PHLX XL

NASDAQ OMX®

FIRM FIX ENGINE

SESSION AND APPLICATION MANUAL

Prepared By:	Options Trading Systems
Date:	June 10, 2004
Revision Date:	Jan 15, 2013
Release:	2.6a

TABLE OF CONTENTS

1 PURPOSE AND SCOPE

The purpose of this document is to provide guidelines to firms requesting a connection to PHLX XL at NASDAQ OMX PHLX (PHLX) using the FIX protocol. This interface is referred to as the PHLX XL Firm Fix Engine. The detailed documentation for FIX specifications can be obtained at www.fixprotocol.org and should be referred to in conjunction with this document.

The scope of this document is limited to FIX messages supported by PHLX XL and the tag fields for various FIX administrative and application messages supported by PHLX XL. Additional information can be obtained in the following companion documents:

PHLX XL Firm Fix Engine Business Manual: This high-level document provides an overview of the business aspects of the PHLX XL Firm Fix Engine, including the types of transactions that can be processed and the order processing functionality available to a firm.

PHLX XL Firm Fix Engine Communication Manual: The intended audience of this document is a firm's Communications personnel. The objective is to help them understand the physical and transport level details of the firm's connection to the PHLX XL Firm Fix Engine.

PHLX XL Firm Fix Engine Questionnaire: This document contains questions that a firm must answer in order to connect to the PHLX XL Firm Fix Engine.

2 FIX PROTOCOL SUPPORT

2.1 Overview

The goal of the PHLX XL Firm Engine is to provide a Firm with a reliable and responsive interface for Order Processing, i.e. orders can be placed and then managed throughout their existence.

PHLX XL supports FIX 4.2 protocol suite but for complex order messages uses 4.3 tags in the FIX 4.2 protocol suite.

An overview of the Order Processing facilities for single and complex order transactions are as follows:

- Firm sends Order
- Firm can Cancel Order
- Firm can Cancel Order and Replace it with new Order
- PHLX XL Firm Engine can Reject Order
- PHLX XL Firm Engine can provide Execution Report for Order, indicating partial or complete fill
- PHLX XL Firm Engine can reject or accept Cancel
- PHLX XL Firm Engine can honor Cancel/Replace modifying open order
- PHLX XL Firm Engine can provide Order status at end-of-trading day

Details on individual business transactions are provided in the subsequent sections.

2.2 Single Order Transactions

2.2.1 Orders

Order Processing begins with the Firm sending a New Order.

A New Single Order is sent as a FIX message of type 'New Order -Single' (MsgType='D'). PHLX XL is always the receiving party for New Order messages.

The contents of a single order can vary as described in the following sections.

2.2.1.1 Order Origin / Type

Each order can be one of eight distinct order types, which identify the origin of the order:

- Customer

- Firm

- Broker/Dealer

- PHLX On Floor Specialist or SQT
- Remote Specialist or RSQT
- On-Floor Specialist or SQT with CMTA
- Professional Customer Orders

2.2.1.2   Order Lifetime

Each order specifies the duration of time for which the order is valid, or lifetime of the order, from the following choices:

- Day order.
- GTC (Good Till Cancel) order
- IOC (Immediate or Cancel) order
- Market on opening (OPG) order - Please contact the Exchange for handling details.

2.2.1.3   Order Size

Each order specifies a quantity for the order. In addition to the quantity, an order can be designated as:

- Regular – which allows partial executions
- AON (All or None) – which only allows execution of the total quantity in a single trade

2.2.1.4   Order Price

Each order specifies a price. The price may have some special qualifications associated with it, as follows:

- MKT (Market) order
- Limit order (Includes Limit or Better order)

- Stop order
- Stop Limit order

2.2.1.5 Other Attributes

Each order will also contain the following attributes:

- Put or Call
- Buy or Sell
- Open or Close
- Covered or Uncovered

Note: Not every combination of the above mentioned order attributes will result in a valid order.

2.2.1.6 Directed Orders

PHLX has introduced the ability for an order provider to direct the order to a specified PHLX Member Trading Firm, in other words – ability to identify a Member Trading Firm as a preferred contra participant to the Order.

Note, that directing an order doesn't guarantee that a specified Member Trading Firm will always participate on the contra side of the trade for that order. Please refer to PHLX XL rules for the eligibility criteria.

- PHLX XL will determine directed participant in the following way:

The presence of the tag (79) AllocAccount indicates that the trader wishes to Direct the order to the Directed Participant.

- The following order types are eligible to be directed orders:

    Customer Market
    Customer Limit
    Broker Dealer
    Firm
    Non-PHLX Registered Market Maker
    Professional Customer Market
    Professional Customer Limit

- The following order types are not eligible to be directed orders:

On-floor Specialist, SQT or ROT
On-floor Specialist, SQT or ROT with CMTA
Remote Specialist or RSQT with PHLX badge
Stop/Stop Limit
Market on Open

If any of the ineligible types is formatted as a directed order, PHLX XL will still accept that order and process it as an undirected order.

For more information on Directed Order procedures, visit the NASDAQ OMX Trader® website: http://www.nasdaqtrader.com/micro.aspx?id=phlxdirectedorderflow

2.2.1.7 Order Execution Instructions

The XL platform supports order execution instructions by specifying the appropriate value for tag 76 - ExecBroker.

ExecBroker should contain explicit directions as to how the order should be routed; if ExecBroker is not specified, the value will be assumed to be SRCH. The allowable values are FIND… try available market centers then post to the book - once on the book, it will not proactively route out again, SRCH (SEARCH)… try available market centers then post to the book - and continue to proactively route out if due at an away exchange and DNR (Do Not Route)… just send the order directly to the book to post… never route it away.

ExecBroker applies only to non-contingency orders. If specified for any other order type it will be treated as DNR. Only Customer and Professional Customer non-contigency orders are allowed for SRCH strategy. See Appendix D for rules to handle routable strategies (SRCH and FIND) for other order origin types.

2.2.2 Order Acknowledgements

When an order is received by PHLX XL that is not immediately rejected, an acknowledgement is sent to the Firm to indicate that the order has been received but not yet processed. This acknowledgement is sent with a message type of 'Execution Report' (MsgType='8'), an Execution Type of 'New' (ExecType='0') and an Order Status of 'New' (OrdStatus='0').

A Firm can expect to receive the 'New' order acknowledgement immediately after sending the order that is not rejected, and then either a cancel or one or more other execution reports when the order is actually processed.

The order acknowledgement will contain a PHLX-XL turnaround number (or "TANUM") in the OrderID (tag 37) field. If a Firm recycles their FIX Order Ids such that multiple GTC orders could be open with the same FIX Order ID, the Firm should use this turnaround number to differentiate one order from the other.

2.2.3 Order Cancels

After an Order is sent, a Firm may wish to request to cancel that order completely (Order Cancel) or cancel that order and replace it with a new order (Cancel/Replace).

- Order Cancel - Also referred to as Simple Cancel or Straight Cancel. A Straight Cancel is sent for canceling the remaining volume for the target order. A FIX message of Type 'Order Cancel Request' (MsgType='F') is used for sending a Straight Cancel request.

- Order Cancel/Replace – A Cancel/Replace request is meant to cancel the target order and replace it with a New Order in a single transaction. The open order after the Cancel/Replace request is applied is treated as a new order. A FIX message of Type 'Order Cancel/ Replace Request' (MsgType='G') is used for sending an Order Cancel/ Replace request. This request can be used to modify the following attributes on target order:

  o Contract volume

  o Time In Force

  o AllocAccount (directed IFI)

  o AON contingency designation

  o Stop designation to Stop Limit designation and visa versa

  o Limit designation to Market designation and visa versa

  Notes on Order Cancel Replace:

o A cancel replace of any order field outside the list above require the original order to be straight cancelled and a new order to be re-entered.

o A cancel replace of an order's AON designation will not cause the replacement order to be subsequently routed regardless of its ExecBroker value.

o The new OrderQty value specified in a cancel replace must at least 1 more than the total number of contracts already executed for the target order (total executed contracts is specified in CumQty tag of the execution report). If the new OrderQty value is less than or equal to the total number of executed contracts, the cancel replace is rejected.

2.2.4 Trade Reports

Trade reports are generated by PHLX XL as a result of an execution for an order and sent through FIX messages of type 'Execution Report' (MsgType='8'). It is common to refer to "execution reports" as "trade reports" in the context of the FIX protocol.

A Trade Report could be of the following types:

- Partial Fill report (ExecType='1') – The remaining volume for the order after this execution is more than zero.
- Complete Fill report (ExecType='2') – The remaining volume for the order after this execution is zero

2.2.5 Order Rejects

An Order could be rejected for various reasons. However, PHLX XL generates this message only if the order is rejected for business reasons and not for protocol reasons such as parsing errors. An Order Reject message implies that the order did not meet some of the business rules and hence was never an active order (i.e. the Order was never available for execution inside the PHLX-XL trading engine). This message is sent as a FIX message of type 'Execution Report' (MsgType='8') with execution type set to 'Rejected' (ExecType='8').

2.2.6 Cancel and Cancel/Replace Acknowledgements

A Cancel or Cancel/Replace acknowledgement is generated by PHLX-XL after a Cancel Request or a Cancel/Replace request is received and accepted but before it is applied. This

message is sent with message type 'Execution Report' (MsgType='8'), and an execution type of 'Pending Cancel' (ExecType='6') for Cancels or an execution type of 'Pending Replace' (ExecType='E') for Cancel/Replaces. If the Cancel or Cancel/Replace is rejected, a Cancel Reject or Cancel/Replace Reject will be sent instead of a Cancel or Cancel/Replace Acknowledgement.

2.2.7 Cancel Responses (Cancel Report)

A Cancel Response is generated by PHLX XL when a Cancel Request or a Cancel/Replace request is applied (accepted) and hence the target order is canceled or replaced. This message is sent through FIX message type 'Execution Report' (MsgType='8').

A cancel response could be of the following types:

- Cancel Request Acceptance Report (ExecType='4') – This signifies the remaining volume on the target order is canceled. The remaining volume of the order could change from the time since Cancel Request was sent to when the Cancel Request is finally applied/accepted. The Cumulative Quantity ('CumQty') field in an execution report message represents the quantity of the order, which was executed before order was cancelled.
- Cancel/Replace Request Acceptance Report (ExecType='5') – This report signifies that Cancel/ Replace request is now applied. The 'CumQty' field in an execution report message represents the quantity of the order which was executed before the order was replaced.

2.2.8 Cancel Rejects (Complete Too Late To Cancel [TLTC])

A Cancel Reject message is generated by PHLX XL in case a Cancel Request or a Cancel/ Replace request is rejected by PHLX XL. A Cancel Reject message is sent through FIX message of type 'Order Cancel Reject' (MsgType='9'). This will be sent instead of a Cancel Acknowledgement.

2.2.9 Unsolicited Cancel Reports

Unsolicited Cancel Reports are generated by PHLX XL when the remaining volume of an order is cancelled or rejected. This is different from an Order Reject message in the sense that the order becomes active in the PHLX XL system and is available for execution before it is cancelled. It is possible that part of the order is executed before it is canceled or rejected. This message is sent through FIX message type 'Execution Report' (MsgType='8') with execution type 'Canceled' (ExecType='4'). This message does not have OrigClOrdID field. It is required to have OrdRejReason field.

2.2.10 Done for Day – Nothing Done Messages

This is an optional message generated by PHLX XL to the Firm at the end of the trading day for each open order. A Firm should contact the PHLX Help Desk in order to be configured to receive these messages.

This message is sent through FIX message type 'Execution Report' (MsgType='8') with execution type 'Done for day' (ExecType='3').

PHLX-XL can generate 'Done for day' messages for:

- Day orders - LeavesQty field reflects remaining open quantity
- GTC order – LeavesQty field reflects remaining open quantity
- Day and GTC order – LeavesQty field reflects remaining open quantity

If a firm is configured to receive these messages, they will get both single and complex orders nothing done messages.

2.2.11 Order price protection

During free trading PHLX XL may reject new orders or generate unsolicited cancels for active orders that are priced outside the order price protection parameters. This check is done when events occur that cause the order to enter or re-enter the PHLX order book. For example, the check is done at order arrival (causing reject or unsolicited out), at cancel replace arrival (causing a replace, then unsolicited out of the replace), and at stop order election (causing an unsolicited out). The check may also occur during other events in the order's life cycle.

The validation will be based on the following algorithm:

Contra-side NBBO ≤ $1.00: reject orders with a limit greater than 100% through contra-side NBBO

Contra-side NBBO > $1.00: reject orders with a limit greater than 50% through contra-side NBBO

For the resulting rejects and unsolicited outs, the 'OrdRejReason' will be set to '0' and 'Text' will be either set to 'LIMIT TOO FAR ABOVE ASK' for buy orders or 'LIMIT TOO FAR BELOW BID' for sell orders.

2.2.11.1 Examples

A -- NBBO: 0.70 - 0.80
Order to buy 50 for 2.00 received during free trading.
Reject order because limit is priced through the 1.60 threshold.

B -- NBBO: 0.70 - 0.80
Cancel replace a resting buy order for 2.00 during free trading.
The order is replaced (meaning the original got cancelled).
The replacement gets an unsolicited out because limit is priced through the 1.60 threshold.

C -- NBBO: 0.70 - 0.80
Accept a buy stop limit order for stop price 0.75 and price 1.6
NBBO moves to 0.75 – 0.80
The order is elected but it gets an unsolicited cancel because limit is priced through the 1.60 threshold.

2.3 Complex Order Transactions

2.3.1 Complex Orders

Order Processing begins with the Firm sending a New Complex Order.

A New Complex Order is sent as a FIX message of type 'New Order – Complex' (MsgType='AB').
PHLX-XL is always the receiving party for New Complex Order messages.

Complex Order can have two to six legs. For non-tied-to-stock complex orders, the order must have between two and six option legs. For tied-to-stock complex orders, the order must have exactly one stock leg, plus one to five option legs.

The contents of an order can vary as described in the following sections. Please also refer to PHLX-XL FIX Business Manual.

2.3.1.1   Order Origin / Type

Each order can be one of eight distinct order types, which identify the origin of the order:

- Customer

- Firm

Broker/Dealer
- PHLX On Floor Specialist or SQT
- Remote Specialist or RSQT
- On-Floor Specialist or SQT with CMTA
- Professional Customer Orders

2.3.1.2   Order Lifetime

Each order specifies the duration of time for which the order is valid, or lifetime of the order, from the following choices:

- Day order.
- GTC (Good Till Cancel) order
- IOC (Immediate or Cancel) order

2.3.1.3   Order Size

Each order specifies a quantity for the order. In addition to the quantity, an order can be designated as:

- Regular – which allows partial executions
- AON (All or None) – which only allows execution of the total quantity in a single trade

Also legs will have ratio. The quantity will be leg_ratio of each leg multiplied by Order Size

2.3.1.4   Order Price

Each order specifies a price. The price may have some special qualifications associated with it, as follows:

- MKT (Market) order
- Limit order (Includes Limit or Better order)

NOTE: Limit price supplied with the order is assumed to be for unit leg ratio quantity. EG: A $2 debit for an order with leg quantities of 100:200 is assumed to be the price for each unit of the 100 units of leg ratio of 1:2 yielding $2 debit for 100 units, $200 debit for the entire order.

2.3.1.5   Other Attributes

Each order will also contain the following notable attributes:

> SpecialInstruction: Please refer to PHLX FIX Business Manual for details. Valid values are:
> > Do Not Auction

2.3.1.6   Directed Orders

PHLX has introduced the ability for an order provider to direct his/hers order to a specified PHLX Member Trading Firm, in other words – ability to identify a Member Trading Firm as a preferred contra participant to the Order.

Note, that directing an order doesn't guarantee that a specified Member Trading Firm will always participate on the contra side of the trade for that order. Please refer to PHLX XL rules for the eligibility criteria.

- PHLX XL will determine directed participant in the following way:

  The presence of the tag (79) AllocAccount indicates that the trader wishes to Direct the order to the Directed Participant.

- The following order types are eligible to be directed orders:

  Customer Market
  Customer Limit
  Broker Dealer
  Firm
  On Floor Specialist or SQT
  Remote Specialist or RSQT
  Non-PHLX Registered Market Maker
  Professional Customer Market
  Professional Customer Limit

- The following order types are not eligible to be directed orders:

  On-floor Specialist or SQT with CMTA

> If any of the ineligible types is formatted as a directed order, PHLX XL will still accept that order and process it as an undirected order.

For more information on Directed Order procedures go to the NASDAQ OMX Trader website:
http://www.nasdaqtrader.com/micro.aspx?id=phlxdirectedorderflow

2.3.1.7   Legs

LegRefId TAG indicates start of the new leg. Both the legs must be sent as part of a single 'AB' message.

Notable Leg Attributes:

- Leg Symbol (security symbol for option component, underlying for stock component)
- Put, Call or Stock indicator
- Buy, Sell, or Sell Short (stock component only) , Sell Short Exempt (stock component only).
- Open or Close (option component only)
- Expiration (option component only)
- Strike Price (option component only)

2.3.2 Complex Order Acknowledgements

When an order is received by PHLX XL that is not immediately rejected, acknowledgements are sent to the Firm for each leg to indicate that the order has been received but not yet processed. These acknowledgements are sent with a message type of 'Execution Report' (MsgType='8'), an Execution Type of 'New' (ExecType='0') and an Order Status of 'New' (OrdStatus='0').

A Firm can expect to receive the Complex 'New' order acknowledgements immediately after sending the order that is not rejected and then either a cancel or other execution reports (for each leg) when the order is actually processed.

The order acknowledgements will contain a PHLX XL turnaround number (or "TANUM") in the OrderID (tag 37) field and LegRefID (tag 654). If a Firm recycles their FIX Order Ids such that multiple GTC orders could be open with the same FIX Order ID, the Firm should use this turnaround number to differentiate one order from the other. Also, to differentiate Complex Order Acks with Single Order Acks, SecurityType (tag 167) must be used. The value of this tag for Complex Order acknowledgements is **'MLEG'**.

2.3.3 Complex Order Cancels

After a Complex Order is sent, a Firm may wish to request to cancel that order completely (Complex Order Cancel) or cancel that complex order and replace it with a new complex order (Complex Cancel/Replace).

- Complex Order Cancel - Also referred to as Simple Cancel or Straight Cancel. A Straight Complex Cancel is sent for canceling the remaining volume for the target complex order. A FIX message of Type 'Order Cancel Request' (MsgType='F') is used for sending a Straight Complex Cancel request. Both the legs must be sent as part of a single 'F' message. SecurityType tag must be sent with value - **'MLEG'**

- Complex Order Cancel/Replace – A Complex Cancel/Replace request is meant to cancel the target complex order and replace it with a New Complex Order in a single transaction. The open order after the Cancel/Replace request is applied is treated as a new order. A FIX message of Type 'Order Cancel/ Replace Request' (MsgType='AC') is used for sending an Order Cancel/ Replace request. This request can be used to modify attributes on target order, with the following restrictions;

  can only replace – Time In Force, AllocAccount (directed IFI), and price – limit order to market and vice versa. In legs, only LegRatioQty can be changed, but overall ratio of the complex order should be the same
    o Complex Cancel/Replace request for a complex order, which is already in cancel pending state, is rejected

2.3.4 Complex Trade Reports

Complex Trade reports are generated by PHLX-XL as a result of an execution for an complex order and sent through FIX messages of type 'Execution Report' (MsgType='8'). It is common to refer to "execution reports" as "trade reports" in the context of the FIX protocol.

Trade Report Messages will be sent on per Leg per price basis, i.e. separate message will be sent for each leg for a trade on a particular price.

A Complex Trade Report could be of the following types:

- Partial Fill report (ExecType='1') – The remaining volume for the order after this execution is more than zero.

- Complete Fill report (ExecType='2') – The remaining volume for the order after this execution is zero

2.3.5 Complex Order Rejects

A Complex Order could be rejected for various reasons. However, PHLX-XL generates this message only if the order is rejected for business reasons and not for protocol reasons such as parsing errors. An Order Reject message implies that the order did not meet some of the business rules and hence was never an active order (i.e. the Order was never available for execution inside the PHLX-XL trading engine). This message is sent as a FIX message of type 'Execution Report' (MsgType='8') with execution type set to 'Rejected' (ExecType='8'). This message will not contain Leg level fields and only one message will be sent per complex order (i.e. NOT by leg)

2.3.6 Complex Cancel and Cancel/Replace Acknowledgements

A Complex Cancel or Complex Cancel/Replace acknowledgement is generated by PHLX-XL after a Cancel Request or a Cancel/Replace request is received and accepted but before it is applied. This message is sent for each leg with message type 'Execution Report' (MsgType='8'), and an execution type of 'Pending Cancel' (ExecType='6') for Complex Cancels or an execution type of 'Pending Replace' (ExecType='E') for Complex Cancel/Replaces. If the Complex Cancel or Complex Cancel/Replace is rejected, a Complex Cancel Reject or Complex Cancel/Replace Reject will be sent instead of a Complex Cancel or Complex Cancel/Replace Acknowledgement. Message Type ('9') is used for Cancels Rejects and it does not contain the Leg information. Only one message is sent per Cancel.

2.3.7 Cancel Responses (Cancel Report)

A Complex Cancel Response is generated by PHLX XL when a Complex Cancel Request or a Complex Cancel/Replace request is applied (accepted) and hence the target complex order is canceled or replaced. This message is sent through FIX message type 'Execution Report' (MsgType='8') for each leg.

A complex cancel response could be of the following types:

- Complex Cancel Request Acceptance Report (ExecType='4') – This signifies the remaining volume on the target complex order is canceled. The remaining volume of the order could change from the time since Complex Cancel Request was sent to when the Cancel Request is finally applied/accepted. The Cumulative Quantity ('CumQty') field in an execution report message represents the quantity

of the complex order for that leg, which was executed before complex order was cancelled.

- Complex Cancel/Replace Request Acceptance Report (ExecType='5') – This report signifies that Complex Cancel/ Replace request is now applied. The 'CumQty' field in an execution report message represents the quantity of the complex order for that leg which was executed before the complex order was replaced.

2.3.8 Complex Cancel Rejects (Complete Too Late To Cancel [TLTC])

A Complex Cancel Reject message is generated by PHLX XL in case a Complex Cancel Request or a Complex Cancel/ Replace request is rejected by PHLX XL. A Complex Cancel Reject message is sent through FIX message of type 'Order Cancel Reject' (MsgType='9'). This will be sent instead of a Cancel Acknowledgement. This will be one message per Cancel.

2.3.9 Unsolicited Complex Cancel Reports

Unsolicited Complex Cancel Reports are generated by PHLX XL when the remaining volume on a complex order is cancelled or rejected. This is different from an Order Reject message in the sense that the order becomes active in the PHLX XL system and is available for execution before it is rejected or cancelled. It is possible that part of the order is executed before it is canceled or rejected. This message is sent for each leg through FIX message type 'Execution Report' (MsgType='8') with execution type 'Canceled' (ExecType='4'). This message does not have OrigClOrdID field. It is required to have OrdRejReason field.

2.3.10   Done for Day – Nothing Done Messages

This is an optional message generated by PHLX XL to the Firm at the end of the trading day for each complex open order. A Firm should contact the PHLX Help Desk in order to be configured to receive these messages.

This message is sent for each leg through FIX message type 'Execution Report' (MsgType='8') with execution type 'Done for day' (ExecType='3').

PHLX XL can generate 'Done for day' messages for:

- Day orders - LeavesQty field reflects remaining open quantity
- GTC order – LeavesQty field reflects remaining open quantity
- Day and GTC order – LeavesQty field reflects remaining open quantity

If a firm is configured to receive these messages, they will get both single and complex orders nothing done messages.

2.4   PIXL Cross Transactions

2.4.1 PIXL Cross

Order Processing begins with the Firm sending a New PIXL Cross.

A New PIXL Cross is sent as a FIX message of type 'New Order - List' (MsgType='E').
PHLX XL is always the receiving party for New Order messages.

A PIXL Cross order is a list containing exactly 2 orders. Each one represents one side of the cross and is a complete order definition, complete with its own SenderSubId and unique ClOrdId. If exactly one of the orders is customer origin, then that will be the agency side, and the other non customer origin will be the initiating order. If neither order is customer origin or both are customer origin, then the first order in the list is the Agency order, and the second order in the list is the Initiating order.

The sides of the PIXL Cross can vary as described in the following sections.

2.4.1.1   Order Origin / Type

Each side can be one of seven distinct order types, which identify the origin of the order:

- Customer (NOTE: The initiating side can only be customer if the agency side is also customer)

- Firm

- Broker/Dealer
- PHLX On Floor Specialist or SQT
- Remote Specialist or RSQT
- On-Floor Specialist or SQT with CMTA
- Professional Customer Orders

NOTE: If both sides of the Cross are Customer origin, then if the order is accepted, no auction will take place. Instead the order will immediately cross without allowing responses to interact with it.

2.4.1.2   Order Lifetime

Each side specifies the duration of time for which the order is valid, or lifetime of the order, from the following choices:

- Day order.
- GTC (Good Till Cancel) order
- IOC (Immediate or Cancel) order
- NOTE: OPG is invalid.

NOTE: Regardless of which of the above valid values is specified, the order lifetime will last, at most, until the cross occurs (immediately for Customer to Customer cross, or until the end of the auction for other origin combinations).

2.4.1.3   Order Size

Each side specifies a quantity for the order. Both sides must specify the same quantity.

- The agency order is implicitly AON. Specifying AON for the agency order is valid, but will have no bearing on the treatment of the order.
- Specifying AON on the initiating order is not valid and will result in a reject of the PIXL Order.

2.4.1.4   Order Price

Each side must specify a price. The agency order price and the initiating order price must be able to trade with each other (i.e. must lock or cross each other). Each side can specify any one of the following prices/price types for their order price:

- MKT (Market)
- Limit price

2.4.1.5   NWT Price

Each PIXL order must specify a No Worse Than (or NWT) price. This price can appear anywhere in the message body, and will always be assigned to the initiating order. The NWT price must be better than or equal to the initiating order's order price field. For a buy initiating order this means NWT price must either be MKT or have a limit price >= the initiating order's order price. For a sell initiating order this means NWT price must either be

MKT or have a limit price <= the initiating order's order price. The initiating order can specify any one of the following prices/price types for their nwt price:

- MKT (Market)
- Limit price

2.4.1.6   Other Attributes

Each side will also contain the following attributes:

- Put or Call
- Buy or Sell
- Open or Close

NOTE: Not every combination of the above mentioned order attributes will result in a valid order.

2.4.1.7   Directed Specification

PHLX has introduced the ability to identify a Member Trading Firm as a preferred contra participant.

A directed specification in a PIXL Cross order has NO BEARING ON ALLOCATION, but will be considered when applying the PHLX XL Fee Schedule for this order. Only the agency side of the PIXL Cross can have a directed specification.

- The presence of the tag (79) AllocAccount indicates that the trader wishes to Direct the order to the Directed Participant.

- The following order types are eligible to be directed orders:

    Customer Market
    Customer Limit
    Broker Dealer
    Firm
    Non-PHLX Registered Market Maker
    Professional Customer Market
    Professional Customer Limit

- The following order types are not eligible to be directed orders:

On-floor Specialist or SQT
On-floor Specialist or SQT with CMTA
Remote Specialist or RSQT with PHLX badge

If any of the ineligible types is formatted as a directed order, PHLX XL will still accept that order and process it as an undirected order.

For more information on Directed Order procedures, visit the NASDAQ OMX Trader[®] website: http://www.nasdaqtrader.com/micro.aspx?id=phlxdirectedorderflow

2.4.1.8   Order Execution Instructions

Tag 76 – ExecBroker is ignored for PIXL Cross orders. The sides of the cross order are never routable.

2.4.2 Order Acknowledgements

When an order is received by PHLX XL that is not immediately rejected, separate acknowledgements are sent to the Firm for each side of the cross to indicate that the order has been received but not yet processed.   These acknowledgements are sent with a message type of 'Execution Report' (MsgType='8'), an Execution Type of 'New' (ExecType='0') and an Order Status of 'New' (OrdStatus='0').

A Firm can expect to receive the 'New' order acknowledgements immediately after sending the order that is not rejected and then either a cancel or other execution reports (for each side) when the order is actually processed.

The order acknowledgements will contain a PHLX XL turnaround number (or "TANUM") in the OrderID (tag 37) field and ListSeqNo (tag 67).

2.4.3 Order Cancels

After a PIXL Cross is sent, a Firm is only allowed to alter it in a very limited fashion. Neither side can be completely cancelled, and only the initiating order can be modified.

- Order Cancel - Also referred to as Simple Cancel or Straight Cancel. This message is invalid for either side of the PIXL Cross order, and will always be rejected.

- Unlike other types of orders, On Floor Market Maker initiating orders can be cancel replaced.

- Order Cancel/Replace – A Cancel/Replace request is meant to cancel the target order and replace it with a New Order in a single transaction. A FIX message of Type 'Order Cancel/ Replace Request' (MsgType='G') is used for sending an Order Cancel/ Replace request. This message is invalid for the agency side of the PIXL Cross order and will always be rejected if sent for that side. This request can be used to modify the following attributes on the initiating order only:

  o Price

  o NWT Price

Notes on Order Cancel Replace:
  o The cancel replace target can only be the initiating order, not the agency order.

  o The cancel replace MUST match (both prices the same as was previously accepted for the initiating order's prices) or improve (improve one or both prices over the previously accepted initiating order's prices) the previously accepted pricing specification.

  o If both the order price and the nwt prices are the same the cancel replace is accepted ONLY if it results in an improved stop price.

  o If either the order price or the nwt price is made worse, the cancel replace is rejected.

2.4.4 Trade Reports

Trade reports are generated by PHLX XL as a result of an execution for an order and sent through FIX messages of type 'Execution Report' (MsgType='8'). It is common to refer to "execution reports" as "trade reports" in the context of the FIX protocol.

A Trade Report could be of the following types:

- Partial Fill report (ExecType='1') – The remaining volume for the order after this execution is more than zero.
- Complete Fill report (ExecType='2') – The remaining volume for the order after this execution is zero

2.4.5 Order Rejects

An Order could be rejected for various reasons. However, PHLX XL generates this message only if the order is rejected for business reasons and not for protocol reasons such as parsing errors. An Order Reject message implies that the order did not meet some of the business rules and hence was never an active order (i.e. the Order was never available for execution inside the PHLX-XL trading engine). This message is sent as a FIX message of type 'Execution Report' (MsgType='8') with execution type set to 'Rejected' (ExecType='8').

2.4.6 Cancel and Cancel/Replace Acknowledgements

A Cancel Replace for the agency side of a PIXL Cross or a Straight Cancel for either side of a PIXL Cross will get an immediate Cancel Reject response.

A Cancel/Replace acknowledgement is generated by PHLX-XL after a Cancel Request or a Cancel/Replace request is received for the initiating side of a PIXL cross and accepted but before it is applied. This message is sent with message type 'Execution Report' (MsgType='8'), and an execution type of 'Pending Replace' (ExecType='E'). If the Cancel/Replace is rejected a Cancel/Replace Reject will be sent instead of a Cancel or Cancel/Replace Acknowledgement.

2.4.7 Cancel Responses (Cancel Report)

A Cancel Response is generated by PHLX XL when a Cancel/Replace request is applied (accepted) and hence the target order is replaced. This message is sent through FIX message type 'Execution Report' (MsgType='8').

A cancel response will have the following type:

- Cancel/Replace Request Acceptance Report (ExecType='5') – This report signifies that Cancel/ Replace request is now applied.

2.4.8 Cancel Rejects (Too Late To Cancel [TLTC])

A Cancel Reject message is generated by PHLX XL in case a Cancel/ Replace request is rejected by PHLX XL. A Cancel Reject message is sent through FIX message of type 'Order Cancel Reject' (MsgType='9'). This will be sent instead of a Cancel Acknowledgement or after the Cancel Acknowledgement, instead Cancel Report.

2.4.9 Unsolicited Cancel Reports

Unsolicited Cancel Reports are generated by PHLX XL when the remaining volume of a PIXL Order is cancelled or rejected by the PHLX XL system. This is different from an Order Reject message in the sense that the PIXL Order passed initial validation in the PHLX XL system. It is possible that part of the order is executed before it is canceled or rejected. This message is sent through FIX message type 'Execution Report' (MsgType='8') with execution type 'Canceled' (ExecType='4'). This message does not have OrigClOrdID field. It is required to have OrdRejReason field.

2.4.10 Order price protection

During free trading PHLX XL may reject new orders or generate unsolicited cancels for active orders that are priced outside the order price protection parameters. This check is done when events occur that cause the order to enter or re-enter the PHLX order book. For example, the check is done at order arrival (causing reject or unsolicited out), and at cancel replace arrival (causing a replace, then unsolicited out of the replace). The check may also occur during other events in the order's life cycle.

Only the agency side of the PIXL Cross order will be validated. The validation will be based on the following algorithm:

Contra-side NBBO ≤ $1.00: reject orders with a limit greater than 100% through contra-side NBBO

Contra-side NBBO > $1.00: reject orders with a limit greater than 50% through contra-side NBBO

For the resulting rejects and unsolicited outs, the 'OrdRejReason' will be set to '0' and 'Text' will be either set to 'LIMIT TOO FAR ABOVE ASK' for buy orders or 'LIMIT TOO FAR BELOW BID' for sell orders.

2.4.10.1 Examples

A -- NBBO: 0.70 - 0.80
PIXL Cross Agency Order to buy 50 for 2.00 received during free trading.
Reject order because limit is priced through the 1.60 threshold.

B -- NBBO: 0.70 - 0.80
PIXL Cross Agency Cancel replace a resting buy order for 2.00 during free trading.
The cancel replace is rejected, and the PIXL order remains unchanged.

2.5   Solicitation Cross Transactions

2.5.1 Solicitation Cross

A solicitation cross is very similar to pixl cross. See Section2.7 2.4 for details of pixl cross. Solicitation varies from PIXL cross in the following manners.

- Both Agency and Initiating orders are AON. AON indicator (Tag 18 = G) must explicitly be provided on both sides of the cross. If AON indicator is not present on any of the side orders, then the order will be rejected.

- Solicitation cross orders can not have a NWT Price or NWT Price Type. If either of these two tags is provided, then the order will be rejected.

- Both Agency and Initiating order can not be Customer origin. If both sides have Customer origin, then the order will be rejected. Such a cross order may be entered as a PIXL cross.

- Both Agency and Initiating order must be LIMIT order. MKT orders are not allowed for Solicitation cross on either side.

- Solicitation orders must be for 500 or more contracts.

2.6   QCC Cross Transactions

2.6.1 QCC Cross

Order Processing begins with the Firm sending a New Qualified Contingent Cross (or QCC).

A New QCC order is sent as a FIX message of type 'New Complex Order – List' (MsgType=EB).
PHLX XL is always the receiving party for New Order messages.

A QCC Cross order is a list containing exactly 2 complex orders (without the leg information) followed by a single list of complex legs specified from the first order's perspective. Each order represents one side of the cross and is a complete order definition (minus the complex legs), complete with its own SenderSubId and unique ClOrdId.

QCC Crosses differ from PIXL Crosses and/or Complex Orders in the following ways:

1) There is no Agency/Initiating relationship between the 2 orders being crossed, but instead a Primary/Contra relationship. The FIRST order in the list is ALWAYS the Primary order.

2) There is only one set of leg specifications. It follows the orders and is from the perspective of the Primary Order. This means that the LegSide tags are matched with the Primary Order. These sides are inverted when for use with the Contra Order.

3) The LegPositionEffect tag is specified from the perspective of the Primary Order. The new tag "LegContraOpenClose" must also be specified with each leg to indicate the leg position effect of the Contra Order.

4) The LegSide tag is specified from the perspective of the Primary Order.

5) Although, by definition, the QCC transaction must be contingent on a stock transaction, the stock compoenet MUST NOT be specified in the legs. The stock leg component is implied and is to be handled separately by the sender of the QCC.

6) The Primary Order must specify the ordType and price tags which specifies the price from the Primary Order's perspective. However, for the Contra Order these tags are optional (note, however, that both tags must be omitted from the Contra Order if this information is not being specified there). If the pricing information is omitted from the Contra Order, the price is assumed to be the negative of the Primary Order's price.

QCC Cross orders NEVER enter an auction phase. If the order is valid and executable, it will immediately cross at arrival with no auction.

The sides of the QCC Cross can vary as described in the following sections.

2.6.1.1   Order Origin / Type

Each side can be one of seven distinct order types, which identify the origin of the order:

- Customer

- Firm

- Broker/Dealer
- PHLX On Floor Specialist or SQT
- Remote Specialist or RSQT

- On-Floor Specialist or SQT with CMTA
- Professional Customer Orders

2.6.1.2   Order Lifetime

Each side specifies the duration of time for which the order is valid, or lifetime of the order, from the following choices:

- Day order.
- GTC (Good Till Cancel) order
- IOC (Immediate or Cancel) order
- NOTE: OPG is invalid.

NOTE: Regardless of which of the above valid values is specified, the order lifetime will last, at most, until the cross occurs (for QCC orders this happens immediately).

2.6.1.3   Order Size

Each side specifies a quantity for the order. Both sides must specify the same quantity.

- Both orders are implicitly AON. Specifying AON for either order is valid, but will have no bearing on the treatment of the order.

2.6.1.4   Order Price

The first order in the list must specify a price. The second order's price is optional, but if specified it must be the negative of the first order's price. Each side can specify one of the following prices/price types for their order price:

- Limit price

2.6.1.5   NWT Price

This field is NOT allowed on a QCC cross.

2.6.1.6   Legs

Following the last tag of the second order in the list, the message must specify the complex leg information FOR THE OPTION LEGS ONLY. The LegSide tags will specify the buy/sell

value for the the agency order. For the initiating order these values will automatically be set to the opposite side. Additionally, the new LegContraOpenClose (9376) tag must be specified to complete each leg's definition. The LegPositionEffect tag (564) specifies the open/close value for the agency order and the LegContraOpenClose tag tag will specify the open/close value for the initiating order's legs.

NOTE: Although the QCC order is required to have a relationship with a stock leg, the stock leg **MUST NOT** be specified in the fix message for the QCC order.

Notable Leg Attributes:

- LegRefId
- Leg Symbol (security symbol)
- Put, Call or Stock indicator
- Buy, Sell.
- Open/Close
- *** New Tag: Contra Open/Close
- Expiration
- Strike Price

2.6.1.7   Other Attributes

Each side must also contain the following attributes:

- Stock Shares (the number of shares of stock associated with the QCC)
- From Floor flag (indicating whether this message is being sent from the PHLX floor or not).

2.6.1.8   Directed Specification

PHLX has introduced the ability to identify a Member Trading Firm as a preferred contra participant.

A directed specification in a QCC Cross order has NO BEARING ON ALLOCATION, but may be considered when applying the PHLX XL Fee Schedule for this order. Only the agency side of the QCC Cross can have a directed specification.

- The presence of the tag (79) AllocAccount indicates that the sender wishes to Direct the order to the Directed Participant.

- The following order types are eligible to be directed orders:

Customer Market
Customer Limit
Broker Dealer
Firm
Non-PHLX Registered Market Maker
Professional Customer Market
Professional Customer Limit

- The following order types are not eligible to be directed orders:

    On-floor Specialist or SQT
    On-floor Specialist or SQTwith CMTA
Remote Specialist or RSQT with PHLX badge

If any of the ineligible types is formatted as a directed order, PHLX XL will still accept that order and process it as an undirected order.

For more information on Directed Order procedures, visit the NASDAQ OMX Trader® website: http://www.nasdaqtrader.com/micro.aspx?id=phlxdirectedorderflow

2.6.1.9   Order Execution Instructions

Tag 76 – ExecBroker is ignored for QCC Cross orders. The sides of the cross order are never routable.

2.6.2 Order Acknowledgements

When an order is received by PHLX XL that is not immediately rejected, separate acknowledgements are sent to the Firm for each side of the cross to indicate that the order has been received but not yet processed. These acknowledgements are sent with a message type of 'Execution Report' (MsgType='8'), an Execution Type of 'New' (ExecType='0') and an Order Status of 'New' (OrdStatus='0').

A Firm can expect to receive the 'New' order acknowledgements immediately after sending the order that is not rejected and then either a cancel or other execution reports (for each side) when the order is actually processed.

The order acknowledgements will contain a PHLX XL turnaround number (or "TANUM") in the OrderID (tag 37) field and ListSeqNo (tag 67).

2.6.3 Order Cancels

QCC orders are implicitly handled as IOCs and therefore can't be cancelled. Any cancel sent for a QCC order will be rejected immediately.

2.6.4 Trade Reports

Trade reports are generated by PHLX XL as a result of an execution for an order and sent through FIX messages of type 'Execution Report' (MsgType='8'). It is common to refer to "execution reports" as "trade reports" in the context of the FIX protocol.

A Trade Report will be of the following type(s):

- Complete Fill report (ExecType='2') – The remaining volume for the order after this execution is zero

2.6.5 Order Rejects

An Order could be rejected for various reasons. However, PHLX XL generates this message only if the order is rejected for business reasons and not for protocol reasons such as parsing errors. An Order Reject message implies that the order did not meet some of the business rules and hence was never an active order (i.e. the Order was never available for execution inside the PHLX-XL trading engine). This message is sent as a FIX message of type 'Execution Report' (MsgType='8') with execution type set to 'Rejected' (ExecType='8').

2.6.6 Unsolicited Cancel Reports

Unsolicited Cancel Reports are generated by PHLX XL when the QCC Order is automatically cancelled or rejected by the PHLX XL system. This is different from an Order Reject message in the sense that the QCC Order passed initial validation in the PHLX XL system. If this message is sent for the sides of the QCC order then NONE of it was executed. This message is sent through FIX message type 'Execution Report' (MsgType='8') with execution type 'Canceled' (ExecType='4'). This message does not have OrigClOrdID field. It is required to have OrdRejReason field.

2.7 Complex PIXL Cross Transactions

2.7.1 PIXL Cross

Order Processing begins with the Firm sending a New Complex PIXL Cross.

A New Complex PIXL Cross is sent as a FIX message of type 'New Complex Order - List' (MsgType='EB').
PHLX XL is always the receiving party for New Order messages.

A Complex PIXL Cross order is a list containing exactly 2 Complex orders (without the leg information) followed by a single list of complex legs specified from the first order's perspective. Each one represents one side of the cross and is a complete Complex order definition (minus the complex legs), complete with its own SenderSubId and unique ClOrdId.

A Complex PIXL Cross order is similar to QCC Cross order with the following differences:

1. The two orders being crossed have an Agency vs. Initiating relationship.

2. If exactly one of the orders is customer origin, then that will be the agency side, and the other non customer origin will be the initiating order. If neither order is customer origin or both are customer origin, then the first order in the list is the Agency order, and the second order in the list is the Initiating order.

3. There is only one set of leg specifications. It follows the orders and is from the perspective of the first order in the list. These sides are inverted for use with the second order.

4. If the complex orders have a stock leg, then it must be specified.

5. LegSide tag supports Buy, Sell, Sell Short and Sell Short Exempt values for the stock leg. Sell Short/Sell Short Exempt value provided in this tag is for the first order. If the order contains a stock leg, the new tag "ContraStockLegSide" must be used to indicate second order's stock leg side. ContraStockLegSide is valid only for the stock leg of the second order, can appear anywhere in the message but cannot be repeated. If this tag is repeated then order will be rejected.

6. Tag 47 (Rule80A) may be provided on both sides if the order has a stock leg. If not provided, it will default to Agency.

The sides of the Complex PIXL Cross can vary as described in the following sections.

2.7.1.1 Order Origin / Type

Each side can be one of seven distinct order types, which identify the origin of the order:

- Customer (NOTE: The initiating side can only be customer if the agency side is also customer)
- Firm
- Broker/Dealer
- PHLX On Floor Specialist or SQT
- Remote Specialist or RSQT
- On-Floor Specialist or SQT with CMTA
- Professional Customer Orders

NOTE: If both sides of the Cross are Customer origin, then if the order is accepted, no auction will take place. Instead the order will immediately cross without allowing responses to interact with it.

2.7.1.2 Order Lifetime

Each side specifies the duration of time for which the order is valid, or lifetime of the order, from the following choices:

- Day order.
- GTC (Good Till Cancel) order
- IOC (Immediate or Cancel) order
- NOTE: OPG is invalid.

NOTE: Regardless of which of the above valid values is specified, the order lifetime will last, at most, until the cross occurs (immediately for Customer to Customer cross, or until the end of the auction for other origin combinations).

2.7.1.3 Order Size

Each side specifies a quantity for the order. Both sides must specify the same quantity.

- The agency order is implicitly AON. Specifying AON for the agency order is valid, but will have no bearing on the treatment of the order.
- Specifying AON on the initiating order is not valid and will result in a reject of the PIXL Order.

2.7.1.4   Order Price

Each side must specify a price. The agency order price and the initiating order price must be able to trade with each other (i.e. must lock or cross each other). Each side can specify any one of the following prices/price types for their order price, however both cannot be MKT:

- MKT (Market)
- Limit price

2.7.1.5   NWT Price

Each PIXL order must specify a No Worse Than (or NWT) price. This price can appear anywhere in the message body, and will always be assigned to the initiating order. The NWT price must be better than or equal to the initiating order's order price field. For a buy initiating order this means NWT price must either be MKT or have a limit price >= the initiating order's order price. For a sell initiating order this means NWT price must either be MKT or have a limit price <= the initiating order's order price. The initiating order can specify any one of the following prices/price types for their nwt price:

- MKT (Market)
- Limit price

2.7.1.6   Directed Specification

PHLX has introduced the ability to identify a Member Trading Firm as a preferred contra participant.

A directed specification in a Complex PIXL Cross order has NO BEARING ON ALLOCATION, but will be considered when applying the PHLX XL Fee Schedule for this order. Only the agency side of the PIXL Cross can have a directed specification.

- The presence of the tag (79) AllocAccount indicates that the trader wishes to Direct the order to the Directed Participant.

- The following order types are eligible to be directed orders:

  Customer Market
  Customer Limit
  Broker Dealer
  Firm
  Non-PHLX Registered Market Maker
  Professional Customer Market

Professional Customer Limit

- The following order types are not eligible to be directed orders:

  On-floor Specialist or SQT
  On-floor Specialist or SQT with CMTA
  Remote Specialist or RSQT with PHLX badge

If any of the ineligible types is formatted as a directed order, PHLX XL will still accept that order and process it as an undirected order.

For more information on Directed Order procedures, visit the NASDAQ OMX Trader® website: http://www.nasdaqtrader.com/micro.aspx?id=phlxdirectedorderflow

2.7.1.7   Order Execution Instructions

Tag 76 – ExecBroker is ignored for Complex PIXL Cross orders. The sides of the cross order are never routable.

2.7.2 Order Acknowledgements

When an order is received by PHLX XL that is not immediately rejected, separate acknowledgements are sent to the Firm for each leg on each side to indicate that the order has been received but not yet processed. These acknowledgements are sent with a message type of 'Execution Report' (MsgType='8'), an Execution Type of 'New' (ExecType='0') and an Order Status of 'New' (OrdStatus='0').

A Firm can expect to receive the Complex 'New' order acknowledgements immediately after sending the order that is not rejected and then either a cancel or other execution reports (for each leg on each side) when the order is actually processed.

The order acknowledgements will contain a PHLX XL turnaround number (or "TANUM") in the OrderID (tag 37) field, LegRefID (tag 654) and ListSeqNo (tag 67). If a Firm recycles their FIX Order Ids such that multiple GTC orders could be open with the same FIX Order ID, the Firm should use this turnaround number to differentiate one order from the other. Also, to differentiate Complex Order Acks with Single Order Acks, SecurityType (tag 167) must be used. The value of this tag for Complex Order acknowledgements is **'MLEG'**.

2.7.3 Order Cancels

After a PIXL Cross is sent, a Firm is only allowed to alter it in a very limited fashion. Neither side can be completely cancelled. Only the initiating order can be modified.

- Order Cancel - Also referred to as Straight Cancel. This message is invalid for either side of the Complex PIXL Cross order and is always rejected.

- Unlike other types of orders, On Floor Market Maker initiating orders can be cancel replaced.

- Order Cancel/Replace – A Cancel/Replace request is meant to cancel the target complex order and replace it with a New Complex Order in a single transaction. A FIX message of Type 'Order Cancel/ Replace Request' (MsgType='AC') is used for sending an Order Cancel/ Replace request. This message is invalid for the agency side of the Complex PIXL Cross order and will always be rejected if sent for that side. This request can be used to modify the following attributes on the initiating order only:

    o Price

    o NWT Price

  Notes on Order Cancel Replace:
    o The cancel replace target can only be the initiating order, not the agency order.

    o The cancel replace MUST match (both prices the same as was previously accepted for the initiating order's prices) or improve (improve one or both prices over the previously accepted initiating order's prices) the previously accepted pricing specification.

    o If both the order price and the nwt prices are the same the cancel replace is accepted ONLY if it results in an improved stop price.

    o If either the order price or the nwt price is made worse, the cancel replace is rejected.

2.7.4 Trade Reports

Separate Trade reports are sent for each side of a complex PIXL cross order per leg per price basis. See section 2.3.4 for more detail on Complex Trade Reports.

2.7.5 Order Rejects

An Order could be rejected for various reasons. However, PHLX XL generates this message only if the order is rejected for business reasons and not for protocol reasons such as parsing errors. An Order Reject message implies that the order did not meet some of the business rules and hence was never an active order (i.e. the Order was never available for execution inside the PHLX-XL trading engine). This message is sent as a FIX message of type 'Execution Report' (MsgType='8') with execution type set to 'Rejected' (ExecType='8'). This message will not contain Leg level fields and separate messages will be sent per side.

2.7.6 Cancel and Cancel/Replace Acknowledgements

A Cancel Replace for the agency side of a Complex PIXL Cross or a Straight Cancel for either side of a Complex PIXL Cross will get an immediate Cancel Reject response.

A Cancel/Replace acknowledgement is generated by PHLX-XL after a Cancel Request or a Cancel/Replace request is received for the initiating side of a Complex PIXL cross and accepted but before it is applied. This message is sent for each leg with message type 'Execution Report' (MsgType='8'), and an execution type of 'Pending Replace' (ExecType='E'). If the Cancel/Replace is rejected a Cancel/Replace Reject (MsgType=9) will be sent instead of a Cancel or Cancel/Replace Acknowledgement. Cancel Rejects do not contain leg information and is sent only once for the cancel/replace.

2.7.7 Cancel Responses (Cancel Report)

A Complex Cancel Response is generated by PHLX XL when a Complex Cancel/Replace request is applied (accepted) and hence the target order is replaced. This message is sent through FIX message type 'Execution Report' (MsgType='8') for each leg of the Initiating Order.

A cancel response will have the following type:

- Cancel/Replace Request Acceptance Report (ExecType='5') – This report signifies that Cancel/ Replace request is now applied.

	Section:
FINANCIAL AUTOMATION	Page: 36
OPTIONS TRADING SYSTEMS	Release: 2.6a
	Rev. Date: 01/15/2013
	SESSION AND APPLICATION
FIRM FIX ENGINE	MANUAL

2.7.8 Cancel Rejects (Too Late To Cancel [TLTC])

A Cancel Reject message is generated by PHLX XL in case a Cancel/ Replace request is rejected by PHLX XL. A Cancel Reject message is sent through FIX message of type 'Order Cancel Reject' (MsgType='9'). This will be sent instead of a Cancel Acknowledgement or after the Cancel Acknowledgement, instead Cancel Report.

2.7.9 Unsolicited Cancel Reports

Unsolicited Cancel Reports are generated by PHLX XL when the remaining volume of the Initiating side Order is cancelled. It is possible that part of the order is executed before it is canceled. This message is sent for each leg through FIX message type 'Execution Report' (MsgType='8') with execution type 'Canceled' (ExecType='4'). This message does not have OrigClOrdID field. It is required to have OrdRejReason field.

2.8 Complex Solicitation Cross Transactions

2.8.1 Complex Solicitation Cross

A complex solicitation cross is very similar to complex pixl cross. See Section 2.7 for details of complex pixl cross. Complex Solicitation varies from Complex PIXL cross in the following manners:

- Both Agency and Initiating orders are AON. AON indicator (Tag 18 = G) must explicitly be provided on both sides of the cross. If AON indicator is not present on any of the side orders, then the order will be rejected.

- Solicitation cross orders can not have a NWT Price or NWT Price Type. If either of these two tags is provided, then the order will be rejected.

- Both Agency and Initiating order can not be Customer origin. If both sides have Customer origin, then the order will be rejected. Such a cross order may be entered as a PIXL cross.

- Both Agency and Initiating order must be LIMIT order. MKT orders are not allowed for Solicitation cross on either side.

- All option legs of Complex Solicitation orders must be for 500 or more contracts.

2.9 NEWS Message

The NEWS message is general free format message that can be generated by Firm as well as by PHLX XL.

PHLX XL uses this message to send administrative information. Firms can also use this message to send administrative information.

2.10 Other Rejects

Following is the list of various types of reject messages, which apply to different messages:

- Business Message Reject - Either Firm or PHLX XL sends this message to report formatting or parsing errors with an application message. This is sent through FIX message type 'Business Reject Message' (MsgType='j').
- Session Reject message - This message is used to reject an administrative or application message if the message breaks the session level protocol in any way. For example, missing one of the required fields in the Header of the message will yield a Session Level Reject. This message can be generated by either party and it is sent through FIX message type 'Reject' (MsgType='3').

2.11 General Error Handling

PHLX XL will apply the following rules to all the inbound messages in order to handle the error cases.

If a message violates the FIX protocol such as bad sequence number (less than expected with possible duplicate flag not set) or any message other than Logon received when expecting Logon, the connection will be dropped. To resume the session, the Firm must re-establish the connection and then send a new Logon message.

If an administrative message is missing a required field, it will be rejected by a session reject message (MsgType='3').

If an error such as bad sequence number or missing required header or trailer field (or any message that does not increment the sequence number) occurs on 100 consecutive messages, PHLX-XL will drop the session and the Firm will be required to re-initiate the Logon process.

If a parsing or message formatting error is encountered with an Administrative message, it will be rejected by session level reject (MsgType='3') message.

If an error related to parsing or message formatting or missing a required header or trailer field is encountered for an application message, it will be rejected with session level reject (MsgType='3') message.

If an order request can be parsed, yet it doesn't fulfill one or more business rules, it will be rejected by Execution Report (MsgType='8' and ExecType='8') message. If the error conditions cannot be mapped to one of the valid values for OrdRejReason field, OrdRejReason='0' and Text="<error string>" will be used to specify the error cases.

Any extra fields (fields not specified by PHLX XL) present in any message (header, body or trailer of administrative or application message) will be ignored and will not be retained or echoed in any of the responses to the message.

PHLX XL will reject and discard (i.e. no response is sent back) a message if SenderCompID field in any message doesn't match the configured Line Id value for the Firm.

If a message fulfills session level rules and has no parsing or formatting errors however it is missing some of the basic required fields such as SenderSubID (which must contain the Firm Mnemonic) for an order or order cancel request and it can not be rejected by any other message, it will be rejected using Business Message Reject (MsgType='j') message.

An application message will be rejected by Business Message Reject (MsgType='j') message if SenderSubID field is not populated with one of the assigned Firm mnemonics.

If PHLX XL misses more than 2 consecutive heartbeats it will assume that the session has been interrupted and PHLX XL will drop the connection. To resume the session, the Firm must re-establish the connection and then send a new Logon message.

2.12 Details

2.12.1   Administrative Message

Following are the FIX Administrative messages supported by PHLX XL. A Firm must support all of these messages in order to establish a FIX session with PHLX XL;

- Logon (MsgType='A') – To initiate a FIX session and to authenticate the Firm.
- Heartbeats (MsgType='0') – Bi-directional messages to avoid session timeout during inactivity.

- Test Request (MsgType='1') – To check sequence numbers and to verify the communication line status.
- Resend Request (MsgType='2') – To request retransmission of messages if a gap is detected.
- Session Reject (MsgType='3') – To reject messages that violate FIX session protocol.
- Sequence Reset (MsgType='4') – Request to reset the incoming sequence number to new sequence number.
- Logout (MsgType='5') – To initiate the FIX session termination process.

2.12.2   Application Messages

Following are the FIX Application messages supported by PHLX XL. PHLX XL supports complex order messages using 4.3 tags in the FIX 4.2 protocol suite.

FIRMS to PHLX XL (PHLX – IN)

- New Order Single (MsgType='D') – To send an options order.
- New Order Complex (MsgType='AB') – To send an options complex order
- New Order List (MsgType='E') – To send an options cross order
- New Order Complex List (MsgType='EB') – To send an options complex cross order
- Order Cancel Request (MsgType='F') Straight Cancel – Request to cancel the remaining volume for a single or complex open order.
- Order Cancel/Replace Request (MsgType='G') – Request to cancel an open single order and submit a new single order in a single transaction.
- Complex Order Cancel/Replace Request (MsgType='AC') – Request to cancel an open complex order and submit a new complex order in a single transaction.
- Business Message Reject (MsgType='j') – To reject any application messages for various reasons.
- News Message (MsgType='B') – To send administrative information from firm.

PHLX XL to FIRMS (PHLX – OUT)

- Order Cancel Reject (MsgType='9') – To reject a cancel request or cancel replace request for single or complex orders.
- Execution Report (MsgType='8') – To send reports for various events affecting a single or complex order.
- Business Message Reject (MsgType='j') – To reject any application messages for various reasons.

- News Message (MsgType='B') – To send administrative information from PHLX XL.

2.13 Session Connectivity

A FIX session is defined as a bi-directional stream of ordered messages between two parties within a continuous sequence number series.

A single FIX session will be maintained between the Firm and PHLX XL over a single trading day. The terms "trading session" and "session" are used as synonyms for "FIX session" in this document.

A Firm will act as the FIX Initiator for the FIX session between the Firm and PHLX XL.

2.13.1   Establishing a FIX Session

Establishing a FIX session involves three distinct operations:

1)   Establishment or creation of a telecommunications link and session
2)   Authentication and acceptance of the participant with PHLX XL
3)   Sequence number synchronization

The Firm will initiate the session with a standard FIX logon message to PHLX XL. The initiator's logon message will contain all the data necessary to authenticate the incoming participant identity. Successful authentication will be acknowledged by a logon confirmation generated from PHLX XL. If authentication fails the connection will not be established.

A successful logon (first logon of the day) will initiate a FIX session. Sequence resynchronization will be invoked to resolve any outstanding message gaps. This session will be maintained until logout at the end of the trading day. The FIX session is reset at the end of the trading day.

A Firm can have multiple logon-logout sequences during the single trading session (FIX session).

2.13.2   Maintaining a FIX Session

A FIX session uses bi-directional heartbeats in order to sustain the session and avoid session timeouts during inactivity. A heartbeat interval is negotiated during the Logon

process and both the parties are required to use the same interval. PHLX XL recommends a heartbeat interval between 30 and 60 seconds.

PHLX XL will send a heartbeat message if it has not sent any messages during the last Heartbeat interval time. Similarly, if PHLX XL has not received any messages from Firm during the last heartbeat interval time, it will expect a heartbeat message from the Firm. Failing to receive a heartbeat is referred to as a "missed heartbeat". After one missed heartbeat, PHLX XL will send a TestRequest to the Firm and expect a Heartbeat in response. If PHLX XL misses more than 2 consecutive heartbeats it will assume that the session has been interrupted and this will result in a session disconnect. To recover, the Firm will have to login again.

2.13.3   Terminating FIX Session

Normal session termination between a Firm and PHLX XL will be completed using logout messages as defined in the FIX session protocol. Firms should be initiating the logout message at the end of the trading day. However failing to do so, PHLX XL will drop the session after a cut-off time at the end of trading day.

The logout initiator (Firm) should wait a minimum of 60 seconds for a logout confirmation response before actually closing the session.

2.13.4   Session Interruption

A session interruption could be a temporary loss of a few messages or a complete session interruption due to loss of physical communication or application outage on either side. A temporary loss of messages is detected and recovered by the gap detection and gap fill mechanism as per the FIX protocol. A complete session interruption due to sustained unavailability of the application or communication link will require the Firm to initiate a re-logon process. A re-logon is the same as a logon process and it is usually followed by the gap detection/gap fill mechanism to resynchronize and restart the FIX session.

A session could also reach a bad state due to sustained transmission of badly formatted (e.g. missing header, missing trailer, etc.) messages or bad sequence numbers (e.g. incoming sequence number less than expected sequence number and possible duplicate flag is not set). PHLX XL will drop the session in such cases with or without initiating a Logout request. The Firm should then initiate the re-logon process to restart the session.

If the repeated attempts to resynchronize the session during re-logon process fails due to any reasons, Firm should contact PHLX Operations to initiate manual intervention for re-establishing the FIX session. A single FIX session is maintained during a trading day.

The re-logon process doesn't start a new FIX session; it resynchronizes the sequence numbers and restarts the same session.

However, in very rare conditions, if the session reaches such a state that it cannot be recovered/resynchronized through standard FIX protocol mechanism, a new FIX session (resetting the sequence numbers back to 1) can be forced during the trading day through manual intervention. Both the Firm and PHLX Operations will have to be involved in such a procedure.

2.13.5 Fail-over

Please contact PHLX to setup the Network Fail-Over facility. Fail-over may require the Firm to initiate reconnection as well as the re-logon process. Please see the Communications Manual for more details.

2.13.6 Disaster Recovery

Please contact PHLX to setup a Disaster Recovery site for the Firm in the event of catastrophic network or facilities failure. Disaster recovery will require a Firm to initiate reconnection and the re-logon procedures.

2.14 Day to Day Scenario

The following table samples a typical trading day and provides examples of various possible scenarios between a Firm and PHLX XL.

This table doesn't list the complete set of business scenarios.

The timeline used for marking the start and end of various events is as follows:

Logon Time → Order Acceptance Time → Market Opening Time → Order Acceptance Cut-off Time/ Market Closing Time → Logoff Cut-off Time
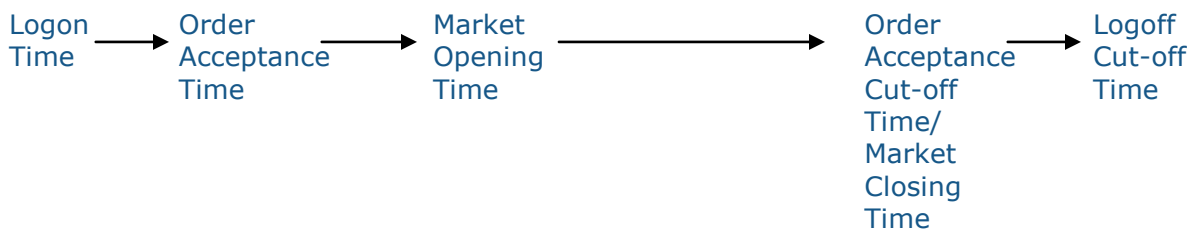
Notes:

1.   PHLX XL will only accept a Logon Request message from a Firm if the session is not in the logon state.

2.   If the Firm has not logged out by the Logoff Cutoff Time, the session will be dropped regardless.

3.   Though Orders are not accepted after the Order Acceptance Cutoff Time, other messages can still be processed, like Nothing Done messages.

4.   Complex Order Transactions are shown in shaded background.

The following table shows some examples of messages sent during the various time periods:

Case	Time	Firm	PHLX-XL
1. Logon and heartbeat exchange	After Logon Time Before Logout Cut-off Time Usually between Logon Time and Order Acceptance Time	Logon	Logon (Response)
Continued		Heartbeat	Test Request
Continued		Test Request (Optional)	Heartbeat
2. Single Order (Unfilled)	After Order Acceptance Time Before Order Acceptance Close Time	New Single Order	New SingleOrder Acknowledgement
3. Complex Order (Unfilled)	After Order Acceptance Time Before Order Acceptance Close Time	New Complex Order	New Complex Order Acknowledgements (per leg)
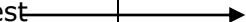
Case	Time	Firm	PHLX-XL
4. Single Order (Filled)	After Market Opening Time Before Market Closing	New Single Order →	New Single Order Acknowledgement Execution Report (Fill)
5. Complex Order (Filled)	After Market Opening Time Before Market Closing	New Complex Order →	New Complex Order Acknowledgement (per leg) Execution Report (Fill, per leg, per price)
6. Single Order (Not Filled)	After Market Opening Time Before Market Closing	New Single Order →	New Single Order Acknowledgement
7. Complex Order (Not Filled)	After Market Opening Time Before Market Closing	New Complex Order →	New Complex Order Acknowledgement (per leg)
8. Execution report by PHLX-XL for some previous day GTC single order	After Market Opening Time Before Market Closing		Execution Report (Fill)

Case	Time	Firm	PHLX-XL
9. Execution report by PHLX-XL for some previous day GTC complex order	After Market Opening Time Before Market Closing		Execution Report (Fill, per leg, per price)
10. Single Order partially Filled	After Market Opening Time Before Market Closing	Single Order	New Order Acknowledgement Execution Report (Partial Fill) Execution Report (Partial Fill) Execution Report (fill remaining)
11. Complex Order partially Filled	After Market Opening Time Before Market Closing	Complex Order	New Complex Order Acknowledgement (per leg) Execution Report (Partial Fill, per leg, per price) Execution Report (Partial Fill, per leg, per price) Execution Report (fill remaining, per leg, per price)
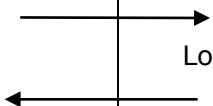
Case	Time	Firm	PHLX-XL
12. Heartbeat from Firm if no message sent by Firm on session since last <Heartbeat Interval> time	After Logon Time Before Logout Cut-off Time	Heartbeat ⟶	
13. Heartbeat from PHLX-XL if no message sent by PHLX-XL to Firm on FIX Session since last <Heartbeat Interval> time	After Logon Time Before Logout Cut-off Time	⟵	Heartbeat
14. Session Interruption Gap detected by Firm	After Logon Time Before Logout Cut-off Time	Resend Request ⟶ ⟵ ⟵	Message Resend (Poss Dup Flag Set) Sequence Reset Message Resend (Poss Dup Flag Set)
15. Session Interruption Gap detected by PHLX-XL	After Logon Time Before Logout Cut-off Time	⟵ Sequence Reset ⟶ Message Resend (Poss Dup Flag Set) ⟶ Sequence Reset ⟶	Resend Request

Case	Time	Firm	PHLX-XL
16. Session Interruption Session dropped by Firm or PHLX-XL due to application or communication failure Re-Logon by Firm	After Logon Time (Re-Logon after Session Interruption) Before Logout Cut-off Time	Logon →	← Logon (Response)
Continued	Resend request if gap is detected Note: Gap filling mechanism can take several iterations back and forth before gap is filled	← Test Request Heartbeat → ← Resend Request Resend Request → ← Message Resend (Poss Dup Flag Set) Message Resend (Poss Dup Flag Set) ←	Test Request Resend Request Message Resend (Poss Dup Flag Set) Sequence Reset
Continued		Test Request (Optional) → ← Heartbeat	Heartbeat
17. Logout by Firm duing the trading day	After Logon Time Before Logout Cut-off Time	Logout → ←	Logout (Response)
18. Re-Logon by Firm	After Logon Time Before Logout Cut-off Time	Logon → ←	Logon (Response)
Continued		← Test Request Heartbeat →	Test Request

Case	Time	Firm	PHLX-XL
Continued		Test Request (Optional) →	← Heartbeat
19. Single Order after Market Closing Time	After Order Acceptance Closing Time / Market Closing Time	New Single Order (Only GTC orders) →	Execution Report ← (ExecType = Rejected)
20. Complex Order after Market Closing Time	Before Order Acceptance Closing Time / Market Closing Time	New Complex Order (Only GTC orders) →	Execution Report ← (ExecType = Rejected)
21. Nothing Done messages for single orders from PHLX-XL if Firm is configured for receiving Nothing Done messages	After Order Acceptance Closing Time Before Logout Cut-off Time		Execution Report (ExecType= Done for the Day) ← ← (one for each open single order)
22. Nothing Done messages for complex orders from PHLX-XL if Firm is configured for receiving Nothing Done messages	After Order Acceptance Closing Time Before Logout Cut-off Time		Execution Report (ExecType= Done for the Day) ← ← (one for each open complex order leg)

Case	Time	Firm	PHLX-XL
23. Logout by Firm at the end of the trading day	After Logon Time Before Logout Cut-off Time Note: If a session stays active after Logout Cut-off Time, PHLX-XL will drop the session with or without initiating Logout request	Logout ⟶ ⟵	Logout (Response)

3 SUPPORTED ADMINISTRATIVE MESSAGE FORMAT

A message in the FIX format is a SOH ("Start of Header"; binary '01') delimited sequence of tag (field) and value pairs (i.e. <tag>=<value>). A message is structured in three sections: Header, Body and Trailer. Tags can appear within a section in any order with the following exceptions:

- a few tags are fixed in position as described in the Details column in the table below.
- a tag that belongs to the Body should appear in Body section only.
- the first occurrence of a Body Tag marks the end of Header.
- the first occurrence of a Trailer Tag marks the end of the Body section.

PHLX-XL –FIX Requirement Code Key

Value	Meaning
Y	Yes, required on every message of the specified type.
C	Conditional - Required in some cases, based on the condition of other fields. See Details columns in table below.
N	Optional – Used if Present.
I	Omitted or Not Required. Ignored if present.

3.1 Standard Message Header

Following table summarizes the FIX Header tags required by PHLX XL. Any other header tag will be ignored.

FIX Tag	FIX Name	PHLX XL-FIX Req	Details
8	BeginString	Y	Value: "FIX.4.2" *Always first field in a FIX message.*
9	BodyLength	Y	*Always second field in a FIX message.*
35	MsgType	Y	Defines message type. *Always third field in message.* Valid values: '0' = Heartbeat '1' = Test Request '2' = Resend Request '3' = Reject '4' = Sequence Reset '5' = Logout '8' = Execution Report '9' = Single or Complex Order Cancel Reject 'A' = Logon 'D' = Order – Single 'E' = Order – List (For PIXL Crosses Only) 'F' = Single or Complex Order Cancel Request 'G' = Single Order Cancel/Replace 'AB' = Complex Order 'EB' = Complex Order – List (For QCC Crosses Only) 'AC' = Complex Cancel/Replace 'j' (lower-case) = Business Message Reject
49	SenderCompID	Y	Value used to identify party sending message. Sending Firm should use their Line IDentifier as assigned by PHLX-XL

FIX Tag	FIX Name	PHLX XL-FIX Req	Details
			PHLX-XL will use "PHLX" when sending the messages to Firms.
56	TargetCompID	Y	Value used to identify receiving party. Firm should use value:"PHLX" PHLX-XL will use the Firm's Line ID when sending the messages to Firms.
50	SenderSubID	C	Required for application messages sent from firm. Not required for Administrative messages and application messages sent by PHLX-XL. Value used to identify the third party sending messages. Firm should use Firm mnemonic of the sending party as assigned by PHLX-XL. If present, PHLX-XL will use "PHLX" while sending the messages to Firms. *This field will be ignored for Administrative messages.*
57	TargetSubID	C	Required for application messages going to the firms. Not required for administrative messages and application messages coming from firms. Value used to identify the receiving third party. If present, firm should use value:"PHLX". PHLX-XL will use the same Firm Mnemonic used in the message that initiated the transaction. *This field will be ignored for Administrative*

FIX Tag	FIX Name	PHLX XL-FIX Req	Details
			messages.
34	MsgSeqNum	Y	Message sequence number (integer).
43	PossDupFlag	C	Required if this message is a possible duplicate. The PossDupFlag is set to Y when resending a message as the result of a session level event (i.e. the retransmission of a message reusing a sequence number). Valid values: Y = Possible duplicate N = Original transmission
97	PossResend	C	Required when message may be duplicate of another message sent under a different sequence number. See "Possible Resends" section Valid values: Y = Possible resend N = Original transmission
52	SendingTime	Y	UTC Timestamp * see note at end of table
122	OrigSendingTime	C	Required for re-sent messages.

*UTC Timestamp: Time/date combination represented in UTC (Universal Time Coordinated, also known as "GMT") in either YYYYMMDD-HH:MM:SS (whole seconds) or YYYYMMDD-HH:MM:SS.sss (milliseconds) format, colons, dash, and period required.

Valid values:

- YYYY = 0000-9999, MM = 01-12, DD = 01-31, HH = 00-23, MM = 00-59, SS = 00-59 (without milliseconds) e.g. 20031225-14:30:00
- YYYY = 0000-9999, MM = 01-12, DD = 01-31, HH = 00-23, MM = 00-59, SS = 00-59, sss=000-999 (indicating milliseconds) e.g.20030415-09:02:00:100

3.2 Standard Message Trailer

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
10	CheckSum	Y	Always the last field of a FIX message.

3.3 Heartbeat (Msg Type = "0")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Validation/Notes
	Standard Header	Y	MsgType = '0'
112	TestReqID	C	Required when Heartbeat is in response to a TestRequest message. It must equal the Test Request TestReqID if responding to a Test Request message.
	Standard Trailer	Y	

3.4 Test Request (Msg Type = "1")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = '1'
112	TestReqID	Y	
	Standard Trailer	Y	

3.5 Resend Request (Msg Type = "2")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = '2'
7	BeginSeqNo	Y	
16	EndSeqNo	Y	
	Standard Trailer	Y	

3.6 Reject (Msg Type = "3")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = '3'
45	RefSeqNum	Y	
371	RefTagID	C	Required if reject reason refers to a specific tag, i.e. if SessionRejectReason = {'0', '1', '2', '3', '4', '5', '6'}
372	RefMsgType	Y	
373	SessionRejectReason	Y	Code to identify reason for a session-level Reject message. Valid values: '0' = Invalid tag number '1' = Required tag missing (e.g. symbol, price, side on an order) '2' = Tag not defined for this message type '3' = Undefined Tag '4' = Tag specified without a value '5' = Value is incorrect (out of range) for this tag '6' = Incorrect data format for value '7' = Decryption problem – Not applicable.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'8' = Signature problem - Not applicable. '9' = CompID problem (e.g. invalid destination exchange) '10' = SendingTime accuracy problem '11' = Invalid MsgType
58	Text	N	Can be present if SessionRejectReason='10' e.g. Text="Time in future."
	Standard Trailer	Y	

3.7 Sequence Reset (Msg Type = "4")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = '4'
123	GapFillFlag	Y	
36	NewSeqNo	Y	
	Standard Trailer	Y	

3.8 Logout Request (Msg Type = "5")

After sending the Logout message, the logout initiator should not send any messages unless requested to do so by the logout acceptor via a ResendRequest.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = '5'
58	Text	N	Optional and may be used to convey human readable information for logging or display by

FIX Tag	FIX Name	PHLX- XL-FIX Req	Details
			recipient or internal event history for sender.
	Standard Trailer	Y	

3.9 Logon (Msg Type = "A")

The logon message authenticates a user establishing a connection to a remote system. The logon message must be the first message sent by the Firm requesting to initiate a FIX session.

FIX Tag	FIX Name	PHLX- XL-FIX Req	Details
	Standard Header	Y	MsgType = 'A'
108	HeartBtInt	Y	Note – same value must be used by both sides.
	Standard Trailer	Y	

4 SUPPORTED APPLICATION MESSAGE FORMATS

4.1 Orders

All the options orders are supported through either the single order message (MsgType='D') or complex order message (MsgType = 'AB'). Order types are distinguished based on various attributes present in the order message.

4.1.1.1 New Single Order (Msg Type = "D")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'D' SenderCompID = Line ID TargetCompID = PHLX SenderSubID = Firm Mnemonic.
1	Account	N	Customer Id defined by the Firms. Should not exceed 10 characters
11	ClOrdID	Y	Unique identifier for Order as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm Mnemonic. It is a free-form string. Assigned IDs should not exceed 30 characters. Firms could use combination of Branch code and sequence number as ClOrdID.
167	SecurityType	N	Valid value = 'OPT'
55	Symbol	Y	Option Trading Symbol (up to 3-character trading symbol) - Pre-Symbology classes **Security Symbol – 5 Character – Post Symbology classes**.
200	MaturityMonthYear	Y	Month and year of the maturity. Format: YYYYMM (e.g. 201009)

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			If this tag and Maturity Date is specified the year and month must match, otherwise the order will be rejected. **Post Symbology classes – Required unless Maturity Date is specified.**
205	Maturity Day	Y	Day of maturity in the maturity month and year. Format: DD (e.g., 01, 01,…. 31) If this tag and Maturity Date is specified the day must match, otherwise the order will be rejected. **Post Symbology classes – Required unless Maturity Date is specified.**
541	MaturityDate	Y	Month, Day and Yeaqr of the maturity. Format YYYYMMDD (e.g., 20100918 to represent Sept 18, 2010) If this tag and MaturityMonthYear and Maturity day is specified the year, month and day must match, otherwise the order will be rejected. **Post Symbology classes – Required unless MaturityMonthYear AND MaturityDay is specified.**

201	PutOrCall	Y	Required for Options.
			
			Valid values:
			    0 = Put
			    1 = Call

202	StrikePrice	Y	Decimal representation of strike price e.g. 30.0 or 30.5
54	Side	Y	Side of order. Valid values:

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			1 = Buy 2 = Sell
60	TransactTime	N	Time of order creation by sending Firm. Expressed in UTC Timestamp.
38	OrderQty	Y	The number of contracts. Required because CashOrderQty is not allowed.

40	OrdType	Y	Valid values:
			    '1' = MKT
			    '2' = LIMIT
			    '3' = STOP
			    '4' = STOP LIMIT

44	Price	C	Required if OrdType='2' (Limit) or '4' (Stop Limit). Decimal representation (up to 4 decimal digits) of limit price.
99	StopPx	C	Required if OrdType='3' (Stop) or '4' (Stop Limit). Decimal representation (up to 4 decimal digits) of stop price.
21	HandlInst	N [This field is optional in the PHLX-XL Firm Fix Engine]	Instructions for order handling on Broker trading floor. Can be omitted and assumed to be 2. If sent, can only be set to the following: Valid value: '2' = Automated execution order, public, Broker intervention OK (For order eligible for Auto-Ex.)
18	ExecInst	C	Required if order is AON. Valid value: 'G' = All or None 'f' = ISO (will be activated only when Decentralized Linkage is activated)

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Note: If any other value is present the order will be rejected. Only one value can be sent.
76	ExecBroker	N	Specifies the handling of order routing to away exchanges. Valid Values: "SRCH" = Search for execution at away exchange the post to PHLX book. Once posted, continue to attempt to proactively route away. **This is the default value.** "FIND" = Search for execution at away exchange then post to PHLX book. Once posted, do not attempt to proactively route away that day. "DNR" = Do Not Route… Post directly to PHLX book…never route away. NOTE: ExecBroker applies only to non-contingency orders. If specified for any other order type it will be treated as "DNR". Only Customer and Professional Customer non-contigency orders are allowed for SRCH strategy. See Appendix D for rules to handle routable strategies (SRCH and FIND) for other order origin types. Note: if any value other than "SRCH", "FIND" or "DNR" is present then the default value will be used.
59	TimeInForce	Y	Specifies how long the order remains in effect. Valid values: '0' = DAY

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'1' = GTC '2' = OPG (At the opening) '3' = IOC (Immediate or Cancel) Note: Order will be rejected, if any value other than 0,1,2,3 is received.
204	CustomerOrFirm	Y	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9) '7', 10 – '98' : Reserved for Future use.
207	SecurityExchange	N	Exchange ID of the off- floor market maker. Valid Values: '1' = AMEX 'Z' = BATS 'B' = BSE 'C' = C2 'W' = CBOE 'Y' = ISE 'X' = PHLX 'N' = NYSE 'Q' = NASDAQ 'T' = BX Options '7' = MIAX

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
203	CoveredOrUncovered	N	Specifies covered or uncovered options. Valid values: '0' = Covered '1' = Uncovered
77	OpenClose	Y [This field is REQUIRED in the PHLX-XL Firm Fix Engine]	Specifies if this order opens a position or closes a position. Valid values: 'O' = Open. 'C' = Close.
439	ClearingFirm	C	CMTA number of sender. Required for CustomerOrFirm (tag 204) = 9
440	ClearingAccount	C	Required for Off- Floor Market maker orders. Will accept up to 5 characters, with the OCC Sub-account ("Multi account") 1 to 3 characters long. Optional for orders with CustomerOrFirm (tag 204) = 0,1,2,5,6 and 8 Invalid for On-floor Specialist or SQT Orders with CMTA (CustomerOrFirm = 9)
109	ClientID	C	Required for On-floor Specialist or SQT, On-floor Specialist or SQT with CMTA, and Remote Specialist or RSQT
79	AllocAccount	N	PHLX-XL Internal Firm Identifier of the Directed Participant for Directed Order Flow; should not exceed 4 characters.
58	Text	N	Firms can use this field in order message to supply Optional clearing data field that is sent to OCC.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			If field is supplied, PHLX-XL will allow only 13 characters and use it for supplementary ID in the order.

9373	AuctionType	N	Auction type for this order.
			Valid values:
			  'P' = PIXL Cross.
			  'S' = Solicitation Cross.
			Optional. If the order is a response to an auction type listed above, this field must be specified. If an auction of the indicated type is active for the specified symbol, then this order may participate in it, then at the end of the auction any unexecuted shares will be cancelled. If an auction of the inidicated type is NOT active for the specified symbol, then this order is immediately cancelled.
			NOTE: Future versions of this spec may have additional values for this tag.

9370	AuctionID	I	Numeric auction id that this order is joining. Optional. If not specified, the order will participate in the currently ongoing auction(s) of the specified AuctionType). If specified, this field must either be 0 (meaning participate in the currently ongoing auction(s) of the specified AuctionType), or it must match an active auctionId/auctionType pair sent over TOPO+ or SQF 6.0 or higher. NOTE: If this field is specified, but AuctionType is not specified then the value in this field is ignored, however the format must still be a valid number.
	Standard Trailer	Y	

4.1.2 Order List (Msg Type = "E")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'E' SenderCompID = Line ID TargetCompID = PHLX SenderSubID = <Not part of header, see order list below>

9373	AuctionType	Y	Auction type for this order.
			
			Valid values:
			
			  'P' = PIXL Cross
			
			  'S' = Solicitation Cross

9371	NWT OrdType	C	<u>PIXL Cross - Required.</u>
			
			<u>Solicitation Cross - Invalid. Solicitation orders with this tag will be rejected back to firm.</u>
			
			<u> The NWT OrdType is part of the NWT Price specification.</u>
			
			<u>Valid values:</u>
			   '1' = MKT
			   '2' = LIMIT

9372	NWT Price	C	PIXL Cross - Required if the NWT OrdType='2' (Limit). Solicitation Cross - Invalid. Solicitation orders with this tag will be rejected back to client. The NWT Price/NWT OrdType specification must match or improve the Price/OrdType fields of the initiating order.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Decimal representation (up to 4 decimal digits) of NWT limit price. If NWT Order Type is NOT '2' (Limit), then this field must not be present.
73	No Orders	Y	Number of items in the list of orders that follows. Valid value: '2'
→ 67	ListSeqNo	Y	Order Number within the list. This number must be unique within a given order list message, but may be reused in other order list messages. NOTE: For PIXL Cross orders, if one side of the order is customer origin, and the other side is NOT customer origin the customer side is assumed to be the agency side. If neither side is customer origin or both sides are customer origin, the agency order must be the first order in the list (in which case the initiating order is the second order). NOTE: THIS TAG DENOTES THE START OF AN ORDER DEFINITION AND MUST BE THE FIRST TAG AT THE START OF EACH ORDER IN THE LIST.
→ 11	ClOrdID	Y	Unique identifier for Order as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm Mnemonic. It is a free-form string. Assigned IDs should not exceed 30 characters. Firms could use combination of Branch code and sequence number as ClOrdID.

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	50	SenderSubId	Y	Indicates the party represented by the given side.
→	167	SecurityType	N	Valid value = 'OPT'
→	55	Symbol	Y	**Security Symbol – 5 Character – Post Symbology classes**.
→	200	MaturityMonthYear	Y	Month and year of the maturity. Format: YYYYMM (e.g. 201009) If this tag and Maturity Date is specified the year and month must match, otherwise the order will be rejected. **Required unless Maturity Date is specified.**
→	205	Maturity Day	Y	Day of maturity in the maturity month and year. Format: DD (e.g., 01, 01,…. 31) If this tag and Maturity Date is specified the day must match, otherwise the order will be rejected. **Required unless Maturity Date is specified.**
→	541	MaturityDate	Y	Month, Day and Yeaqr of the maturity. Format YYYYMMDD (e.g., 20100918 to represent Sept 18, 2010) If this tag and MaturityMonthYear and Maturity day is specified the year, month and day must match, otherwise the order will be rejected. **Required unless MaturityMonthYear AND MaturityDay is specified.**
→	201	PutOrCall	Y	Required for Options.

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details

				Valid values:
				    0 = Put
				    1 = Call

→	202	StrikePrice	Y	Decimal representation of strike price e.g. 30.0 or 30.5
→	60	TransactTime	N	Time of order creation by sending Firm. Expressed in UTC Timestamp.
→	38	OrderQty	Y	The number of contracts. Required because CashOrderQty is not allowed. **Note:** For Solicitation Cross orders, minimum order quantity is 500.
→	21	HandlInst	N [This field is optional in the PHLX-XL Firm Fix Engine]	Instructions for order handling on Broker trading floor. Can be omitted and assumed to be 2. If sent, can only be set to the following: Valid value: '2' = Automated execution order, public, Broker intervention OK (For order eligible for Auto-Ex.)

→	59	TimeInForce	Y	Specifies how long the order remains in effect.
				
				Valid values:
				
				    '0' = DAY
				
				    '1' = GTC
				    '3' = IOC (Immediate or Cancel)
				
				NOTE: All of the preceding times in force values are converted to IOC before processing. All time in force values other than those listed above will be rejected.

	18	ExecInst	C	PIXL Cross – Optional on primary side. Invalid on contra side.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Solicitation Cross – Required on both primary and contra sides. Valid Values: 'G' - AON
→ 1	Account	N	Customer Id defined by the Firms. Should not exceed 10 characters
→ 54	Side	Y	Side of order. Valid values: 1 = Buy 2 = Sell
→ 40	OrdType	Y	Valid values: '1' = MKT '2' = LIMIT **NOTE:** MKT is allowed only for PIXL Cross. Solicitation Cross with MKT order type on any side will be rejected.
44	Price	C	Required if OrdType='2' (Limit). Decimal representation (up to 4 decimal digits) of limit price. If OrdType is NOT '2' (Limit), then this field must not be present.
→ 204	CustomerOrFirm	Y	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
				'8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9) '7', 10 – '98' : Reserved for Future use.
→	207	SecurityExchange	N	Exchange ID of the off- floor market maker. Valid Values: '1' = AMEX 'Z' = BATS 'B' = BSE 'C' = C2 'W' = CBOE 'Y' = ISE 'X' = PHLX 'N' = NYSE 'Q' = NASDAQ 'T' = BX Options '7' = MIAX
→	77	OpenClose	Y	Specifies if this order opens a position or closes a position. Valid values: 'O' = Open. 'C' = Close.
→	439	ClearingFirm	C	CMTA number of sender. Required for CustomerOrFirm (tag 204) = 9
→	440	ClearingAccount	C	Required for Off- Floor Market maker orders. Will accept up to 5 characters, with the OCC Sub-account ("Multi account") 1 to 3 characters long. Optional for orders with CustomerOrFirm (tag 204) = 0,1,2,5,6 and 8

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
				Invalid for On-floor Specialist or SQT Orders with CMTA (CustomerOrFirm = 9)
→	109	ClientID	C	Required for On-floor Specialist or SQT, On-floor Specialist or SQT with CMTA, and Remote Specialist or RSQT orders
→	79	AllocAccount	N	PHLX-XL Internal Firm Identifier of the Directed Participant for Directed Order Flow; should not exceed 4 characters. NOTE: This field is only processed for the agency order. For the initiating order this field is ingored.
→	58	Text	N	Firms can use this field in order message to supply Optional clearing data field that is sent to OCC. If field is supplied, PHLX-XL will allow only 13 characters and use it for supplementary ID in the order.
		Standard Trailer	Y	

4.1.3 New Complex Order (Msg Type = "AB")

All the options complex orders are supported through the complex order message (MsgType='AB'). Complex order types are distinguished based on various attributes present in the order message.

The tag *NoLegs(555)* must precede the Legs component block. Tags for the next leg should come after finishing all the tags associated with the current leg. Non-leg tags must not be present in the Legs component block. This will result in order rejection.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'AB' SenderCompID = Line ID TargetCompID = PHLX SenderSubID = Firm Mnemonic.
1	Account	N	Customer Id defined by the Firms. Should not exceed 10 characters.
11	ClOrdID	Y	Unique identifier for Order as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm Mnemonic. It is a free-form string. Assigned IDs should not exceed **30** characters. Firms could use combination of Branch code and sequence number as ClOrdID. Single ClOrdID for the entire multi-leg order.
167	SecurityType	N	Valid value = 'MLEG'
60	TransactTime	N	Time of order creation by sending Firm. Expressed in UTC Timestamp.
38	OrderQty	Y	The number of contracts.
40	OrdType	Y	Valid values: '1' = MKT '2' = LIMIT
44	Price	C	Required if OrdType='2' (Limit). Net price of the spread. Valid values: • Positive value (debit) - willing to

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			pay • Negative value (credit) – want money back • 0 (zero) – even order Decimal representation (up to 4 decimal digits) of limit price.

47	Rule80A (capacity)	N	Describes the sender's capacity for the StockLeg. Allowed values are:
			    • P – Principal
			    • A – Agency
			    • R – Riskless principal
			If unspecified, the stock leg will default to Agency capacity (A).

9368	SpecialInstruction	N	An optional field to indicate special processing. Valid values: • D – Do not participate in auctions If this tag is unspecified the default behavior is that the order WILL participate in auctions. If this tag is specified with value 'D' and AuctionType (tag 9373) is also specified then the order will be rejected.
21	HandlInst	N [This field is optional in the	Instructions for order handling on Broker trading floor. Can be omitted and assumed to be 2. If sent, can only be set to the following: Valid value:

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
		PHLX-XL Firm Fix Engine]	'2' = Automated execution order, public, Broker intervention OK (For order eligible for Auto-Ex.)
18	ExecInst	C	Required if order is AON. Valid value: 'G' = All or None **Note: If any other value is present the order will be rejected.**
59	TimeInForce	Y	Specifies how long the order remains in effect. Valid values: '0' = DAY '1' = GTC '3' = IOC (Immediate or Cancel) **NOTE: MM (all types) and Firm GTC orders will be rejected.**
204	CustomerOrFirm	Y	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9) '7', 10 – '98' : Reserved for Future use.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details

207	SecurityExchange	N	Exchange ID of the off- floor market maker.
			
			Valid Values:
			    '1' = AMEX
			    'Z' = BATS
			    'B' = BSE
			    'C' = C2
			    'W' = CBOE
			    'Y' = ISE
			    'X' = PHLX
			    'N' = NYSE
			    'Q' = NASDAQ
			    'T' = BX Options
			    '7' = MIAX

439	ClearingFirm	N	CMTA number of sender. Required for CustomerOrFirm(tag 204) = 9
440	ClearingAccount	C	Required for Off- Floor Market maker orders. Used to identify Market Maker at destination exchange. . Will accept up to 5 characters, with the OCC Sub-account ("Multi account") 1 to 3 characters long. Optional for orders with CustomerOrFirm (tag 204) = 0,1,2,5,6 and 8 Invalid for On-floor Specialist or SQTOrders with CMTA (CustomerOrFirm = 9)
109	ClientID	C	Required for On-floor Specialist or SQT, On-floor Specialist or SQT with CMTA, and Remote Specialist or RSQT
79	AllocAccount	N	PHLX-XL Internal Firm Identifier of the Directed Participant for Directed Order

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Flow; should not exceed 4 characters.
58	Text	N	Firms can use this field in order message to supply Optional clearing data field that is sent to OCC. If field is supplied, PHLX-XL will allow only 13 characters and use it for supplementary ID in the order.
9373	AuctionType	N	Auction type for this order. Valid values: 'P' = PIXL Cross. 'S' = Solicitation Cross. Optional. If the order is a response to an auction type listed above, this field must be specified. If an auction of the indicated type is active for the specified symbol, then this order may participate in it. At the end of the auction any unexecuted shares will be cancelled. If an auction of the inidicated type is NOT active for the specified symbol, then this order is immediately cancelled. NOTE: Future versions of this spec may have additional values for this tag.
9370	AuctionID	I	Numeric auction id that this order is joining. Optional. If not specified, the order will participate in the currently ongoing auction(s) of the specified AuctionType). If specified, this field must either be 0 (meaning participate in the currently ongoing auction(s) of the specified

FIX Tag		FIX Name	PHLX-XL-FIX Req	Details
				AuctionType), or it must match an active auctionId/auctionType pair sent over TOPO+ or SQF 6.0 or higher. NOTE: If this field is specified, but AuctionType is not specified then the value in this field is ignored, however the format must still be a valid number.
555		NoLegs	Y	Number of legs of the order Valid values: (For this version) • 2-6
→	654	LegRefID	Y	Unique identifier for each leg within the order, not required to be unique for the day. The occurrence of this Tag must be received in sequential order (Leg 1 before Leg 2) and must be the first TAG in each respective component block. It is a free-form string. Assigned IDs should not exceed 5 characters.
→	600	LegSymbol	Y	**** For Option Leg** Option Root Symbol (up to 3-character trading symbol) – Pre-Symbology classes Security Symbol – 5 Character – Post Symbology classes. **** For Stock Leg** The underlying stock ticker symbol.
→	608	LegCFICode	Y	CFI code for the individual leg Valid values: • OC – Option call (indicates option leg) • OP – Option Put (indicates option leg) • ES – Equity Shares (indicates stock leg)

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	610	LegMaturityMonthYear	C	**This tag is obsolete now.** **(Option leg only)** ~~Month and year of the maturity. Format: YYYYMM (e.g. 201009)~~ ~~Expiration of the option series in yyyymm format.~~ **~~Note: Use this field for pre-symbology. To be replaced with tag LegMaturityDate for post-symbology.~~** ~~If LegMaturityDate is also specified the month and year must match, otherwise the order will reject.~~
→	611	LegMaturityDate	Y	**(Option leg only)** Date of the maturity. Format: YYYYMMDD (e.g. 20100921) Expiration of the option series in yyyymmdd format If LegMaturityMonthYear is also specified the month and year must match, otherwise the order will reject.
→	612	LegStrikePrice	C	**(Option leg only)** Required for option leg; strike price of option series
→	564	LegPositionEffect	C	**(Option leg only)** Indicates whether the resulting position after a trade should be an opening position or closing position. Valid Values: O = Open C = Close

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	624	LegSide	Y	Side of leg <u>Valid values:</u> 1 = Buy 2 = Sell 5 = Sell Short (stock leg only) 6 = Sell Short Exempt (stock leg only)
→	623	LegRatioQty	Y	The ratio of this individual leg. Number of contract for this leg is: LegRatioQty* OrderQty
		Standard Trailer	Y	

Symbol "→" represents all the leg-level tags. The block is repeated for the value of NumLegs (tag 555).

4.1.4 Complex Order List (Msg Type = "EB")

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'EB' SenderCompID = Line ID TargetCompID = PHLX SenderSubID = <Not part of header, see order list below>
9373	AuctionType	Y	Auction type for this order. Valid values: 'Q' = QCC Cross

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'P' = PIXL Cross 'S' = Solicitation Cross

9371	NWT OrdType	C	PIXL Cross - Required.
			
			Solicitation Cross - Invalid. Solicitation orders with this tag will be rejected back to firm.
			
			QCC Cross – Invalid. QCC orders with this tag will be rejected back to firm.
			
			 The NWT OrdType is part of the NWT Price specification.
			
			Valid values:
			    '1' = MKT
			    '2' = LIMIT

9372	NWT Price	**C**	PIXL Cross - Required if the NWT OrdType='2' (Limit). Solicitation Cross - Invalid. Solicitation orders with this tag will be rejected back to client. QCC Cross – Invalid. QCC orders with this tag will be rejected back to firm. The NWT Price/NWT OrdType specification must match or improve the Price/OrdType fields of the initiating order. Net price of the spread. Valid values: - Positive value (debit) - willing to pay - Negative value (credit) – want money back

FIX Tag	FIX Name	PHLX- XL-FIX Req	Details
			• 0 (zero) – even order Decimal representation (up to 4 decimal digits) of NWT limit price. If NWT Order Type is NOT '2' (Limit), then this field must not be present.
9377	ContraStockLeg Side	C	Ignored for QCC Cross. Required for PIXL and Solicitation Cross with a Stock leg. If a Complex PIXL or Solicitation Cross order contains stock leg, then this tag must be present to indicate side type of the stock leg for the initiating side. Valid values: 1 = Buy 2 = Sell 5 = Sell Short 6 = Sell Short Exempt **NOTE: T**his tag must have an opposite value to tag 624 (LegSide). For comparision, values 2, 5 and 6 are considered same (sell) side. If both tags have same values, then the order will be rejected.
9374	FromFloor	C	QCC Cross – Required. PIXL Cross – Ignored. Solicitation Cross – Ignored. This flag indicates whether the QCC Cross order is being sent by someone on the PHLX XL floor or not. Valid values:

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'Y' = Order sent from PHLX floor
			'N' = Order NOT sent from PHLX floor
9375	StockLegShares	C	QCC Cross – Required. PIXL Cross – Ignored. Solicitation Cross – Ignored. Contains the number of shares of stock associated with the implicit stock leg of a QCC Cross order. This field is needed because the stock leg is NOT permitted to be speficied in the leg speficiations at the bottom of this message.
73	No Orders	Y	Number of items in the list of orders that follows. Valid value: '2'
→ 67	ListSeqNo	Y	Order Number within the list. This number must be unique within a given order list message, but may be reused in other order list messages. NOTE: THIS TAG DENOTES THE START OF AN ORDER DEFINITION AND MUST BE THE FIRST TAG AT THE START OF EACH ORDER IN THE LIST.
→ 11	ClOrdID	Y	Unique identifier for Order as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm Mnemonic. It is a free-form string. Assigned IDs should not exceed 30 characters. Firms could use combination of Branch code and sequence number as ClOrdID.

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	50	SenderSubId	Y	Indicates the party represented by the given side.
→	167	SecurityType	N	Valid value = 'MLEG'
→	60	TransactTime	N	Time of order creation by sending Firm. Expressed in UTC Timestamp.
→	38	OrderQty	Y	The number of contracts.
→	21	HandlInst	N [This field is optional in the PHLX-XL Firm Fix Engine]	Instructions for order handling on Broker trading floor. Can be omitted and assumed to be 2. If sent, can only be set to the following: Valid value: '2' = Automated execution order, public, Broker intervention OK (For order eligible for Auto-Ex.)
→	59	TimeInForce	Y	Specifies how long the order remains in effect. Valid values: '0' = DAY '1' = GTC '3' = IOC (Immediate or Cancel) NOTE: All of the preceding time in force values are converted to IOC before processing. All time in force values other than those listed above will be rejected.
	18	ExecInst	C	PIXL Cross – Optional on primary side. Invalid on contra side. Solicitation Cross – Required on both primary and contra sides. QCC Cross – Optional on either side. Valid Values: 'G' - AON

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	1	Account	N	Customer Id defined by the Firms. Should not exceed 10 characters

→	40	OrdType	C	Required for first order in the list. If AuctionType is QCC, then this tag is Optional for the second order. If the AuctionType is NOT QCC, then this tag is Required for the second order.
				
				Valid values:
				    '1' = MKT
				    '2' = LIMIT
				
				NOTE:
				  MKT is allowed only for PIXL Cross. Solicitation or QCC Cross with MKT order type on any side will be rejected.

	44	Price	C	Required if is specified and has a value of OrdType='2' (Limit). Net price of the spread. Valid values: • Positive value (debit) - willing to pay • Negative value (credit) – want money back • 0 (zero) – even order Decimal representation (up to 4 decimal digits) of limit price. If OrdType is not specified or is specified, but is NOT '2' (Limit), then this field must not be present.
→	204	CustomerOrFirm	Y	Specifies the order origin type. Valid values: '0' = Customer

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9) '7', 10 – '98' : Reserved for Future use.

→ 207	SecurityExchange	N	Exchange ID of the off- floor market maker.
			Valid Values:
			    '1' = AMEX
			    'Z' = BATS
			    'B' = BSE
			    'C' = C2
			    'W' = CBOE
			    'Y' = ISE
			    'X' = PHLX
			    'N' = NYSE
			    'Q' = NASDAQ
			    'T' = BX Options
			    '7' = MIAX

→ 439	ClearingFirm	C	CMTA number of sender. Required for CustomerOrFirm (tag 204) = 9
→ 440	ClearingAccount	C	Required for Off- Floor Market maker orders. Will accept up to 5 characters, with the OCC Sub-account ("Multi account") 1 to 3 characters long. Optional for orders with CustomerOrFirm (tag 204) = 0,1,2,5,6 and 8 Invalid for On-floor Specialist or SQTOrders with CMTA (CustomerOrFirm = 9)

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	109	ClientID	C	Required for On-floor Specialist or SQT, On-floor Specialist or SQT with CMTA, and Remote Specialist or RSQT
→	79	AllocAccount	N	PHLX-XL Internal Firm Identifier of the Directed Participant for Directed Order Flow; should not exceed 4 characters. NOTE: This field is only processed for the primary order. For the Contra Order this field is ingored.
→	58	Text	N	Firms can use this field in order message to supply Optional clearing data field that is sent to OCC. If field is supplied, PHLX-XL will allow only 13 characters and use it for supplementary ID in the order.
→	47	Rule80A (capacity)	N	Describes the sender's capacity for the StockLeg. Allowed values are: • P – Principal • A – Agency • R – Riskless principal If unspecified, the stock leg will default to Agency capacity (A). **NOTE:** This tag is not valid for QCC cross.
<End of Order List Components>				
<Start of Leg Specifications> NOTE: The LegSide and LegPositionEffect tags below are for the Primary Order. PHLX XL will automatically put the contra sides for the Contra Order's LegSides. Also, you must specify the LegContraOpenClose tag for each leg to indicate the open/close value for the Contra Order. For QCC Cross orders, the Stock leg is implied and must NOT be specified. Because				

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			of this, the leg spefication is allowed to contain only 1 leg (indicating a 2 leg tied to stock order with one option leg) and up to 6 legs (indicating a 7 leg tied to stock order with 6 option legs). For QCC Cross orders, the first order in the preceding list is the Primary Order, and is matched with the legs. The second order in the list above is considered the Contra Order and is given the contra of the leg specification below.
555	NoLegs	Y	Number of legs of the order Valid values: (For this version) • 1-6
→ 654	LegRefID	Y	Unique identifier for each leg within the order, not required to be unique for the day. The occurrence of this Tag must be received in sequential order (Leg 1 before Leg 2) and must be the first TAG in each respective component block. It is a free-form string. Assigned IDs should not exceed 5 characters.
→ 600	LegSymbol	Y	Option Root Symbol (up to 3-character trading symbol) – Pre-Symbology classes Security Symbol – 5 Character – Post Symbology classes.
→ 608	LegCFICode	Y	CFI code for the individual leg Valid values: • OC – Option call (indicates option leg) • OP – Option Put (indicates option leg)
→ 611	LegMaturityDate	Y	Date of the maturity. Format: YYYYMMDD (e.g. 20100921) Expiration of the option series in yyyymmdd format If LegMaturityMonthYear is also specified the month and year must match, otherwise the order will reject.

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
→	612	LegStrikePrice	Y	Required for option leg; strike price of option series
→	564	LegPositionEffect	Y	**(For the Primary Order)** Indicates whether the resulting position after a trade should be an opening position or closing position. Valid Values: O = Open C = Close
→	9376	LegContraOpenClose	Y	**(For the Contra Order)** Indicates whether the resulting position after a trade should be an opening position or closing position. Valid Values: O = Open C = Close
→	624	LegSide	Y	**(For the Primary Order. The Contra Order will be the opposite side)** Side of leg Valid values: 1 = Buy 2 = Sell 5 = Sell Short (stock leg only) 6 = Sell Short Exempt (stock leg only) **NOTE:** values 5 and 6 are not valid for QCC cross.
→	623	LegRatioQty	Y	The ratio of this individual leg. Number of contract for this leg is: LegRatioQty* OrderQty
		Standard Trailer	Y	

4.2   Single and Complex Order Cancel and Order Cancel/Replace Requests

4.2.1 Order Cancel Request (Msg Type = "F")

A cancel request is targeted to cancel remaining volume. This message is generated by Firms and PHLX XL is always the receiving party in this context. Following table summarizes the format for the Order cancel request message. The same message type is used for both Complex and Single order cancel requests.

The tag *NoLegs(555)* must precede the Legs component block. Tags for the next leg should come after finishing all the tags associated with the current leg. Non-leg tags must not be present in the Legs component block. This will result in order rejection.

FIX Tag	FIX Name	PHLX-XL-FIX Req Complex Order	PHLX-XL-FIX Req Single Order	Details
	Standard Header	Y	Y	MsgType = 'F' SenderCompID=Line ID TargetCompID = PHLX SenderSubID=Firm Mnemonic.
1	Account	I	I	Customer Id defined by the Firms. Should not exceed 10 characters.
41	OrigClOrdID	Y	Y	ClOrdID of the original order to cancel, as assigned by the originating participant (Firm).
11	ClOrdID	Y	Y	Unique identifier for Cancel as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm mnemonic. PHLX-XL treats it as free-form string. Assigned IDs must not exceed **30** characters.
38	OrderQty	Y	Y	Number of contracts

FIX Tag	FIX Name	PHLX-XL-FIX Req Complex Order	PHLX-XL-FIX Req Single Order	Details
55	Symbol	I	Y	Option Trading Symbol (up to 3-characters) (up to 3-character trading symbol) – Pre-Symbology classes **5 Character – Post Symbology classes** Valid only for single orders.It will be ignored if security type is MLEG.
200	MaturityMonthYear	I	Y	Month and year of the maturity. Format: YYYYMM (e.g. 200109). Valid only for single orders.It will be ignored if security type is MLEG. Used for pre Symbology If this tag and Maturity Date is specified the year and month must match, otherwise the order will be rejected **Post Symbology classes – Required unless Maturity Date is specified.**
205	MaturityDay	I	C	Valid only for single orders.It will be ignored if security type is MLEG. Day of maturity in the maturity month and year. Format: DD (e.g., 01, 01,…. 31) If this tag and Maturity Date is specified the day must match, otherwise the order will be rejected **Post Symbology classes – Required unless Maturity Date is specified**
541	MaturityDate	I	C	Month, year and day of the maturity. Format: YYYYMMDD (e.g. 20100918). Valid only for single orders.It will be ignored if security type is MLEG. If this tag and MaturityMonthYear and Maturity

FIX Tag	FIX Name	PHLX-XL-FIX Req Complex Order	PHLX-XL-FIX Req Single Order	Details
				day is specified the year, month and day must match, otherwise the order will be rejected **Post Symbology classes – Required unless MaturityMonthYear AND MaturityDay is specified.**

201	PutOrCall	I	Y	Required for Options.
				
				Valid values:
				   0 = Put
				   1 = Call
				Valid only for single orders. It will be ignored if security type is MLEG.

204	CustomerOrFirm	Y	N	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9) '7', 10 – '98' : Reserved for Future use.
202	StrikePrice	I	Y	Decimal representation of strike price e.g. 30.0 or 30.5 Valid only for single orders. It will be ignored if security type is MLEG.

	FIX Tag	FIX Name	PHLX-XL-FIX Req Complex Order	PHLX-XL-FIX Req Single Order	Details
	54	Side	I	Y	Side of order. Valid values: 1 = Buy 2 = Sell Valid only for single orders. It will be ignored if security type is MLEG.
	60	TransactTime	C	C	Sending Time of the original order by sending Firm. Only Date part of the TransactTime is used for this message. Expressed in UTC Timestamp**.** If present **must** be sending time of original order, if not present only the OrigClOrdId will be used. OrigClOrdId **must** not be duplicated.
	167	SecurityType	Y	N	This field **must** be **MLEG** for multileg order cancel request. By default, It is assumed to be of type 'OPT'.
	555	NoLegs	Y	I	Number of legs of the order Valid values: (For this version) • 2-6
→	654	LegRefID	Y	I	As specified on the original order. Unique identifier for each leg within the order. The occurrence of this Tag must be received in sequential order (Leg 1 before Leg 2) and must be the first TAG in each respective component block. It is a free-form string. Assigned IDs should not exceed 5 characters.
→	600	LegSymbol	Y	I	As specified on the original order. **** For Option Leg** Option Root Symbol (up to 3-character trading symbol) – Pre-Symbology rollout Security Symbol – 5 Character – Post Symbology.

	FIX Tag	FIX Name	PHLX-XL-FIX Req Complex Order	PHLX-XL-FIX Req Single Order	Details
					** For Stock Leg The underlying stock ticker symbol.
→	608	LegCFICode	Y	I	As specified on the original order. CFI code for the individual leg Valid values: • OC – Option call (indicates option leg) • OP – Option Put (indicates option leg) • ES – Equity Shares (indicates stock leg)
→	610	LegMaturityMonthYear	C	I	**This tag is obsolete now.** ~~(Option leg only)~~ ~~As specified on the original order.~~ ~~Month and year of the maturity. Format: YYYYMM (e.g. 201009)~~ ~~Expiration of the option series in yyyymm format.~~ **~~Note: Use this field for pre-symbology. To be replaced with tag LegMaturityDate for post-symbology.~~** ~~If LegMaturityDate is also specified the month and year must match, otherwise the order will reject.~~
→	611	LegMaturityDate	C	I	**(Option leg only)** As specified on the original order. Date of the maturity. Format: YYYYMMDD (e.g. 20100921) Expiration of the option series in yyyymmdd format If LegMaturityMonthYear is also specified the month and year must match, otherwise the order will reject. **Required only after symbology**.

FIX Tag		FIX Name	PHLX-XL-FIX Req Complex Order	PHLX-XL-FIX Req Single Order	Details
→	612	LegStrike Price	C	I	**(Option leg only)** As specified on the original order. Required for option leg; strike price of option series
→	624	LegSide	Y	I	As specified on the original order. Side of leg Valid values: 1 = Buy 2 = Sell 5 = Sell Short (stock leg only) 6 = Sell Short Exempt (stock leg only)
→	623	LegRatioQty	Y	I	As specified on the original order. The ratio of this individual leg Number of contracts for this leg is: LegRatioQty* OrderQty
→	564	LegPositionEffect	C	I	**(Option leg only)** As specified on the original order. Indicates whether the resulting position after a trade should be an opening position or closing position. Valid Values: O = Open C = Close
		Standard Trailer	Y	Y	

		Section:
FINANCIAL AUTOMATION		Page: 94
OPTIONS TRADING SYSTEMS		Release: 2.6a
		Rev. Date: 01/15/2013
		SESSION AND APPLICATION
FIRM FIX ENGINE		MANUAL

4.2.2 Single Order Cancel/Replace Request (Msg Type = "G") (a.k.a. Single Order Modification Request)

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'G' SenderCompID=Line ID TargetCompID = PHLX SenderSubID=Firm mnemonic.
1	Account	N	Customer Id defined by the Firms. Should not exceed 10 characters.
41	OrigClOrdID	Y	ClOrdID of the order to Cancel/Replace, as assigned by the originating participant (Firm). Subsequent Cancel Replace request should point to ClOrdID of the previous order.
11	ClOrdID	Y	Unique identifier for Cancel/Replace as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm mnemonic. If Cancel/Replace is applied, this becomes the ClOrdID of the replaced order. Subsequent Cancel or Cancel/replace requests should refer to this ID in OrigClOrdID fields. It is a free-form string. Assigned IDs must not exceed 30 characters. Firms could use combination of Branch code and sequence number as ClOrdID.
167	SecurityType	N	Valid value = 'OPT'
55	Symbol	Y	Option Trading Symbol (up to 3-characters) Pre-Symbology classes **Security Symbol – 5 Character – Post**

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Symbology classes.
200	MaturityMonthYear	Y	Month and year of the maturity. Format: YYYYMM (e.g. 200109). Used for pre Symbology If this tag and Maturity Date is specified the year and month must match, otherwise the order will be rejected **Post Symbology classes – Required unless Maturity Date is specified.**
205	MaturityDay	C	Day of maturity in the maturity month and year. Format: DD (e.g., 01, 01,…. 31) If this tag and Maturity Date is specified the day must match, otherwise the order will be rejected **Post Symbology classes – Required unless Maturity Date is specified**
541	MaturityDate	C	Month, year and day of the maturity. Format: YYYYMMDD (e.g. 20100918). If this tag and MaturityMonthYear and Maturity day is specified the year, month and day must match, otherwise the order will be rejected **Post Symbology classes – Required unless MaturityMonthYear AND 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

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details

54	Side	Y	Side of order
			Valid values:
			  1 = Buy
			  2 = Sell

60	TransactTime	C	Sending Time of the original order by sending Firm. Only Date part of the TransactTime is used for this message. If present **must** be sending time of original order, if not present only the OrigClOrdId will be used. OrigClOrdId **must** not be duplicated. Expressed in UTC Timestamp.
38	OrderQty	Y	The number of contracts.

40	OrdType	Y	Valid values:
			  '1' = MKT (Not valid for Solicitation Cross)
			  '2' = LIMIT
			  '3' = STOP (Not valid for PIXL or Solicitation Cross)
			  '4' = STOP LIMIT (Not valid for PIXL or Solicitation Cross)
			NOTE: For a PIXL Cross initiating order, the combination of this field and the Price field must match or improve the last accepted values for these fields.

44	Price	C	Required if OrdType='2' (Limit) or '4' (Stop Limit). Decimal representation (up to 4 decimal digits) of limit price. NOTE: For a PIXL Cross initiating order, the combination of this field an the OrdType field must match or improve the last accepted values for these fields.
99	StopPx	C	Required if OrdType='3' (Stop) or '4' (Stop Limit).

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Decimal representation (up to 4 decimal digits) of limit price.
21	HandlInst	N [This field is optional in the PHLX-XL Firm Fix Engine]	Instructions for order handling on Broker trading floor Valid value: '2' = Automated execution order, public, Broker intervention OK (For order eligible for Auto-Ex.)

18	ExecInst	C	Required if order is AON.
			
			Valid values:
			
			   'G' = All or None
			
			   'f' = ISO (will be activate only when Decentralized Linkage is activated)
			
			Note: If any other value is present the order will be rejected. Only one value can be sent.

76	ExecBroker	N	Specifies the handling of order routing to away exchanges.
			
			Valid Values:
			
			   "SRCH" = Search for execution at away exchange the post to PHLX book. Once posted, continue to attempt to proactively route away. **This is the default value.**
			
			   "FIND" = Search for execution at away exchange then post to PHLX book. Once posted, do not attempt to proactively route away that day.
			
			"DNR" = Do Not Route… Post directly to PHLX book…never route away.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			NOTE: ExecBroker applies only to non-contingency orders. If specified for any other order type it will be treated as "DNR". Only Customer and Professional Customer non-contigency orders are allowed for SRCH strategy. See Appendix D for rules to handle routable strategies (SRCH and FIND) for other order origin types. Note: if any value other than "SRCH", "FIND" or "DNR" is specified the default value will be used.
59	TimeInForce	Y	Specifies how long the order remains in effect. Valid values: '0'= DAY '1' = GTC '2' = OPG (At the opening) '3' = IOC (Immediate or Cancel)
204	CustomerOrFirm	Y	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9)

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'7', 10 – '98' : Reserved for Future use.
203	CoveredOrUncovered	N	Specifies covered or uncovered options. Valid values: '0' = Covered '1' = Uncovered
207	SecurityExchange	N	Exchange ID of the off- floor Market Maker. Valid Values: '1' = AMEX 'Z' = BATS (To be Determined) 'B' = BSE 'C' = C2 'W' = CBOE 'Y' = ISE 'X' = PHLX 'N' = NYSE 'Q' = NASDAQ 'T' = BX Options '7' = MIAX
77	OpenClose	Y [This field is REQUIRED in the PHLX-XL Firm Fix Engine]	Specifies if this order opens a position or closes a position. Valid values: 'O' = Open. 'C' = Close.
439	ClearingFirm	N	CMTA number of sender. Required for On-Floor Specialist or SQTorders with CMTA
440	ClearingAccount	C	Required for Off- Floor Market maker orders. Used to identify Market Maker at destination

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			exchange. Will accept up to 5 characters, with the OCC Sub-account ("Multi account") 1 to 3 characters long. Optional for orders with CustomerOrFirm (tag 204) = 0,1,2,5,6 and 8 Invalid for On-floor Specialist or SQTOrders with CMTA (CustomerOrFirm = 9)
109	ClientID	C	Required for On-floor Specialist or SQT, On-floor Specialist or SQT with CMTA, and Remote Specialist or RSQT
79	AllocAccount	N	PHLX-XL Internal Firm Identifier of the Directed Participant for Directed Order Flow; should not exceed 4 characters.
58	Text	C	Firm should supply this field if it is specified in the referenced order. Firms can use this field in order message to supply Optional clearing data field that is sent to OCC. If field is supplied PHLX-XL will use the first 13 characters of it and use it for supplementary ID in the order. With Off_Floor Market Maker orders this supplementary ID will be overwritten with ClearingAccount
9371	NWT OrdType	C	Indicates the No Worse Than price type for a PIXL Cross initiating order. The combination of this field and the NWT Price field must match or improve the last accepted values for these fields, and must match or improve the OrdType and Price field in this replace message. **Not valid for Solicitation Cross initiating order.**

		Section:
FINANCIAL AUTOMATION		Page: 101
OPTIONS TRADING SYSTEMS		Release: 2.6a
		Rev. Date: 01/15/2013
		SESSION AND APPLICATION
FIRM FIX ENGINE		MANUAL

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			Valid values:
			'1' = MKT
			'2' = LIMIT
9372	NWT Price	C	Required on the initiating order of a pixl cross, if the cancel replace NWT OrdType='2' (Limit).
			Decimal representation (up to 4 decimal digits) of limit price.
			The combination of this field and the NWT OrdType field must match or improve the last accepted values for these fields, and must match or improve the OrdType and Price field in this replace message.NOTE: This field can only be specified for the initiating order of a PIXL Cross.
			If NWT Order Type is NOT '2' (Limit), or is not specified then this field must not be present.
	Standard Trailer	Y	

4.2.3 Complex Order Cancel/Replace Request (Msg Type = "AC") (a.k.a. Complex Order Modification Request)

All the options complex orders cancel/replace requests are supported through the complex order message (MsgType='AC').

The tag *NoLegs (555)* must precede the Legs component block. Tags for the next leg should come after finishing all the tags associated with the current leg. Non-leg tags must not be present in the Legs component block. This will result in order rejection.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'AC' SenderCompID=Line ID TargetCompID = PHLX SenderSubID=Firm mnemonic.
1	Account	N	Customer Id defined by the Firms. Should not exceed 10 characters.
41	OrigClOrdID	Y	ClOrdID of the order to Cancel/Replace, as assigned by the originating participant (Firm). Subsequent Cancel Replace request should point to ClOrdID of the previous order.
11	ClOrdID	Y	Unique identifier for Cancel/Replace as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm mnemonic. If Cancel/Replace is applied, this becomes the ClOrdID of the replaced order. Subsequent Cancel or Cancel/replace requests should refer to this ID in OrigClOrdID fields. It is a free-form string. Assigned IDs must not exceed **30** characters. Firms could use combination of Branch code and sequence number as ClOrdID.
167	SecurityType	N	Valid value = 'MLEG'
60	TransactTime	C	Sending Time of the original order by sending Firm. Only Date part of the TransactTime is used for this message. If present **must** be sending time of original order, if not present only the OrigClOrdId will be used.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			OrigClOrdId **must** not be duplicated. Expressed in UTC Timestamp.
38	OrderQty	Y	The number of contracts.
40	OrdType	Y	Valid values: '1' = MKT (Not valid for solicitation cross initiating order). '2' = LIMIT
44	Price	C	Required if OrdType='2' (Limit). Net price of the spread. Valid values: • Positive value (debit) - willing to pay • Negative value (credit) – want money back • 0 (zero) – even order Decimal representation (up to 4 decimal digits) of limit price.
21	HandlInst	N [This field is optional in the PHLX-XL Firm Fix Engine]	Instructions for order handling on Broker trading floor Valid value: '2' = Automated execution order, public, Broker intervention OK (For order eligible for Auto-Ex.)
18	ExecInst	C	Required if order is AON. Valid values: 'G' = All or None Note: If any other value is present the order will be rejected.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details

59	TimeInForce	N	Specifies how long the order remains in effect.
			
			Valid values:
			  '0'= DAY
			  '1' = GTC
			  '3' = IOC (Immediate or Cancel)
			Note: If tag is not present, '0' (Day) is assumed

204	CustomerOrFirm	Y	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9) '7', 10 – '98' : Reserved for Future use.

207	SecurityExchange	N	Exchange ID of the off- floor Market Maker.
			
			Valid Values:
			  '1' = AMEX
			  'Z' = BATS (To be Determined)
			  'B' = BSE
			  'C' = C2
			  'W' = CBOE
			  'Y' = ISE
			  'X' = PHLX
			  'N' = NYSE

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			'Q' = NASDAQ 'T' = BX Options '7' = MIAX
439	ClearingFirm	N	CMTA number of sender. Required for On-floor Specialist or SQTorders with CMTA
440	ClearingAccount	C	Required for Off- Floor Market maker orders. Used to identify Market Maker at destination exchange. Will accept up to 5 characters, with the OCC Sub-account ("Multi account") 1 to 3 characters long. Optional for orders with CustomerOrFirm (tag 204) = 0,1,2,5,6 and 8 Invalid for On-floor Specialist or SQTOrders with CMTA (CustomerOrFirm = 9)
109	ClientID	C	Required for On-floor Specialist or SQT, On-floor Specialist or SQT with CMTA, and Remote Specialist or RSQT
79	AllocAccount	N	PHLX-XL Internal Firm Identifier of the Directed Participant for Directed Order Flow; should not exceed 4 characters.
58	Text	C	Firm should supply this field if it is specified in the referenced order. Firms can use this field in to supply optional clearing data field that is sent to OCC. If field is supplied PHLX-XL will use the first 13 characters of it and use it for supplementary ID in the order.
9371	NWT OrdType	C	Indicates the No Worse Than price type for a PIXL Cross initiating order. The combination of this field and the NWT Price field must match or improve the last accepted values for these fields, and must match or improve

FIX Tag		FIX Name	PHLX-XL-FIX Req	Details
				the OrdType and Price field in this replace message. **Not valid for Solicitation Cross initiating order.** Valid values: '1' = MKT '2' = LIMIT
	nwtP	NWT Price	C	Required on the initiating order of a pixl cross, if the cancel replace NWT OrdType='2' (Limit). Decimal representation (up to 4 decimal digits) of limit price. The combination of this field and the NWT OrdType field must match or improve the last accepted values for these fields, and must match or improve the OrdType and Price field in this replace message.NOTE: This field can only be specified for the initiating order of a PIXL Cross. If NWT Order Type is NOT '2' (Limit), or is not specified then this field must not be present.
	555	NoLegs	Y	Number of legs of the order Valid values: (For this version) • 2
→	654	LegRefID	Y	As specified on the original order. Unique identifier for each leg within the order, not required to be unique for the day. The occurrence of this Tag must be received in sequential order (Leg 1 before Leg 2) and must be the first TAG in each respective component block. It is a free-form string. Assigned IDs should not exceed 5

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
			characters.
→ 600	LegSymbol	Y	As specified on the original order. **** For Option Leg** Option Root Symbol (up to 3-character trading symbol) – Pre-Symbology classes **Security Symbol – 5 Character – Post Symbology classes**. **** For Stock Leg** The underlying stock ticker symbol.
→ 608	LegCFICode	Y	As specified on the original order. CFI code for the individual leg Valid values: - OC – Option call (indicates option leg) - OP – Option Put (indicates option leg) - ES – Equity Shares (indicates stock leg)
→ 610	LegMaturityMonthYear	Y	**This tag is obsolete now. (Option leg only)** ~~Month and year of the maturity. Format: YYYYMM (e.g. 201009)~~ ~~Expiration of the option series in yyyymm format.~~ **~~Note: Use this field for pre-symbology. To be replaced with tag LegMaturityDate for post-symbology.~~** ~~If LegMaturityDate is also specified the month and year must match, otherwise the order will reject.~~
→ 611	LegMaturityDate	C	**(Option leg only)** Date of the maturity. Format: YYYYMMDD (e.g. 20100921) Expiration of the option series in yyyymmdd

	FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
				format If LegMaturityMonthYear is also specified the month and year must match, otherwise the order will reject. **Required only after symbology**.
→	612	LegStrikePrice	Y	**(Option leg only)** As specified on the original order. Required for option leg; strike price of option series
→	564	LegPositionEffect	Y	**(Option leg only)** As specified in original order. Indicates whether the resulting position after a trade should be an opening position or closing position. Valid Values: O = Open C = Close
→	624	LegSide	Y	As specified on the original order. Side of leg Valid values: 1 = Buy 2 = Sell 5 = Sell Short (stock leg only) 6 = Sell Short Exempt (stock leg only)
→	623	LegRatioQty	Y	As specified on the original order. The ratio of this individual leg Number of contracts for this leg is: LegRatioQty* OrderQty
		Standard Trailer	Y	

4.3 Execution Report

Execution Reports are generated by PHLX XL and therefore Firms are the receiving parties for these messages. An Execution Report can represent a fill, partial fill, order

acknowledgement, order rejection, order cancel confirm, order cancel/replace confirm, unsolicited cancel report, or done for day report depending on the value of the ExecType and ExecTransType fields.

SecurityType tag implies whether this message is in response to a single order versus complex order.

For complex orders, messages will be generated one per leg per price except for reject message i.e. ExecType - '8' (Rejected) will have only one message per complex order. Hence in this case it will not have LegRefId field.

Note that the execution messages could be out of sequence with respect to LegRefId. For e.g. It is possible that LegRefId – 2 message is sent before LegRefId -1, although firm sent the order message with leg-blocks as LegRefId -1 before LegRefId – 2.

4.3.1 Execution Report (Msg Type = "8") Generic

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
	Standard Header	Y	Y	MsgType = '8' SenderCompID=PHLX TargetCompID=Line ID TargetSubID=Firm mnemonic.
9373	AuctionType	N	N	Auction type for this order. Valid values: 'P' = PIXL Cross 'S' = Solicitation Cross 'Q' = QCC Cross
9371	NWT OrdType	N	N	This tag will be present in all responses from the exchange for a PIXL Cross or Complex PIXL Cross.

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				The NWT OrdType is part of the NWT Price specification. Valid values: '1' = MKT '2' = LIMIT
9372	NWT Price	N	N	This tag will be present in all responses from the exchange for a PIXL Cross or Complex PIXL Cross with NWT OrderType = '2' (Limit).
1	Account	N	N	Customer Id defined by the Firms. Should not exceed 10 characters.
41	OrigClOrdID	C	C	Required if this is in response to an Order Cancel Request or Order Cancel/Replace request (ExecType = PendingCancel, Replaced or Cancelled). Equal to the ClOrdID of the previous order (NOT the initial order of the day) when canceling or replacing an order.
11	ClOrdID	Y	Y	Unique identifier for Order as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm.
37	OrderID	C	C	Not required if ExecType(150)='8' (Rejected). Unique identifier for Order as assigned by PHLX-XL. Uniqueness is guaranteed within a single trading day. PHLX-XL turnaround number, upto 6 characters long.
17	ExecID	Y	Y	Unique identifier of execution message, such as

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				a Trade ID, as assigned by PHLX-XL. Uniqueness is guaranteed within a single trading day for a given Firm Mnemonic. Receiving Firms should treat it as a free-form string. Assigned IDs should not exceed **36** characters.
				Note that this id may start with a lowercase character. If it does, then that character will indicate some information about the execution. The current values that are:
				• c = Cross (the two sides of a cross order (except QCC Cross) matched each other)
				• b = Book (this order matched with some unrelated interest on the book)
				• q = QCC cross
				Only executions for PIXL and Solicitation Agency side orders and both sides of a QCC cross will always have this prefix. However, this may change to include other executions and additional prefixes.
9370	AuctionID	C	C	Numeric identifier of the auction in which this execution occurred. If this execution was not part of an auction, this tag is not given.
20	ExecTransType	Y	Y	Identifies transaction type. Valid values: '0' = New '3' = Status
150	ExecType	Y	Y	Describes the specific Execution Report (e.g. Pending Cancel) while OrdStatus will always

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details

				identify the current order status (e.g. Partially Filled)
				
				Valid values:
				  '0' = New.
				  '1' = Partial fill
				  '2' = Fill
				  '3' = Done for day
				  '4' = Canceled
				  '5' = Replaced
				  '6' = Pending Cancel
				  '7' = Stopped – NOT USED.
				  '8' = Rejected
				  '9' = Suspended – NOT USED.
				  'A' = Pending New – NOT USED.
				  'B' = Calculated – NOT USED.
				  'C' = Expired – NOT USED.
				  'D' = Restated – NOT USED.
				  'E' = Pending Replace

39	OrdStatus	Y	Y	Identifies the current status of an order.
				
				Valid values:
				  '0' = New
				  '1' = Partially Filled
				  '2' = Filled
				  '3' = Done for day
				  '4' = Canceled
				  '5' = Replaced
				  '6' = Pending Cancel
				  '7' = Stopped – NOT USED.
				  '8' = Rejected
				  'A' = Pending New –- NOT USED.
				  'B' = Calculated – NOT USED.
				  'C' = Expired – NOT USED.
				  'D'=Accepted for bidding – NOT USED.

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				'E' = Pending Replace – NOT USED.
103	OrdRejReason	C	C	Required if ExecType='8' (Rejected) or in an unsolicited cancel response ExecType='4'(Canceled). Valid values: '0' = Broker option '1' = Unknown symbol '2' = Exchange closed '3' = Order exceeds limit '4' = Too late to enter '5' = Unknown Order '6' = Duplicate Order (e.g. dupe ClOrdID) '7' = Duplicate of a verbally communicated order '8' = Stale Order '16' = Buy MKT Order Cancelled Due To No Offer ***This field will be used in conjunction with Text field to report more specific error types.*** e.g. OrdRejReason='0' | Text=" Reference Price is out of bound."
58	Text	N	N	Can be used to report more specific order reject reasons. It's free text field and will be used when OrdRejReason is present.
167	SecurityType	Y	Y	Valid values: 'MLEG' 'OPT'

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				By default or in absence of this tag, 'OPT' should be assumed as value of this tag.
200	MaturityMonthYear	Y	Y	**(Not given for complex stock leg)** Month and year of the maturity. Format: YYYYMM (e.g. 201009). **This will not be there If ExecType = 8 - Rejected**
205	MaturityDay	Y	Y	**(Not given for complex stock leg)** Day of maturity in the maturity month and year. Format: DD (e.g., 01, 01,…. 31) **This will not be there If ExecType = 8 - Rejected**
541	MaturityDate	C	Y	**(Not given for complex stock leg)** Month, Day and Yeaqr of the maturity. Format YYYYMMDD (e.g., 20100918 to represent Sept 18, 2010) **This will not be there If ExecType = 8 - Rejected**
611	LegMaturityDate	C	I	**(Not given for complex stock leg)** As specified on the original order. Date of the maturity. Format: YYYYMMDD (e.g. 20100921) Expiration of the option series in yyyymmdd format **This will not be there If ExecType = 8 - Rejected**
201	PutOrCall	C	Y	**(Not given for complex stock leg)** Required for Options. <u>Valid values:</u>

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				0 = Put 1 = Call This will not be there If ExecType = 8 (Rejected) for Complex orders
55	Symbol	C	Y	**** For Option or Option Leg** Option RootTrading Symbol (up to 3-character trading symbol) – Pre-Symbology classes **Security Symbol –** 5 Character – Post Symbology classes. **** For Stock Leg** The underlying stock ticker symbol. This will not be there If ExecType = 8 (Rejected) for Complex orders.
202	StrikePrice	C	Y	**(Not given for complex stock leg)** Decimal representation of strike price e.g. 30.0 or 30.5 This will not be there If ExecType = 8 (Rejected) for Complex orders

54	Side	C	Y	Side of order(for single order) or leg of a complex order
				
				<u>Valid values:</u>
				   1 = Buy
				   2 = Sell
				   5 = Sell Short (stock leg only)
				   6 = Sell Short Exempt (stock leg only)
				This will not be there If ExecType = 8 (Rejected) for Complex orders

18	ExecInst	C	C	Required if order is AON.

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				Valid values: 'G'= All or None
59	TimeInForce	Y	Y	Specifies how long the order remains in effect. Valid values: '0' = DAY '1' = GTC '2' = OPG '3' = IOC (Immediate or Cancel)
40	OrdType	Y	Y	Valid values: '1' = MKT '2' = LIMIT '3' = STOP '4' = STOP LIMIT
21	HandlInst	N [This field is optional in the PHLX XL Firm Fix Engine]	N	Indication of whether trade was executed manually or automatically. Valid values: 1 = Auto-executed 3 = Manually executed
9882	LiquidityFlag	C	C	Indicates that the order was represented and traded at one of the following exchanges. If PHLX, may indicate additional information. E - Executed on AMEX P - Executed on ARCA Z - Executed on BATS B - Executed on BOX 2 – Executed on C2 W - Executed on CBOE S - Executed on ISE

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				Q - Executed on NASDAQ T – Executed on BX Options Y – Executed on MIAX U - Executed on PHLX - No maker/taker info N - Executed on PHLX – Maker/Taker N/A A - Executed on PHLX - Added liquidity (maker) R - Executed on PHLX - Removed liquidity (taker) J - Executed on PHLX – Order Exposure Alerted(Flash Order) K - Executed on PHLX – Executed against a Flash Order. Only present for Trade messages. **Note:** • Liquidity code 'K' will be available at a later date. • Additional ALPHA-NUMERIC values may be added in the future and should be considered as potential valid values by users of this interface.
204	CustomerOrFirm	Y	Y	Specifies the order origin type. Valid values: '0' = Customer '1' = Firm '2' = Broker/Dealer '4' = Non-PHLX Registered Market Maker '5' = On-Floor Specialist, SQT, or ROT '6' = Remote Specialist or RSQT '8' = Professional Customer See CustomerOrFirm Detail Table in appendix B for OCC clearing mapping and legacy values (3, 9)

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				'7', 10 – '98' : Reserved for Future use.

77	OpenClose	N	N	**(Not given for complex stock leg)**
				
				Specifies if this order opens a position or closes a position.
				
				<u>Valid values:</u>
				    'O' = Open.
				    'C' = Close.

44	Price	C	C	Required if OrdType='2' (Limit). Net price of the spread. Valid values: • Positive value (debit) - willing to pay • Negative value (credit) – want money back • 0 (zero) – even order Decimal representation (up to 4 decimal digits) of limit price. For single orders, this will always be a positive value.
99	StopPx	I	C	Required if OrdType='3' (Stop) or '4' (Stop Limit). Decimal representation (up to 4 decimal digits) of stop price. Valid only for single orders. It will be ignored if security type is MLEG
38	OrderQty	Y	Y	The number of contracts. For complex orders response messages, it will

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				be by leg, OrderQty*LegRatioQty (Except complex order reject)
151	LeavesQty	Y	Y	Number of open contracts for further execution. If the OrdStatus is Canceled or Rejected (no longer active) then LeavesQty = 0, otherwise LeavesQty = OrderQty - CumQty. For complex order reponse messages, it will be by leg, i.e. LeavesQty*LegRatioQty = OrderQty*LegRatioQty – CumQty*LegRatioQty
32	LastShares	C	C	Not present if ExecTransType='3' (Status). Number of contracts bought/sold on this (last) fill. Should be "0" for non-fills (Note: "fill" defined as ExecTransType = New and ExecType = Partial Fill or Fill). Again, for complex orders response messages, it will be respective to leg
31	LastPx	C	C	Not present if ExecTransType='3' (Status). Price of this (last) fill. Should be "0" for non-fills (Note: "fill" defined as ExecTransType = New and ExecType = Partial Fill or Fill). For complex order respose messages, it will be the price of the last fill for the perticular leg.
6	AvgPx	Y	Y	Will be set to '0' always
14	CumQty	Y	Y	Total number of contracts filled. For complex order response messages, it will be number of contracts filled for the particular leg.
60	TransactTime	Y	Y	Time the transaction represented by this ExecutionReport occurred.

FIX Tag	FIX Name	PHLX-XL-FIX Req **Complex Orders**	PHLX-XL-FIX Req **Single Orders**	Details
				Expressed in UTC Timestamp.
654	LegRefID	C	I	As specified on the original order. Unique identifier for leg, not required to be unique for the day. It is a free-form string. Assigned IDs should not exceed 5 characters. This will not be there If ExecType = 8 (Rejected) for Complex orders

442	MultiLegReportingType	C	I	Used to indicate what an Execution Report represents (e.g. used with complex securities, such as option strategies, spreads, etc.).
				Valid values:
				    2 = Individual leg of a complex security
				    3 = Complex Security (For Complex Order reject)

	Standard Trailer	Y	Y	

4.4 Rejects

This section covers various rejects such as Order Cancel Reject, Business Reject and Session Reject.

4.4.1 Order Cancel Reject (Msg Type = "9")

This reject message is generated by PHLX XL in response to order cancel or order cancel/replace requests in case they are rejected. Firms are always receiving parties for this message.

SecurityType tag implies whether this message is in response of single order versus complex order.

For complex orders, this message would contain one message per complex order.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = '9' SenderCompID=PHLX TargetCompID=Line ID TargetSubID=Firm Mnemonic.
41	OrigClOrdID	Y	ClOrdID of the order , targeted by Cancel or Cancel/Replace request, as assigned by the originating participant (Firm).
11	ClOrdID	Y	Unique identifier for Cancel as assigned by originating participant. Uniqueness must be guaranteed within a single trading day for a given Firm mnemonic and all open GTC orders for the given Firm mnemonic. Assigned IDs must not exceed 30 characters.
37	OrderID	C	Unique identifier for the Cancel as assigned by PHLX-XL.The identifier is only assigned when the reject reason is TOO LATE TO CANCEL If CxlRejReason = "Unknown order," value will be "NONE."
39	OrdStatus	C	Status of order after this cancel reject is applied. Not present if CxlRejReason = 1.
434	CxlRejResponseTo	Y	Identifies the type of request that a Cancel Reject is in response to. Valid values: '1' - Order Cancel Request '2' - Order Cancel/Replace Request

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
102	CxlRejReason	Y	Code to identify reason for cancel rejection. Valid values: '0' = Too late to cancel (Target order has been completely filled or rejected.) '1' = Unknown order (The request cannot be matched to a target order.) '2' = Broker Option (Used for unidentified business reasons.) '3' = Order already in Pending Cancel status
58	Text	N	Can be used for more specific reject reasons. Especially when CxlRejReason='2'.
167	SecurityType	N	Valid values: 'MLEG' 'OPT' By default or in absence of this tag, 'OPT' should be assumed as value of this tag.

4.4.2 Business Reject Message (Msg Type = "j")

The Business Message Reject message can reject an application-level message that fulfills session-level rules and cannot be rejected via any other means. Note if the message fails a session-level rule (e.g., body length is incorrect), a session-level Reject message would be issued instead. Note that the only exception to this rule is in the event a business message is received that fulfills session-level rules, however, the message cannot be communicated to the business-level processing system. In this situation a Business Message Reject message with BusinessRejectReason = "Application not available at this time" can be issued if the system is unable to send the specific "reject" message listed above due to this condition.

This message can be generated both by PHLX XL and Firms.

BusinessRejectRefID (tag 379) can now also contain ClOrdId of complex order.

FIX Tag	FIX Name	PHLX-XL-FIX Req	Details
	Standard Header	Y	MsgType = 'j' SenderCompID=PHLX/Line ID TargetCompID=Line ID/PHLX SenderSubID=Firm Mnemonic (from firm) TargetSubID=Firm mnemonic (to firm)
45	RefSeqNum	Y	MsgSeqNum of rejected message.
372	RefMsgType	Y	The MsgType of the FIX message being referenced.

379	BusinessRejectRefID	Y	The value of the business-level "ID" field on the message being referenced. This depends on RefMsgType as follows:
			    Execution Report (MsgType = '8') – ExecID
			    Order Cancel Reject (MsgType = '9')– ClOrdID
			    New Order – Single (MsgType = 'D') – ClOrdID
			    New Order – Complex (MsgType = 'AB') – ClOrdID
			    Order Cancel Request (MsgType = 'F') – ClOrdID

380	BusinessRejectReason	Y	Code to identify reason for a Business Message Reject message.
			
			<u>Valid values:</u>
			    '0' = Other
			    '1' = Unknown ID (Invalid TargetSubID)
			    '2' = Unknown Security
			    '3' = Unsupported Message Type (MsgType received is valid in FIX but not supported by PHLX-XL.)
			    '4' = Application not available.
			    '5' = Conditionally Required Field Missing

58	Text	C	Required if BusinessRejectReason ='0'.

FIX Tag	FIX Name	PHLX- XL-FIX Req	Details
	Standard Trailer	Y	

4.4.3 Session Reject or Reject Message (Msg Type = "3")

A session Reject message can reject either a session (Admin) level message or a business level message if the received message can not be parsed or has any formatting errors or it breaks the protocol.

Either party can generate this message.

See the Administrative Message section for the message format.

4.5   NEWS Message

This section covers the NEWS messages sent by PHLX XL and firm.

4.5.1 Common Message (Msg Type = "B") from PHLX XL to firm

This message can be sent by PHLX XL to inform the firm.

FIX Tag	FIX Name		PHLX- XL-FIX Req	Details
	Standard Header		Y	MsgType = 'B' SenderCompID=PHLX TargetCompID=Line ID TargetSubID=Firm Mnemonic.
148	Headline		Y	Headline text (size limit – 30 characters).
33	LinesOfText		Y	Number of repeating lines of text specified. Always set to 1
➡	58	Text	Y	Repeating field, number of instances defined in LinesOfText (size limit – 400 characters).

FIX Tag	FIX Name		PHLX-XL-FIX Req	Details
				The lines will be separated by "\n". Each line will be lesser than or equal to 80 characters.
	Standard Trailer		Y	

4.5.2 Common Message (Msg Type = "B") from firm to PHLX XL

This message can be sent by the firm to inform PHLX XL.

FIX Tag	FIX Name		PHLX-XL-FIX Req	Details
	Standard Header		Y	MsgType = 'B' SenderCompID = Line ID TargetCompID = PHLX SenderSubID = Firm Mnemonic.
148	Headline		Y	Headline text (size limit – 30 characters)
33	LinesOfText		Y	Number of repeating lines of text specified. Always set to 1
➔	58	Text	Y	Repeating field, number of instances defined in LinesOfText (size limit – 400 characters). The lines will be separated by "\n". For formatting reasons, each line should be lesser than or equal to 80 characters.
	Standard Trailer		Y	

5 DISASTER/RECOVERY SUPPORT

The new XL platform has full disaster/recovery capability for FIX.

The firms are advised to establish connectivity to each of the data center sites to ensure they have access to both the primary and secondary data centers; Carteret, NJ and Ashburn, VA respectively; such that they can failover to the secondary site in the event that this should become necessary.

Firms are advised that all FIX session level message sequencing at the primary site will not be preserved at the secondary site. This means that the FIX message sequence numbers need to be reset.

6 APPENDIX A

6.1 PHLX XL Rejection Messages

6.1.1 Order Reject Messages

OrdRejectReason Code	Text=<Error String>	Description.
0	"INVALID TIME FOR ACCEPTANCE"	Exchange is not open for order acceptance.
0	"LIMIT TOO FAR BELOW BID"	Reference price is out of bounds.
0	"LIMIT TOO FAR ABOVE ASK"	Reference price is out of bounds.
0	"IOC IS INVALID"	IOC is not allowed for this order.
0	"OFF-FLOOR ACCOUNT NOT ALLOWED"	
0	"INVALID VOLUME"	Order volume is Invalid.
0	"MIT IS INVALID"	
0	"FOK IS INVALID"	Fill or Kill is invalid
0	"INVALID LIMIT PRICE"	Invalid Limit Price.
0	"INVALID STOP PRICE"	Invalid Stop Price.
0	"MM MUST BE LIMIT"	Market Maker ("MM") Order must be Limit order.

OrdRejectReason Code	Text=<Error String>	Description.
0	"Firm MUST BE LIMIT"	Firm Order must be Limit order.
0	"BD MUST BE LIMIT"	Broker Dealer ("BD") Order must be Limit order.
0	"AON NOT ALLOWED FOR MM"	All Or None ("AON") not allowed for MM order.
0	"AON NOT ALLOWED FOR FIRM"	AON Not allowed for Firm Order.
0	"AON NOT ALLOWED FOR BD"	AON Not allowed for BD Order.
0	"CMTA NOT ALLOWED FOR MM"	CMTA number should not be supplied for MM order.
0	"MM INVALID WHEN NOT TRADING"	
0	"MISSING ACCOUNT ID"	
0	"INVALID CMTA NUMBER"	Invalid CMTA number-tag ClearingFirm (439).
0	"MISSING MM BADGE"	Missing MM Badge Suffix Number – Tag ClientID (109)
0	"INVALID MM NUMBER"	Invalid MM Badge Number-Suffix- Tag ClientID (109)
0	"MM LOCKS OR CROSSES QUOTE"	MM order locks or crosses Quote.
0	"MM LOCKS OR CROSSES BOOK"	MM order locks or crosses book.
0	"CANCELLED BY RECEIVER"	Order Canceled by Broker.
0	"UNKNOWN DIRECTED PARTICIPANT"	Invalid PHLX-XL Internal Firm Identifier specified
0	"INVALID LEG RATIO QTY"	For Complex Orders, when leg ratio is invalid
0	"DUPLICATE LEG REF ID"	For Complex Orders, When LegRefID field of two legs have duplicate information.
0	"INVALID NUM LEGS"	For Complex Orders,

OrdRejectReason Code	Text=<Error String>	Description.
		when numbers of legs is not 2
0	"LEG NOT TRADABLE"	For Complex Orders, when leg is not tradable
0	"PRICE VIOLATES SPP LIMIT"	For Complex Orders, when price violates strategy price protection
0	"FEATURE NOT SUPPORTED"	Feature not supported
0	"NBBO PROTECTION FOR CUST ONLY"	If PriceProtectionScope is set to 2 for non-customer Complex Orders, this is the reject
1	"UNKNOWN SYMBOL"	Invalid Symbol information.
2	"NOT OPEN FOR TRADING"	Exchange closed.
3	"UNACCEPTABLE VOLUME"	Order Exceeds limit.
4		Too Late to enter- Not Used.
5		Unknown Order- Not Used.
6	"DUPLICATE ORDER ID"	Duplicate Order ID i.e. Duplicate Tag - ClOrdID (11).
7		Duplicate of a verbally communicated order – Not Used.
8	"Stale Order"	IOC Order is stale.
16	"BUY MKT NO OFFER"	Buy Market order is Cancelled Due to No Offer
0	"INVALID ROUTE INST"	ExecBroker (tag 76) is not valid.
17	"MKT INVALID DURING LULD"	MKT Order cancelled or rejected due to underlying being in Limit Up Limit Down state.

6.1.2 Cancel Reject Reason Messages

Note that various order reject reasons can also appear for Cancel Reject response if a Cancel/Replace is attempted and one of the conditions in the previous table applies to the intended replaced order. CancelRejReason Code in that case will be "2". However the Text field will hold error string mentioned in Order Reject Messages table.

Following codes are more specific to Cancel Request and CancelReplace Requests.

CxlRejReason Code	Text=<"Error String">	Description
0	"TARGET FILLED"	Too Late to Cancel- Target is already completely Filled or Rejected.
1	"TARGET NOT FOUND"	Target order Not found or Unknown order.
2	"MM STRAIGHT CANCEL ONLY"	Cancel Replace not allowed for MM order.
2	"MUST BE STRAIGHT CANCEL"	Cancel Replace not allowed for Target Order.
2	"TARGET CANCELLED"	Target Already Canceled.
2	"TARGET NOT OPEN"	Target order is not Open.
2	"CANCEL BUY SELL MISMATCH"	Cancel Request Buy/Sell attribute do not match with Target order.
2	"CANCEL SYMBOL MISMATCH"	Cancel Request Symbol do not match with Target order.
2	"DON'T REPLACE SYMBOL"	Cancel Replace can not replace Symbol for target order.
2	"CANCEL VOLUME MISMATCH"	Cancel Request Order Quantity attribute doesn't match with Target order.
2	"CANCEL PRICE MISMATCH"	Cancel Request Order Price attribute doesn't match with Target order.
2	"CANCEL ORIGIN MISMATCH"	
2	"CANCEL MM MISMATCH"	
2	"CANCEL TIF MISMATCH"	
2	"FIRM CANNOT CANCEL FLOOR"	Firm can not Cancel Floor order.
2	"FLOOR CANNOT CANCEL FIRM"	Floor can not cancel Firm order.
2	"CANCEL BAD LEAVES VOLUME"	Cancel Leaves volume is bad.

CxlRejReason Code	Text=<"Error String">	Description
2	"UNKNOWN DIRECTED PARTICIPANT"	Invalid PHLX-XL Internal Firm Identifier specified
2	"BROKER OPTION"	Broker Option.
3	"TARGET CANCEL PENDING"	Target order is already in Cancel Pending status.
	"STALE ORDER"	
	"IN ROTATION"	
	"IN FAST MARKET"	
	"IN TRADING HALT"	
	"NOT NBBO"	
	"REF PRICE OUT OF BOUND"	
	"UNKNOWN CLEARING FIRM"	
	"S LATE TO OPRA"	
	"S DELAY TO OPRA"	
	"S MANUAL TRADE"	
	"S PROCESSING PROBLEMS"	
	"S COMPLEX ORDER"	
	"S TRADE REJECTED"	
	"S TRADE CORRECTED"	
	"S ORIG ORDER REJECTED"	
	"S CANCEL NON BLOCK TRADE"	
	"TOO LATE TO CANCEL"	
	"S OTHER"	
	"PHLX IS NBBO"	

6.1.3 Business Reject Reason Messages

BusinessRejectReason	Text=<"Error String">	Description
0	"Other"	For future use.
1	"Unknown ID"	Firm mnemonic (Tag-SenderSubID) is Invalid or doesn't belong to this Line ID (Tag SendCompID).
2	Not Used	Security problem- Not Used.
3	"Unsupported Message Type"	Msg Type received is not supported by PHLX-XL.
4	"SYSTEM ERROR"	Application Not available.

5	"Missing or Invalid conditional/required Tag, TagID =<TagId>"	Tag referred by <TagID>, which is conditional or required for this message is either missing or contains invalid data.

6.1.4 Session Reject Reason Messages

Following reason codes are available for session level reject of messages. A session reject is applied:

- If it is a session level message being rejected.
- If Application message could not be parsed due to format errors.

SessionRejectReason code.	Text <"Error String">	Description
0	Not present	Invalid tag number.
1	Not present	Required tag missing.
2	Not present	Tag not defined for this message type.
3	Not present	Undefined Tag.
4	Not present	Tag specified without a value.
5	Not present	Value is incorrect (out of range) for this tag
6	Not present	Incorrect data format for value
7	Not present	Decryption problem- Not Used.
8	Not present	Signature problem- Not Used.
9	Not present	CompID problem- Tag SenderCompID (49) or TargetCompID (56) are Invalid.
10	"Time in future."	SendingTime accuracy problem
11	Not present	Invalid MsgType

7 APPENDIX B

7.1 CustomerOrFirm Detail Table

Field Value	Legacy (Y/N)	Field Description	Other field requirements	CTI Capacity Value v1.0 & 1.1	CTI Capacity Value v1.2 & 1.3	OCC Origin Type
0	N	Customer	None	C	C	C
1	N	Firm	None	F	F	F
2	N	Broker/Dealer	None	Y	Y	C
3	Y	Broker/Dealer	ClearingAccount, SecurityExchange and ClientID NOT present	Y	Y	C
3	Y	Non-PHLX Registered Market Maker	ClearingAccount and SecurityExchange present, ClientID NOT present	M	O	M
3	Y	Remote Specialist or RSQT	ClientID present and ClearingAccount NOT present	M	A	M
4	N	Non-PHLX Registered Market Maker	ClearingAccount and SecurityExchange present	M	O	M
5	N	On-Floor Specialist, SQT, or ROT	None	M	M	M
6	N	Remote Specialist or RSQT	ClientID present	M	A	M
8	N	Professional Customer	None	P	P	C
9	Y	On-Floor Specialist or SQT Order with CMTA	ClientID and ClearingFirm present	M	M	M
7, 10-98	N/A	Reserved for Future use.				

8 APPENDIX C

8.1   Processing of Cancel/ Replace Messages

8.1.1 Overview

The FIX specification calls for the use of a single quantity field in the Cancel/Replace message. The use of a single field does not allow the Firm to indicate their knowledge of the current open volume of an order, which might not match the PHLX XL or actual open volume when messages are crossed. The purpose of this section is to clearly define and agree upon how PHLX XL is going to process single quantity Cancel/Replace messages so Firms know what to expect.

8.1.2 General Solution

The quantity in the Cancel/Replace is always relative to the quantity of the original Order and does NOT consider executed or remaining volume. Comparing the quantity of the original order and quantity of the Cancel/Replace reveals the intent of the Firm in that it indicates the delta to be applied to the order, either increasing or decreasing the quantity. PHLX XL must be able to perform this comparison to determine the Firm's intent.

If the Firm's intent is to increase the quantity, the open volume is merely increased by the requested delta. This is obvious and straight-forward.

If the Firm's intent is to decrease the quantity, PHLX XL must make a calculation based on the executed volume and the newly requested volume. If PHLX XL has already executed more (or equal) volume than the Firm is now requesting, PHLX XL will reject the cancel/replace and leave the target order unchanged. If, on the other hand, PHLX XL has NOT executed volume greater than (or equal to) the newly requested amount, PHLX XL can adjust the open volume to match their request. Though the full delta of their request may not be achieved, the remaining open volume matches exactly their request.

The following table summarizes the processing described above:

	After Partial Execution...		

Delta	...Executed Volume is *less than* newly requested quantity	...Executed Volume is *equal to* newly requested quantity	...Executed Volume is *greater than* newly requested quantity
Positive; request is to increase volume	Increase open volume by delta, i.e. new open volume += delta	n/a	n/a
Negative; request is to decrease volume	Accept Cancel/Replace; Send CANCEL REPORT for abs(delta); new open volume = new requested volume - executed volume; Order is still open; See Example #1	Reject Cancel/Replace; Send CANCEL REJECT with an Bad Leaves Volume error; Target order is left unchanged; See Example #2	Reject Cancel/Replace; Send CANCEL REJECT with an Bad Leaves Volume error; Target order is left unchanged; See Example #3

A more detailed description of the proposed logic follows:

8.1.3 Terminology

Quantity specified in NewOrderSingle in field OrderQty: OQ1
Volume executed in first partial fill Execution Report: EV1
Open volume after first partial fill: $OV1 = OQ1 - EV1$
Quantity specified in Cancel/Replace in field OrderQty: OQ2
Delta or difference between OQ1 and OQ2:
$\quad \Delta = OQ2 - OQ1$
$\quad \Delta < 0$ is a request to decrease volume
$\quad \Delta > 0$ is a request to increase volume
Open volume after Cancel/Replace is processed: OV2
Acceptance of a Cancel/Replace for quantity X: CANCEL REPORT[X]

8.1.4 Logic

If $\Delta > 0$ // increase in volume
$\quad$ Accept Cancel/Replace
$\quad$ OV2 ← OV1 + Δ // Set new open volume
Else // decrease in volume
$\quad$ If EV1 >= OQ2 // Already executed more than new requested quantity

        Accept Cancel/Replace
        Send CANCEL REPORT[OV1]
        OV2 ← 0
        Order Closed
   Else // EV1 < OQ2 // Already executed less than new requested quantity
        Accept Cancel/Replace
        Send CANCEL REPORT[abs(Δ)]
        OV2 ← OQ2 − EV1

8.1.5 Examples (Single Orders)

FIRM   PHLX-XL
1. Firm requests quantity to be reduced from 100 to 40, but 25 already executed:
NewOrder-Single(D) : OrderQty = OQ1=100
---→

             ←-----Execution Report: EV1=25, OV1=75
                  ExecType = 1 (Partial Fill)
                  OrdStatus = 1 (Partially filled)
     OrderQty = 100
                  LastShares = 25
                  CumQty = 25
     LeavesQty = 75

Cancel/Replace(G): OrderQty = OQ1=40
---→

            Δ = OQ2 − OQ1 = 40 − 100 = -60
            Δ = -60
            Decision: Accept C/R, OV2 ← OV1 + Δ = 75 + (-60)=15,
   Send CANCEL REPORT for OV1 − OV2 = 75 − 15 = 60
   ←----- Execution Report: [CANCEL REPORT 60] OV2=15; Order still open
                  ExecType = 5 (Replace)
                  OrdStatus = 1 (Partially filled)
     OrderQty = 40
                  LastShares = 0
                  CumQty = 25
     LeavesQty = 15

2. Firm requests quantity to be reduced from 100 to 40, but 40 already executed:
NewOrder-Single(D) : OrderQty = OQ1=100
---→

               ←-----Execution Report: EV1=40, OV1=60
                      ExecType = 1 (Partial Fill)
                      OrdStatus = 1 (Partially filled)
                      OrderQty = 100
                      LastShares = 40
                      CumQty = 40
        LeavesQty = 60

Cancel/Replace(G): OrderQty = OQ1=40
---→

            Δ = OQ2 − OQ1 = 40 − 100 = -60
            Δ = -60
            EV1=40 == OQ2=40
        Decision: Reject C/R, send CANCEL REJECT
        <----- Cancel Reject("BAD LEAVES VOLUME")

3. Firm requests quantity to be reduced from 100 to 40, but 80 already executed:
NewOrder-Single(D) : OrderQty = OQ1=100
---→

               ←-----Execution Report: EV1=80, OV1=20
                      ExecType = 1 (Partial Fill)
                      OrdStatus = 1 (Partially filled)
                      OrderQty = 100
                      LastShares = 80
                      CumQty = 80
        LeavesQty = 20

Cancel/Replace(G): OrderQty = OQ2=40

---$\rightarrow$

Δ = OQ2 − OQ1 = 40 − 100 = -60
Δ = -60
EV1=80 > OQ2=40
Decision: Reject C/R, send CANCEL REJECT
<----- Cancel Reject("BAD LEAVES VOLUME")

8.1.6 Examples (Complex Orders)

1. Firm requests quantity to be reduced from 100 to 40, but 25 already executed:

```
FIRM                                PHLX-XL
NewOrder-Complex(AB) : OrderQty = OQ1=100 (With Leg1 LegRatio  - 1, and LegRatio
– 2)
OR
NewOrder-Complex(AB) : OrderQty = OQ1=50 (With Leg1 LegRatio  - 2, and LegRatio –
4)
OR
NewOrder-Complex(AB) : OrderQty = OQ1=1(With Leg1 LegRatio  - 100, and LegRatio –
200)
-------------------------------------------------→
```

←-----Execution Report: Leg1, EV1=25, OV1=75
    ExecType = 1 (Partial Fill)
    OrdStatus = 1 (Partially filled)
OrderQty = 100
    LastShares = 25
    CumQty = 25
LeavesQty = 75
LegRefId - 1

←-----Execution Report: Leg2, EV1=50, OV1=150
    ExecType = 1 (Partial Fill)
    OrdStatus = 1 (Partially filled)
OrderQty = 200
    LastShares = 50
    CumQty = 50
LeavesQty = 150
LegRefId - 2

Cancel/Replace(AC): OrderQty = OQ2=40, Leg1's LegRatio = 1, Leg2's LegRatio = 2
OR
Cancel/Replace(AC): OrderQty = OQ2=20, Leg1's LegRatio = 2, Leg2's LegRatio = 4
OR
Cancel/Replace(AC): OrderQty = OQ2=1, Leg1's LegRatio = 40, Leg2's LegRatio = 80
---$\rightarrow$

Although Firm can send in either of the above forms, PHLX XL will normalize it as shown in first case.

Δ = OQ2 – OQ1 = 40 – 100 = -60
Δ = -60
Decision: Accept C/R, OV2 $\leftarrow$ OV1 + Δ = 75 + (-60)=15,
Send CANCEL REPORT for OV1 – OV2 = 75 – 15 = 60
$\leftarrow$----- Execution Report: [CANCEL REPORT 60] Leg 1, OV2=15; Order still open
ExecType = 5 (Replace)
OrdStatus = 1 (Partially filled)
OrderQty = 40
LastShares = 0
CumQty = 25
LeavesQty = 15
LegRefId = 1

Δ = OQ2 – OQ1 = 80 – 100 = -120
Δ = -120
Decision: Accept C/R, OV2 $\leftarrow$ OV1 + Δ = 150 + (-120)=30,
Send CANCEL REPORT for OV1 – OV2 = 150 – 30 = 120
$\leftarrow$----- Execution Report: [CANCEL REPORT 120] Leg – 2, OV2=30; Order still

open
ExecType = 5 (Replace)
OrdStatus = 1 (Partially filled)
OrderQty = 80
LastShares = 0
CumQty = 50
LeavesQty = 30
LegRefId = 2

2. Firm requests quantity to be reduced from 100 to 40, but 40 already executed:
NewOrder-Complex(AB) : OrderQty = OQ1=100, Leg1 LegRatio – 1, Leg2 LegRatio - 2
OR
NewOrder-Complex(AB) : OrderQty = OQ1=50, Leg1 LegRatio – 2, Leg2 LegRatio - 4
OR
NewOrder-Complex(AB) : OrderQty = OQ1=1, Leg1 LegRatio – 100, Leg2 LegRatio - 200

```
-------------------------------------------------→
                ←-----Execution Report: Leg1, EV1=40, OV1=60
                      ExecType = 1 (Partial Fill)
                      OrdStatus = 1 (Partially filled)
                      OrderQty = 100
                      LastShares = 40
                      CumQty = 40
         LeavesQty = 60
         LegRefId = 1

                ←-----Execution Report: Leg2, EV1=80, OV1=120
                      ExecType = 1 (Partial Fill)
                      OrdStatus = 1 (Partially filled)
                      OrderQty = 200
                      LastShares = 80
                      CumQty = 80
         LeavesQty = 120
         LegRefId = 2
```

Cancel/Replace(AC): OrderQty = OQ2=40, Leg1's LegRatio = 1, Leg2's LegRatio = 2
OR
Cancel/Replace(AC): OrderQty = OQ2=20, Leg1's LegRatio = 2, Leg2's LegRatio = 4
OR
Cancel/Replace(AC): OrderQty = OQ2=1, Leg1's LegRatio = 40, Leg2's LegRatio = 80
---→

$$\Delta = OQ2 - OQ1 = 40 - 100 = -60$$
$$\Delta = -60$$
$$EV1=40 \;==\; OQ2=40$$
Decision: Reject C/R, send CANCEL REJECT
<----- Cancel Reject("BAD LEAVES VOLUME")

3. Firm requests quantity to be reduced from 100 to 40, but 80 already executed:
NewOrder-Complex(AB) : OrderQty = OQ1=100, Leg1 LegRatio – 1, Leg2 LegRatio - 2
OR
NewOrder-Complex(AB) : OrderQty = OQ1=50, Leg1 LegRatio – 2, Leg2 LegRatio - 4
OR
NewOrder-Complex(AB) : OrderQty = OQ1=1, Leg1 LegRatio – 100, Leg2 LegRatio - 200

--→

       ←-----Execution Report: Leg1, EV1=80, OV1=20
            ExecType = 1 (Partial Fill)
            OrdStatus = 1 (Partially filled)
            OrderQty = 100
            LastShares = 80
            CumQty = 80
LeavesQty = 20
LegRefId = 1

       ←-----Execution Report: Leg2, EV1=160, OV1=40
            ExecType = 1 (Partial Fill)
            OrdStatus = 1 (Partially filled)
            OrderQty = 200
            LastShares = 160
            CumQty = 160
LeavesQty = 40
LegRefId = 2

Cancel/Replace(AC): OrderQty = OQ2=40, Leg1's LegRatio = 1, Leg2's LegRatio = 2
OR
Cancel/Replace(AC): OrderQty = OQ2=20, Leg1's LegRatio = 2, Leg2's LegRatio = 4
OR
Cancel/Replace(AC): OrderQty = OQ2=1, Leg1's LegRatio = 40, Leg2's LegRatio = 80
--→

      Δ = OQ2 − OQ1 = 40 − 100 = -60
      Δ = -60
      EV1=80 > OQ2=40
    Decision: Reject C/R, send CANCEL REJECT
    <----- Cancel Reject("BAD LEAVES VOLUME")

8.1.7 On-Floor Specialist or SQTorder with CMTA

This is a new order type created for on-floor Specialists or SQTs who want to execute orders as the order sending firm instead of themselves but clear as themselves or some one else.
Specialists or SQTs who wish to execute orders as themselves, should continue to use existing on-floor orders (CustomerFirmType (tag 204) = 5.

To use the new order type, clients must specify the following tags in the fix order
      CustomerOrFirm (tag 204) = 9
      ClientID (tag 109) = <PHLX Market Maker Badge> (e.g. 123A)
      ClearingFirm (tag 439) = <CMTA> (e.g. 456)

9 APPENDIX D

9.1 ExecBroker (tag 76) handling for Non-Customer/Pro.Customer orders

This section explains how PHLX will process an order with routable strategy (SRCH/FIND) for non-customer/pro.customer origin orders.

- Non-Customer/Pro. Customer origin orders are accepted with FIND or DNR routing strategy only.
- Non-Customer/Pro. Customer origin order received with SRCH execBroker is rejected back to the firm with reason "INVALID ROUTE INST".
- If ExecBroker is not specified in a Non-Customer/Pro. Customer order and the firm/port's default strategy is SRCH, then the order is accepted with FIND strategy.
- Non-Customer/Pro. Customer origin orders with FIND strategy received when an option is not in free trading are converted to DNR.
- Prior day GTC Non-Customer/Pro. Customer origin orders with FIND strategy are converted to DNR.
- When trading halts for an option, any Non-Customer/Pro. Customer origin order with FIND strategy on route timer will be cancelled back to the firm with reason "IN TRADING HALT".
  - o Firms configured to reenter order upon unsolicited cancel, will have their orders reentered back to match engine in this case. If the option is still in trading halt, then the order will be converted to DNR. If option has resumed trading by the time reentered order reaches match engine, it will be accepted with FIND strategy.

10 REVISION HISTORY

10.1 Initial Revision

10.2 Version 1.2

Added NEWS message.

Added NEWS message for rejected Principal Linkage order execution.

10.3 Version 1.3

Added Directed Order Flow tag (79) AllocAccount.Used to identify Directed Participant for Directed Order Flow.

10.4 Version 1.3.1

Added Message Header TAG (35) MsgType missing '**G'=Cancel/Replace**.

Added New Single Order TAG (207) SecurityExchange **It will default to PHLX.**

Added New Single Order and Cancel/Replace TAG (58) Text

With OFF-Floor Market Maker orders this supplementary

ID will be overwritten with Tag (440) ClearingAccount.

Added New Single Order TAG (440) ClearingAccount:

Will accept up to 5 characters, with the OCC Sub-account (Multi account)1 to 3 characters long, as part of the ClearingAccount.

Add to New Single Order TAG (18)

Note: If any other value is present the order will not be rejected. The order will not have any special handling.

Removed all references to Internalized orders.

10.5 Version 1.3.2

Removed all references to Routing orders.

10.6 Version 1.3.3

Removed all references to MKT on Close. No longer excepting these orders.

10.7 Version 1.3.4

Added NYSE and NASDAQ markets.

10.8 Version 1.3.5

Added section 2.1.1.6 Directed Orders.

10.9 Version 1.3.6

Changed in section 4.2.1 Order Cancel Request (Msg Type = F) the tag = 204 CustomerOrFirm PHLX XL Required to N (not required). There was an error in specification.

10.10 Version 1.4.0

- Complex Order Transaction added
- FIX ID (ClOrdId) is also expanded to 30 characters for Single and Complex Orders in order to hold branch/sequence information that needs to be passed to OCC.
- Account (Tag 1) optional tag, added in Single and Complex Order Transactions
- ExecID size changed to maximum of 36 characters.

10.11 Version 2.0

- Removed references to CMS order formats.
- Added tags for Maturity Day tag 205 and MaturityDate tag 541 for simple orders for symbology support.
- Remove Transaction Matrices and Application Message Examples appendix.
- Added section on Order Execution Instructions for SRCH, FIND and DNR.
- Updated the New Single Order section for ExecBroker – tag 76.
- Updated cancel replace overview description.
- Remove Execution summary table for Single and complex orders.
- Added a section for Disaster/Recovery Support.

10.11.1   Version 2.0.1

- Added tag 9882 Liquidity Flag to execution message.
- Updated contact list

10.11.2   Version 2.0.2

- Added new a new value of '8' - Professional Customer to the CustomerOrFirm indicator field for the FIX messages.
- Added additional comments for clarity to Section 2.2.3 – Order Cancels
- Added comment to Appendix B to bring more clarity to the handling of cancel replace volume changes.

10.11.3   Version 2.0.3

- Added three new values for liquidity tag (9882) specified on execution reports (N, A and R) in Section 4.3. All 3 indicate that the execution took place on PHLX, but provide additional information about maker/taker status of the execution.

10.11.4   Version 2.0.4

- Added two new liquidity tag (9882) values specific on executions that occur on routed orders to support the BATS and C2 exchanges.

10.11.5   Version 2.1

- Modified to allow complex orders to have up to six legs.
- Modified to allow complex orders to have a stock leg (tied to stock complex orders).
- Modified to allow a SpecialInstruction tag (9368) on complex order to indicate DoNotAuction.
- Modified to allow BATS exchange code 'Z'.
- Modified to allow sell short and sell short exempt buy/sell values for stock legs.
- Modified to allow Rule80A tag (47) to specify the sender's capacity for stock legs.
- Modified to allow securityType of CS for stock leg execution reports.

10.11.6   Version 2.1.1

- Added a new section on order price protection.

10.11.7   Version 2.1.2

- Removed all references to sell short exempt.

10.11.8   Version 2.2

- Added a new section describing PIXL Cross orders.
- Added new message type 'E' (New Order List) to allow entry of PIXL Cross orders.
- Added custom tag 9370 (AuctionID) to New Order, New Complex Order and Execution Report messages.
- Added custom tag 9371 (NWT OrdType) to Single Order Cancel/Replace.
- Added custom tag 9372 (NWT Price) to Single Order Cancel/Replace.
- Added custom tag 9373 (AuctionType) to New Order and New Complex Order.

10.11.9   Version 2.3

- Modified to have value 'C' for C2 exchange in tag 207 on incoming orders.
- Modified to say that for a pixl order in which only one side is customer origin, the customer side will be the agency side regardless of the ordering in which the two sides are specified.
- Modified nwt price and nwt ordType descriptions to indicate they can be specified anywhere in the message body of the PIXL order.
- Removed "CS" for the stock leg security type on execution reports. It will get MLEG.

10.11.10   Version 2.3.1

- Added new value '9' for CustomerFirmType (tag 204) for On-Floor Market Maker orders containing a CMTA for clearing purposes.

10.11.11   Version 2.3.2a

- Added prefix to execId description.

10.11.12   Version 2.3.2b

- Modified Side and LegSide value of 6 to say Sell Short Exempt instead of "Invalid/reserved" where appropriate.

10.11.13   Version 2.4

- Added a new section describing QCC Cross orders.
- Added new message type 'EB' (New Complex Order List) to allow entry of QCC Cross orders.
- Added custom tag 9374 (FromFloor) to New Complex Order List.
- Added custom tag 9375 (StockLegShares) to New Complex Order List.
- Added custom tag 9376 (ContraOpenClose) to New Complex Order List.

10.11.14   Version 2.5

- Added New values for CustomerOrFirm (2,4,6) to allow ClearingAccount/subaccount (tag 440) in all capacities.
- Added Appendix B – CustomerOrFirm Detail Table
- Tag 440 (ClearingAccount) description now says optional for order capacity (tag 204) 0,1,2,5,6 and 8 and Invalid for order capacity (tag 204) 9.

10.11.15   Version 2.5a

- Added New OrdRejectreason(tag 103) value 16 for Unsolicited Out of Buy MKT Order due to No Offer being available

10.11.16   Version 2.5b

- Added explanation about handling of routing strategy (execBroker) for non-customer origin orders.
- Added Fix Exchange Code and Liquidity Code values for NASDAQ OMX BX Options Market.

10.11.17   Version 2.6

- Added Single Solicitation Cross, Complex PIXL and Complex Solicitation Cross.
- Marked tag 610 (LegMaturityMonthYear) as obsolete.
- Added Security Exchange (tag 207) value '7' for MIAX
- Added Liquidity Code 'Y' for MIAX

10.11.18   Version 2.6a

- Added Order Reject/Cancel Reason for LULD
- Added liquidity codes 'J' and 'K' for Flash Trade

11   Contact List

Role	Department	Contact	Phone	Email
New membership/ Changes to existing membership	Membership Services	Susan Murray	+1 215 496 5322	susan.murray@nasdaqomx.com
Key Functionality/Fees	Sales	NASDAQ OMX Market Sales	+1 800 846 0477	sales@nasdaqomx.com
Operational Issues	Market Operations	System Support	+1 215 496 1571	phlxsystemsupport@nasdaqomx.com
Functional & Application Message Interface Specification	Financial Automation	Thomas Fay Reekiran Kahlon	+1 212 231 5090 +1 215 496 5221	thomas.fay@nasdaqomx.com reekiran.kahlon@nasdaqomx.com
Establish Network Connection Firewall Configuration	Subscriber Services	Subscriber Services	+1 212 231 5180 option 3	subscriber@nasdaqomx.com
Schedule Testing	Subscriber Services	Subscriber Services	+1 212 231 5180 option 3	subscriber@nasdaqomx.com