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THE MARKET DATA COMPANY

US Equity Options Security Master and Lookup File Guide

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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

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INTRODUCTION

The Equity Options Security Master File is a single data file containing all the listed and delisted OPRA options which include stocks, ETFs, ETNs, Indexes, etc from 2012 to present with summary information like option type, settlement type, etc.

The Security Master File is organized based on algoseek's unique identifier called algoseek ID (ASID), which remains unchanged during specific contract expiration.

A lookup file is available for converting an ASID to the option ticker and to the underlying ticker.

DATA ORGANIZATION AND FILE FORMAT

List of Data Fields

Security Master File is provided as a single flat file (**eq_opt_sec_master.csv**) in CSV format, with each row corresponding to an option root ticker (for example AAPL).

Security Master File is updated on a daily basis. It can be used to backtrack any historical modifications to an option root symbol (by ASID) or to restore point-in-time data.

Table 1 shows the complete list of data fields in the Security Master File with sample contents for a few Option ASID, in which rows and columns are inverted for the convenience of the document display.

Table 1: Sample Data from Security Master File

Column Name	Sample Row 1	Sample Row 2	Sample Row 3
ASID	1110000000001005	1110000000001383	1110000000004169
OptionTicker	AAPL	BFB	SPXW
UnderTicker	AAPL	BF.B	SPX
UnderType	S	S	I
OptionType	VA	VA	VA
OptionStyle	A	A	E
IsWeekly	N	N	Y
MarketClose	16:00	16:00	16:15
SettlType	PM	PM	PM
SettlTicker			SPX

OptionTradeDates	20120103:29991231	20120103:29991231	20120103:29991231
OptionListStatus	L	L	L
UnderSecId	33449	34311	
UnderTradeDates	20070103:29991231	20070103:29991231	
GreeksCoverage	Y	Y	Y

Table 2 below summarises the name, brief description, and data type for each data field (column) in Equity Options Security Master File. The table column "Missing" indicates a default value or behavior in case the data field value is not present or cannot be determined where "Never" means that a value is always present in the data field.

Table 2: CSV File Fields Schema for Security Master

Field	Type (Format)	Missing	Description
ASID	string	Never	algoseek unique option security identifier
OptionTicker	string	Never	Option root ticker
UnderTicker	string	Blank	Ticker name for the underlying security
UnderType	string	Blank	Indicate underlying type: option on a stock, option on an index, etc (see Table 3)
OptionType	string	Blank	Indicate option type: vanilla options, binary options, etc (see Table 4)
OptionStyle	string	Blank	Option style. A = American. E = European
IsWeekly	string	Blank	Indicate if the root option ticker covers only weekly options. Y = Yes, N = No
MarketClose	String (HH:MM)	Blank	Market close time for this root symbol
SettlType	string	Blank	Settlement type of option (see Table 5)
SettlTicker	string	Blank	Ticker that provides price value for calculating the exercise-settlement amount
OptionTradeDates	string (yyyymmdd: yyyymmdd;…)	Never	Start and end dates for the option ASID. End date = 29991231 when the ticker is still being used
OptionListStatus	string	Never	Current option root ticker list status. D = Delisted. L = Listed
UnderSecId	integer	Blank	algoseek unique equity security identifier for the underlying security

UnderTradeDates	string (yyyymmdd: yyyymmdd)	Blank	Start and end dates for the underlying SecId. End date = 29991231 when the ticker is still being used
GreeksCoverage	string	Never	Indicate if algoseek provides analytics for a specific option ticker. Y = Yes, N = No

For the OptionTradeDates field, a format of yyyymmdd:yyyymmdd is used to indicate the start and end date of a period of time, and a semicolon is used to separate the different periods. For example

```
20120103:20130318;20130415:29991231
```

in which the end date value 29991231 implies that the range is ongoing and no end date has been set.

Underlying Type

The “UnderType” column in the Security Master File provides the type of underlying. Table 3 below includes a list of available underlying types and their brief descriptions.

Table 3: Underlying Types

UnderType	Details
S	Option on stock
I	Option on index
F	Option on forex (currency)

Option Type

The “OptionType” column in the Security Master File provides the type of option. Table 4 below includes a list of available option types and their brief descriptions.

Table 4: Option Types

OptionType	Details
BI	Binary option
VA	Vanilla option

Option Settlement Type

The “SettlType” column in the Security Master File provides the settlement type of option. Table 4 below includes a list of available option types and their brief descriptions.

Table 5: Option Settlement Types

SettlementType	Details
PM	Option expires at the close of the market
AM	Option expires on the morning of the last trading day

LOOKUP TABLE FILE

To find the correct Option ASID for a specific option root ticker (or vice versa), you will also need a trading date because sometimes the same ticker may refer to different option ASIDs due to the ticker being used by different companies during different periods (for example, S for Sprint Nextel, Sprint and then SentinelOne Inc).

algoseek provides one lookup file (**opt_ticker_to_asid.csv**) for mapping option ASID to the option ticker name, to the underlying ticker, and vice versa.

Option ASID to Ticker Lookup

Table 6: Sample Data from Option ASID to Ticker Lookup File

ASID	Option Ticker	UnderTicker	UnderSecId	OptionTradeDates
1110000000001003	AAN	AAN	32715	20120103:20201016
1110000000013154	AAN	AAN	6612783	20201019:20201130
1110000000013342	AAN	AAN	6665092	20201201:20201201; 20201209:20220804
1110000000005345	AAON	AAON	32712	20120730:20220804
1110000000006290	AAON1	AAON	32712	20130703:20140121
1110000000001005	AAPL	AAPL	33449	20120103:20220804

Table 6 above is a sample of a truncated ASID-to-Ticker lookup file.

Table 7 below summarizes the name, brief description, and data type for each data field (column) in the ASID-to-Ticker Lookup data file.

Table 7: Option ASID to Ticker Lookup File Fields Schema

Field	Format	Description

ASID	string	algoseek unique option security identifier
OptionTicker	string	Option root ticker
UnderTicker	string	Underlying ticker
UnderSecId	integer	Underlying SecId
OptionTradeDates	string (yyyymmdd: yyyymmdd;…)	Start and end dates for the option ASID.

APPENDIX A. LOGIC

A new date range for the option root ticker is created when the difference between the previous and next dates is more than 7 days.

Assigning ASID to Options Based on Root Option Ticker

There are three types of option tickers that have slightly different logic for assigning ASIDs. All details are described in Table 8.

Table 8: Assigning ASIDs to Option Tickers

Test Tickers
• ASID is not changed during the whole history
Non-standard (Adjusted) Tickers
• ASID is changed if the underlying ticker changes • ASID is changed if the underlying SecId changes • ASID is changed if there is no underlying SecId or underlying SecId stopped trading for each new date range
Standard Tickers
• ASID is changed if the underlying ticker changes • ASID is changed if the underlying SecId changes • ASID is changed if the distance between two separate date ranges more or equal to 30 days

Daily Updates

If the option ticker is not traded for more than 3 days, it will be marked as Delisted (D). And can be changed again to status: Listed (L), without assigning a new ASID if past less than 30 days. It is not applied to adjusted (non-standard) tickers.