



PHLX Options Symbology Interface Changes

Summary of Changes

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NOTE:

This document is intended as a **GUIDE**. Firms are advised to consult and utilize the individual technical specifications pertaining to each interface when developing and testing their corresponding changes. In the case of a discrepancy between this document and the individual technical specifications, the individual specifications supersede this document.

The technical specifications currently available in production are fully OSI compliant and documented at <http://www.nasdaqtrader.com/Micro.aspx?id=PHLXXLtechspecs>. In addition to symbology changes, these versions contain other changes related to features of the newly enhanced PHLX XL platform, as of July/August 2009, that firms may need to address as part of their upgrade. Consult individual specifications as well as the Changes to Technical Specifications section on the technical specifications page, or contact Jill.Smith@nasdaqomx.com for assistance.



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PHLX OPTIONS SYMBOLOGY INTERFACE CHANGES

Summary of Changes

1 Introduction

Describe the changes to the external firm interfaces with PHLX XL systems that satisfy the industry-mandated change from OPRA-code Symbology to explicit Symbology for Options trading. **Only symbology specific changes are addressed in this document.**

The following PHLX XL external firm interfaces will be focused upon in this specification:

- Firm Fix Engine (FFE)
- Specialized Quote Feed (SQF)
- Specialized Order Feed (SOF)
- Risk Management Feed (RMP)

The individual interface specifications that are compliant with symbology are available at <http://www.nasdaqtrader.com/Micro.aspx?id=PHLXXLTechSpecs>

The OSI compliant versions of the firm interfaces are as follows:

- Firm FIX Engine (FFE), version 2.0 or higher**
- Specialized Quote Feed (SQF), version 5.0 or higher**
- Specialized Order Feed (SOF), version 5.0 or higher**
- Risk Management Feed (RMP), version 4.2 or higher**

The above interface versions are in production and available for firms to use once they have completed firm testing.

General information regarding the Symbology initiative can be found at the [OCC website](#).

1.1 Implementation

Implementation will follow the industry specified dates or events except as noted below. The dates are logically named and described below and are referenced in the implementation sections for each interface:

DUAL SYMBOLOGY DATE

- Since December 2008



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- PHLX will provide versions of messages with either legacy or canonical format (PHLX uses a capability for firms to select a specific version of an interface, allowing them to upgrade as they are ready). The Firm has flexibility to choose when they are ready to send and receive the new symbology message formats. However early adoption is recommended (firms may upgrade in production to the new versions once they have completed lab testing).

CANONICAL SYMBOLOGY DATE

- **February 12, 2010 (OSI agreed upon date)**
- PHLX will support only the canonical format versions of input/output as of this date. Firms should have converted, tested and deployed their compliant interface prior to this date.
- Early compliance is strongly encouraged

NEW SECURITY SYMBOL DATES

- **March 2010 through May 2010 (OSI agreed upon dates)**
- Multiple dates (rollout period) on which classes are converted (consolidated) from the current root symbol to the underlying symbol (e.g., DLQ converted to DELL)
- Beginning with the date on which a given class is converted, Firms must use the new security symbol on all inputs to PHLX and expect that all outputs for that class will use the new security symbol
- Order flow providers must ensure that they cancel all open GTC orders in a class that is being consolidated on the day before that class begins trading with the consolidated symbol



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2 PHLX XL Interface Specification Updates

The sections below address how the PHLX interfaces have changed to support the industry-mandated migration to an explicit options Symbology.

2.1 Firm Fix Engine (FFE)

FIX uses an explicit Symbology via tag/value format already. The PHLX FFE interface requires only minor changes as specified below.

The FFE Specification that is fully symbology compliant is Version 2.0 and higher.

2.1.1 Single Order Transactions

Messages Affected

ORDER MESSAGE
 ORDER CANCEL
 ORDER CANCEL/REPLACE
 EXECUTION REPORT
 REJECT MESSAGE

Symbology Changes

OLD			
FIX Tag	FIX Name	PHLX XL FIX Req	Details
55	Symbol	Y	Option Trading Symbol (up to 3-character trading symbol).
200	MaturityMonthYear	Y	Month and year of the maturity. Format: YYYYMM (e.g. 200109)

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201	PutOrCall	Y	Required for Options. <u>Valid values:</u> 0 = Put 1 = Call
202	StrikePrice	Y	Decimal representation of strike price e.g. 30.0 or 30.5

New (fully explicit)			
FIX Tag	FIX Name	PHLX XL FIX Req	Details
55	Symbol	Y	Security Symbol (up to 5-character symbol).
200	MaturityMonthYear	Y	Month and year of the maturity. Format: YYYYMM (e.g. 200109) Required <u>unless</u> MaturityDate is specified
205	MaturityDay	Y	Day of maturity in the maturity month and year. Format: DD (e.g., 01, 02,... 31) Required <u>unless</u> MaturityDate is specified
541	MaturityDate	Y	Month, Day and Year of the maturity. Format: YYYYMMDD (e.g., 20090918 to represent Sep 18, 2009) Required <u>unless</u> MaturityMonthYear <u>AND</u> MaturityDay is specified
201	PutOrCall	Y	Required for Options. <u>Valid values:</u> 0 = Put 1 = Call
202	StrikePrice	Y	Decimal representation of strike price e.g. 30.0 or 30.5

1. The SYMBOL (tag 55) will hold a new SECURITY SYMBOL value in place of ROOT and accommodates alphanumeric characters (combination of underlying symbol and corporate action code)

2. MATURITY DAY (tag 205) will be added as an explicit 2 digit field: 01, 02,... 31
3. MATURITY DATE (tag 541) will be added as an **alternative** tag for specifying maturity month, day and year in one tag. This tag is borrowed from FIX 4.3.
4. Either MATURITY **DATE** or the combination of MATURITY MONTH YEAR and MATURITY **DAY** must be provided. If all three components are provided, all three will be validated and must be correct or the request will be rejected.
5. Specification of MATURITY DAY without also specifying MATURITY MONTH YEAR is invalid and will be rejected

Implementation and Rollout

1. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SYMBOL will continue to contain the ROOT for those option classes that have not yet been converted.
2. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will populate Maturity Month Year, Maturity Day and Maturity Date tag/values in the messages that are sent to the firm. PHLX will also accept (but not require) Maturity Day and/or Maturity Date tag/values in a request message from the firm, and if provided these will be validated as described earlier.
3. Beginning on the CANONICAL SYMBOLOGY DATE, Maturity Month Year and Maturity Day, **or** Maturity Date must be provided in input from the firm and will be validated as described earlier.

2.1.2 Complex Order Transactions

Complex Order (CO) is a new order type beginning with the NASDAQ OMX PHLX Firm FIX Engine specification 1.4. CO messages use 4.3 tags designed specifically for complex orders transaction (but the actual protocol suite for the interface remains FIX 4.2).

Reference FIX Session and Application Manual 2.0 for details on complex orders.



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2.2 Specialized Quote Feed (SQF)

SQF uses a slightly different Symbology format depending on the purpose of each individual request, reply or notification.

As indicated in each section below, a new revision level of this interface will be defined that uses new versions of the messages. A Firm may be configured to use the new message formats when they are ready to do so by requesting that PHLX configure their lines to use the new version. When a Firm is configured for the new version, all SQF messages sent or received must use the new version.

The SQF Specification that is fully symbology compliant is Version 5.0 and higher.

2.2.1 SQF Messages Involving a Single Series

The messages below currently use ROOT SYMBOL, MONTH CODE and STRIKE CODE to identify a specific option series affected by the messages

Messages Affected

QUOTE MESSAGES
 BOOK SWEEP REQUEST AND REPLY
 RAPID OPENING NOTIFICATION

QUOTE MESSAGES

Symbology Changes

OLD			
Field	Len	Value	Description
root_symbol	5	A..Z	Root Symbol - left justified, padded with spaces
month_code	1	A..X	Standard Expiration Month Code
strike_code	1	A..Z	Standard Strike Code

NEW (fully explicit)			
Field	Len	Value	Description
security_symbol	5	A..Z, 0..9	Security Symbol - left justified, padded with spaces
month_code	1	A..X	Standard Expiration Month Code: A-L = JAN to DEC CALL Options M-X = JAN to DEC PUT Options
day	2	01, 02, ... 31	Expiration Day
year	2	00 to99	Expiration Year
strike_price	10	WWWWW.DDDD	Option Strike Price WWWWW = whole dollars DDDD = decimal format

1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. MONTH CODE will continue to be used to specify month and call/put (the single character helps to keep the quote message as short as possible)
3. DAY will be added as an explicit 2 digit field: 01, 02,... 31
4. YEAR will be added as an explicit 2 digit field: 08, 09, 10, ... (using 2-digit year instead of 4 helps to keep the quote message as short as possible)
5. STRIKE will be added as an implicit decimal value (WWWWW.DDDD): 00003.0500
6. STRIKE CODE field will be removed

Implementation and rollout

1. A new message type will be defined for the quote message to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new

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Summary of Changes

message formats, and then when the firm is ready they may request to be configured to receive and send the new message formats in production

2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SECURITY SYMBOL field would be populated with the current ROOT symbol for a given option until the date that option is converted.
4. One constraint is that message types cannot be mixed within a given block of quotes (that is, all quotes in a block must be of the same message type).

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version
2. Any subsequent unsolicited notification messages sent to the Firm would be in the format of the fallen-back version.

BOOK SWEEP REQUEST AND REPLY

Symbology Changes

OLD			
Field	Len	Value	Description
root_symbol	5	A..Z	Root Symbol - left justified, padded with spaces
month_code	1	A..X	Standard Expiration Month Code
strike_code	1	A..Z	Standard Strike Code

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NEW (fully explicit)			
Field	Len	Value	Description
security_symbol	5	A..Z, 0..9	Security Symbol - left justified, padded with spaces
Year	4	YYYY	YYYY = expiration year
Month	3	JAN,... DEC	JAN...DEC = expiration month
Day	2	01, 02,...31	Expiration Day
put_call	4	CALL,PUT	An indicator specifying whether this transaction is a Put, Call or both. CALL, PUT
Strike	10	wwwww.dddd	The exercise price of the option. The format of this field is: wwwww = whole dollars, zero filled . = decimal point dddd = decimal format , zero filled i.e.: 00060.1000

1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. YEAR will be added as an explicit 4 digit field: 2008, 2009,...
3. MONTH will be added as an explicit abbreviation: JAN, FEB,... DEC
4. DAY will be added as an explicit 2 digit field: 01, 02,...31
5. CALL PUT will be added as an explicit field: CALL, PUT
6. STRIKE will be added as an explicit decimal value (5-whole and 4-decimal digits): 00123.0500
7. MONTH CODE field will be removed
8. STRIKE CODE field will be removed

Implementation and rollout



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1. A new message type will be defined for each message in this section to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive and send the new message formats in production
2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SECURITY SYMBOL field would be populated with the current ROOT symbol for a given option until the date that option is converted.
4. The reply message PHLX sends to the firm will match with the type of request (i.e., old request message type will result in old reply message type being sent, new request message type will result in new reply message type being sent).

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version

RAPID OPENING NOTIFICATION

Symbology Changes

OLD			
Field	Len	Value	Description
root_symbol	5	A..Z	Root Symbol - left justified, padded with spaces
month_code	1	A..X	Standard Expiration Month Code
strike_code	1	A..Z	Standard Strike Code



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NEW (fully explicit)			
Field	Len	Value	Description
security_symbol	5	A..Z, 0..9	Security Symbol - left justified, padded with spaces
Year	4	YYYY	YYYY = expiration year
Month	3	JAN,... DEC	JAN...DEC = expiration month
Day	2	01, 02,...31	Expiration Day
put_call	4	CALL,PUT	An indicator specifying whether this transaction is a Put, Call or both. CALL, PUT
Strike	10	wwwww.dddd	The exercise price of the option. The format of this field is: wwwww = whole dollars, zero filled . = decimal point dddd = decimal format , zero filled i.e.: 00060.1000

1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. YEAR will be added as an explicit 4 digit field: 2008, 2009,...
3. MONTH will be added as an explicit abbreviation: JAN, FEB,... DEC
4. DAY will be added as an explicit 2 digit field: 01, 02,...31
5. CALL PUT will be added as an explicit field: CALL, PUT
6. STRIKE will be added as an explicit decimal value (5-whole and 4-decimal digits): 00123.0500
7. MONTH CODE field will be removed
8. STRIKE CODE field will be removed



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Implementation and rollout

1. A new message type will be defined for each message in this section to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive and send the new message formats in production
2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SECURITY SYMBOL field would be populated with the current ROOT symbol for a given option until the date that option is converted

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version
2. Any subsequent unsolicited notification messages sent to the Firm would be in the format of the fallen-back version.



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2.2.2 SQF Messages with Wildcards

The messages below currently allow combinations of specific values or wildcards in ROOT SYMBOL, MONTH CODE or STRIKE CODE fields to designate multiple option series affected by the messages.

Note: Automatic Purge Notification is a new message beginning with SQF version 4.3 and replaces the former Purge Notification message as of version 4.3. This message notifies of both Security Symbol Purge (i.e., Root Purge) as well as a Single Symbol Size Exhaust purge. All firms will need to upgrade to use of this message as part of complying with OSI symbology.

Messages Affected

PURGE REQUEST AND REPLY
 AUTOMATIC PURGE NOTIFICATION

PURGE REQUEST AND REPLY

Symbology Changes

OLD			
Field	Len	Value	Description
root symbol	5	A..Z *	Root Symbol - left justified, padded with spaces * = all roots
month_code	1	A..X *	Standard Expiration Code * = all expiration months
strike_code	1	A..Z *	Standard Strike Price Code * = all strike prices

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NEW (fully explicit)			
Field	Len	Value	Description
security_symbol	5	A..Z, 0..9 *	Security Symbol - left justified, padded with spaces * = all symbols If * then all other symbology fields <u>must</u> be * also
Year	4	YYYY *	YYYY = expiration year * = all expiration years (left justified, space filled)
Month	3	JAN,... DEC *	JAN...DEC = expiration month * = all expiration months (left justified, space filled)
Day	2	01-31 *	* = all expiration days (left justified, space filled)
put_call	4	CALL,PUT *	An indicator specifying whether this transaction is a Put, Call or both. CALL, PUT * = BOTH (left justified, space filled)
Strike	10	wwwww.dddd *	The exercise price of the option. The format of this field is: wwwww = whole dollars, zero filled . = decimal point dddd = decimal format , zero filled i.e.: 00060.1000 * = all strike price (left justified space filled)



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1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. YEAR will be added as an explicit 4 digit field: 2008, 2009,...
3. MONTH will be added as an explicit abbreviation: JAN, FEB,... DEC
4. DAY will be added as an explicit 2 digit field:
5. CALL PUT will be added as an explicit field:
6. STRIKE will be added as an explicit decimal value (5-whole and 4-decimal digits):
00123.0500
7. MONTH CODE field will be removed
8. STRIKE CODE field will be removed
9. Wildcard (*) will continue to be supported for the kinds of information in which they were supported in the old messages

Implementation and rollout

1. A new message type will be defined for each message in this section to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive and send the new message formats in production
2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SECURITY SYMBOL field would be populated with the current ROOT symbol for a given option until the date that the option is converted.
4. The reply message PHLX sends to the firm will match with the type of request (i.e., old request message type will result in old reply message type being sent, new request message type will result in new reply message type being sent).

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact [PHLX System Support](#) to request fallback of their interface version

AUTOMATIC PURGE NOTIFICATION

Symbology Changes

OLD			
Field	Len	Value	Description
root symbol	5	A..Z	Root Symbol - left justified, padded with spaces
month_code	1	A..X *	Standard Expiration Code * = all expiration months * specified only if Reason code is 'A'
strike_code	1	A..Z *	Standard Strike Price Code * = all strike prices * specified only if Reason code is 'A'

NEW (fully explicit)			
Field	Len	Value	Description
security_symbol	5	A..Z, 0..9	Security Symbol - left justified, padded with spaces
Year	4	YYYY *	YYYY = expiration year * = all expiration years (left justified, space filled)

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NEW (fully explicit)			
Field	Len	Value	Description
			* specified only if Reason code is 'A'
Month	3	JAN,... DEC *	JAN...DEC = expiration month * = all expiration months (left justified, space filled) * specified only if Reason code is 'A'
Day	2	01-31 *	* = all expiration days (left justified, space filled) * specified only if Reason code is 'A'
put_call	4	CALL,PUT *	An indicator specifying whether this transaction is a Put, Call or both. CALL, PUT * = BOTH (left justified, space filled) * specified only if Reason code is 'A'
Strike	10	wwwww.dddd *	The exercise price of the option. The format of this field is: wwwww = whole dollars, zero filled . = decimal point dddd = decimal format , zero filled i.e.: 00060.1000 * = all strike price (left justified space filled) * specified only if Reason code is 'A'

1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. YEAR will be added as an explicit 4 digit field: 2008, 2009,...
3. MONTH will be added as an explicit abbreviation: JAN, FEB,... DEC
4. DAY will be added as an explicit 2 digit field:
5. CALL PUT will be added as an explicit field:
6. STRIKE will be added as an explicit decimal value (5-whole and 4-decimal digits):
00123.0500



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7. MONTH CODE field will be removed
8. STRIKE CODE field will be removed
9. Wildcard (*) will continue to be supported for the kinds of information in which they were supported in the old messages. If reason code is 'A' (purge) then all other fields other than SECURITY SYMBOL will be * as well – i.e., purge occurred due to rapid fire which affects all series of the specified root. If Reason code is not 'A' it indicates Single Symbol Size Exhaust and no wildcards are present – i.e., the purge is for a specific series.

Implementation and rollout

1. A new message type will be defined for each message in this section to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive the new message formats in production
2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SECURITY SYMBOL field would be populated with the current ROOT symbol for a given option until the date that the option is converted.

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version

2.2.3 SQF Option Series Request and Reply Message

The Option series request and reply messages use some explicit Symbology, but require some changes to be fully explicit.

Note: Option Series Query will no longer support query of a subset of a security symbol or underlying. Query will be for underlying or Security Symbol and return the set of ALL options series definitions for the same.

Symbology Changes

Symbol Request Information

Symbol request information appears in the request from the firm and is reflected back to the firm in the reply message.

OLD			
Field	Len	Value	Description
underlying or root symbol	5	A..Z	Underlying or Root Symbol - left justified, padded with spaces
underlying or Root indicator	1	UR	U = Underlying symbol R = Root symbol
Year	4	YYYY *	YYYY = expiration year * = all expiration years (left justified, space filled)
Month	3	JAN,... DEC *	JAN...DEC = expiration month * = all expiration months (left justified, space filled)
put_call	4	CALL,PUT, *	An indicator specifying whether this transaction is a Put, Call or both. CALL, PUT * = BOTH (left justified, space filled)
Strike	10	wwwww.dddd	The exercise price of the option. The format of this field is:

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		*	<p>wwwww = whole dollars, zero filled</p> <p>. = decimal point</p> <p>dddd = decimal format , zero filled</p> <p>i.e.: 00060.1000</p> <p>* = all strike price (left justified space filled)</p>
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NEW (fully explicit)			
Field	Len	Value	Description
underlying or security_symbol	5	A..Z, 0..9	Underlying or Security Symbol - left justified, padded with spaces
underlying or Security symbol indicator	1	UR	U = Underlying symbol R = Security symbol (reuse R indicator)

1. The UNDERLYING/ROOT SYMBOL field will be replaced by a new UNDERLYING/SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. Wildcard (*) is not supported since the individual expiration, strike and kind fields are not specifiable

Root Symbol List Information

The Root Symbol List is part of the reply message to the Option Series Request.

Old			
Field	Len	Value	Description
root_symbol	5	A..Z	Root Symbol - left justified, padded with spaces
Year	4	YYYY	YYYY = expiration year
month	3	JAN,... DEC	JAN...DEC = expiration month

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put_call	4	CALL,PUT	An indicator specifying whether this transaction is a Put or Call CALL PUT
Strike	10	wwwww.dddd	The exercise price of the option. The format of this field is: wwwww = whole dollars, zero filled . = decimal point dddd = decimal format , zero filled i.e.: 00060.1000
OPRA Symbol (current)	5	RRRMS	RRR - OPRA root symbol M - month code S - strike code

NEW (fully explicit)			
Field	Len	Value	Description
security_symbol	5	A..Z, 0-9	Security Symbol - left justified, padded with spaces
Year	4	YYYY	YYYY = expiration year
month	3	JAN,... DEC	JAN...DEC = expiration month
Day	2	01, 02, ... 31	DD = expiration day
put_call	4	CALL,PUT	An indicator specifying whether this transaction is a Put or Call CALL PUT
Strike	10	wwwww.dddd	The exercise price of the option. The format of this field is: wwwww = whole dollars, zero filled . = decimal point dddd = decimal format , zero filled i.e.: 00060.1000



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Summary of Changes

1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. DAY will be added as an explicit 2 digit field: 01, 02,... 31
3. OPRA SYMBOL field will be removed

Implementation and rollout

1. A new message type will be defined for each message in this section to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive and send the new message formats in production
2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the SECURITY SYMBOL field would be populated with the current ROOT symbol for a given option until the date that option is converted.
4. The reply message PHLX sends to the firm will match with the type of request (i.e., old request message type will result in old reply message type being sent, new request message type will result in new reply message type being sent).

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version

2.2.4 Complex Order Book Sweep Request/Reply

The Complex Order (CO) Book Sweep request/reply is a new message beginning with SQF version 4.4. It expects input of the underlying symbol as specified in COLA notifications published via the Specialized Order Feed interface (see SOF specification 4.0 or higher for details).

Messages Affected

COMPLEX ORDER BOOK SWEEP REQUEST AND REPLY

Symbology Changes

NEW (fully explicit)			
Field	Len	Value	Description
Underlying	5	A..Z, 0..9	Underlying Symbol - left justified, padded with spaces

1. The UNDERLYING field accommodates alphanumeric characters

Implementation and rollout

1. CO Book Sweep is fully symbology compliant already.
2. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the UNDERLYING field would be populated with the current PHLX underlying symbol for a given class until the date that class is converted (e.g., DLQ until class conversion then DELL)

Fallback

Not applicable to this message

2.3 Specialized Order Feed (SOF)

As indicated in each section below, a new revision level of this interface will be defined that uses new versions of the messages. A Firm may be configured to use the new message formats when they are ready to do so by requesting that PHLX configure their lines to use the new version. When a Firm is configured for the new version, all SOF messages sent or received must use the new version.

The SOF Specification that is fully symbology compliant is Version 5.0 and higher.

2.3.1 SOF Single Book and Order Messages

The SOF book and order messages use some explicit Symbology, but require some changes to be fully explicit.

Messages Affected

BOOK MESSAGE
ORDER MESSAGE

Symbology Changes

OLD			
Field	Len	Value	Description
Root_symbol	5	XXXXX	Root symbol, left justified, space filled
month_code	1	A..X	Standard Expiration Month Code
strike_code	1	A..Z	Standard Strike Price Code
year	4	0000 to 9999	Option Year
month	3	JAN, FEB, MAR, ...	Option Month
option_type	1	C or P	Option Type, Call (C) or Put (P)
strike	10	WWWWW.DDD	Option Strike Price WWWWW = whole dollars, zero filled

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Summary of Changes

		D	DDDD = decimal format, zero filled i.e.: 00060.1000
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NEW (fully explicit)			
Field	Len	Value	Description
Security_symbol	5	A..Z, 0-9	Security Symbol, left justified, space filled
year	4	0000 to 9999	Option Year
month	3	JAN, FEB, ...	Option Month
day	2	01, 02, ... 31	Option Day
option_type	1	C or P	Option Type, Call (C) or Put (P)
strike	10	WWWWW.DDD D	Option Strike Price WWWWW = whole dollars, zero filled DDDD = decimal format, zero filled i.e.: 00060.1000

1. The ROOT SYMBOL field will be replaced by a new SECURITY SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. DAY will be added as an explicit 2 digit field: 01, 02,... 31
3. MONTH CODE and STRIKE CODE fields will be removed

Implementation and rollout

1. A new message type will be defined for each message in this section. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive the new message formats in production.



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2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the new SECURITY SYMBOL field will be used to hold ROOT SYMBOL for those option classes that have not yet been converted.

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version
2. Any subsequent messages sent to the Firm would be in the format of the fallen-back version.

2.3.1.1 SOF Single Book and Order Refresh Requests

The messages below currently allow specification of Underlying or Root, with wildcard supported for the Underlying. The only impact to these messages is that the Security Symbol replaces Root (with change of the indicator value from R (root) to S (security symbol)) and is an alphanumeric 5-character symbol.

Messages Affected

BOOK REFRESH
 ORDER REFRESH

Symbology Changes

OLD			
Field	Len	Value	Description
security_or_underlying_flag	1	S or U	Indicates whether next field is a Security Symbol (formerly root) or an underlying
security_or_underlying	5	XXXXX, *	Security symbol or Underlying, * = all underlyings for which the firm is configured. If * is chosen, then Security_or_underlying_flag field

PHLX OPTIONS SYMBOLOGY INTERFACE CHANGES

Summary of Changes

			should be U. Left justified, space filled.
month_code	1	A..X, *	Standard Expiration Month Code, * = all expiration months
strike_code	1	A..Z, *	Standard Strike Price Code, * = all strike prices
year	4	0000 to 9999, *	Option Year, * all expiration years (unused in old message)
month	3	JAN, FEB, MAR, ..., *	Option Month, * all expirations months (unused in old message)
option_type	1	C or P, *	Option Type, Call (C) or Put (P), * both Call and Put (unused in old message)
strike_price	10	WWWWW.DDD D, *	Option Strike Price WWWWW = whole dollars DDDD = decimal format * = all strike prices (unused in old message)

NEW (fully explicit)			
Field	Len	Value	Description
security_or_underlying_flag	1	S or U	Indicates whether next field is a security or an underlying
security_or_underlying	5	A..Z, 0..9 or *	Security symbol or Underlying, * = all underlyings for which the firm is configured. If * is chosen, then security_or_underlying_flag field should be U. Left justified, space filled.

PHLX OPTIONS SYMBOLOGY INTERFACE CHANGES

Summary of Changes

1. The ROOT/UNDERLING SYMBOL field will be replaced by a new SECURITY/ UNDERLYING SYMBOL field which accommodates alphanumeric characters (combination of underlying symbol and corporate action code)
2. Specification of a subset of series in the Root or Underlying is removed:
 - a. Month Code removed
 - b. Strike Code removed
 - c. Year removed
 - d. Month removed
 - e. Option Type removed
 - f. Strike removed
3. Wildcard (*) will continue to be supported for the Underlying only

Implementation and rollout

1. A new message type will be defined for each message in this section to support the new Symbology. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to submit the new message formats in production
2. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the new SECURITY SYMBOL field will be used to hold ROOT SYMBOL for those option classes that have not yet been converted.

Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version
2. The Firm could then submit order and book refresh requests in the format of the fallen-back version.

2.3.2 SOF Complex Order Strategy and Refresh Messages

Complex Order (CO) is a new order type beginning with the NASDAQ OMX PHLX SOF specification 4.0.

2.3.2.1 Strategy Notification Messages

The strategy message defines the option instruments that comprise the complex strategy. Complex Order and Book messages sent from SOF to the firm reference the strategy ID associated with this message rather than specifying all the option instruments in these other messages.

Messages Affected

STRATEGY MESSAGE

Symbology

NEW (fully explicit)			
Field	Len	Value	Description
Und	5	A..Z, 0-9	Underlying Symbol for strategy. Each leg of the strategy belongs to same underlying
Leg Info (one each leg)	Security Symbol	5	A..Z, 0-9 Security Symbol - left justified, space filled.
	month_code	1	A..X Standard Expiration Month Code (will become space-filled beginning on CANONICAL SYMBOLOGY DATE)
	strike_code	1	A..Z Standard Strike Price Code (will become space-filled beginning on CANONICAL SYMBOLOGY DATE)
	year	4	0000 to 9999 Option Year
	month	3	JAN, FEB, ... Option Month
	day	2	01, 02, ... 31 Option Day
	option_type	1	C or P Option Type, Call (C) or Put (P)



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	strike	10	WWWWW.FFFF	Option Strike Price WWWWW = whole dollars, zero filled FFFF = decimal format, zero filled i.e.: 00060.1000
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Implementation and rollout

1. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the UNDERLYING and SECURITY SYMBOL fields will be used to hold the existing 1-to-3 character PHLX UNDERLYING and ROOT SYMBOL, respectively for those option classes that have not yet been converted.

Fallback

N/A

2.3.2.2 Strategy Refresh Request

The strategy refresh request allows the firm to request refresh of strategy notification messages for a specified underlying or strategy ID, or wildcard to refresh all strategies (wildcard requires underlying/strategy flag to indicate underlying (U))

Messages Affected

STRATEGY REFRESH MESSAGE

Symbology

NEW (fully explicit)			
Field	Len	Value	Description

PHLX OPTIONS SYMBOLOGY INTERFACE CHANGES

Summary of Changes

Underlying_strategy_flag	7	U or S	Indicates whether next field is a strategy or an underlying U = Underlying S = Strategy
underlying_or_strategy	6	XXXXXX, *	Underlying, * = all underlyings for which the firm is configured. If * is chosen, then underlying_or_strategy flag field should be U. Left justified, space filled.

Implementation and rollout

1. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the UNDERLYING OR STRATEGY field, when used to indicate an underlying will hold the existing 1-to-3 character PHLX UNDERLYING for those option classes that have not yet been converted.

Fallback

N/A

2.3.2.3 Complex Order Refresh Request

The complex order refresh request allows the firm to request refresh of complex order messages for a specified underlying or strategy ID, or wildcard to refresh all complex orders (wildcard requires underlying/strategy flag to indicate underlying (U))

Messages Affected

COMPLEX ORDER REFRESH MESSAGE

Symbology



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Summary of Changes

NEW (fully explicit)			
Field	Len	Value	Description
Underlying_strategy_flag	7	U or S	Indicates whether next field is a strategy or an underlying U = Underlying S = Strategy
underlying_or_strategy	6	XXXXXX, *	Underlying, * = all underlyings for which the firm is configured. If * is chosen, then underlying_or_strategy flag field should be U. Left justified, space filled.

Implementation and rollout

1. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the UNDERLYING OR STRATEGY field, when used to indicate an underlying will hold the existing 1-to-3 character PHLX UNDERLYING for those option classes that have not yet been converted.

Fallback

N/A



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2.4 Risk Management Feed (RMP)

As indicated in each section below, a new revision level of this interface will be defined that uses new versions of the messages. A Firm may be configured to use the new message formats when they are ready to do so by requesting that PHLX configure their lines to use the new version. When a Firm is configured for the new version, all RMP messages sent or received must use the new version.

The RMP Specification that is fully symbology compliant is Version 4.2 and higher.

2.4.1 Trade and Trade Acknowledgement Messages

The RMP trade and trade acknowledgement messages use some explicit Symbology, but require some changes to be fully explicit.

Messages Affected

TRADE MESSAGE
 TRADE ACKNOWLEDGMENT MESSAGE

Symbology Changes

OLD			
Field	Len	Value	Description
Class_code	5	[A-Z]{1,3}°{0,2} [A-Z]{2}	Option class symbol
put_call_ind	1	[CP]	An indicator specifying whether this transaction is a Call or a Put. Possible values are: C = Call P = Put
expr_date	8	CCYYMMDD	Expiration Date with 4-digit year. Format is CCYYMMDD
exer_price_amt	9	NNNNNDDDD	The exercise price of the option. The format of this field is NNNNNDDDD NNNNN = Whole dollars DDDD = decimal

NEW (fully explicit)			
Field	Len	Value	Description
Security_symbol	5	A..Z, 0-9	Security Symbol, left justified, space filled
put_call_ind	1	[CP]	An indicator specifying whether this transaction is a Call or a Put. Possible values are: C = Call P = Put
expr_date	8	CCYYMMDD	Expiration Date with 4-digit year. Format is CCYYMMDD
exer_price_amt	9	NNNNNDDDD	The exercise price of the option. The format of this field is NNNNNDDDD NNNNN = Whole dollars DDDD = decimal

- 1 A new SECURITY SYMBOL field is added which accommodates the new alphanumeric symbol.
- 2 The CLASS CODE (i.e., OPRA symbol) field will be deprecated. **(Note: CLASS CODE continues to exist as a field at the end of the message. Beginning Feb 12, 2010 it will no longer hold a value that can be relied upon as the class code and should be ignored – it is subject to be removed or recycled for other purposes in future releases).**

Implementation and rollout

1. A new message type will be defined for the trade message and the trade acknowledgement message sent back to PHLX by the firm. Beginning at or prior to the DUAL SYMBOLOGY DATE, PHLX will make available a new version of the above messages. Firms will be able to test in the lab for compliance with the new message formats, and then when the firm is ready they may request to be configured to receive and send the new message formats in production
2. Beginning on the CANONICAL SYMBOLOGY DATE, all Firms must have been configured for the new format version of these messages.
3. During the symbol rollout period (NEW SECURITY SYMBOL DATES), the new SECURITY SYMBOL field will contain the current ROOT symbol. for those option classes that have not yet been converted



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Fallback

1. In the event the Firm needs to fallback their interface version, the Firm would contact PHLX System Support to request fallback of their interface version
2. Any subsequent messages sent to the Firm would be in the format of the fallen-back version.
3. Any trade messages that were sent prior to the fallback cannot be reformatted. A retransmission request for any of those messages would return the message in the same format as it was originally sent.

2.4.2 Correction/Reassignment Request and Response Messages

Trade correction and reassignment is not supported in the newly-enhanced PHLX XL trading platform.

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2.5 Common Message Switch Interface (CMS)

The CMS interface to PHLX will be deprecated and removed prior to CANONICAL SYMBOLOGY DATE. All Firms must have migrated to use the FIX interface for order submissions.



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3 Revision History

Version	Date	Comments
1.0	Jan 31, 2007	Initial version
1.1	Oct 3, 2007	<ol style="list-style-type: none"> 1. Added definition of implementation dates in Introduction and general implementation approach 2. Added Maturity Date tag to FFE interface and described its use 3. Modified implementation/rollout approach at each interface as follows: <ul style="list-style-type: none"> • Use existing PHLX upgrade approach that allows Firms to upgrade to new interface version and message formats instead of keeping old and new symbology formats in same message • Describe fallback approach
1.2	Mar 20, 2008	<ol style="list-style-type: none"> 1. Updated implementation dates in section 1.1 2. Minor clarification regarding fallback in SQF under section 2.2
1.3	Aug 26, 2008	<ol style="list-style-type: none"> 1. Added to section 1 to provide version number and website location for accessing the full specification for each interface. 2. Updated the readiness date for DUAL SYMBOLOGY DATE as no later than December 2008. 3. Added identification of the specific version for each interface that is fully compliant with symbology – this is the specification firms must certify with prior to Industry Testing 4. Added new complex orders symbology to FFE, SQF and SOF 5. Removed deprecated SQF messages (<u>these will not be supported in the symbology compliant version of SQF</u>): <ol style="list-style-type: none"> a. RISK MONITOR NOTIFICATION This was replaced in SQF version 4.3 w/ AUTOMATIC PURGE NOTIFICATION b. MARKET CENTER CONTROL REQUEST AND REPLY This was removed from SQF in version 4.3 c. CROSS NOTIFICATION This was removed from SQF in version 4.3

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		<ul style="list-style-type: none"> d. AUTOMATC EXECUTION REQUEST AND REPLY e. NON-FIRM REQUEST AND REPLY <ul style="list-style-type: none"> 6. Added AUTOMAITC PURGE NOTIFICATION message (new message added in SQF version 4.3 – all firms must be prepared to use this notification in place of RISK MONITOR NOTIFICATION in the symbology compliant version of SQF) 7. Added clarification to PURGE REQUEST in SQF: If Security Symbol is '*' then all other symbology fields must be input w/ '*'. 8. Revised OPTION SERIES REQUEST in SQF to allow only specification of Underlying or Security Symbol. Request for a specific series is not supported in the symbology compliant version of SQF. 9. Revised SOF Order and Book Refresh requests to allow only specification of Underlying or Security Symbol. Request for a specific series is not supported in the symbology compliant version of SOF.
1.4	Jul 7, 2009	<ul style="list-style-type: none"> 1. Note added in front of Introduction section to make it clear this is a guide only. It is essential firms use the individual technical specifications for each interface in their remediation. 2. Fixed link to technical specifications page in the Introduction so it points to the new nasdaqtrader.com site. 3. Added bullet under section 1.1 Implementation to indicate firms must cancel their open GTC orders the evening before a consolidation. 4. Updated references to availability of OSI compliant versions of interfaces: all interfaces are available in production. 5. Changed the verbage and value in section 2.3.1.1 to use "Security" in place of "Root" and a value of "S" in place of "R" 6. Removed all details in section 2.4.2 and replaced with note that trade correction and reassignment are not supported in the new PHLX XL II version of RMP (this should already be evident to all firms as at this point they must have upgraded to version 4.2 of the RMP spec)