Cboe Global Indices

Theoretical Options Pricing Service (TOPS)

FILE SPECIFICATION

1 File Overview

This document provides the technical specification for the Option Prices file delivered for the Theoretical Options Pricing Service (TOPS) offered by Cboe Global Indices, LLC (CGI). The file contains end-of-day model pricing data for a user-driven universe of options transmitted to CGI daily via a Securities of Interest (SOI) file. Each row represents a unique option contract with associated pricing and model parameters.

For more information on the Theoretical Options Pricing Service (TOPS), please refer to Cboe_TPS_Policies_Practices.

2 File Format

The file is a comma-separated values (CSV) file with the following characteristics:

- Number of Columns: 15
- Delimiter: Comma (,)
- File Encoding: UTF-8
- Header Row: Yes (first row contains column names)

3 Column Definitions

All fields are mandatory, except for the TradePrice field.

Column Name	Description	Data Type	Max Length
ID	Unique identifier for the option contract	String	21 characters
Strike	Strike price of the option	Decimal	16 decimal places
Expiration	Expiration date of the option (MM/DD/YYYY format)	String	10 characters
PutCall	Option type: 'P' for Put, 'C' for Call	String	1 character
modelPrice[1]	Model-calculated price of the option	Decimal	16 decimal places
TradePrice[1,2]	Last traded price (if available)	Decimal	16 decimal places
UnderlyingSym	Symbol of the underlying asset	String	5 characters
UnderlyingPrice[1]	Price of the underlying asset	Decimal	16 decimal places
modelBid[1]	Model-calculated bid price	Decimal	16 decimal places
modelAsk[1]	Model-calculated ask price	Decimal	16 decimal places
modelDividend[3]	Dividend yield used in the model	Decimal	16 decimal places

[1] The price is quoted in the currency of the underlying asset (“UnderlyingSym”).
[2] This field may be “N/A” if no trade occurred on the valuation date (“Date”).
[3] This model parameter is an input to the theoretical options pricing valuation.

Column Name	Description	Data Type	Max Length
modelInterestRate[3]	Interest rate used in the model	Decimal	16 decimal places
modelIV[3]	Implied volatility used in the model	Decimal	16 decimal places
Client	Client identifier	String	4 characters
Date	Valuation date of the option data (YYYY-MM-DD)	String	10 characters

Appendix 1 – Changes

Major changes to this document since July 29, 2025 are as follows:

Change Summary	Effective Date	Previous Language	Updated Language
-	-	-	-

Appendix 2 – Document Information

Version Number	1.0
Last Revised Date	July 29, 2025

Disclosures and Disclaimers Related to Cboe Indices

Cboe Global Indices, LLC and Cboe Europe Indices, B.V. (collectively, the "Cboe Index Providers", and individually a "Cboe Index Provider"), are both subsidiaries of Cboe Global Markets, Inc. (Cboe Global Markets, Inc., the Cboe Index Providers, and the other subsidiaries and affiliates of Cboe Global Markets, Inc. are collectively referred to herein as the "Cboe Companies" and those entities are individually referred to as a "Cboe Company").

The Cboe Index Providers are each an index provider that administers, calculates and distributes indices and other values (as applicable) (collectively, "Cboe Indices" and individually a "Cboe Index"). Additional information regarding the Cboe Index Providers and their operations is available at www.cboe.com/indices/.

Nothing herein constitutes an offer of services. The information herein is provided solely for informational purposes. Cboe Indices are calculated and administered (as described in relevant methodologies, rules and other information) without regard to the needs of any particular person, entity, or group of persons, using market information, including, without limitation, market data from exchanges owned and operated by other Cboe Companies.

Index and benchmark values for dates or time periods prior to an index launch date, if any, are calculated using a theoretical approach involving back-testing historical data in accordance with the methodology in place on the launch date (unless otherwise stated). Back-testing involves the theoretical application of the index methodology in hindsight and therefore does not involve actual performance and may not produce performance commensurate with prospective application of the methodology. No back-tested approach can completely account for the impact of decisions that might have been made if calculations were made at the same time as certain underlying market conditions occurred. Supporting documentation for statements, comparisons, statistics or other technical data provided in this document is available by request at www.cboe.com/contact/.

Past performance of an index or financial product is not indicative of future results. Indices are not financial products that can be invested in directly, but they can be used as the basis for financial products (for example, without limitation, options, futures, mutual funds or exchange-traded funds) or to help manage portfolios.

The Cboe Index Providers are not investment advisers or tax advisers. No decision to buy, hold, or sell any financial product should be made in reliance on any of the information provided herein, and no representation is made regarding the advisability or tax consequences of any investment, whether based on an index or not. Nothing herein should be construed as investment advice. No representation or assurance is made that any financial product will accurately track the performance of an underlying index or provide positive investment returns. Index values and returns are theoretical, and do not reflect the results of actual trading of financial products, nor the value of an actual portfolio, and may not reflect the fees, taxes or other expenses associated with buying, holding or selling investments or the effect of actual market conditions or events. The Cboe Index Providers are not broker-dealers, intermediaries, investment firms or securities exchanges and they do not manage actual financial products. None of the Cboe Companies sponsor, endorse, promote, manage, sell or administer any financial product that is created, sponsored, issued or sold by a third-party, whether based on any Cboe Index or not.

No data, values, or other content contained herein ("Content") may be copied, modified, reverse-engineered, reproduced, distributed, or stored in a database or retrieval system, in any form or by any means, nor may any Content be used to create a derivative work (e.g., a financial product, service or index) or used to verify or correct other data or information, without the Cboe Index Provider's prior written consent. Without derogating from the aforementioned, Content shall not be used for any unlawful or unauthorized purposes.

The Cboe Companies, their third-party service or data providers, or any party from whom they have licensed trademarks or indices (collectively, the "Cboe Parties") do not guarantee the accuracy, completeness, or timeliness of the Content, trademarks, strategies or values, or the methodologies or input data used to calculate index values. The Cboe Parties are not responsible for any errors or omissions, regardless of the cause, or for the results obtained from the use of the Content, index strategies or values, methodologies or input data. THE CONTENT, INDICES AND RELATED STRATEGIES AND METHODOLOGIES ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. USERS OF CONTENT AND/OR THE CBOE INDICES BEAR ALL RISKS OF LOSS.

WITHOUT LIMITING THE FOREGOING AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL THE CBOE PARTIES BE RESPONSIBLE OR LIABLE TO ANY PERSON OR ENTITY FOR ANY DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, LOST PROFITS OR LOST OPPORTUNITIES, WHETHER OR NOT A CBOE PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGOING LIMITATIONS SHALL APPLY REGARDLESS OF WHETHER A CLAIM ARISES IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE.

The Cboe Index Providers receive compensation in connection with licensing Cboe Indices to third parties and providing calculation services to third parties. Some Cboe Companies operate markets for the trading of financial products and provide services to many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may provide or receive fees or other economic benefits to or from those organizations. These organizations may also be Cboe Index Provider licensees or customers, and the Cboe Index Providers may include securities of or relating to such organizations in Cboe Indices.

Cboe®, C2SM, Cboe ClearSM, Cboe Closing Cross®, Cboe DigitalSM, Cboe LIS®, Cboe Futures ExchangeSM, Cboe Global IndicesSM, Cboe Global Markets®, Cboe Options Institute®, Cboe Volatility Index®, Bats®, BIDS Trading®, Buffer ProtectSM, BuyWriteSM, BYX®, BZX®, CFE®, EDGA®, EDGX®, Eris Exchange®, ErisX®, f(t)optionsSM, FLEX®, FLexible EXchange®, HanweckSM, Hybrid®, LiveVol®, NANO®, Options Institute®, PutWriteSM, Silexx®, SRVIXSM, Trade AlertSM, VIX®, and XSPSM are trademarks and service marks of the Cboe Companies. Trademarks of the Cboe Companies may only be used with written permission, subject to applicable Cboe Company trademark usage guidelines as published from time to time. Third-party trademarks and service marks

v20230405