



# Specialized Quote Interface (SQF)

VERSION 6.4N

October 31, 2017



































## Specialized Quote InterFace Interface Specification

					Zero (0) for Stock Leg.
	Option Type	21n + 45	1	Alpha	Option Type: "C" = Call "P" = Put Blank (" ") for Stock Leg.
	Side	21n + 46	1	Alpha	Indicates the side of the leg: "B" = Leg is on Buy side "S" = Leg is on Sell side
	Leg Ratio	21n + 47	4	Integer	Strategy Leg Ratio

Notes:

- 1) Firm should note that they will only receive Complex Strategy messages for the underlying range associated with the matching engine serving that connection.
- 2) The Underlying is in most cases the same as the industry standard ticker underlying except for cases where the industry standard ticker underlying exceeds 5 bytes (internal system limit). The exchange also assigns unique underlyings for special settlement symbols.
- 3) This is a sequenced message and therefore can be replayed upon re-connection.
- 4) All Complex Strategies have Minimum Price Variation of \$0.01. Fractional cents in the Quote is not permitted.

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### 7.4 Security Trading Action Message

PHLX/NOM/BX Options use this administrative message to indicate the current trading status of an index or equity option within the PHLX/NOM/BX Options Market respectively.

After the start of system hours, the system will use the Trading Action message to relay changes in trading status for an individual security. Messages will be sent when an option is halted or is released for trading.

Trading Action Message				
Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AH" = Trading Action Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Option ID	10	4	Integer	Option ID assigned daily, valid for the trading day
Security Symbol	14	5	Alphanumeric	Industry assigned security symbol for the option contract
Expiration Year, Month and Day	19	2	Integer	Denotes the explicit expiration date of the option. Bits 0-6 = Year (0-99) Bits 7-10 = Month (1-12) Bits 11-15 = Day (1-31)
Strike Price	21	4	Integer	Denotes the explicit strike price of the option. Refer to Data Types for field processing notes.
Option Type	25	1	Alpha	Option Type: "C" = Call "P" = Put
Current Trading State	26	1	Integer	Reflects the current trading state for the option. The allowable values are: H = Halt in effect T = Trading Resumed

Notes:

- 1) At the start of the day, all tradable options are assumed to be trading unless notified by this message.
- 2) This is a sequenced message and therefore can be replayed upon re-connection.

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### 7.5 Complex Trading Action Message (Specific to PHLX only)

PHLX uses this administrative message to indicate the current trading status of a strategy within the PHLX Options Market.

After the start of system hours, PHLX will use the Trading Action message to relay changes in trading status for a strategy. Messages will be sent when a strategy is halted or is released for trading.

#### Trading Action Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AI" = Strategy Trading Action Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Strategy ID	10	4	Integer	Strategy ID assigned daily, valid while there are any open complex orders for the day
Current Trading State	14	1	Integer	Reflects the current trading state for the strategy. The allowable values are: H = Halt in effect T = Trading Resumed

Notes:

- 1) At the start of the day, the strategy is assumed to be trading unless notified by this message
- 2) This is a sequenced message and therefore can be replayed upon re-connection.

### 7.6 Underlying Permission Message

This optionally delivered message indicates underlyings permitted to be quoted/swept by individual badges configured for the port.

#### Underlying Permission Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AP" = Underlying Permission Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Badge	10	4	Alphanumeric	Exchange assigned badge/suffix combination
Underlying Symbol	14	13	Alphanumeric	Underlying Stock Symbol
Permitted	27	1	Alpha	Y = Permitted N = Not Permitted

Notes:

- 1) The Underlying permission messages are sent once per badge/underlying pair, typically right after Option Directory messages. Should it be necessary, intra-day updates to the permissions will be sent as they occur.

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- 2) Firm should note that they will only receive Underlying Permission messages for the symbol range associated with the matching engine serving that connection.
- 3) This is a sequenced message and therefore can be replayed upon re-connection.
- 4) If a permission pair is removed from the system intra-day, a new Underlying Permission message will be sent with "Permitted" field set to "N". Any new Quotes/Sweeps/Purges sent for the removed badge/underlying will be rejected. All existing quotes for the badge/underlying will be purged.

### 7.7 Opening Rotation Quote Spread Multiplier Message (PHLX only)

This optionally delivered message specifies per underlying quote spread multiplier the system uses to determine validity of quote spreads during opening/reopening rotations. Note, the table itself can be obtained from NASDAQ Web site.

#### Quote Spread Multiplier Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AM" = Quote Spread Multiplier Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Underlying Symbol	10	13	Alphanumeric	Underlying Stock Symbol
Multiplier	23	1	Integer	Spread Multiplier

Notes:

- 1) Quote spread multiplier message will be sent once per each underlying permitted on the port plus whenever effective multiplier changes intraday
- 2) Disseminated multiplier is not applicable to leaps
- 3) Disseminated multiplier is not applicable to normal continuous trading
- 4) Quote Spread Multiplier messages will be sent only for the symbol range associated with the matching engine serving that connection
- 5) This is a sequenced message and therefore can be replayed upon re-connection

### 7.8 Rapid-Fire Admin Message

This optionally delivered message specifies firms' per underlying risk mitigation parameters (Rapid Fire settings).

#### Rapid-Fire Admin Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AF" = Rapid Fire Admin Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Badge	10	4	Alphanumeric	Exchange assigned badge/suffix combination
Underlying Symbol	14	13	Alphanumeric	Underlying Stock Symbol
Percentage	27	2	Integer	Displayed size percentage (e.g. 100)
Interval	29	2	Integer	Time interval (in milliseconds)

#### Rapid-Fire With Vol Admin Message

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Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AF" = Rapid Fire with Vol Admin Message
Seconds	2	4	Integer	Seconds portion of the timestamp
Nanoseconds	6	4	Integer	Nanoseconds portion of timestamp
Badge	10	4	Alphanumeric	Exchange assigned badge/suffix combination
Underlying Symbol	14	13	Alphanumeric	Underlying Stock Symbol
Percentage	27	2	Integer	Displayed size percentage (e.g. 100)
Interval	29	2	Integer	Time interval (in milliseconds)
Volume	31	4	Integer	Total execution volume that will trigger a rapid fire within the interval

### Notes:

- 1) The Rapid-Fire Admin messages are sent per badge/underlying pair, typically after Option Directory messages. Rapid fire parameters are set to system default values unless specifically overridden via SQF message or by NASDAQ operations personnel.
- 2) Default Rapid-Fire parameters are not disseminated
- 3) Intra-day updates to the rapid-fire settings will be sent out as soon as the changes initiated via mechanisms mentioned above take effect.
- 4) Firm should note that they will only receive Rapid-Fire configuration messages for the symbol range associated with the matching engine serving that connection.
- 5) This is a sequenced message and therefore can be replayed upon re-connection.
- 6) Rapid-Fire Admin messages are only disseminated for permitted badge/underlying combinations.
- 7) Firms must notify Membership Services??? if they would like their port configured to send the Rapid-Fire With Vol Admin message instead of the Rapid-Fire Admin message when the Rapid Fire settings change.
- 8) Note that if you want to know the **Volume** Rapid-Fire setting, you **MUST** request that your ports be configured to send it. This configuration will be the sole decider for which of the two Rapid-Fire admin messages will be sent on a given port. If your port is configured to receive the original Rapid-Fire Admin Message (the one without the volume field), you will receive that one **EVEN IF** the Volume field would be non-zero if the Rapid-Fire With Vol Admin message were sent.

## 7.9 Rapid-Fire Configuration Control

SQF clients can change their risk-protection parameters using Rapid-Fire Control message. Rapid-Fire control changes can be issued any time after the start of system hours and take effect immediately.

### 7.9.1 Rapid-Fire Control Request Message

#### Rapid-Fire Change Request Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AF" = Rapid Fire Change Request Message
Badge	2	4	Alphanumeric	Exchange assigned badge/suffix combination
Underlying Symbol	6	13	Alphanumeric	Underlying Stock Symbol
Percentage	19	2	Integer	Displayed size percentage (e.g. 100). Maximum allowed value is 1000

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Interval	21	2	Integer	Time interval (in milliseconds)
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### Rapid-Fire With Vol Change Request Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"Af" = Rapid Fire with Vol Change Request Message
Badge	2	4	Alphanumeric	Exchange assigned badge/suffix combination
Underlying Symbol	6	13	Alphanumeric	Underlying Stock Symbol
Percentage	19	2	Integer	Displayed size percentage (e.g. 100). Maximum allowed value is 1000
Interval	21	2	Integer	Time interval (in milliseconds)
Volume	23	4	Integer	Total execution volume that will trigger a rapid fire within the interval

Notes:

- 1) A valid Rapid Fire Change Request Message results in a Rapid-Fire Admin message sent out to all "notification" ports configured for the same badge/underlying pair.
- 2) New percentage parameters of a Rapid Fire Change take effect immediately. Any ongoing volume accumulated for the specified badge/underlying pair prior to the submitted update is preserved and counted toward the new updated percentage parameter. New interval changes are applied from the next transaction forward.
- 3) Rapid Fire Change settings are maintained for the duration of the current trading session. System reverts to the default as well as the settings maintained by NASDAQ personnel at the beginning of every trading day.
- 4) This message can't be used to disable Rapid Fire.
- 5) For Rapid Fire Admin Message, Percentage can't be zero.
- 6) For Rapid Fire Vol Admin Message Percentage and Volume can't both be zero (i.e. it is only valid for exactly one of them to be zero, or for neither of them to be zero).

### 7.9.2 Rapid-Fire Control Reply Message

This message is sent as a response to the Rapid-Fire Control Request Message (AF) and indicates the validity of the request.

#### Rapid-Fire Change Reply Message

Name	Offset	Length	Value	Notes
Message Type	0	2	Alpha	"AA" = Admin Control Reply Message
Badge	2	4	Alphanumeric	Exchange assigned badge/suffix combination
Status Code	6	1	Alphanumeric	" " = valid request "A" = invalid badge "B" = invalid underlying "C" = not permitted "R" = market closed "Y" = invalid block "Z" = system unavailable

Notes:

- 1) This is an unsequenced message and therefore cannot be replayed upon re-connection.

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## 8 Quote Messages

NASDAQ supports four different message formats for quote submission. It is possible to receive a "regular" (PHLX/NOM/BX Options) or "detailed" (NOM/BX Options only) reply message (acknowledgment) for each of the quote request types. Detailed replies contain system assigned unique sequence numbers for the Bid and Ask parts of the quote. The reply format is controlled by the case of the quote message subtype – upper case subtype requests are replied with regular acknowledgments, lower case subtype requests are replied with detailed acknowledgments. E.g. "QQ" quote is responded with regular reply, "Qq" is responded with the detailed one.

### 8.1 Short Quote Block Message

The Short Quote Block message is used to submit quotes. It can contain a variable number of quotes... up to 200... within a single application level message. The Short Quote Block message utilizes the exchange assigned Option ID to specify the option contract that is being quoted. The Option ID for each option contract can be obtained from the Option Directory message. The Short Quote Block message contains a Message ID field to provide the firm with a means to uniquely identify the quote block.

<b>Short Quote Block Message</b>
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Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"QQ" = Short Quote Block (Results in a Regular Reply)  "Qq" = Short Quote Block (Results in a Detailed Reply, NOM/BX Options only)
Badge	2	4	Alphanumeric	Exchange assigned badge/suffix combination
Message ID	6	8	Binary	Firm defined unique quote message identifier reported on clearing executions
Quote Count	14	2	Integer	Number of quotes in the message
<i>1 – 200 quotes comprised of the following fields...</i>				
Option ID		4	Integer	Exchange assigned Options ID uniquely identifying the option contract
Bid Price		4	Integer	
Bid Size		4	Integer	
Ask Price		4	Integer	
Ask Size		4	Integer	
Reentry Indicator		1	Alpha	'N' = Normal 'R' = Re-entry Note: The re-entry indicator must be set on the first quote following all purge events in order to re-enter the market.

Notes:

- 1) 0 x 0 quotes are accepted and are processed as a purge of that symbol. The firms are required to specify the re-entry indicator on the first quote following a 0 x 0 quote. A purge (0 x 0 quote) may be submitted with Reentry Indicator set to 'N' or 'R'.
- 2) The Message ID contents will appear in the Quote ID field in the Execution Notification messages and the Clearing Trade Interface (CTI) trade messages. In the short quote

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block message above, this field uniquely identifies the quote block, not the individual quote within the block which may be executed against.

- 3) See the Processing Hints and Tips Section for tips on quote message processing.
- 4) Both bid and ask must be provided for each quote submitted.



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## 8.2 Long Quote Block Message

The Long Quote Block message is used to submit quotes. It can contain a variable number of quotes... up to 200... within a single application level message. The Long Quote Block message utilizes the exchange assigned Option ID to specify the option contract that is being quoted. The Option ID for each option contract can be obtained from the Option Directory message. The Long Quote Block message contains a Message ID field to provide the firm with a means to uniquely identify the quote block. The Long Quote Block message differs from the Short Quote Block message as it includes a Quote ID field to provide the firms with a means to uniquely identify each quote within the block.

### Long Quote Block Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"QL" = Long Quote Block (Results in a Regular Reply)  "QI" = Long Quote Block (Results in a Detailed Reply, NOM/BX Options only)
Badge	2	4	Alphanumeric	Exchange assigned badge/suffix combination
Message ID	6	8	Binary	Firm defined unique message identifier.
Quote Count	14	2	Integer	Number of quotes in the message
<i>1 – 200 quotes comprised of the following fields...</i>				
Quote ID		8	Binary	Firm defined unique quote identifier reported on clearing executions. Overrides the message identifier on clearing executions.
Option ID		4	Integer	Exchange assigned Options ID uniquely identifying the option contract
Bid Price		4	Integer	
Bid Size		4	Integer	
Ask Price		4	Integer	
Ask Size		4	Integer	
Reentry Indicator		1	Alpha	'N' = Normal 'R' = Re-entry Note: The re-entry indicator must be set on the first quote following all purge events in order to re-enter the market.

**Notes:**

- 1) 0 x 0 quotes are accepted and are processed as a purge of that symbol. The firms are required to specify the re-entry indicator on the first quote following a 0 x 0 quote. A purge (0 x 0 quote) may be submitted with Reentry Indicator set to 'N' or 'R'.
- 2) The Quote ID contents will appear in the Quote ID field in the Execution Notifications and the Clearing Trade Interface (CTI) trade messages. In the long quote block message above, this field uniquely identifies the individual quote within the block which may be executed against.
- 3) See the Processing Hints & Tips Section for tips on quote message processing. Both bid and ask must be provided for each quote submitted.

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### 8.3 Short Quote Block (Full Symbology) Message

The Short Quote Block (Full Symbology) message is used to submit quotes. It can contain a variable number of quotes... up to 200... within a single application level message. The Short Quote Block (Full Symbology) message utilizes the canonical symbol information to specify the option contract that is being quoted. It contains a Message ID field to provide the firm with a means to uniquely identify the quote block.

#### Short Quote Block (Full Symbology) Message

Name	Offset	Length	Value	Notes
Type/Subtype	0	2	Alpha	"QF" = Short Quote Block (Full Symbology, Results in a Regular Reply)  "Qf" = Short Quote Block (Full Symbology, Results in a Detailed Reply, NOM/BX Options only)
Badge	2	4	Alphanumeric	Exchange assigned badge/suffix combination
Message ID	6	8	Binary	Firm defined unique quote message identifier reported on clearing executions.
Quote Count	14	2	Integer	Number of quotes in the message
<i>1 – 200 quotes comprised of the following fields...</i>				
Security Symbol		5	Alpha	Industry assigned security symbol for the option contract
Expiration Year, Month and Day		2	Integer	Denotes the explicit expiration date of the option. Bits 0-6 = Year (0-99) Bits 7-10 = Month (1-12) Bits 11-15 = Day (1-31) Bit 15 is least significant bit
Strike Price		4	Integer	Denotes the explicit strike price of the option. Refer to Data Types for field processing notes.
Option Type		1	Alpha	Option Type: "C" = Call "P" = Put
Bid Price		4	Integer	
Bid Size		4	Integer	
Ask Price		4	Integer	
Ask Size		4	Integer	
Reentry Indicator		1	Alpha	'N' = Normal 'R' = Re-entry Note: The re-entry indicator must be set on the first quote following all purge events in order to re-enter the market.

**Notes:**

- 1) 0 x 0 quotes are accepted and are processed as a purge of that symbol. The firms are required to specify the re-entry indicator on the first quote following a 0 x 0 quote. A purge (0 x 0 quote) may be submitted with Reentry Indicator set to 'N' or 'R'.



































































































