly held with others, or in any brokerage account at Schwab in which I have an interest.

Required Arbitration Disclosures. Regulatory authorities require that any brokerage agreement containing a predispute arbitration agreement must disclose that this agreement contains a predispute arbitration clause. This Agreement contains a predispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:

- 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 forum in which a claim is filed.
- Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- The ability of the parties to obtain documents, witness statements and other discovery is generally more limited in arbitration than in court proceedings.
- The arbitrators do not have to explain the reason(s) for their award.
- The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.
- 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.
- The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this Agreement.

No person shall bring a putative or certified class action to arbitration, nor seek to enforce any predispute 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:

1. the class certification is denied;
2. the class is decertified; or
3. 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.

Arbitration Agreement. Any controversy or claim arising out of or relating to (i) this Agreement, any other agreement with Schwab, an instruction or authorization provided to Schwab or the breach of any such agreements, instructions, or authorizations; (ii) the Account, any other Schwab account or Services; (iii) transactions in the Account or any other Schwab account; (iv) or in any way arising from the relationship with Schwab, its parent, subsidiaries, affiliates, officers, directors, employees, agents or service providers, including any controversy over the arbitrability of a dispute, will be settled by arbitration.

This arbitration agreement will be binding upon and inure to the benefit of the parties hereto and their respective representatives, attorneys-in-fact, successors, assigns and any other persons having or claiming to have a legal or beneficial interest in the Account, including court-appointed trustees and receivers. This arbitration agreement will also inure to the benefit of third-party service providers that assist Schwab in providing Services ("Third-Party Service Providers") and such Third-Party Service Providers are deemed to be third-party beneficiaries of this arbitration agreement.

The parties agree that this arbitration agreement will apply even if the application to open the Account is denied and will survive the closure of your Account and/or the termination of services rendered under this Agreement.

Such arbitration will be conducted by, and according to the securities arbitration rules and regulations then in effect of, the Financial Industry Regulatory Authority (FINRA) or any national securities exchange that provides a forum for the arbitration of disputes, provided that Schwab is a member of such national securities exchange at the time the arbitration is initiated. Any party may initiate arbitration by filing a written claim with FINRA or such eligible national securities exchange. If arbitration before FINRA or an eligible national securities exchange is unavailable or impossible for any reason, then such arbitration will be conducted by, and according to the rules and regulations then in effect of, the American Arbitration Association (AAA). If arbitration before the AAA is unavailable or impossible for any reason, the parties agree to have a court of competent jurisdiction appoint three (3) arbitrators to resolve any and all disputes or controversies between or among the parties. Each party shall bear its own initial arbitration costs, which are determined by the rules and regulations of the arbitration forum. In the event of financial hardship, the arbitration forum may waive certain costs in accordance with such rules. At the conclusion of the hearing, the arbitrators will decide how to assess the costs of the arbitration among the parties.

Any award the arbitrator makes shall be final and binding, and judgment on it may be entered in any court having jurisdiction. This arbitration agreement shall be enforced and interpreted exclusively in accordance with applicable federal laws of the United States, including the Federal Arbitration Act. Any costs, fees or taxes involved in enforcing the award shall be fully assessed against and paid by the party resisting enforcement of said award.

All notices from one party to the other involving arbitration shall be considered to have been fully given when so served, mailed by first-class, certified or registered mail, or otherwise given by other commercially accepted medium of written notification.

In addition to the above provisions, if a party to this Agreement is or becomes a non-U.S. resident at the time of any controversy subject to this arbitration agreement, such party acknowledges and agrees to the following additional provisions:

- (1) The rules of the organization administering the arbitration specifically provide for the formal designation of the place at which the arbitration is to be held.
- (2) Entering into this Agreement constitutes consent to submit to the personal jurisdiction of the courts of the state of California, U.S.A., to interpret or enforce any or all of these arbitration provisions. Judgment on any arbitration award may be entered in any court having jurisdiction, or application may be made to such court for judicial acceptance of the award and an order of enforcement, as the case may be.
- (3) The exclusive language to be used by the parties and the arbitrators in the arbitration proceedings shall be English. Any party wishing an interpreter shall make all arrangements directly with the interpreter and shall assume all costs of the service.
- (4) If a party is a foreign government or state, state-owned or state-operated enterprise or other instrumentality of a foreign government or state, such party waives all rights of sovereign immunity and neither the Federal Act of State doctrine nor the doctrine of sovereign immunity shall apply insofar as any enforcement in courts located in the U.S.A. is concerned.

Schwab One® Accounts. I further request PNC Bank to issue checks and Visa® Platinum check card(s) as indicated on this AA. I authorize Schwab to make inquiries for the purpose of verifying my creditworthiness and the creditworthiness of my spouse if I am married and live in a community property state. Such inquiries may include verifying information I have given in my AA, contacting my employer and obtaining credit reports. I further authorize Schwab to disclose information to others about me and my Accounts when it is necessary for completing transactions; to comply with a government agency request or court order, such as the IRS or the SEC; to verify the existence and condition of my Account for a third party, such as a credit bureau or merchant; and as otherwise authorized by the Schwab One Account Agreement.

For Account Holders with more than one account at Schwab: This authorization further authorizes Schwab to direct transfers between your accounts at Schwab when no written authorization is requested.

Linking Your Account to a High Yield Investor Checking Account at Schwab Bank. If you link your Account to a High Yield Investor Checking Account held at Schwab Bank, you authorize Schwab to accept and follow instructions received from Schwab Bank to transfer funds from your Account to your High Yield Investor Checking Account as set forth in your *Schwab Bank High Yield Investor Checking™ Account Application* and *Schwab Bank Deposit Account Agreement*. The provisions of the Agreements and Disclosures relating to checks and debit cards will not apply to the services received from Schwab Bank.

You authorize Schwab to act as your agent in processing those instructions from Schwab Bank. You understand and agree that Schwab has sole discretion to accept or deny, in whole or in part, any such instruction. You also agree that Schwab is not responsible for any errors in calculation or damages resulting from errors in calculations or delays in transfers. **In no event will Schwab be liable for any special, indirect or consequential damages, even if we have been informed of the possibility of such damages.**

You authorize Schwab to act upon your requests for Real-Time Funds Transfers (as defined in the *Schwab Bank Deposit Account Agreement*) from Schwab Bank. The maximum amount you may transfer will be calculated in the same way that Schwab calculates the Authorization Limit for brokerage check writing privileges as set forth in the *Schwab One Account Agreement*. By requesting a Real-Time Funds Transfer, you understand that you may create a margin loan in your brokerage account that may be subject to daily interest charges.

In order for transfers to occur, both your High Yield Investor Checking Account and your Account must be open and active and linked with each other. Target Balance Transfers will be limited to your Authorization Limit (as described in the *Schwab One Account Agreement*), excluding your Available Margin Loan Value (as defined in the *Schwab One Account Agreement*). Overdraft Transfers will be limited to your Authorization Limit.

If you have a debit balance in your Account, Target Balance Transfers will not be made to your High Yield Investor Checking Account. Pending securities trades (including the Automatic Investment Plan [AIP]), pending debits to your Account, and pending transfers of funds from your Account may not be considered in determining whether funds are available for transfer from your Account to your High Yield Investor Checking Account at Schwab Bank.

Further, transfers of funds from your Account are subject to Schwab's minimum deposit requirements. You and your Account may not have any restrictions preventing Schwab from using funds in your Account to satisfy a transfer instruction from Schwab Bank. If your Account becomes subject to a restriction, your eligibility for this feature may be revoked and you understand that Schwab Bank may close your High Yield Investor Checking Account.

Transfers to Schwab Bank may result in debits in your Account. You acknowledge that you are responsible for all debits (and interest on debits) in your Account, as described in further detail in the Agreement and Disclosures. Your Account remains an obligation solely of Schwab. Likewise, your High Yield Investor Checking Account remains an obligation solely of Schwab Bank.

Trading Authorization. If I have indicated on this AA that the Investment Advisor ("IA") named above, which I understand may be referred to as "Investment Manager" or "IM" in other documentation relating to my Account, will have the authority to direct Schwab to execute trades in my Account, I authorize Schwab to accept instructions from IA regarding my Account, and to take all other actions necessary or incidental to the execution of such instructions, as IA shall direct. If my Account has a margin feature, Schwab is authorized to accept instructions from IA to trade on margin, to sell short, to borrow securities, to otherwise cause credit to be extended through the Account, and to secure the performance of obligations in the Account with any assets held in the Account (the "Account Assets"). If my Account is authorized for option trading, Schwab is authorized to accept instructions from IA to purchase and sell (write) index participation contracts and covered and uncovered option contracts on securities and securities-related indexes, up to my approved level of options trading strategy. Schwab, and other people to whom Schwab has given instructions in order to implement IA's instructions, may rely on IA's instructions without obtaining my approval, counter-signature or co-signature. IA's authority will include, without limitation: the authority to give instructions for transactions in securities and financial instruments, including the buying and selling of stocks, bonds, debentures, notes, subscription warrants, stock purchase warrants, covered and uncovered options (if I have authorized trading covered and uncovered options, and only up to my approved level of option trading strategy), mutual fund shares, evidences of indebtedness and any other securities, instruments or contracts relating to securities.

I authorize Schwab to take such actions as Schwab deems reasonably necessary to carry out instructions Schwab receives from me and/or IA. I further authorize Schwab, acting upon IA's instructions, to aggregate transaction orders for my Account with orders for one or more other accounts over which IA has trading authorization or to accept or deliver assets in transactions executed by other broker-dealers where IA has so aggregated orders. I agree that if any such aggregated order is executed in more than one transaction, my portion of such order may be deemed to have been executed at the weighted average of the prices at which all of such transactions were executed.

Fee Payment Authorization. If I have indicated on this Application that my IA will have fee payment authority over my Account, I authorize Schwab to pay investment advisory and related fees from my Account to my IA in the amount of my IA's instructions. I have authorized my IA in writing to receive fee payments directly from my Account. Schwab may rely on the instructions submitted by my IA, and will have no responsibility to confirm those instructions with me or verify the fees. Schwab may redeem money market fund shares in my Account to the extent necessary to pay these fees. My IA's fees debited from my Account will appear on Schwab's statements of my Account.

Disbursement Authorization. If I have indicated on this Application that my IA will have trading and disbursement authority over my Account, I authorize Schwab to disburse assets from my Account for investment purposes, and funds to me personally, as instructed by my IA. On my IA's instruction, Schwab is authorized to remit checks, wire funds, and otherwise make disbursements of funds held in my Account to: (1) banks, other broker-dealers, investment companies or financial institutions to or for credit to an account of identical registration; or (2) to me at my address of record.

Role of Charles Schwab & Co., Inc. I acknowledge and agree that: Schwab will merely carry out transactions as directed by me and/or IA as the case may be; I (and not Schwab) am responsible for investigating and selecting IA; IA is not affiliated with, or controlled or employed by, Schwab; and Schwab has no duty to supervise or monitor trading by me or by IA in my Account. Schwab will send me written confirmations of my trades executed through Schwab and monthly statements of all activity in my Account. If my IA and/or I direct Schwab to act as custodian of nonpublicly traded assets, I acknowledge and agree: (1) that nonpublicly traded assets generally lack a liquid market and that the value of such assets may be difficult to ascertain; (2) that any estimated value reflected on my account statement or other communication from Schwab is for informational purposes only and may be significantly different from the actual market value or the liquidation value of such assets; (3) that Schwab has no responsibility for, nor does Schwab guarantee the accuracy of, any such valuation of assets, even if the assets have been valued by a pricing service selected by Schwab; (4) that Schwab may require that I sign an addendum to my Account Agreement if Schwab agrees, in the exercise of its discretion, to accept custody of any nonpublicly traded assets in my Account. I authorize Schwab to obtain from IA, and IA to provide to Schwab, information regarding my Account as Schwab may reasonably request. If any of IA's employees is associated with a member of FINRA, NYSE or affiliate, Schwab is authorized to deliver information concerning my Account to such member upon request.

I acknowledge, understand and agree that (1) Schwab Advisor Network® member advisors ("Network member advisors") pay Schwab fees to be members; (2) Network member advisors, including IA, are independent and not employees or agents of Schwab; (3) Schwab prescreens Network member advisors and checks their experience and credentials against criteria Schwab sets; (4) IA's membership in Schwab Advisor Network does not change that (A) I am solely responsible for (i) the decision to hire IA, (ii) what authority to give IA and (iii) evaluating IA's services and performance; and (B) Schwab (i) does not supervise IA and (ii) takes no responsibility to monitor IA's performance or transactions in the Account.

Products and Services Provided to IA. Schwab may provide IA, at no fee or at a discounted fee, with research, software and other technology, information and consulting services, and other products and services that benefit IA. Schwab's provision of these products and services to IA may be based upon clients of IA placing a certain amount of assets in their brokerage accounts at Schwab (i.e., custodial assets at Schwab) within a certain period of time. IA may be influenced by this commitment in recommending or requiring that its clients establish brokerage accounts at Schwab. These products and services may not necessarily benefit my Account.

Pricing. Schwab and IA may agree to pricing (including commissions and transaction account and service fees) for my Account and IA's other clients' accounts at Schwab based upon the nature and scope of business that IA transacts with Schwab, including the current and future expected amount of IA's clients' assets custodied at Schwab, the types of securities managed by IA and/or expected frequency of IA's trading. Schwab may change this pricing if the nature and scope of business that IA transacts with Schwab changes or does not reach agreed-upon levels, in which case pricing for IA's clients' accounts, including my Account, may increase to an amount determined by Schwab not to exceed Schwab's standard pricing as published in the then-current *Charles Schwab Institutional® Pricing Guide*.

Accounts with Margin Features. I understand that when I buy securities on margin or enter into short sales or short options, or when my IA, if I have granted this authority to my IA, does so for my Account, I am borrowing money from Schwab for part of that transaction(s). All securities and other assets in my Schwab Account(s) are pledged as collateral to secure this loan. I acknowledge that margin transactions are riskier and involve the possibility of greater loss than transactions where I am not borrowing money. If the value of my securities and other assets falls, I acknowledge that I may be required to deposit more assets (a margin call) to secure this loan or that securities and other assets held in my Account may be sold to pay down or pay off my loan without prior notice and at a loss or at lower prices than under other circumstances. I agree to carefully consider my own financial condition, tolerance for risk and investment objectives, as well as market conditions, before I decide to use margin credit or grant this authority to my IA. By placing an order on margin, or by granting this authority to my IA, I acknowledge that I have considered all of these factors and have decided that margin financing is appropriate for me.

All securities and other assets now or hereafter held in this Account may be pledged, repledged, or otherwise used as collateral, separately or together with securities of other customers, for the amount I owe Charles Schwab & Co., Inc., or for a larger amount.

Interest on debit balances will be charged and compounded in accordance with the Account Agreement and as permitted under the laws of the state of California.

Termination of Authorizations. The authorizations I have granted in this AA will remain effective until I or IA have revoked or terminated any of them by giving notice to Schwab, either by mail, telephone, facsimile, telegraph, messenger, electronic mail, voice mail or otherwise; provided, however, that Schwab reserves the right to require written notice or confirmation that such authorization has been terminated or revoked. I understand that I may revoke or terminate all authorizations or designations conferred herein at any time. Unless revoked or terminated by me, all authorizations and designations conferred herein to IA shall continue to apply to IA's successors or assigns. Such revocation will not affect my obligation resulting from transactions initiated prior to Schwab's receipt of such notice. I understand that if Schwab terminates its Investment Manager Service Agreement with IA, Schwab will not be obligated to honor any further instructions from IA; I will have exclusive control over, and responsibility for, my Account; and unless Schwab notifies me otherwise, my Account will become a Schwab retail brokerage account subject to all terms and conditions applicable thereto, including fees and commissions, investment products and other services available to Schwab retail customers. Schwab will notify me as soon as reasonably possible after any such termination.

Indemnification. I agree to indemnify and hold harmless Schwab, its affiliates and their directors, officers, employees and agents from and against all claims, actions, costs and liabilities, including attorneys' fees, arising out of or relating to: (1) their reliance on this AA, and (2) Schwab's execution of IA's instructions.

Verification. I authorize Schwab to inquire from any source, including a consumer reporting agency, as to my identity (as required by federal law), creditworthiness and ongoing eligibility for the Account (and that of my spouse, if I live in a community property state) at account opening, at any time throughout the life of the Account, and thereafter for debt collection or investigative purposes.

Suitability. From time to time, Schwab may make available investment research and information ("Schwab Research"). I agree and acknowledge that my IA and I are responsible for the transactions in my Account, including assessing the suitability of transactions for my Account, even if Schwab Research was used in making the investment decisions for my Account.

Account Ownership. For Accounts held as Joint Tenants with Rights of Survivorship, on the death of either party, the entire Account shall vest in and belong to the surviving joint tenant(s). For Accounts held as Tenants in Common, each party shall be deemed to own an equal interest in the Account unless otherwise specified, and on the death of either party, the decedent's interest shall vest in and be distributed to that party's estate. For Accounts held as Community Property, all rights shall be governed by applicable state law. For Custodial accounts governed by the Uniform Transfers to Minors Act (UTMA) or the Uniform Gift to Minors Act (UGMA), I agree that the Account is irrevocably vested in and belongs to the minor, to be used for the sole benefit of the minor, and delivered to the minor promptly upon attaining the age of majority (or other age specified for termination under applicable state law).

Account Handling Instructions. Schwab will automatically hold all securities purchased, as well as all sale proceeds, dividends and interest, unless you specify otherwise.

Schwab's Privacy Policy and Disclosure of Information. Schwab respects your privacy. Schwab will use the information you provide to open and service your Account, to communicate with you when necessary, to provide you with additional information about products and services, and to provide to your IA, and certain third parties as your IA directs Schwab, information as provided in this AA. Pursuant to your Account Agreement, Schwab may disclose information about you and your Account to certain other third parties. Please call Schwab at 1-800-515-2157 for a copy of Schwab's privacy policy.

I consent to Schwab: (i) sending, by mail, electronic delivery and/or other means, duplicate copies of account trade confirmations, account statements and any other information relating to me and my Accounts to my IA and MM, if and in such manner as requested by my IA and MM; (ii) sending such information about me and my Accounts to third parties as my IA or MM shall direct Schwab; and (iii) disclosing information about me and my Accounts to other third parties as provided in Schwab's privacy policy, this Account Application and the Account Agreement.

Information About SIPC. To obtain information about Securities Investor Protection Corporation (SIPC), including an explanatory SIPC brochure, please contact SIPC at www.sipc.org or 1-202-371-8300.