US Equity Standard Adjusted

Daily OHLC Guide

version 1.3 (Jul 2021)

algoseek | the market data company

We provide research market data for machine learning and quantitative trading

CONTACT US

We are here to help you do great things with our market and reference data. For questions, feedback, and other concerns, you may reach our team of experts using the following contact information:

algoseek customer support

✉ support@algoseek.com

📞 (+1) 646 583 1832

algoseek sales

✉ sales@algoseek.com

📞 (+1) 646 583 1832

TABLE OF CONTENTS

INTRODUCTION

This guide describes the Standard Adjusted Daily OHLC data available for algoseek US Equities. The dataset provides the Daily Open, High, Low, and Close with Open being the first trade and close being the last trade during regular market hours.

The data is built from the Trade events of the Securities Information Processor (SIP) data, also known as the "Consolidated Feed" for all listed stocks, ETNs, ETFs, ADRs, and funds.

There are two data aggregation options for this dataset that provide exactly the same data fields:

tradedate: one CSV file with data for all symbols per trading day

secid: one CSV file with data for all trading days per Security ID - a unique security identifier used by algoseek that remains unchanged when the ticker changes

BAR CALCULATIONS

Open/High/Low/Close With Limited Trades Or Single Trade

Some stocks may only have a single trade during the entire day. For example, with a single trade at 12:00:00 EST then,

```
Open = High = Low = Close = 12:00:00 Trade price
```

EXCHANGE MARKET HOURS

The US Stock Market trading hours are split into the pre-market, market, and post-market hours.

Pre-Market Hours: 04:00:00 to 09:29:59

Market Hours: 09:30:00 to 16:00:00

Post-Market Hours: 16:00:01 to 20:00:00

Note: Occasionally trade events are recorded several minutes after 20:00.

The "Open" normally refers to the Opening Cross at 09:30:00 EST. The "Close" normally refers to the Closing Cross at 16:00:00 EST.

Market Holidays and Early Closes

The stock market is closed for trading on most US holidays. For reference, algoseek publishes a list of historical holidays which is available at `s3://us-equity-market-holidays/holidays.csv` (direct download link: https://us-equity-market-holidays.s3.amazonaws.com/holidays.csv).

Markets sometimes close early at 13:00:00 on the day before holidays such as Independence Day and Thanksgiving. You can download algoseek's early close date and time list from AWS S3 storage at `s3://us-equity-market-holidays/earlycloses.csv` (or use a direct link us-equity-market-holidays.s3.amazonaws.com/earlycloses.csv).

DATA ORGANIZATION AND FILE FORMAT

algoseek provides Equity market data in plain-text CSV files. The first row of the CSV file is a fixed header, and then rows of data corresponding to individual events. By default, the dataset is organized either by trading day or by secid. It means, for example, that all daily OHLC data for Mar 3, 2020, are stored in a separate CSV file under a tradedate aggregation. For the secid-based aggregation, all data for the security with an ID 33449 (AAPL) for a single year is stored in a separate CSV file.

Table 1 below summarizes the name, description, and data type for each data field (column). Field order corresponds to secid-based aggregation. For tradedate-based data aggregation, the "TradeDate'' is the first column instead and "SecId" is the second.

Table 1: CSV File Fields Schema

Field	Type (Format)	Description
SecId	integer	algoseek unique Security ID
TradeDate	string (yyyymmdd)	Trading date for OHLC fields in yyyymmdd format
Ticker	string	Symbol Name
Open	decimal	Opening price
High	decimal	Highest trade price from any exchange or Trade Reporting Facility (TRF)
Low	decimal	Lowest trade price from any exchange or Trade Reporting Facility (TRF)

Close	decimal	Closing trade
MarketHoursVolume	integer	Listed exchanges trading volume during regular market hours only
CumulativePriceFactor	decimal	Cumulative factor for equity price, calculated with a forward methodology
CumulativeVolumeFactor	decimal	Cumulative factor for equity volume, calculated with a forward methodology
AdjustmentFactor	decimal	The value of the Adjustment factor for the event (empty if no effective corporate events on the TradeDate)
AdjustmentReason	string	The reason for the Corporate Event. See subsection "Adjustment Reason" below for a list of types

Adjustment Reason

Each adjustment event relates to an Event Type, and each Event Type may include different Adjustment Reasons. The table below describes the different adjustment types and reasons and if it affects Price and/or Volume.

Table 2: Adjustment Reason Table

Event Type	Adjustment Reason	Description	Affects Price	Affects Volume
BON	BonusSame	Bonus issue in the same class	Yes	Yes
	BonusDiff	Bonus issue in a different class	Yes	No
CAPRD	CapReduct	Capital Reduction	Yes	Yes
CONSD	Cons	Consolidation	Yes	Yes
DIST	Distrib	Distribution	Yes	No
DIV	CashDiv	Cash Dividend	Yes	No
	ScriptDiv	Script dividend in the same class	Yes	Yes
	ScriptDivDiff	Script dividend in a different class	Yes	No
DMRGR	DeMerg	De-merger	Yes	No
ENT	EntSame	Entitlement in the same class	Yes	No
	EntDiff	Entitlement in a different class	Yes	No
RCAP	CapRet	Capital Return	Yes	No

RTS	RightsSame	Rights in the same class	Yes	No
	RightsDiff	Rights in a different class	Yes	No
SCSWP	SecSwap	Security Swap	Yes	Yes
SECRC	Reclass	Reclassification	Yes	Yes
SD	Subdiv	Any subdivision (by any stock split, stock dividend, reclassification, recapitalization or otherwise) or combination (by the reverse stock split, reclassification, recapitalization or otherwise) of the Class A Common Stock.	Yes	Yes

Note: All following adjustment reasons should be considered as splits (or reverse splits): BonusSame, ScriptDiv, Subdiv, and Cons.

APPENDIX A. BAR CALCULATIONS FROM TRADE EVENTS

This section describes logic for daily bar calculations based on events from Trade Only dataset. Please also refer to Equity Trade Only Guide for more details on the data fields and condition flags used.

In this section Market hours refer to 9:30:00 (including) - 16:00:00 (excluding) for regular trading days and to 9:30:00 (including) - 13:00:00 (excluding) when there was an early close.

Filtering

- Exclude any trade with Price = 0
- Exclude any trade with Quantity = 0
- Exclude Trade Cancel events

Opening Trade

The Opening Trade is selected from the following priority order list:

- the last event with tOfficialOpen flag from the Primary Exchange
- the last event with tOpeningPrint flag from the Primary Exchange
- a Regular Open from the Primary Exchange
- a Regular First from the Primary Exchange

Regular Open

The Regular Open corresponds to the first event satisfying all the conditions below:

- not an Open/Close event (tOpeningPrints, tClosingPrints, tOfficialClose and tOfficialOpen flags)
- not having tExtendedHours flag set
- the largest volume between 09:30:00 (including) and 09:40:00 (including)

Regular First

Regular First is the first event satisfying all the conditions below:

- not an Open/Close event (tOpeningPrints, tClosingPrints, tOfficialClose and tOfficialOpen flags)
- not having either of the following flags set: tDerivativelyPrices, tStockOption, tAveragePrice, tRule155
- not having tOddLot flag set
- not having tExtendedHours flag set

- the event time is within market hours

Closing Trade

The Closing Trade is selected from the following priority order list:

- the first event with tOfficialClose flag from the Primary Exchange
- the first event with tClosingPrint flag from the Primary Exchange
- a Regular Close from the Primary Exchange
- a Regular Last from the Primary Exchange

Regular Close

The Regular Close is the last event satisfying all the condition below:

- not an Open/Close event (tOpeningPrints, tClosingPrints, tOfficialClose and tOfficialOpen flags)
- not having tExtendedHours flag set
- the largest volume between 16:00:00 (including) and 16:05:00 (including) for regular trading days or between 13:00:00 (including) and 13:05:00 (including) for an Early Close

Regular Last

Regular Last is the last event satisfying all the conditions below:

- not an Open/Close event (tOpeningPrints, tClosingPrints, tOfficialClose and tOfficialOpen flags)
- not having either of the following flags set: tDerivativelyPrices, tStockOption, tAveragePrice, tRule155
- not having tOddLot flag set
- not having tExtendedHours flag set
- the event time is within market hours

Daily High

Daily High is the first event satisfying all the conditions below:

- not an Open/Close event (tOpeningPrints, tClosingPrints, tOfficialClose and tOfficialOpen flags)
- not having either of the following flags set: tDerivativelyPrices, tStockOption, tAveragePrice, tRule155
- not having tOddLot flag set
- not having tExtendedHours flag set
- the exchange is not FINRA

- the event with the largest price within market hours

Daily Low

Daily Low corresponds to the first event satisfying all the conditions below:

- not an Open/Close event (tOpeningPrints, tClosingPrints, tOfficialClose and tOfficialOpen flags)
- not having either of the following flags set: tDerivativelyPrices, tStockOption, tAveragePrice, tRule155
- not having tOddLot flag set
- not having tExtendedHours flag set
- the exchange is not FINRA
- the event with the smallest price within market hours

Volume

All events are accounted unless any of the flags from Table 3 is present.

Table 3: Flags for Trade Events to be Excluded During Volume Calculations

Bit Mask Position	Flags
24	tOfficialClose
26	tOfficialOpen