# Trade Outline FAQs

## Contents

## Overview

**What is Trade Outline?**
PHOTO, NOTO, ISE, GEMX, MRX, and BX Trade Outline are separate market data products offered by Nasdaq that provide proprietary trade data regarding investor sentiment and trading activity on each respective exchange. Aggregate trade quantity and trade volume are included for each customer capacity for every option series traded on each respective exchange. Activity is further broken down by opening buy, closing buy, opening sell and closing sell transactions across each customer capacity.

**What can the data be used for?**
The information contained within the End-of-Day or Intra-Day files provides subscribers the ability to analyze option trade and volume data and create and test trading models and analytical strategies, as well as build customized sentiment indicators.
Subscribers gain comprehensive insight into U.S. options markets' trading activity, as well as insight into market sentiment of the underlying security itself. Analyzing the option trade and volume data, broken down by market participant type (retail/professional/firm), can provide clues regarding market participant activity (speculation, hedging, etc). By coupling this analysis with other research, firms may be able to understand how and what other market participants are trading and position their customers or their own trading accordingly.

**What is the difference between the Intraday and EOD Trade Outline report?**
The Intraday file is updated every 10 minutes during regular trading hours with cumulative aggregate trade and volume count.
The End-of-Day file is a separate product available T+1. It includes the final snapshot of trades and volume for the day, along with any corrections that were processed after the final Intraday file interval. It includes additional fields not available intraday, such as Open Interest, Total Industry Volume for the Series, Total Exchange Volume, First and Last Trade, High and Low.

**What is the delivery SLA for Intraday Trade Outline reports?**
The intraday reports arrive within two minutes of the end of the reporting period. For example, for the reporting period of 9:30-9:39:59am ET, the intraday reports will arrive by 9:42am ET at the latest.

**What is the interval timing for updates to Intraday Trade Outline reports?**
For every exchange, the first delivery is 9:40 for the reporting period of 9:30-9:39:59. The file will be updated every 10 minutes: 9:50, 10:00, 10:10, etc., until 16:00. For PHOTO and NOTO, the final delivery is at 16:16. For ISE and GEMX, the final delivery is at 16:20. For MRX and BX, the final delivery is at 16:15. The update should be expected within 2 minutes of the end of the reporting period.

**What is the delivery SLA for End of Day Trade Outline reports?**
The EOD reports arrive by 7am ET of the morning following the reporting date (T+1). They may be delivered several hours prior to 7am ET, but early delivery is not guaranteed.

**Do you have historical data available?**
PHOTO – Intraday and EOD are available back to January 2009.
NOTO – Intraday and EOD are available back to November 2011.
ISE – Intraday available back to October 2009; EOD available back to January 2006
GEMX – Intraday and EOD are available back to August 2013.
MRX – Intraday and EOD are available back to September 2017.
BX – Intraday and EOD are available back to September 2014.

**What instruments/symbols are included in Trade Outline?**
All symbols that are electronically traded on each respective reporting exchange are included. This includes index and ETF options.

## Technicals

**What schema differences exist between Trade Outline feeds?**
Based on the feed you are receiving (Intraday, Intraday Historical, EOD), there are various messages that denote the time the message was disseminated. These schema differences can be reviewed in the Column Definition tables available on each respective product page, linked below.

**What Trade Outline tables are available?**
Column Definitions for Trade Outline feeds can be found in their respective product pages on Nasdaq Data Link. Please see the below links to navigate to the product page and reference the Column Definition section of the index.

| PHOTO: | ISE: | MRX: |
| --- | --- | --- |
| Intraday | Intraday | Intraday |
| EOD | EOD | EOD |
| NOTO: | GEMX: | BX: |
| Intraday | Intraday | Intraday |
| EOD | EOD | EOD |

**What are the available table codes for Trade Outline?**

| Intraday - Current Day | Intraday - Historical | EOD |
| --- | --- | --- |
| XNDQ/NOTOI | XNDQ/NOTOIH | XNDQ/NOTOD |
| XPHLX/PHOTOI | XPHLX/PHOTOIH | XPHLX/PHOTOD |
| GMINI/GEMI | GMINI/GEMIH | GMINI/GEMD |
| XISX/ISEI | XISX/ISEIH | XISX/ISED |

| Intraday - Current and Historical | EOD |
| --- | --- |
| MRX/MOTOI | MRX/MOTOD |
| BX/BOTOI | BX/BOTOD |

**Do the ISE and GEMX Trade Outline files include Market Makers?**
The ISE and GEMX reports do not include trade and volume counts from Market Makers. The other side of the trade will be included, but Market Maker trades are not included as a category or included under another Market Participant category.

**Why do Market Makers not specify Opening/Closing as columns in PHOTO/NOTO/MRX/BX Trade Outline?**
There is no requirement for market makers to specify opening or closing for a trade. This is due to the requirement for market makers to provide two sided quotes, often across multiple venues.

**How are trades in PHOTO/NOTO sorted into volume buckets?**
For PHOTO/NOTO, the trade count and volume count are bucketed based on the number of individual trades and total volume count for the day on a post aggregate basis. Each bucket is segmented into three levels of volume, less than 100, between 100 and 199, and 200 or more.

For example, 2 trades occur for the same options series before 9:40am ET.
1st Customer Opening Buy Trade: volume = 50
2nd Customer Opening Buy Trade: volume = 100

In the 9:40am file, they are aggregated for PHOTO/NOTO reports and bucketed as follows.
Trade Count = 2 → Customer Opening Buy Trades < 100
Trade Volume = 150 → 100 < Customer Opening Buy Volume < 199

This aggregation will continue across the intraday files until each count breaches a new threshold, at which point the count will shift to the next bucket.

**How are trades in ISE/GEMX aggregated into a volume bucket?**
In contrast to PHOTO/NOTO, ISE and GEMX trade and volume buckets are both determined using the number of trades on a post-aggregate basis. The total aggregate volume does not play a role in volume bucket size determination. For example, using the same trades from the above question, the trades would be bucketed as follows:

Trade Count = 2 → COB_SM_TRD (based on # of total trades so far)
Trade Volume = 150 → COB_SM_TRD (based on # of total trades so far)

**How are trades in MRX/BX Trade Outline aggregated into a volume bucket?**
There is a single field to capture cumulative aggregate volume and trade count per customer type for each security throughout the day.

**What is the unit of volume for all Trade Outline volume fields?**
In all Intraday and EOD Trade Outline files, all volume fields are expressed as the number of contracts and do not require any multiplication.

**What are the various trade types identified in Trade Outline?**
The following trade types identify the origin of the order:

Firm – Order submitted by a Member for its own proprietary account.

Broker/Dealer – Order submitted by a Member for a broker-dealer account that is not its own proprietary account.

Market Maker – Participant that has registered as a Market Maker on the respective exchange.

Customer - Applies to any transaction that is identified by a Participant for clearing in the Customer range at The Options Clearing Corporation ("OCC") which is not for the account of broker or dealer or for the account of a Professional Customer and does not place more than 390 orders in listed options per day on average during a calendar month for its own beneficial account(s).

Professional Customer – A person or entity that is not a broker/dealer and is not a Customer and places more than 390 orders in listed options per day on average during a calendar month for its own beneficial account(s).

**What is your definition of Moneyness Code?**

We have defined the 5 levels of Moneyness as follows:

| Moneyness Code | Definition |
|---|---|
| Level 1: Deep in the Money | The strike price of this option is more than 12% lower than the price of the underlying security if it is a call or more than 12% higher if it is a put. |
| Level 2: In the Money | The strike price of this option is within the range of 5%-12% lower than the price of the underlying security if it is a call or within the range of 5%- 12% higher if it is a put. |
| Level 3: At the Money | The strike price of this option is within the range of 5% higher or lower than the price of the underlying security. |
| Level 4: Out of the Money | The strike price of this option is within the range of 5%-12% higher than the price of the underlying security if it is a call or 5%-12% lower if it is a put. |
| Level 5: Deep out of the Money | The strike price of this option is more than 12% higher than the price of the underlying security if it is a call or more than 12% lower if it is a put. |

*Moneyness is only available in ISE/GEMX/MRX/BX EOD Trade Outline.

**Can volume decrease between updates in a session?**

Volume can decrease due to corrections and cancellations, with the data always reflecting net values.

**If NASDAQ routes an order away to another exchange, is this order included in Trade Outline?**

Yes, orders routed to another exchange will be included in Trade Outline. There is no flag to indicate that the order was routed away.

**For securities that have had no trades on the reporting exchange for a given day what is produced within the file?**

The security will not be included in the file if there were no trades on the respective reporting exchange.
If all trades for the day are cancelled for a security that appeared in the file, the row will disappear from subsequent interval updates.

**How are Total Industry Volume and Open Interest fields calculated?**

Both fields are provided in the EOD Trade Outline products and sourced from the Options Clearing Corp (OCC), calculated across all U.S. options exchanges. Total Industry Volume is based on the day's volume for the reported trading date, for each security. For ISE/GEMX, Total Industry Volume is calculated by the number of contracts per side. This will result in the field displaying exactly double that of PHOTO/NOTO/MRX/BX Trade Outline. The same is not true for Total Exchange Volume where the calculation is done by counting the number of contracts total as opposed to contracts per side.

Open Interest is a snapshot for each security from the end of day of the reported trading date. Open Interests shows the total number of outstanding contracts for each series across all options exchanges. Increases in open interest indicate a net increase in opening long positions. There is potential for more activity in series with larger Open Interest since there is the potential for closing trades to reduce the number of outstanding contracts.

**What is the difference between Standard and Non-Standard expiries reflected in series type field?**

The Standard series type is for options that expire on the 3rd Friday of every month. The Non-Standard series type is for all other options, including those that expire on a quarterly or weekly basis.

**Are there sample files available for this data?**

Yes, sample files for Trade Outline can be found here.

## Data Access - Nasdaq Data Link

**What is the optimal way to download Trade Outline data?**

There are a few ways to download Trade Outline data based on your end goal.

The quickest way to retrieve Intraday intervals is to use our Python package with the pagination feature.

You can download up to a day's worth of data using the bulk download feature for both intraday and EOD. Anything over that, it is recommended to leverage the SQL interface or paginate through the data via the Tables API/Python Package. Guidance on this process can be found here.

**What formats can I retrieve this data in?**

This data is available only as a .csv file, which is easy to use and can be viewed in most standard spreadsheet applications. If using the SQL interface, the data is retrieved into a DataFrame and can be exported in a manner of your choosing (i.e. csv, parquet, etc.).

**What methods are available for downloading Trade Outline?**

Via NDL Tables API

https://docs.data.nasdaq.com/docs/tables-1

Via the SQL interface

https://docs.data.nasdaq.com/docs/sql-installation-authentication

Via Python package (pagination)

https://docs.data.nasdaq.com/docs/python-installation

**How will I know when data is ready?**

A metadata API call will return metadata of the table you have specified. There is a value 'refreshed_at' which will give you the last refresh time of the table. Rather than querying the data repeatedly to see if the data has refreshed and potentially running into rate limits, it is recommended you use the metadata call to see when data is available. Once the data has been refreshed, you can then query the data.

See metadata call below:

https://data.nasdaq.com/api/v3/datatables/TABLE/CODE/metadata?api_key=YOURAPIKEY

For example, if you want to obtain metadata for PHOTO Intraday, simply replace the table code in the metadata call as follows:

https://data.nasdaq.com/api/v3/datatables/XPHLX/PHOTOI/metadata?api_key=YOURAPIKEY

**Where can I find my API key?**

If you already have a Nasdaq Data Link account, you can find your API key by logging in at data.nasdaq.com and going to your Account Settings as seen below.

If you do not have an account yet, you may sign up for one here. It is free to create an account and no credit card is required. As soon as you create your account, you'll be able to find your API key by logging in at data.nasdaq.com and going to your Account Settings.

When you sign up for an account, you will be asked your purpose for using Nasdaq Data Link (Business, Academic or Personal). Please ensure that you select the most appropriate purpose for you.

**What is the API rate limit for Trade Outline products?**
Premium data subscribers are users who are subscribed to at least one premium data feed and are appending their API key to their API calls.

Each premium data subscriber has a limit of 5,000 calls per 10 minutes and a limit of 720,000 calls per day.

Premium data subscribers who are downloading data in tables format may use the Table Exporter a maximum of 60 times per hour. You can learn more about the Table Exporter here. Note that data on Nasdaq Data Link comes in two formats: time-series and tables. You can learn more about these formats here.

## Contact Information

**Who do I reach out to for product questions?**
Please contact Nasdaq Data Client Success

**How do I order the Trade Outline products?**
Please contact Nasdaq Data Sales

**How do I order the Open/Close products?**
Please contact Nasdaq Data Sales