



BOXSM
TECHNOLOGY

Financial Information eXchange
SOLA FIX Specifications Guide
for BOX

FIX-BX-002E
Document Revision: 5.5
Protocol Version: B6
Date of Issue: 2022-11-15

Document History

VERSION	DATE	CHANGE DESCRIPTION
1.0 to 3.9	2003-05-16 to 2014-09-02	<ul style="list-style-type: none"> History removed.
4.0	2015-04-17	<ul style="list-style-type: none"> Section 2: Message Definition. Added RoutingInst row to D: New Single/Complex Order message. Added RoutingInst row to G: Cancel/Replace Single/Complex Order Request message. Added RoutingInst row to AB: New Multi-Leg Order - Single message. Added RoutingInst row to AC: Cancel/Replace Multi-Leg Order message Section 3: Field Definitions. Add additional information to field 7901 [Executing ParticipantID]. Add 9303 [RoutingInst] to Field Definitions table
4.1	2016-06-13	<ul style="list-style-type: none"> General: Renumbered sections (messages are grouped) Section 5: Added Sec 5.15, 5.16 and 5.17 (Messages BE: User Request, BF: User Response, CB: User Notification) Section 6: Added 2 new fields: 924 UserRequestType & 926 UserStatusType
4.2	2016-09-07	Section 6: Added 2 fields: 923 UserRequestId & 7926 RiskTeamStatus
4.3	2016-11-14	<p>Floor Trade</p> <ul style="list-style-type: none"> Section 6: Added new value to AuctionType (R), Tags 9459 (SpecialTradeInd), 9461 (AddQty) are also used for Floor Trades Section 7: Added 2 error codes (0123 = Floor Trade Not Allowed, 0124 = InsufficientSurrender quantity)
4.4	2017-06-13	<ul style="list-style-type: none"> Section 5.6- Message 8, modified Tag 37 Section 6 - Tag 9383-Auction Type, Update X to include Qualified Contingent Cross Tag 9459-SpecialTradeInd, Update D to include Cross and Qualified Contingent Cross
4.5	2017-11-15	<ul style="list-style-type: none"> Section 5.1, 5.2, 5.13, 5.14: Added Note for IOI, Updated Tag 38 Section 5.3: PI Message: Update description (add Floor Trade) Section 5.6: Added Note for IOI Section 6: OrderType updated with new value
4.6	2018-04-09	<ul style="list-style-type: none"> General editing (new logo, Section 3 renumbered Section 2.2) Section 5 Field Definitions: Added value 8 (AuctionOrKill) to Field 59-TimeInForce
4.7	2018-06-08	<ul style="list-style-type: none"> Update to Sections 4.3 PI: Auction Initial Order (new field MultiLegPrice Tag 9379)

VERSION	DATE	CHANGE DESCRIPTION
4.8	2018-09-20	<ul style="list-style-type: none"> • Protocol version on cover page • Update of Tag 54 from Required to Optional/Conditional in Sections 4.3 Message PI, 4.4 Message F, 4.13 Message AB, 4.14 Message AC • Update of Nbr of Legs in Sections 4.3 Tag 555, 4.9 Tag 146, 4.10 Tag 146, 4.13 Tag 555 • Update of Time in microseconds in Sections 2.2.1, 4.1, 4.2, 4.3, 4.4, 4.6, 4.13, 4.14, 4.15, 4.16, 4.17 • Section 5: Field Definitions: Updates to Tags 319, 555, 623, 7906 for Leg nbr & Ratio and to Tag 77 • Section 5: Updates to Tags 52 and 60 for Time in microseconds, Tag 11 for additional restriction • Update to Section 6 Error Codes (0310)
4.9	2020-05-22	<ul style="list-style-type: none"> • Removed history change description prior to version 4.0 • Added description for MIP on Facilitation. No change in the protocol.
5.0	2020-10-22	<ul style="list-style-type: none"> • Added precision for trailing spaces in ClOrdId field definition
5.1	2021-04-01	<ul style="list-style-type: none"> • Introduction of FIX Protocol B5 (Internal BOX) version • Added TAG 440 (ClearingAccount) in the following messages: D, G, PI, 8, AB, AC • Added FIX 8 can be returned as an Error to a business message • Added definition, usage and declaration of Tag 440 in Section 5 – Field Definitions
5.2	2022-05-20	<ul style="list-style-type: none"> • Added clarification for usage of Hearbeat (FIX '0') [Section 3.2] and Test Request (FIX '1') [Section 3.3]
5.2	2022-05-06	<ul style="list-style-type: none"> • Number of Legs for Complex Orders updated to 16 on the following messages: <ul style="list-style-type: none"> ○ Section 4.3 – PI: Auction Initial Order ○ Section 4.9 – c: Security Definition Request ○ Section 4.10 – d: Security Definition ○ Section 4.13 AB – New Multi-Leg Order • Tags updated to accommodate 16 legs <ul style="list-style-type: none"> ○ Section 5 – Tag 77: OpenClose ○ Section 5 – Tag 146: NoRelatedSym ○ Section 5 – Tag 555: NbLegs

VERSION	DATE	CHANGE DESCRIPTION
5.3	2022-10-17	<p>Updates with the following changes:</p> <ul style="list-style-type: none"> • New internal BOX protocol version B6 <ul style="list-style-type: none"> ○ New value in Tag 828 (TrdType) <ul style="list-style-type: none"> ▪ M for MOC Trade ○ New values in Tag 9459 (SpecialTradeInd) <ul style="list-style-type: none"> ▪ L: Late Trade ▪ A: As-Of-Trade • Increase of length of Tag 58 (Text) to 200 characters when sent in FIX '8' [ExecType 150=8] (rejected), and FIX '9' as error text <p>Document correction:</p> <ul style="list-style-type: none"> • Correction of length of Tag 41 (OrigClOrdID) to 20 characters to align with length of Tag 11 (ClOrdID)
5.5	2022-11-14	<p>Updates with the following changes:</p> <ul style="list-style-type: none"> • Sections 4.6, 5 <ul style="list-style-type: none"> ○ Tag 375 - ContraBroker to display Opposite Executing Broker firm ID ○ Tag 382 - NoContraBroker value set to 1 when Tag 375 (ContraBroker) is populated

Table of Contents

Table of Contents	iii
Section 1 Introduction.....	1
1.1 Scope	1
1.2 Audience	1
1.3 Related Documents	1
1.4 BOX Contact	1
Section 2 Overview.....	2
2.1 List of Messages	2
2.2 Message Definition	3
2.2.1 Standard Message Header	3
2.2.2 Standard Message Trailer.....	3
Section 3 Administration Messages.....	4
3.1 A: Logon.....	4
3.2 0: Heartbeat	4
3.3 1: Test Request.....	5
3.4 2: Resend Request	5
3.5 3: FIX Protocol Error / Reject	5
3.6 4: Sequence Reset	6
3.7 5: Logout	6
Section 4 Application Messages.....	7
4.1 D: New Single/Complex Order.....	7
4.2 G: Cancel/Replace Single/Complex Order Request (Order Modification Request)	9
4.3 PI: Auction Initial Order	11
4.4 F: Order Single/Complex Cancel Request.....	15
4.5 R: Quote Request	16
4.6 8: Execution Report	17
4.6.1 [ExecType 150], [OrdStatus 39], [ExecTransType 20] Fields Description	
According to Action	22
4.7 9: Order Single/Complex Cancel Reject	24
4.8 b: Quote Acknowledgement.....	25
4.9 c: Security Definition Request.....	25
4.10 d: Security Definition	27
4.11 j: Business Message Reject.....	28
4.12 AF: Order Mass Status Request	29
4.13 AB: New Multi-Leg Order	30
4.14 AC: Cancel/Replace Multi-Leg Order.....	32
4.15 BE: User Request	35
4.16 BF: User Response.....	36
4.17 CB: User Notification.....	36
Section 5 Field Definitions.....	37
Section 6 Error Codes.....	52

Section 1 Introduction

This document defines the subset of the Financial Information eXchange (FIX) messages that BOX will support in its FIX implementation. All FIX communication with BOX's trading engine will be according to the protocol defined herein.

This document is designed to supplement the FIX protocol documentation that can be found at www.fixprotocol.org rather than be a complete and self-sufficient reference. BOX-FIX implementation is built on version 4.2 of FIX with a few exceptions as noted in the current document.

Exceptions specific to BOX are shown throughout the document in ***bold-italics*** style format.

Note: The only fields accepted by BOX are the ones described in the current document. Unsupported fields are rejected with a FIX Protocol Error/Reject message (message type 3).

The reader must have a good working knowledge of FIX prior to reading this document.

1.1 Scope

The scope of this document is to provide a detailed description of the FIX messages that are supported by BOX. This includes:

- Message Format
- Administrative Messages
- Application Messages

1.2 Audience

This document targets business, programmer, and network analysts who are responsible for determining the technical solutions needed to interface with FIX.

1.3 Related Documents

- BOX FIX Business Design Guide

1.4 BOX Contact

Market Operation Center Support / Technical Help Desk
Toll Free: 1-866-768- 8845
boxmoc@boxoptions.com

Section 2 Overview

2.1 List of Messages

This table contains the FIX messages supported by BOX.

TYPE	FIX MESSAGES	ORIGINATOR
Administration	3 – FIX Protocol Error / Reject	Client / BOX
	0 – Heartbeat	Client / BOX
	A – Logon	Client / BOX
	2 – Resend Request	Client / BOX
	5 – Logout	Client / BOX
	1 – Test Request	Client / BOX
	4 – Sequence Reset	Client / BOX
Application	D – New Order Single	Client
	G – Order Cancel/Replace Request	Client
	F – Order Cancel Request	Client
	R – Quote Request	Client
	8 – Execution Report	BOX
	9 – Order Cancel Reject	BOX
	b – Quote Acknowledgement	BOX
	c – Security Definition Request	Client
	d – Security Definition	BOX
	j – Business Message Reject	BOX
	AB – New Multi Leg Order	Client
	AC – Cancel/Replace Multi-Leg Order	Client
	AF - Order Mass Status Request ¹	Client
	BE – User Request	Client
	BF – User Response	BOX
	CB – User Notification	BOX
PI – Auction Initial Order	Client	

¹Taken from FIX v4.3

2.2 Message Definition

This section includes the standard message Header and Trailer.

2.2.1 Standard Message Header

TAG	FIELD NAME	REQ/ OPT	COMMENTS
8	BeginString	R	Value equals FIX.4.2 Must be first field in message.
9	BodyLength	R	Must be second field in message.
35	MsgType	R	Must be third field in message.
49	SenderCompID	R	
56	TargetCompID	R	
34	MsgSeqNum	R	
52	SendingTime	R	YYYYMMDD-HH:MM:SS.mmmuuu format
43	PossDupFlag	O	Always required for retransmitted messages, whether prompted by the sending system or as the result of a resend request.
122	OrigSendingTime	O	Required for message resends. If data is not available, set to same value as SendingTime.
97	PossResend	O	Required when message may be duplicate of another message sent under a different sequence number.

2.2.2 Standard Message Trailer

TAG	FIELD NAME	REQ/ OPT	COMMENTS
10	Checksum	R	Always unencrypted, and last field in message

Section 3 Administration Messages

3.1 A: Logon

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=A]
98	EncryptMethod	R	Must be set to 0.
108	HeartBtInt	R	'0' means no HeartBeat message will be sent. The value provided must not be less than 30.
141	ResetSeqNumFlag	O	Indicates both sides of a FIX session should reset sequence numbers.
383	MaxMessageSize	O	Can be used to specify the maximum number of bytes supported for messages received.
	Standard Trailer	R	

3.2 0: Heartbeat

A Heartbeat message (FIX '0') from the Participant should only be sent in response to a Heartbeat message (FIX '0') or a Test Request message (FIX '1') from the exchange

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=0]
112	TestReqID	O	Required when the Heartbeat is the result of a Test Request message. Used only in Heartbeat message from server to client.
	Standard Trailer	R	

3.3 1: Test Request

A Test Request (FIX '1') from the Participant should only be sent if no data (business messages) or Heartbeat message (FIX '0') has been received for the (HeartBtInt + 1s) period specified in the Logon message (FIX 'A')

If the HeartBtInt is set to 0 in the Logon message (FIX 'A'), no Test Request (FIX '1') should be sent

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=1]
112	TestReqID	R	
	Standard Trailer	R	

3.4 2: Resend Request

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=2]
7	BeginSeqNo	R	
16	EndSeqNo	R	
	Standard Trailer	R	

3.5 3: FIX Protocol Error / Reject

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=3]
45	RefSeqNum	O	MsgSeqNum of rejected message
371	RefTagID	O	Tag number of the FIX field being referenced
372	RefMsgType	O	MsgType of the FIX message being referenced
373	SessionRejectReason	O	Code to identify reason for a session-level Reject message
58	Text	O	Where possible, message to explain reason for rejection

	Standard Trailer	R	
--	------------------	---	--

3.6 4: Sequence Reset

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=4]
123	GapFillFlag	O	
36	NewSeqNo	R	Cannot be lower than the last [MsgSeqNum 34]
	Standard Trailer	R	

3.7 5: Logout

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=5]
58	Text	O	
	Standard Trailer	R	

Section 4 Application Messages

4.1 D: New Single/Complex Order

TAG	FIELD NAME	REQ/ OPT/ COND	COMMENTS
	Standard Header	R	[MsgType 35=D]
11	ClOrdID	R	Unique identifier of the order as assigned by institution
18	ExecInst	O	<ul style="list-style-type: none"> F = Intermarket Sweep Order Must not be provided when [SecurityType 167=MLEG]
1	Account	O	
167	SecurityType	R	<ul style="list-style-type: none"> OPT = Options MLEG = Complex Order
55	Symbol	R	<ul style="list-style-type: none"> Underlying symbol when [SecurityType 167=OPT] Complex Order symbol when [SecurityType 167=MLEG]
201	PutOrCall	O	<ul style="list-style-type: none"> Mandatory when [SecurityType 167=OPT] Must not be provided when [SecurityType 167=MLEG]
202	StrikePrice	O	
200	MaturityMonthYear	O	
205	MaturityDay	O	
54	Side	R	
60	TransactTime	O	Time at which this order request was initiated/released by the trader or trading system in YYYYMMDD-HH:MM:SS.mmmuuu format
38	OrderQty	C	Represents the total order quantity <ul style="list-style-type: none"> Cannot be 0 Optional when IOI
40	OrdType	R	Refer to Section 5, Field Definitions
47	Rule80A	R	Identifies the type of account Refer to Section 5, Field Definitions

TAG	FIELD NAME	REQ/ OPT/ COND	COMMENTS
44	Price	O	<ul style="list-style-type: none"> Required when [OrdType 40] = 2 Can be negative or zero when [SecurityType 167=MLEG]
59	TimelnForce	O	Absence of this field indicates Day order
432	ExpireDate	O	Conditionally required if [TimelnForce 59=6] (GTD) Refer to Section 5, Field Definitions
58	Text	R	
77	OpenClose	R	Refer to Section 5, Field Definitions
76	ExecBroker	O	Give-Up firm
439	ClearingFirm	O	Clearing Firm for CMTA
440	ClearingAccount	O	Clearing Account (SubAccount) at OCC. This represents the Market Maker ID (MMID)
7901	<i>ExecutingParticipantID</i>	O	<ul style="list-style-type: none"> Indicates the Executing Participant for a Directed Order or the Market Maker for a Preferred Order When this field is provided, the [RoutingInst 9303] must also be provided
7906	<i>CombinedOrdType</i>	O	<ul style="list-style-type: none"> Indicates the Price Validation Type requested by the client within the IML rules Refer to Section 5, Field Definitions When Execlnst and CombinedOrdType are present together, the order is rejected and a FIX Order Report (MsgType = 8) is transmitted back to the participant
9303	RoutingInst	O	Required when [ExecutingParticipantID 7901] is provided Refer to Section 5, Field Definitions
	Standard Trailer	R	
<p>Note: When the OrderType(40)=F [IndicationOfInterest] are used, only the following fields are processed: Standard Header, Tags 11, 167, 55, 201, 202, 200, 205, 54, 60, 38, 40, 44, 58, Leg Block, Standard Trailer. All other fields are not used.</p>			

4.2 G: Cancel/Replace Single/Complex Order Request (Order Modification Request)

All fields can be modified except; [Symbol 55], [PutOrCall 201], [StrikePrice 202], [MaturityMonthYear 200], [MaturityDay 205], and [Side 54].

TAG	FIELD NAME	REQ/OPT	COMMENTS
	Standard Header	R	[MsgType 35=G]
37	OrderID	O	Unique identifier as assigned by BOX
1	Account	O	
41	OrigClOrdID	R	[ClOrdID 11] of the order being replaced
11	ClOrdID	R	<ul style="list-style-type: none"> Unique identifier of replacement order as assigned by the Participant This identifier will be used in [ClOrdID 11] of the Cancel Reject message if the replacement request is rejected
167	SecurityType	R	<ul style="list-style-type: none"> OPT = Options MLEG = Complex Order Required for Options, optional for Complex Order
55	Symbol	R	Must match value provided in the original order
201	PutOrCall	O	<ul style="list-style-type: none"> Must match value provided in the original order Must not be provided when [SecurityType 167=MLEG]
202	StrikePrice	O	
200	MaturityMonthYear	O	
205	MaturityDay	O	
54	Side	R	Must match value provided in the Execution Report when the order was booked
60	TransactTime	R	Time this order request was initiated/released by the trader or trading system in YYYYMMDD-HH:MM:SS.mmmuuu format
38	OrderQty	C	Represents the total order quantity <ul style="list-style-type: none"> Cannot be 0 Optional when IOI
40	OrdType	O	Refer to Section 5, Field Definitions
47	Rule80A	O	Identifies the type of account

TAG	FIELD NAME	REQ/ OPT	COMMENTS
			Refer to Section 5, Field Definitions
44	Price	O	<ul style="list-style-type: none"> Required when [OrdType 40] = 2 Can be negative or zero when [SecurityType 167=MLEG]
59	TimeInForce	O	
432	ExpireDate	O	Conditionally required if [TimeInForce 59=6] (GTD)
58	Text	O	
77	OpenClose	R	
76	ExecBroker	O	Give-Up Firm
439	ClearingFirm	O	Clearing Firm for CMTA
440	ClearingAccount	O	Clearing Account (SubAccount) at OCC. This represents the Market Maker ID (MMID)
7901	<i>ExecutingParticipantID</i>	O	<ul style="list-style-type: none"> Indicates the Executing Participant for a Directed Order or the Market Maker for a Preferred Order When this field is provided, the [RoutingInst 9303] must also be provided
7906	<i>CombinedOrdType</i>	O	<ul style="list-style-type: none"> Indicates the Price Validation Type requested by the client within the IML rules Refer to Section 5, Field Definitions When ExecInst and CombinedOrdType are present together, the order is rejected and a FIX Order Report (MsgType = 8) is transmitted back to the participant
9303	RoutingInst	O	Required when [ExecutingParticipantID 7901] is provided Refer to Section 5, Field Definitions
	Standard Trailer	R	
<p>Note: When the OrderType(40)=F [IndicationOfInterest] are used, only the following fields are processed: Standard Header, Tags 11, 41, 167, 55, 201, 202, 200, 205, 54, 60, 38, 40, 44, 58, Leg Block, Standard Trailer. All other fields are not used.</p>			

4.3 PI: Auction Initial Order

Regarding modification of an Auction Initial order, only [Price 44] may be modified.

When used for a Complex Order instrument, participant can specify either [Symbol 55] or the repeating leg block.

TAG	FIELD NAME	REQ/OPT	COMMENTS
	Standard Header	R	[MsgType 35=PI]
167	SecurityType	R	<ul style="list-style-type: none"> OPT= Options MLEG = Complex Order
55	Symbol	O	<ul style="list-style-type: none"> Underlying symbol when [SecurityType 167=OPT] Complex Order symbol when [SecurityType 167=MLEG] Must not be used when using the repeating leg block section For a modification, it must be identical to the one provided in the original message
201	PutOrCall	O	Must not be provided when [SecurityType 167=MLEG]
202	StrikePrice	O	
200	MaturityMonthYear	O	
205	MaturityDay	O	
54	Side	C	Optional when there is a repeating leg block section, required otherwise
38	OrderQty	R	For Auction Initial Order modification, the value must be equal to the quantity of the original Auction Initial Order
44	Price	O	<p>For Auction Initial Order modification, the value must be different than the price of the related Auction Initial Order</p> <ul style="list-style-type: none"> Required if Tag 9379 is not provided Optional if Tag 9379 is provided
854	QtyType	O	<ul style="list-style-type: none"> Defines Auction Type as MIP (Maximum Improve Price) or surrender quantity for Solicitation Must not be provided when the message is for improving an existing PIP <p>Refer to Section 5, Field Definitions</p>

TAG	FIELD NAME		REQ/ OPT	COMMENTS
639	<i>PriceImprovement</i>		O	<ul style="list-style-type: none"> Specifies the Maximum Improve Price for PIP Must not be provided for Solicitation and when the message is for improving an existing PIP
7900	ImprovePhaseID		O	<ul style="list-style-type: none"> Identification of the improvement phase Mandatory when the message represents a modification
9461	<i>AddQty</i>		O	<ul style="list-style-type: none"> Used for PIP and Solicitation Auction Types Indicates the number of contracts the InitO is willing to surrender For Solicitation, used when [QtyType 854] is set to 'B'. For PIP, use when [QtyType 854] is set to 'J' The value must be less than or equal to the auction initial quantity
9383	<i>Auction Type</i>		O	<ul style="list-style-type: none"> Specifies which type of auction/order to start If this tag is not provided, the default Auction Type is PIP <p>Refer to Section 5, Field Definitions</p>
7388	<i>Contingent Order</i>		O	<p>Applies to Solicitation and Facilitation Auction Types and Floor Trades</p> <p>Specifies that the Auction is contingent and should not be controlled against the NBBO for the execution price</p> <p>Refer to Section 5, Field Definitions</p>
7904	NoClearingData		R	<ul style="list-style-type: none"> Value equals 2. The first group of fields provides the broker information, and the second group provides the 'Must be Filled' side information All tags related to the 'Must be Filled' side are ignored when the message is sent for improving an existing PIP
CLEARING DATA BLOCK				
→	11	CIOrdID	R	<ul style="list-style-type: none"> Unique identifier of the order as assigned by institution When improving the price of an ongoing PIP, [CIOrdID 11] for the "Must be Filled" side is optional and, if supplied, must always keep its original value

TAG	FIELD NAME		REQ/ OPT	COMMENTS
→	1	Account	O	
→	58	Text	O	
→	47	Rule80A	R	Identifies the type of account Refer to Section 5, Field Definitions
→	77	OpenClose	R	Must only be provided when [SecurityType 167=OPT] or when NOT using the repeating Leg Block section Refer to Section 5, Field Definitions
→	76	ExecBroker	O	Give-Up Firm
→	439	ClearingFirm	O	Clearing Firm for CMTA
→	440	ClearingAccount	O	Clearing Account (SubAccount) at OCC. This represents the Market Maker ID (MMID)
→	7906	Combined OrdType	O	<ul style="list-style-type: none"> Indicates the price validation type requested by the client within the IML rules Refer to Section 5, Field Definitions
→	60	TransactTime	O	YYYYMMDD-HH:MM:SS.mmmuuu format
555	NoLegs		R	<ul style="list-style-type: none"> Number of legs that make up the instrument. Group of fields must be included in sequential order as defined in the Complex Order Must not be provided when [Symbol 55] is included From 2 to 16
LEG BLOCK				
→	654	LegRefID	R	<ul style="list-style-type: none"> Unique identifier for each leg within the order. Not required to be unique for the day. Must be received in sequential order (ex.: leg 1 before leg 2) and must be the first tag in each component block Must not be provided when [Symbol 55] is included
→	600	LegSymbol	R	Symbol for each individual leg
→	608	LegCFICode	R	Type of option of each individual leg <ul style="list-style-type: none"> OC = Option Call OP = Option Put

TAG	FIELD NAME		REQ/ OPT	COMMENTS
				<ul style="list-style-type: none"> Must not be provided when [Symbol 55] is included
→	611	LegMaturityDate	R	<ul style="list-style-type: none"> Maturity date of each individual leg Format: YYYYMMDD Must not be provided when [Symbol 55] is included
→	612	LegStrikePrice	R	<ul style="list-style-type: none"> Strike price of each individual leg Must not be provided when [Symbol 55] is included
→	623	LegRatioQty	R	<ul style="list-style-type: none"> The ratio quantity for this individual leg relative to the entire Complex Order Must not be provided when [Symbol 55] is included
→	624	LegSide	R	Side of each individual leg <ul style="list-style-type: none"> 1: Buy 2: Sell Must not be provided when [Symbol 55] is included
→	564	LegPositionEffect	R	Open/Close flag for the broker side Refer to definition of tag 77 in Section 5, Field Definitions
→	9564	LegPositionEffect MBF	R	Open/Close flag for the 'Must be Filled' side Refer to definition of tag 77 in Section 5, Field Definitions
→	9379	MultiLegPrice	O	Leg Price
	Standard Trailer		R	

4.4 F: Order Single/Complex Cancel Request

This message type is used to cancel an open order by the order originator or to cancel an existing Solicitation or Facilitation Auction Type by the Initiating Participant (InitO).

When use to cancel a Complex Order, participant can specify either [Symbol 55] or the repeating leg block.

TAG	FIELD NAME		REQ/ OPT	COMMENTS
	Standard Header		R	[MsgType 35=F]
41	OrigCLOrdID		R	[CLOrdID 11] of the order being cancelled
37	OrderID		O	Unique identifier of most recent order as assigned by BOX
11	CLOrdID		R	Unique ID of cancel request as assigned by the Participant
38	OrderQty		O	Represents the total order quantity
167	SecurityType		R	<ul style="list-style-type: none"> OPT: Options MLEG: Complex Order
55	Symbol		R	<ul style="list-style-type: none"> Must match the value provided in the original order Must not be provided when using leg blocks
201	PutOrCall		O	<ul style="list-style-type: none"> Must match the value provided in the original order Must not be provided when [SecurityType 167=MLEG]
202	StrikePrice		O	
200	MaturityMonthYear		O	
205	MaturityDay		O	
54	Side		O	Must match the value provided in the original order
58	Text		O	
60	TransactTime		R	Time this order request was initiated/released by the trader or trading system in YYYYMMDD-HH:MM:SS.mmmuuu format
555	NoLegs		O	<ul style="list-style-type: none"> Must not be provided when [SecurityType 167=OPT]
➔	654	LegRefID	O	

TAG	FIELD NAME		REQ/ OPT	COMMENTS
→	564	LegPositionEffect	O	<ul style="list-style-type: none"> Must match the value provided in the original order (message type AB) When [SecurityType 167=MLEG], replace the use of [Symbol 55] Must not be provided when Symbol is defined.
→	600	LegSymbol	O	
→	608	LegCFICode	O	
→	611	LegMaturityDate	O	
→	612	LegStrikePrice	O	
→	623	LegRatioQty	O	
→	624	LegSide	O	
	Standard Trailer		R	

4.5 R: Quote Request

This message is used to broadcast a request for a quote on a particular instrument. The request is broadcast in the HSVF Market Data feed.

Note: Only applies for option instrument, not for Complex Order instrument.

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=R]
131	QuoteReqID	O	
146	NoRelatedSym	O	If provided, must be set to 1
167	SecurityType	R	
55	Symbol	R	
201	PutOrCall	R	
202	StrikePrice	R	
200	MaturityMonthYear	R	
205	MaturityDay	R	
38	OrderQty	O	
	Standard Trailer	R	

4.6 8: Execution Report

Execution Report can be generated for the following:

- A Trade is cancelled by the Market Operation Center on behalf of a participant
- An Order gets eliminated
- A New Single/Complex Order confirmation
- A New Multi-Leg Order - Single confirmation
- A Cancel/Replace Single/Complex Order Request confirmation
- A Multi-Leg Order Cancel/Replace Request confirmation
- An Order Single/Complex Cancel Request confirmation
- A Directed Order confirmation
- In response to an Order Mass Status Request
- In response to all PIP, Solicitation and Facilitation Auction Types
- In response to a Customer Cross order
- As a Reject message to specify an error on a submitted business message

TAG	FIELD NAME	COMMENTS
	Standard Header	[MsgType 35=8]
37	OrderID	<ul style="list-style-type: none"> • Required to be unique for each chain of orders • Set to "NONE" if in response to a New Order Single being rejected • Not provided when [MultiLegReportingType 442=2]
11	CIOrdID	If provided in the original New Order, Cancel Request, or Order Cancel/Replace
41	OrigCIOrdID	<ul style="list-style-type: none"> • Conditionally required for response to a Cancel or Cancel/Replace request of [ExecType 150 = Replaced or Cancelled] • [CIOrdID 11] of the previous order (NOT the initial order of the day) when cancelling or replacing an order • Not provided when [ExecTransType 20=1]
18	ExecInst	<ul style="list-style-type: none"> • f = Intermarket Sweep Order • Only provided when [SecurityType 167=OPT]
1	Account	Used for firm identification if provided in the original order
17	ExecID	Unique for each Execution Report message
20	ExecTransType	See [ExecType 150] , [OrdStatus 39] , [ExecTransType 20] Fields Description According to Action

TAG	FIELD NAME	COMMENTS
19	ExecRefID	Provided when [ExecTransType 20=1] or [ExecTransType 20=2]
150	ExecType	Describes the type of execution report See [ExecType 150] , [OrdStatus 39] , [ExecTransType 20] Fields Description According to Action
103	OrdRejReason	May be provided when [ExecType 150=8] (rejected)
39	OrdStatus	Describes the current state of a CHAIN of orders, same scope as [OrderQty 38], [CumQty 14], [LeavesQty 151], and [AvgPx 6]
38	OrderQty	Quantity of the order (as opposed to [LastShares 32], which refer to the fill)
44	Price	<ul style="list-style-type: none"> Price of the order (as opposed to [LastPx 31], which refers to the fill) when 39=0. Price of the trade when 39=1 or 39=2 If provided in the original order Not provided if the original order is a Market Order
167	SecurityType	<ul style="list-style-type: none"> OPT = Options MLEG = Complex Order
55	Symbol	<ul style="list-style-type: none"> Underlying symbol when [SecurityType 167=OPT] Complex Order symbol when [SecurityType 167=MLEG]
201	PutOrCall	Not provided when [MultiLegReportingType 442=3]
202	StrikePrice	
200	MaturityMonthYear	
205	MaturityDay	
54	Side	
40	OrdType	Refer to Section 5, Field Definitions
59	TimelnForce	Absence of this field indicates Day order Refer to Refer to Section 5, Field Definitions
432	ExpireDate	Provided when [TimelnForce 59=6] (GTD)
32	LastShares	<ul style="list-style-type: none"> Quantity of shares bought/sold on this (last) fill Indicate the quantity traded of the current leg when [MultiLegReportingType 442=2]
31	LastPx	<ul style="list-style-type: none"> Price of this (last) fill

TAG	FIELD NAME	COMMENTS
		<ul style="list-style-type: none"> When [MultiLegReportingType 442=2], indicates the price of the current leg
151	LeavesQty	<ul style="list-style-type: none"> Amount of shares open for further execution If [OrdStatus 39= 4] (cancelled), then [LeavesQty 151] could be 0, otherwise [LeavesQty 151] = [OrderQty 38] - [CumQty 14]
14	CumQty	<ul style="list-style-type: none"> Currently executed shares for chain of orders. Equal [LastShares 32] when the fill is for a Flash Message
6	AvgPx	Equal [LastPx 31] when the fill is for a Flash Message
60	TransactTime	YYYYMMDD-HH:MM:SS.mmmuuu format
77	OpenClose	Refer to Section 5, Field Definitions
58	Text	<ul style="list-style-type: none"> If provided in the original order When [ExecType 150=8] (rejected), contains the text associated with the reason of the rejection
76	ExecBroker	Give-up firm
439	ClearingFirm	If provided in the original order
440	ClearingAccount	Clearing Account (SubAccount) at OCC if provided in the original order
47	Rule80A	Identifies the type of account Refer to Section 5, Field Definitions
442	MultiLegReportingType	<ul style="list-style-type: none"> 1 : Single security or outright contract (default value) 2 : Individual leg of a Complex Order 3 : Report refers to a Complex Order Not provided for a Trade Kill
382	NoContraBrokers	Value will be 1 when Tag 375 (ContraBroker) is populated
375	ContraBroker	Will be populated with the Opposite Executing Broker firm
584	MassStatusReqID²	<ul style="list-style-type: none"> Required if responding to an Order Mass Status Request Echo back the value provided by the requester
828	TrdType	<ul style="list-style-type: none"> Type of Trade Refer to Section 5, Field Definitions <ul style="list-style-type: none"> Not provided for a Trade Kill

²Taken from FIX 4.4

TAG	FIELD NAME	COMMENTS
7900	<i>ImprovePhaseID</i>	<ul style="list-style-type: none"> • Identification of the improvement phase • Used when the 'Execution Report' message is a response to an Auction Initial Order
7906	<i>CombinedOrdType</i>	<ul style="list-style-type: none"> • Indicates the price validation type requested by the client within the IML rules Refer to Section 5, Field Definitions
9383	<i>Auction Type</i>	Applies to PIP, Solicitation and Facilitation Auction Types and specifies the type of auction that the Execution Report refers to Refer to Section 5, Field Definitions
7388	<i>Contingent Order</i>	Applies to Solicitation and Facilitation Auction Types and specifies that the auction was contingent and was not controlled against the NBBO for the execution price Refer to Section 5, Field Definitions
9459	SpecialTradeInd	<ul style="list-style-type: none"> • Indicates the type of trade Refer to Section 5, Field Definitions <ul style="list-style-type: none"> • Not provided for a Trade Kill
9730	TradeLiquidity Indicator	<ul style="list-style-type: none"> • Indicates whether a trade adds or removes liquidity from the marketplace, or if the trade was done at an Away Exchange • Not provided when [SecurityType 167=MLEG] except when 2 Complex Orders trade together Refer to Section 5, Field Definitions . <ul style="list-style-type: none"> • Not provided for a Trade Kill
9461	<i>AddQty</i>	<ul style="list-style-type: none"> • Applies to Solicitation and PIP Auction Types • Contains the Surrender Quantity • Not included in responses of PI messages to start an auction if it was originally included in the PI message • Not included in responses of PI messages to improve an existing auction • Included in Fill Reports sent for the InitO side on an auction only when there was no improvement sent on the initial auction and if it was originally included in the PI message • Included in Fill Reports sent for the MBF side if it was originally included in the PI message
854	<i>QtyType</i>	Defines Auction Type as MIP for PIP or Auction Type Solicitation with a surrender quantity Refer to Section 5, Field Definitions
639	PriceImprovement	Specifies the Maximum Improvement Price

TAG	FIELD NAME	COMMENTS
654	LegRefID	Unique identifier for each leg as assigned by the Participant when [MultiLegReportingType 442=2]
10455	SecurityAltId	Complex Order symbol when [MultiLegReportingType 442=2]
527	SecondaryExedId	Equal to [ExecID 17] of the Complex Order Execution Report when [MultiLegReportingType 442=2]
6005	ContraAccountType	<ul style="list-style-type: none"> Identifies the type of account of the counterparty to the trade. Provided when [SecurityType 167=OPT] and the [ExecType 150] = 1 or 2 Same list of values as the existing [Rule80A 47] Refer to Section 5, Field Definitions .
	Standard Trailer	
<p>Note: When the OrderType(40)=F [IndicationOfInterest] are used, an Execution Report only returns the following fields: Standard Header, Tag 37, 11, 41, 17, 20, 150, 103, 39, 44, 167, 55, 201, 202, 200, 205, 54, 40, 59, 31, 6, 60, 58, 442, 654, 10455, 32, 14, 151, 38, Standard Trailer. Other fields are not returned.</p>		

4.6.1 [ExecType 150], [OrdStatus 39], [ExecTransType 20] Fields Description According to Action

The following table defines the use of [ExecType 150], [OrdStatus 39], [ExecTransType 20] fields according to the action performed on an Order or a Trade (Fill).

ACTION	[EXECTYPE 150]	[ORDSTATUS 39]	[EXECTRASTYPE 20]
New Order accepted and put in the book	0: New	0: New	0: New
New Order already received with [PossResend 97=Y]	According to the status of the order at that time	According to the status of the order at that time	3: Status
Response to an 'Order Mass Status Request' message [MsgType 35=AF]	The current status of the order. 0: New 1: Partial fill 2: Fill	The current status of the order. 0: New 1: Partial fill 2: Fill	3: Status
Order sent to an away exchange	0: New	L: Directed through IML	0: New
Order Traded	1: Partial fill 2: Fill	1: Partial filled 2: Filled	0: New
Order cancelled by the client	4: Cancelled	4: Cancelled	0: New
Order cancelled by the Market Operations Center (MOC)	4: Cancelled	M: Cancelled by the MOC	0: New
Order Eliminated for one of the following reasons: Because of an update on the instrument An 'Immediate or Cancel' order is not filled or partially filled After an exposition phase if the order is not traded	4: Cancelled	4: Cancelled	0: New
Order Cancel/Replace accepted and put in the book	5: Replace	5: Replace	0: New
Order Cancel/Replace accepted and put in the book on a partially filled order	5: Replace	1: Partial filled	0: New
New Order	8: Rejected	8: Rejected	0: New

ACTION	[EXECTYPE 150]	[ORDSTATUS 39]	[EXECTRANSTYPE 20]
Order is being exposed at the NBBO because it may cause a trade through.	0: New	P: Exposed	0: New
Order is waiting to be traded at an away exchange.	0: New	L: Directed through IML	0: New
Trade Killed (Busted)	1: Partial fill 2: Fill	The current status of the order. 0: New 1: Partial fill 4: Cancelled	1: Cancel
Auction Initial Order is accepted or modified	0: New	0: New	0: New
Auction Initial Order is cancelled	4: Cancelled	4: Cancelled	0: New
Directed Order sent to an Executing Participant	0: New	Q: Directed	0: New
Directed Order is refused and transformed into a regular New Order	0: New	0: New	0: New
Directed Order is refused and cannot be transformed into a regular New Order	8: Rejected	8: Rejected	0: New
Order eliminated due to a trading restriction (Wash Sale Prevention feature)	4: Cancelled	T: Cancelled due to Trading Restriction	0: New
Order eliminated due to an invalid price	4: Cancelled	F: Eliminated Out of Limits	0: New
Order cancellation is pending because the option instrument is not in a state where order cancel are accepted. The order will be cancelled once the instrument will be back in a state allowing order cancellation.	6: Cancel Pending	6: Cancel Pending	0: New

ACTION	[EXECTYPE 150]	[ORDSTATUS 39]	[EXECTRANSTYPE 20]
Incoming Complex Order cannot be matched against resting Complex Order because one of the legs does not satisfy the NBBO requirements	0: New	4: Cancelled	0: New
Complex Order is eliminated due to the presence of a capped legging order	0: New	4: Cancelled	0: New
Complex Order is eliminated due to priority violation of legs BBO	0: New	4: Cancelled	0: New
GTC or GTD or Day order is expiring	C: Expired	C: Expired	0: New
Order is rejected due to missing tag or invalid value (out of range) of tag – processing at application (business) layer	8: Rejected	8: Rejected	0: New

4.7 9: Order Single/Complex Cancel Reject

TAG	FIELD NAME	COMMENTS
	Standard Header	[MsgType 35=9]
37	OrderID	If error = "Unknown order", specify "NONE", otherwise refer to the order being referred
11	CIOrdID	Unique order ID assigned by institution to the cancel request or to the replacement order
41	OrigCIOrdID	[CIOrdID 11], which could not be cancelled/replaced. [CIOrdID 11] of the previous order (NOT the initial order of the day) when cancelling or replacing an order
39	OrdStatus	Value after this cancel reject is applied
434	CxlRejResponseTo	
58	Text	Contains the reason why the Cancel/Replace message has been rejected
	Standard Trailer	

4.8 b: Quote Acknowledgement

TAG	FIELD NAME	COMMENTS
	Standard Header	[MsgType 35=b] (lowercase)
131	QuoteReqID	
297	QuoteAckStatus	Status of the quote acknowledgement 0: Accepted 5: Rejected
300	QuoteRejectReason	Reason Quote was rejected.
	Standard Trailer	

4.9 c: Security Definition Request

This message is used to define a new Complex Order instrument or to request the list of all listed instruments trading on BOX.

TAG	FIELD NAME	REQ/ OPT	COMMENTS	
	Standard Header	R	[MsgType 35=c] (lowercase)	
320	SecurityReqID	O	Unique identifier as assigned by the Participant	
321	SecurityRequestType	R	<ul style="list-style-type: none"> 1: Request to create a new Complex Order instrument 2: Request to receive all listed instruments 	
167	SecurityType	O	<ul style="list-style-type: none"> Must be MLEG when [SecurityRequestType 321=1] Must not be provided when [SecurityRequestType 321=2] 	
146	NoRelatedSym	O	<ul style="list-style-type: none"> From 2 to 16 Number of legs that are part of the current Complex Order instrument creation request Must not be provided when [SecurityRequestType 321=2] 	
LEG BLOCK				
→	311	Underlying-Symbol	O	<ul style="list-style-type: none"> Complex Order instrument leg symbol Must not be provided when [SecurityRequestType 321=2]

TAG	FIELD NAME		REQ/ OPT	COMMENTS
→	310	Underlying SecurityType	O	<ul style="list-style-type: none"> • Must be set to OPT. • Must not be provided when [SecurityRequestType 321=2]
→	313	Underlying MaturityMonth Year	O	<ul style="list-style-type: none"> • Complex Order instrument maturity date, format YYYYMM. • Must not be provided when [SecurityRequestType 321=2]
→	314	Underlying MaturityDay	O	<ul style="list-style-type: none"> • Complex Order instrument maturity date, format DD • Must not be provided when [SecurityRequestType 321=2]
→	315	Underlying PutOrCall	O	<ul style="list-style-type: none"> • 0: Call • 1: Put • Must not be provided when [SecurityRequestType 321=2]
→	316	Underlying StrikePrice	O	<ul style="list-style-type: none"> • Complex Order instrument leg strike price • Must not be provided when [SecurityRequestType 321=2]
→	319	RatioQty	O	<ul style="list-style-type: none"> • Complex Order instrument ratio or quantity • Must not be provided when [SecurityRequestType 321=2]
→	54	Side	O	<p>Side of the Complex Order instrument</p> <ul style="list-style-type: none"> • 1: Buy • 2: Sell <p>Must not be provided when [SecurityRequestType 321=2]</p>
	Standard Trailer		R	

4.10 d: Security Definition

This message is used to acknowledge a Security Definition Request.

TAG	FIELD NAME	COMMENTS	
	Standard Header	[MsgType 35=d] (lowercase)	
320	SecurityReqID	As provided in the Security Definition Request message	
322	SecurityResponseID	Unique identifier as assigned to the response by BOX. Value is unique per connection	
323	SecurityResponseType	<ul style="list-style-type: none"> 1: Accept Security Definition Request as initially requested 2: Accept Security Definition Request with revisions as indicated in this message 	
55	Symbol	<ul style="list-style-type: none"> Underlying symbol when [SecurityType 167=OPT] Complex Order symbol when [SecurityType 167=MLEG] 	
167	SecurityType	<ul style="list-style-type: none"> OPT: Options MLEG: Complex Order instrument 	
200	MaturityMonthYear	Provided for Options only, when [SecurityType 167=OPT]	
205	MaturityDay		
201	PutOrCall		
202	StrikePrice		
48	SecurityID	<ul style="list-style-type: none"> BOX internal instrument ID. Not provided when [SecurityRequestType 321=2] in the original request 	
22	IDSource	Set to 8	
146	NoRelatedSym	<ul style="list-style-type: none"> From 2 to 16 Number of legs that make up the instrument. Provided only when [SecurityType 167=MLEG] 	
LEG BLOCK			
→	311	UnderlyingSymbol	As provided in the Security Definition Request. Provided only when [SecurityType 167=MLEG]
→	310	Underlying SecurityType	

TAG	FIELD NAME		COMMENTS
→	313	Underlying MaturityMonthYear	
→	314	Underlying MaturityDay	
→	315	Underlying PutOrCall	
→	316	Underlying StrikePrice	
→	319	RatioQty	<ul style="list-style-type: none"> • Provided only when [SecurityType 167=MLEG] • As provided in the Security Definition Request unless a similar Complex Order instrument already exists with ratios using the same denominator Example: <ul style="list-style-type: none"> • Given that A is the first leg and B the second leg • A request to create the Complex Order instrument 10A+20B will result in the instrument 1A+2B being created
→	54	Side	Provided only when [SecurityType 167=MLEG]
	Standard Trailer		

4.11 j: Business Message Reject

This message is used when rejecting one of the following messages:

- c: Security Definition Request
- AB: New Multi-Leg Order - Single
- PI: Complex Order instrument creation request using a Auction Initial Order.

TAG	FIELD NAME	COMMENTS
	Standard Header	[MsgType 35=j] (lowercase)
45	RefSeqNum	Value of [MsgSeqNum 34] of the FIX message being rejected.
372	RefMsgType	Value of [MsgType 35] of the FIX message being rejected. <ul style="list-style-type: none"> • c: Security Definition Request • AB: New Multi-Leg Order - Single

TAG	FIELD NAME	COMMENTS
		<ul style="list-style-type: none"> PI: Auction Initial Order on a Complex Order instrument R: Quote Request
379	BusinessRejectRefID	<ul style="list-style-type: none"> When provided in the original message, the value of [SecurityReqID 320] when the Business Reject message refers to a Security Definition Request (message type 'c'). Value of [CIOrdID 11] when the Business Reject message refers to a New Multi-Leg Order - Single (message type 'AB') or a Auction Initial Order (message type 'PI') message.
380	BusinessRejectReason	Code identifying the reason of the reject <ul style="list-style-type: none"> 0: Other 2: Unknown Security (default value)
58	Text	Text explaining the reason of the reject.
	Standard Trailer	

4.12 AF: Order Mass Status Request

Execution Report [MsgType 35=8] with [ExecTransType 20=3] (Status) are returned for each active order belonging to the participant. If no active order belongs to the participant, no response is returned.

TAG	FIELD NAME	REQ/OPT	COMMENTS
	Standard Header	R	[MsgType 35=AF]
584	MassStatusReqID	O	
585	MassStatusReqType	O	= 7 (Status for all orders for the participant)
	Standard Trailer	R	

4.13 AB: New Multi-Leg Order

This message is used to define a Complex Order instrument (multi-leg or Strategy) and add a new Complex Order entry (or send a Directed Order on a Complex Order) simultaneously. Legs details are specified using a repeating leg block.

TAG	FIELD NAME	REQ/ OPT/ COND	COMMENTS
	Standard Header	R	[MsgType 35=AB]
11	CIOrdID	R	Unique identifier of the order as assigned by institution
1	Account	O	
167	SecurityType	R	Must be MLEG
54	Side	O	Side of the Complex Order 1: Buy, 2: Sell. If not specified, 1 is the default
60	TransactTime	O	Time at which this order request was initiated/released by the trader or trading system (YYYYMMDD-HH:MM:SS.mmmuuu format)
38	OrderQty	C	Represents the total order quantity <ul style="list-style-type: none"> • Cannot be 0 • Optional when IOI
40	OrdType	R	Refer to Section 5, Field Definitions
47	Rule80A	R	Identifies the type of account Refer to Section 5, Field Definitions
44	Price	O	<ul style="list-style-type: none"> • Required when [OrdType 40= 2] • Net price of the Complex Order. Can be positive, negative or zero
59	TimeInForce	O	Absence of this field indicates Day order. <ul style="list-style-type: none"> • 0: Day • 3: Immediate or Cancel (IOC) • W: Session Order
58	Text	O	
76	ExecBroker	O	Give-Up firm
439	ClearingFirm	O	Clearing Firm for CMTA

TAG	FIELD NAME		REQ/ OPT/ COND	COMMENTS
440	ClearingAccount		O	Clearing Account (SubAccount) at OCC. This represents the Market Maker ID (MMID)
7901	ExecutingParticipantID		O	<ul style="list-style-type: none"> Indicates the Executing Participant for a Directed Order or the Market Maker for a Preferred Order When this field is provided, the [RoutingInst 9303] must also be provided
7906	CombinedOrdType		O	Refer to Section 5, Field Definitions
9303	RoutingInst		O	Required when [ExecutingParticipantID 7901] is provided Refer to Section 5, Field Definitions
LEG BLOCK				
555	NoLegs		R	<ul style="list-style-type: none"> Number of legs that make up the instrument. Group of fields must be included in sequential order as defined in the Complex Order From 2 to 16
→	654	LegRefID	R	<ul style="list-style-type: none"> Unique identifier for each leg within the order Not required to be unique for the day Must be received in sequential order (ex.: leg 1 before leg2) and must be the first tag in each component block
→	564	LegPosition Effect	R	Type of position of each individual leg <ul style="list-style-type: none"> O: Open C: Close
→	600	LegSymbol	R	Symbol for each individual leg
→	608	LegCFIcode	R	Type of option of each individual leg <ul style="list-style-type: none"> OC: Option Call OP: Option Put
→	611	LegMaturity Date	R	<ul style="list-style-type: none"> Maturity date of each individual leg Format: YYYYMMDD
→	612	LegStrikePrice	R	Strike price of each individual leg
→	623	LegRatioQty	R	Ratio quantity for this individual leg relative to the entire Complex Order

TAG	FIELD NAME		REQ/ OPT/ COND	COMMENTS
→	624	LegSide	R	Side of each individual leg <ul style="list-style-type: none"> • 1: Buy • 2: Sell
	Standard Trailer		R	
Note: When the OrderType(40)=F [IndicationOfInterest] are used, only the following fields are required: Tag 11, 167, 54, 60, 38, 40, 44, 58, Leg Block, Standard Trailer . All other fields are not used.				

4.14 AC: Cancel/Replace Multi-Leg Order

This message is used to modify a Complex Order instrument (multi-leg or Strategy). Legs details are specified using a repeating leg block and must represent the same Complex Order instrument defined in the original AB-New Multi-Leg Order Single message.

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=AC]
37	OrderID	O	Unique identifier of order as assigned by BOX
11	ClOrdID	R	Unique identifier of the new order as assigned by the Participant
41	OrigClOrdID	O	11 - ClOrdID field of the order being replaced
1	Account	O	
167	SecurityType	R	Must be MLEG
54	Side	O	Must match the value sent in the original order
60	TransactTime	O	Time at which this order request was initiated/released by the trader or trading system (YYYYMMDD-HH:MM:SS.mmmuuu format)
38	OrderQty	C	Represents the total order quantity <ul style="list-style-type: none"> • Cannot be 0 • Optional when IOI
40	OrdType	R	For a detailed description of OrdType, refer to Section 5, Field Definitions

TAG	FIELD NAME	REQ/ OPT	COMMENTS
47	Rule80A	O	Identifies the type of account. For detail information on Rule80A account type values, refer to Section 5, Field Definitions
44	Price	O	Required when [OrdType 40] = 2. Net price of the Complex Order Can be positive, negative or zero
59	TimeInForce	O	Absence of this field indicates Day order. Valid values are: <ul style="list-style-type: none"> 0: Day 3: Immediate or Cancel (IOC) W: Session Order
58	Text	O	
76	ExecBroker	O	Give-Up firm
439	ClearingFirm	O	Clearing Firm for CMTA
440	ClearingAccount	O	Clearing Account (SubAccount) at OCC. This represents the Market Maker ID (MMID)
7901	ExecutingParticipantID	O	<ul style="list-style-type: none"> Indicates the Executing Participant for a Directed Order or the Market Maker for a Preferred Order When this field is provided, the [RoutingInst 9303] must also be provided
9303	RoutingInst	O	Required when [ExecutingParticipantID 7901] is provided Refer to Section 5, Field Definitions
555	NoLegs	R	Must match the values provided in the original order
LEG BLOCK			
→	654		R
→	564	LegPosition Effect	R
→	600	LegSymbol	R
→	608	LegCFICode	R
→	611	LegMaturity Date	R
Must match the Complex Order instrument definition entered in the original AB message			

TAG	FIELD NAME		REQ/ OPT	COMMENTS
➔	612	LegStrikePrice	R	
➔	623	LegRatioQty	R	
➔	624	LegSide	R	
	Standard Trailer		R	
<p>Note: When the OrderType(40)=F [IndicationOfInterest] are used, only the following fields are processed: Tag 11, 167, 54, 60, 38, 40, 44, 58, 41, Leg Block, Standard Trailer. All other fields are not used.</p>				

4.15 BE: User Request

This message is sent by the Participant to request a modification on its status.

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=BE]
60	TransactTime	R	User Time (YYYYMMDD-HH:MM:SS.mmmuuu format)
923	UserRequestId	R	<ul style="list-style-type: none"> User Request Id Alphanumeric field: Only numbers and alphabetic characters (0-9, a-z, A-Z) Must not be empty and must have a maximum of 30 characters
924	UserRequestType	R	Request Type
167	SecurityType	O	<ul style="list-style-type: none"> Security type to use for the request Mandatory when the request type is CancelOrders and when this is for a specific instrument (Option or Strategy)
55	Symbol	O	<ul style="list-style-type: none"> Symbol used by the request Mandatory when the request type is CancelOrders for a specific group or instrument
201	PutOrCall	O	<ul style="list-style-type: none"> Put or Call for the Symbol of this request Mandatory when SecurityType is Option
200	MaturityMonthYear	O	<ul style="list-style-type: none"> Maturity of the Symbol for this request Mandatory when SecurityType is Option
205	MaturityDay	O	<ul style="list-style-type: none"> Maturity day of the Symbol for this request Mandatory when SecurityType is Option
202	StrikePrice	O	<ul style="list-style-type: none"> Strike Price of the Symbol for this request Mandatory when SecurityType is Option
BULK OF ACCOUNT TYPES (0-8 TIMES)			
47	Account Type	O	Account Type for this request

4.16 BF: User Response

This message is sent by the Exchange in response to the User Request.

TAG	FIELD NAME	REQ/ OPT	COMMENTS
	Standard Header	R	[MsgType 35=BF]
60	TransactTime	O	User Time (YYYYMMDD-HH:MM:SS.mmmuuu format)
923	UserRequestId	R	User Request Id
924	UserRequestType	R	Request Type
167	SecurityType	O	Security type to use for the request
55	Symbol	O	Symbol used by the request
201	PutOrCall	O	Put or Call for the Symbol of this request
200	MaturityMonthYear	O	Maturity of the Symbol for this request
205	MaturityDay	O	Maturity day of the Symbol for this request
202	StrikePrice	O	Strike Price of the Symbol for this request
BULK OF ACCOUNT TYPES (0-8 TIMES)			
	AccountType (47)	O	Account Type for this request

4.17 CB: User Notification

This notification message is sent by the Exchange to the user to report its status and to cancel orders.

TAG	FIELD NAME	COMMENTS
	Standard Header	[MsgType 35=CB]
60	TransactTime	User Time (YYYYMMDD-HH:MM:SS.mmmuuu format)
926	UserStatus	Status of the User
7926	RiskTeamStatus	Status of the Risk Team

Section 5 Field Definitions

The following table displays the format, length, description, and values list for each field type (listed in alphabetical order).

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
1	Account	<ul style="list-style-type: none"> Account mnemonic as agreed between broker and institution Following characters are accepted but not sent to OCC on trade submissions: > (greater than), < (less than), ' (single quote), " (double quote), & (ampersand) 	1 to 12
6	AvgPx	Calculated average price of all fills on this order	1 to 9
7	BeginSeqNo	Message sequence number of first message in range to be resent	1 to 9
8	BeginString	<ul style="list-style-type: none"> Identifies beginning of new message and protocol version Always the first field in a message FIX.4.2 	7
9	BodyLength	<ul style="list-style-type: none"> Message length, in bytes, forward to the 10 - CheckSum field Second field in a message 	2 to 4
10	Checksum	<ul style="list-style-type: none"> Three bytes, simple checksum (see FIX v4.2 document for description) Always the last field in a message; i.e. serves, with the trailing <SOH>, as the end-of-message delimiter Always defined as three characters 	3
11	ClOrdID	<p>Unique identifier for Order as assigned by institution. Uniqueness must be guaranteed within a single trading day. Firms which submit multiday orders should consider embedding a date within this field to assure uniqueness across days.</p> <p>Format rules:</p> <ul style="list-style-type: none"> None of the following ascii characters: % (percent sign), ',' (comma), ';' (semi-colon), # (pound sign), ""(double quote), ' ' (Pipe sign) No ascii characters in the decimal code ranges between: 0 to 31, 127 and up Following characters accepted but not sent to OCC on trade submissions: > (greater than), < (less than), ' (single quote), & (ampersand) Trailing blanks are not significant. 	1 to 20

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
14	CumQty	Total number of shares filled	1 to 9
16	EndSeqNo	<ul style="list-style-type: none"> • Message sequence number of last message in range to be resent • If request is for a single message [BeginSeqNo 7=EndSeqNo 16] • If request is for all messages subsequent to a particular message, [EndSeqNo 16=0] 	1 to 9
17	ExecID	Unique identifier of execution message as assigned by broker (will be 0 (zero) for [ExecTransType 20=3] (Status))	1 to 16
18	ExecInst	'f' = Intermarket Sweep Order	1
19	ExecRefID	Reference identifier used with Cancel transaction types	1 to 16
20	ExecTransType	Identifies transaction type <ul style="list-style-type: none"> • 0: New • 1: Cancel • 2: Correct • 3: Status 	1
22	IDSource	<ul style="list-style-type: none"> • Define the length of [SecurityID 48] • Set to 8 	1
31	LastPx	Price of this (last) fill	1 to 9
32	LastShares	Quantity of shares bought/sold on this (last) fill	1 to 9
34	MsgSeqNum	Message sequence number	1 to 9

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
35	MsgType	Defines message type. Always third field in a message. <ul style="list-style-type: none"> • 0: Heartbeat • 1: Test Request • 2: Resend Request • 3: Reject • 4: Sequence Reset • 5: Logout • 8: Execution Report • 9: Order Cancel Reject • A: Logon • D: New Single/Complex Order • F: Order Single/Complex Cancel Request • G: Cancel/Replace Single/Complex Request • R: Quote Request • b: Quote Acknowledgement • c: Security Definition Request • d: Security Definition • AF: Order Mass Status Request • PI: Auction Initial Order • AB: New Multi-Leg Order - Single • AC: Cancel/Replace Multi-Leg Order • BE: User Request • BF: User Response • CB: User Notification • J: Business Reject 	1
36	NewSeqNo	New sequence number	1 to 9
37	OrderID	Unique identifier for Order as assigned by BOX	10 to 20
38	OrderQty	Number of shares ordered (no decimals allowed)	1 to 9

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
39	OrdStatus	Identifies current status of order <ul style="list-style-type: none"> • 0: New • 1: Partially filled • 2: Filled • 4: Cancelled • 5: Replaced • 6: Cancel Pending • 8: Rejected • P: Exposed • Q: Directed Order • L: Directed through IML • I: Session Order cancelled when the participant connection gets disconnected • T: Order cancelled due to Trading Restriction • F: Order eliminated due to an invalid out of limits price • M: Cancelled by the Market Operations Center (MOC) • C: Expired • H: Eliminated due to trade limit exceeded • J: Eliminated due to maximum nb triggers limit exceeded • K: Eliminated due to trade activity limit exceeded • O: Eliminated due to drill through protection • S: Cancelled by supervisor 	1
40	OrdType	Valid values for both [SecurityType 167=OPT and MLEG]: <ul style="list-style-type: none"> • 1: Market • 2: Limit Valid value for [SecurityType 167=OPT] only: <ul style="list-style-type: none"> • O: Market at Open (Order trades at the opening price) <ul style="list-style-type: none"> ○ Remaining quantity, if any, is booked at the opening price. (This usage and meaning are different from [TimeInForce 59=2] in FIX v4.2) • F: Indication of Interest 	1
41	OrigClOrdID	[ClOrdID 11] of the previous order (NOT the initial order of the day) as assigned by the participant, used to identify the previous order in cancel and cancel/replace requests	1 to 20
43	PossDupFlag	Indicates possible retransmission of message with this sequence number <ul style="list-style-type: none"> • Y: Possible duplicate • N: Original transmission 	1
44	Price	<ul style="list-style-type: none"> • Price per contract (maximum of 6 decimals) 	1 to 9

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
		<ul style="list-style-type: none"> Positive (Options and Complex Order), negative or zero (Complex Order) 	
45	RefSeqNum	Sequence number of the initial message being referenced	1 to 9
47	Rule80A	Identifies the type of account <ul style="list-style-type: none"> C: Public Customer F: Broker Dealer M: Market Maker T: Professional Customer W: Broker Dealer Cleared as Customer X: Away Market Maker Refer to Section 6Appendix A, Rule80A and CombinedOrdType Combinations	1
48	SecurityID	BOX internal instrument ID	12
49	SenderCompID	<ul style="list-style-type: none"> Assigned value used to identify the sender in a FIX session BOX trading engine:'BOX1 	4 to 8
52	SendingTime	Time of message transmission in Universal Time Coordinated (UTC) or GMT – YYYYMMDD-HH:MM:SS.mmmuuu format	17 to 24
54	Side	Side of order <ul style="list-style-type: none"> 1: Buy 2: Sell 	1
55	Symbol	Class root symbol for Options or Complex Order instrument symbol	1 to 20
56	TargetCompID	Assigned value used to identify the receiver in a FIX session BOX trading engine:'BOX1	4 to 8
58	Text	Free format text string. Format rules: <ul style="list-style-type: none"> None of the following ascii characters: % (percent sign), ',' (comma), ';' (semi-colon), # (pound sign) No ascii characters in the decimal code ranges between 0 to 31, 127 and up Following characters accepted but not sent to OCC on trade submissions: >, <, ', ", & 	1 to 18 New Order Msg 1 to 200 otherwise
59	TimeInForce	Specifies how long the order remains in effect. Absence of this field indicates DAY order. For [SecurityType 167=OPT and MLEG]: <ul style="list-style-type: none"> 0: Day 3: Immediate or Cancel (IOC) 	1

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
		<ul style="list-style-type: none"> • W: Session Order For the [SecurityType 167=OPT] only: <ul style="list-style-type: none"> • 1: Good Till Cancel (GTC) • 6: Good Till Date • 8: Auction or Kill 	
60	TransactTime	Time of execution/order creation, expressed in UTC (Universal Time Coordinated or GMT) in YYYYMMDD-HH:MM:SS.mmmuuu format	17 to 24
76	ExecBroker	Defines the Give-Up firm	4

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
77	OpenClose	<p>Type of position</p> <p>For Options and individual legs of a Complex Order instrument:</p> <ul style="list-style-type: none"> • O: Open • C: Close <p>For Complex Order instruments:</p> <p>This field is a list of the Open/Close position ('O' or 'C') of each leg. For example, for a strategy with 5 legs, the string can be 'OCCOO', 'CCOCO',...</p> <p>For legacy support, the following values are still supported for Complex Orders instruments:</p> <ul style="list-style-type: none"> • O: All legs set to Open • C: All legs set to Close • 1: 1st leg Open, 2nd leg Close • 2: 1st leg Close, 2nd leg Open • 3: 1st and 2nd legs Open, 3rd leg Close • 4: 1st leg Open, 2nd leg Close, 3rd leg Open • 5: 1st leg Open, 2nd and 3rd legs Close • 6: 1st leg Close, 2nd and 3rd legs Open • 7: 1st leg Close, 2nd leg Open, 3rd leg Close • 8: 1st and 2nd legs Close, 3rd leg Open • A: 1st, 2nd and 3rd legs Open, 4th leg Close • B: 1st and 2nd legs Open, 3rd leg Close, 4th leg Open • D: 1st and 2nd legs Open, 3rd and 4th legs Close • E: 1st leg Open, 2nd leg Close, 3rd and 4th legs Open • F: 1st leg Open, 2nd leg Close, 3rd leg Open, 4th leg Close • G: 1st leg Open, 2nd and 3rd legs Close, 4th leg Open • H: 1st leg Open, 2nd, 3rd and 4th legs Close • I: 1st leg Close, 2nd, 3rd and 4th legs Open • J: 1st leg Close, 2nd and 3rd legs Open, 4th legs Close • K: 1st leg Close, 2nd leg Open, 3rd leg Close, 4th leg Open • L: 1st leg Close, 2nd leg Open, 3rd and 4th legs Close • M: 1st and 2nd legs Close, 3rd and 4th legs Open • N: 1st and 2nd legs Close, 3rd leg Open, 4th leg Close • P: 1st, 2nd and 3rd legs Close, 4th leg Open 	16
97	PossResend	<p>Indicates that message may contain information that has been sent under another sequence number</p> <ul style="list-style-type: none"> • Y: Possible resend • N: Original transmission 	1
98	EncryptMethod	<p>Method of encryption</p> <p>0: None</p>	1

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
103	OrdRejReason	Code to identify reason for order rejection	1 to 6
108	HeartBtInt	Heartbeat interval (seconds). Must be equal or greater than 30 or equal to 0 (no heartbeat)	1 to 4
112	TestReqID	Identifier included in Test Request message to be returned in resulting Heartbeat	1 to 20
122	OrigSendingTime	Original time of message transmission (expressed in UTC (Universal Time Coordinated or GMT) when transmitting orders as the result of a resend request	17 to 21
123	GapFillFlag	Indicates that the Sequence Reset message is replacing administrative or application messages that will not be resent <ul style="list-style-type: none"> • Y: Gap Fill message, MsgSeqNum field valid • N: Sequence Reset, ignore MsgSeqNum 	1
131	QuoteReqID	Unique identifier for quote request	1 to 50
141	ResetSeqNumFlag	Indicates that the both sides of the FIX session should reset sequence numbers <ul style="list-style-type: none"> • Y: Yes, reset sequence numbers • N: No 	1
146	NoRelatedSym	Specifies the number of repeating symbols specified (from 1 to 16)	1
150	ExecType	Describes the specific Execution Report <ul style="list-style-type: none"> • 0: New • 1: Partial fill • 2: Fill • 4: Cancelled • 5: Replace • 6: Cancel Pending • 8: Rejected • C: Expired 	1
151	LeavesQty	Amount of shares open for further execution	1 to 9
167	SecurityType	Indicates type of security <ul style="list-style-type: none"> • OPT: Option • MLEG: Complex Order instrument 	3
200	MaturityMonthYear	Month and Year of the maturity for the [SecurityType 167=OPT]	6
201	PutOrCall	Indicates whether an Option is for a put or call <ul style="list-style-type: none"> • 0: Put 	1

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
		<ul style="list-style-type: none"> 1: Call 	
202	StrikePrice	Strike Price for an Option (maximum of 6 decimals)	1 to 9
205	MaturityDay	Day of the maturity for the [SecurityType 167=OPT]	1 to 2
297	QuoteAckStatus	Identifies the status of the quote acknowledgement <ul style="list-style-type: none"> 0: Accepted 5: Rejected 	1
300	QuoteReject Reason	Reason Quote was rejected See Section 6, Error Codes	4 to 6
310	Underlying SecurityType	Complex Order instrument leg SecurityType See [SecurityType 167] for description	3
311	Underlying Symbol	Complex Order instrument leg Symbol See [Symbol 55] for description	1 to 20
313	Underlying MaturityMonth Year	Complex Order instrument leg maturity date See [MaturityMonthYear 200] for description	6
314	Underlying MaturityDay	Complex Order instrument leg maturity day See the [MaturityDay 205] for description	1 to 2
315	Underlying PutOrCall	Complex Order instrument leg PutOrCall See the [PutOrCall 201] for description	1
316	UnderlyingStrikePrice	Complex Order instrument leg strike price See [StrikePrice 202] for description	1 to 9
319	RatioQty	<ul style="list-style-type: none"> Complex Order instrument leg ratio to determine valid quantity Should not contain decimals Valid values (from 1 to 99999999) 	1 to 8
320	SecurityReqID	Unique ID of a Security Definition Request as defined by the participant	1 to 50
321	Security RequestType	Type of Security Definition Request <ul style="list-style-type: none"> 1: Request to create a new Complex Order instrument 2: Request to receive all listed instruments 	1
322	Security ResponseID	Unique ID of a Security Definition message as assigned by BOX	1 to 15

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
323	SecurityResponseType	Type of response when responding to a Security Definition Request message <ul style="list-style-type: none"> • 1: Accept Security Definition Request as initially requested • 2: Accept Security Definition Request with revisions as indicated in this message 	1
371	RefTagID	Tag number of the FIX field being referenced	1 to 5
372	RefMsgType	Message type of the FIX message being referenced See [MsgType 35]	1 to 2
373	SessionRejectReason	Code to identify reason for a session-level Reject message	1 to 2
375	ContraBroker	Will be populated with Opposite Executing Broker Firm ID	4
379	BusinessRejectRefID	<ul style="list-style-type: none"> • Value of [SecurityReqID 320] when the Business Reject message refers to a Security Definition Request (message type 'c') • Value of [ClOrdID 11] when the Business Reject message refers to a New Multi-Leg Order - Single (message type 'AB') or a Auction Initial Order (message type 'PI') message 	1 to 50
380	BusinessRejectReason	Code identifying the reason of the reject 2: Unknown Security (default value)	1
382	NoContraBrokers	Value will be 1 when Tag 375 (ContraBroker) is populated	1
383	MaxMessageSize	Maximum number of bytes supported for a single message	2 to 4
432	ExpireDate	Date of order expiration (last day the order can trade), expressed in terms of the local market date	8
434	CxlRejResponseTo	Identifies the type of request that a Cancel Reject is in response to: <ul style="list-style-type: none"> • 1: Order Cancel Request • 2: Order Cancel/Replace Request 	1
439	ClearingFirm	Firm that will clear the trade; used if different from the executing firm	4
440	ClearingAccount	The Clearing Account (or SubAccount) identifies the Market Maker ID (MMID) and will be passed as the SubAccountID field to OCC. Its format is up to 3 AlphaNumeric characters, as is currently supported by OCC. <ul style="list-style-type: none"> • Any trailing space (' ') is allowed but will be ignored 	3

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
		<ul style="list-style-type: none"> Any preceding space (' ') is allowed and accepted as is If longer than 3 characters, only the first 3 characters will be used <p>Example:</p> <ul style="list-style-type: none"> Tag 440='ABC' means 'ABC' will be sent to OCC (Sent as is) Tag 440=' AB' means ' AB' will be sent to OCC (Preceding space conserved) Tag 440='AB ' means 'AB' will be sent to OCC (Trailing space removed) Tag 440 = 'ABCD' means 'ABC' (truncated to 3 characters) will be sent to OCC 	
442	MultiLegReportingType	<p>Used to indicate what an Execution Report represents (e.g. used with multi-leg instrument, such as Option strategies, spreads, etc.)</p> <ul style="list-style-type: none"> 1: Single security or outright contract (default) 2: Individual leg of a Complex Order 3: Report refers to a Complex Order 	1
527	SecondaryExecId	Equal to [ExecID 17] of the Complex Order Execution Report when the [MultiLegReportingType 442=2]	1 to 16
555	NoLegs	Number of legs part of the Complex Order instrument: 2 to 16	2
564	LegPositionEffect	Type of position of each individual leg. <ul style="list-style-type: none"> O: Open C: Close 	1
584	MassStatus ReqID	Value assigned by issuer of Mass Status Request to uniquely identify the request. This field is taken from FIX v4.3	1 to 50
585	MassStatus ReqType	Mass Status Request Type 7 : Status for all orders This field is taken from FIX v4.3	1
600	LegSymbol	Symbol for each individual leg	1 to 20
608	LegCFICode	Type of Option of each individual leg <ul style="list-style-type: none"> OC: Option Call OP: Option Put 	2
611	LegMaturityDate	Maturity date of each individual leg	8

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
		Format: YYYYMMDD	
612	LegStrikePrice	Strike price of each individual leg (maximum of 6 decimal)	1 to 9
623	LegRatioQty	Ratio quantity for this individual leg relative to the entire Complex Order (maximum value of 99999999)	1 to 8
624	LegSide	Side of each individual leg <ul style="list-style-type: none"> • 1: Buy • 2: Sell 	1
639	Price Improvement	Specifies the Max Improvement price for PIP and Facilitation.	1 to 9
654	LegRefID	Unique identifier for each leg within the order. Not required to be unique for the day. This tag must be received in sequential order (ex.: leg 1 before leg2) and must be the first tag in each component block.	1 to 50
828	TrdType	<ul style="list-style-type: none"> • < >: Unknown • O: Opening – Trade performed during opening Rotation • A: Guaranteed Auction – Trade done at the end of a PIP Auction • F: Continuous Trading – All other trade conditions • B: Solicitation Auction – Trade was part of that type of auction • C: Facilitation Auction – Trade was part of that type of auction • M: Trade entered by the Market Operations Center (MOC) on trade correction 	1
923	UserRequestId	<ul style="list-style-type: none"> • Alphanumeric field: Numbers and alphabetic characters are accepted (0-9, a-z, A-Z) • Must not be empty and must have a maximum of 30 characters 	1 to 30
924	UserRequestType	<ul style="list-style-type: none"> • L: LockOut • O: CancelOrders 	1
926	UserStatusType	<ul style="list-style-type: none"> • A: Active • L: Locked 	1
854	QtyType	<ul style="list-style-type: none"> • J: Auction Type is MIP • If not transmitted, Auction Type is regular PIP • B: Surrender Quantity for Solicitation and Facilitation: Indicates that the InitO is willing to surrender a portion of the total number of contracts in the Solicitation auction. 	1

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
6005	Contra AccountType	Identifies the type of account of the counterparty to the trade <ul style="list-style-type: none"> • C: Public Customer • F: Broker Dealer • M: Market Mker • T: Professional Customer • W: Broker Dealer Cleared as Customer • X: Away Market Maker 	1
7388	Contingent Order	2: Contingent Order Specifying that the auction is contingent and should not be or it was not controlled against the NBBO for the execution price	1
7900	Improve PhaseID	Identification of the improvement phase	1 to 6
7901	Executing ParticipantID	<ul style="list-style-type: none"> • Identification of the Executing Participant to whom the 'Directed Order' is to be submitted, or identification of the Market Maker that is preferred on the 'Preferred Order'. • Indicate the 3 digits participant ID 	4
7904	NoClearingData	Valid values: 2	1

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
7906	Combined OrdType	<p>Indicates the price validation type requested by the client within the IML rules and is validated against the value provided in [Rule80A 47].</p> <p>Valid values for [SecurityType 167=OPT]:</p> <ul style="list-style-type: none"> • 1: NBBO Filtering and IML Routing • 2: No NBBO Filtering • 3: NBBO Filtering and no IML Routing (default value if the field is not provided) <p>Valid value for the [SecurityType 167=MLEG]:</p> <ul style="list-style-type: none"> • 2: No NBBO Filtering (only for Contingent Orders) • 3: NBBO Filtering and no IML Routing (default value if the field is not provided) • 6: No Exposure for Complex Order Instrument upon entry. Default behavior for Complex Order instrument is to be flashed upon entry. Only valid for Complex Order. <p>For Solicitation auctions, Facilitation auctions and Floor Trades:</p> <ul style="list-style-type: none"> ○ When tag [ContingentOrder 7388] is sent with value 2 (Contingent), tag [CombinedOrdType 7906] must be set to 2 (No NBBO Filtering) or must not be provided, otherwise the auction is rejected. ○ When tag [ContingentOrder 7388] is not provided, the tag [CombinedOrdType 7906] must be set to 3 (NBBO Filtering and No Routing) or must not be provided. <p>For a detailed description of Price Validation Types, refer to Appendix A, Rule80A and CombinedOrdType Combinations.</p>	1
7926	RiskTeamStatus	<p>Status of the Risk Team</p> <ul style="list-style-type: none"> • A: Active • L: Locked 	1
9303	RoutingInst	<p>When present, qualifies the order as either directed or preferenced</p> <ul style="list-style-type: none"> • O: Directed Order • P: Preferenced Order 	1
9383	Auction Type	<p>Specifies the type of auction/order</p> <ul style="list-style-type: none"> • G: Regular Auction (PIP) • B: Solicitation Auction • C: Facilitation Auction • X: Customer Cross Order or Qualified Contingent Cross • R: Floor Trade 	1

TAG #	FIELD NAME	DESCRIPTION/VALUES	FIELD LENGTH
9459	<i>SpecialTradeInd</i>	<ul style="list-style-type: none"> • 0: Regular Trade (All) • g: Contingent Trade (apply to Solicitation and Facilitation, and Floor Trades only) • D: Customer Cross Order or Qualified Contingent Cross • P: PIP • W: ISO Inbound • O: Hidden Trade (trade done at an away exchange through the InterMarket Linkage plan) • L: Late Trade • A: As-Of-Trade 	1
9461	<i>AddQty</i>	<ul style="list-style-type: none"> • Used for PIP and Solicitation auction types and Floor Traders. • Contains the Surrender Quantity expressed in number of contracts. • This field is only accepted when initiating an Auction (PIP or Solicitation) and a Floor Trade. • If this field is provided when improving an existing auction, the auction message (PI) will be rejected. • Indicates the number of contracts the Initiating Participant is willing to surrender. • The value must be less than or equal to the auction initial quantity. 	1 to 9
9730	<i>TradeLiquidity Indicator</i>	<p>Indicates whether a trade adds or removes liquidity from the marketplace</p> <ul style="list-style-type: none"> • A: Add liquidity (Make) • R: Remove liquidity (Take) 	1
9564	<i>LegPosition EffectMBF</i>	<p>Type of position of each individual leg for the 'Must be Filled' side of an auction</p> <ul style="list-style-type: none"> • O: Open • C: Close 	1
10455	SecurityAltId	Complex Order instrument symbol	1 to 30

Section 6 Error Codes

The following table displays the error codes and text that can be returned by BOX. Those codes can be returned in messages *Execution Report*, *Order Cancel Reject* and *Quote Acknowledgement*.

Note: Errors included in this table are not all supported by the current BOX version.

ERROR NUMBER	ERROR TEXT
0001	User Identification is not correct
0002	Protocol Version is not supported
0003	Message Type is not supported
0004	Session ID Is not active
0005	User Account Locked
0006	Message Type requested is not supported
0008	Message is too short
0009	Message is too long
0010	Message contains Binary Data
0011	No Heartbeat Activity: disconnection
0012	Message type is Out Of Context
0013	User ID has been deactivated: disconnection
0014	Syntax Error
0015	Field Value is too small
0016	Field Value is too big
0100	Firm is forbidden to trade on this Group
0101	Duration type is forbidden for current Group state
0102	Verb field cannot be modified
0103	Order is not active
0104	Price type is forbidden for this instrument
0105	Price Term is forbidden for current Instrument state

ERROR NUMBER	ERROR TEXT
0108	Duration type is forbidden for current Instrument state
0109	Order cannot be processed: No opposite limit
0110	Price does not represent a valid tick increment for this Instrument
0111	Duration type is invalid for this price type
0112	Cross order price must be inside the limits
0113	Order price outside price spread
0114	Opposite Firm must be filled for committed order
0115	Order Account Type is inconsistent with IML Handling field
0116	Cross order is not allowed
0117	Cross order quantity is outside limits
0118	Duration Type Is Invalid For This Price Term
0119	Quantity is out of range
0120	Functionality not supported
0121	Order price is outside the order entry protection limits
0123	Floor Trade Not Allowed
0124	Insufficient Surrender Quantity
0201	GTD date must be equal to or greater than current day
0202	GTD date must be equal to or less than Instrument expiration date
0203	GTD date must be filled only if Duration type is equal to GTD
0300	Quantity Term is forbidden for current Instrument state
0302	Quantity must be less than or equal to Maximum Improvement Quantity
0303	Quantity Term is not authorized for this order type
0304	Additional quantity must be less than order quantity
0305	Additional quantity is too small
0306	Minimum quantity cannot be modified
0307	Quantity Term is forbidden for Duration Type

ERROR NUMBER	ERROR TEXT
0308	Order quantity is outside the instrument quantity threshold
0309	Quantities must be multiples of lot size
0310	Order Net Value Is Outside the Net Value Threshold
0402	Trader ID field cannot be modified
0403	Market Maker not authorized for Group
0404	Market Maker P orders not authorized for class
0405	Market Maker quote spread invalid for P orders
0406	Market Maker quote size invalid for P orders
0500	Order price is outside the instrument price threshold
0501	Price field is mandatory for Limit Orders
0502	Price field must not be filled for this Price Type
0503	Order cannot be modified or cancelled
0504	Additional Price is forbidden for Price Term
0505	Order price must be greater than additional price
0506	Order price must be lower than additional price
0507	Additional price must be lower than last price or last day price
0508	Additional price must be greater than last price or last day price
0509	Order rejected Cannot trade outside instrument price thresholds
0510	Order cannot be modified
0511	Order price is outside circuit breaker limits
0512	Price Term Invalid For Price Type
0513	Instrument Allows Only Closing Orders
0514	Instrument Leg Allows Only Closing Orders
0700	Only one quote per instrument and per Verb is accepted
0701	Quote is not present in the Instrument Book
0702	Market Maker Protection in progress Quote not processed

ERROR NUMBER	ERROR TEXT
0703	Advanced Market Maker Protection not enabled for this Group
0704	Buy and Sell must not cross for the same instrument
0705	Number of quotes is not in sync with the message length
0707	Market Maker Protection state must be re-activated
0708	Trader ID has no quote for this Group
0709	All the Instruments must belong to the same Group
0710	Clearing Data have not been initialized
0800	Required number of Market Makers is not satisfied to start an auction
0801	Auction ID is not active
0802	Only Price can be updated
0803	Price must be better than previous Improvement Price
0804	Improvement Quantity is not valid
0805	Only price and quantity can be updated
0806	Improvement Verb is not valid for this auction
0807	A guaranteed auction cannot be started when NBBO is crossed or locked
0808	An auction is already running
0810	Price must be within NBBO spread
0811	Quantity must be greater than Minimum Improvement Quantity
0812	Improvement Order cannot be cancelled
0813	Initial Order cancel is forbidden
0814	Improvement cancellation forbidden
0815	Improvement price must be improved
0816	Improvement quantity cannot be decreased
0817	Linked order wasnt present before auction
0818	Linked order forbidden

ERROR NUMBER	ERROR TEXT
0819	Linked OrderId must not be set for a quote
0820	Linked quantity greater than linked order quantity
0821	Linked order must have same account type as improvement
0822	Linked order must be at nbbo
0823	Linked order not in the book
0900	EP Disconnected
1000	Cross orders forbidden in Pre-opening phase
1001	Instrument does not exist
1002	Group ID does not exist
1003	Trader ID is Invalid
1004	Message Type is forbidden for current Instrument state
1005	Firm ID is Invalid
1006	Directed Order should be Guaranteed
1007	Participant must use A2 protocol version
1008	RFQ currently underway for this instrument
1009	Action not allowed under current configuration
1010	Number of entries is invalid
1011	Invalid Trade Id
1103	Cross order price type must be limited
1104	Validity date type for a cross order must be FAK
1105	Invalid data for Low and high limits
1106	The preopening time must be greater than system time
1107	Firm or trader had been disabled
1108	Instrument mandatory when using MM Monitoring Mode Forced
1109	Market maker has no obligation for this group
2000	Technical error Function not performed Contact the THD

ERROR NUMBER	ERROR TEXT
2001	Gateway State forbids this command Contact the THD
2002	Function only partially performed Contact the THD
3000	Broker Option
3001	Unknown Invalid Symbol
3002	Exchange Closed
3003	Order Exceeds Limit
3004	Too Late To Enter
3005	Unknown Order
3006	Duplicate Order
3007	Stale Order
3008	Instrument State Rotation
3009	Instrument State NonFirmMode
3010	Instrument State halted
3011	Reference Price Is Out Of Bound
3012	Unknown Clearing Firm
3013	SubAccount ID Missing
3014	Invalid Auto Ex Value
3015	Account Missing
3016	Time In Force Missing Invalid
3017	Open Close Missing Invalid
3018	Exec Broker Missing
3019	Clearing Account Missing
3020	Execution Information Missing
3021	Order Received Too Soon
3022	Order Capacity Missing Invalid
3023	Late Print To OPRA Tape

ERROR NUMBER	ERROR TEXT
3024	Communications Delays To OPRA
3025	Manual Crowd Trade
3026	Processing Problems
3027	Complex Order
3028	Trade Rejected
3029	Trade Busted Corrected
3030	Original Order Rejected
3031	Rejected Linkage Trade
3032	Other
3033	Traded At NBBO
3034	Unknown Exchange
3035	Too Late To Cancel
3036	Already In Pending Cancel
3037	Pro Rata Satisfaction Distrib
3038	Req Ord Size Superior Trade Size
3039	Not At NBBO
3040	Cancel Due To Non-Block Trade
3041	Unknown Clearing Operation Mode
3042	Invalid Price Type
3096	Trader Lock Out
3097	Risk Team Lock Out
4001	Executing Participant discretion
4002	Initial Order Failed
4003	Executing Participant did not respond Order booked
4010	Invalid modification of Executing Participant
5001	Report date is invalid

ERROR NUMBER	ERROR TEXT
5002	Account number does not exist
5003	Account already exists
5004	Both quantities cannot be null
5005	Position does not exist
5006	Account does not exist
5007	Participant does not exist
5008	Approved participant does not exist
5009	This account has open positions
5010	Firm unit mismatch
5011	Invalid instrument for specified report date
9000	Internal To be defined
9001	Price Term is forbidden for ISO order
9002	Quantity Term is forbidden for ISO order
9003	ISO order must be Limit
9004	Group opening not allowed number of instruments exceeds threshold
9005	Group opening not allowed total traded volume exceeds threshold
9006	Instrument opening not allowed a quote crosses the CTO
9007	ISO order must be IOC
9008	Change to ISO order is forbidden
9009	Unknown CPU
9010	CPU State forbids this command
9011	Change from PPA IML handling is Forbidden
9012	Change to PPA IML handling Type is Forbidden
9013	No order to delete in the book
9014	Strategy trade must be cancelled leg by leg
9015	Strategy instrument has some legs closed

ERROR NUMBER	ERROR TEXT
9016	Maximum pending instrument creation reached
9017	Invalid Number Of Legs
9018	Invalid Leg Information
9019	Unknown Strategy type
9020	Firm Creation Quotas Has Been Reached
9021	Leg Instrument Is Not Active
9022	Strategy has unpriced legs
9023	Group state does not allow this function
9024	Order cannot be processed presence of capped legging order
9026	The IML Handling is incompatible with this instrument
	Invalid tag number
	Required tag missing
	Tag not defined for this message type
	Undefined Tag
	Tag specified without a value
	Value is incorrect (out of range) for this tag
	Incorrect data format for value
	Decryption problem
	Signature problem
	ComplID problem
	SendingTime accuracy problem
	Invalid MsgType
	Session Not Established
	Invalid Tag Sequence
	Incompatible With OrderType
	SecurityDefinitionRequest Not Allowed

ERROR NUMBER	ERROR TEXT
	SecurityDefinitionRequest Maximum Request Reach
	OrderMassStatus Request Maximum Request Reach
	Insufficient qty available. New qty smaller or equal than traded qty
	Tag#18 ExecInst and tag#7906 CombinedOrderType are incompatible together
	Tag#7388 ContingentOrder and tag#7906 CombinedOrderType are incompatible together
	Tag#7388 ContingentOrder and tag#18 ExecInst are incompatible together
	Tag#18 ExecInst possible value is 18=f IntermarketSweep
	Tag#7388 ContingentOrder possible value is 7388=2
	Tag#439 ClearingFirm CMTA and tag#76 ClearingFirm GiveUp are incompatible together

Appendix A Rule80A and CombinedOrdType Combinations

The following section provides additional information on how to use the Rule80A (tag 47) and CombinedOrderType (tag 7906) tags found in several FIX messages supported by BOX.

As a reminder, BOX participant uses field Rule80A to specify the type of trader sending the order (public customer, market maker, etc.) while the CombinedOrdType field specifies what action should be taken by BOX if the order may potentially trade through the current NBBO. Not all CombinedOrdType value may be used with all trader types. You will find below a definition for each value available in these two fields along with all valid combinations for each type of message.

The FIX Tag47 (Rule 80A) appears in the following messages:

- New Order - Single
- Order Cancel / Replace Request
- Auction Initial Order
- Execution Report
- New Multi-Leg Order - Single
- Cancel/Replace Multi-Leg Order

A.1 Supported Origins

C-Public Customer: Is a regulatory definition which comprises all accounts which are neither the proprietary account of a Broker Dealer, nor a Market Maker.

F-Broker Dealer: BOX Participant proprietary account.

M-Market Maker: BOX Market Maker.

T-Professional Customer (refer to BOX Circular IC-2011-003 for more information on how and when to use that value).

W-Broker Dealer cleared as Customer: BOX Participant proprietary account as well as proprietary account affiliates for which the order is to be cleared to a customer account.

X-Away Market Maker: Away Market Maker registered on another exchange. Trades clear as Market Maker at OCC.

A.2 Supported CombinedOrdType Values

1 - NBBO Filtering and IML Routing: The order is filtered for NBBO and is routed to the best away Exchange if it is executable and BOX is not at NBBO.

2 - No NBBO Filtering: The order is not filtered for NBBO. This Combiner Order Type is not acceptable for Public Customer and Broker Dealer Origin Orders, regardless of whether they are for BOX Participants or not.

3 - NBBO Filtering and no IML Routing: The order is filtered for NBBO and is rejected back to the sender if it is executable and BOX is not at NBBO.

6 - No Exposure for Complex Order instrument: The Complex Order is not exposed upon entry.

A.3 Validity Matrix

The following table presents the **Rule80A/CombinedOrderType** combinations that are supported for each type of message.

MESSAGE TYPE	RULE 80A		
	C PUBLIC CUSTOMER T PROFESSIONAL CUSTOMER	F BROKER DEALER W BROKER DEALER CLEARED AS CUSTOMER X AWAY MARKET MAKER	M MARKET MAKER
New Order Single (35=D)*	1, 3	3	2, 3
Order Cancel/Replace Request (35=G)	1, 3	3	2, 3
Auction Initial Order Broker Side (35=PI)	3	3	3
Auction Initial Order MBF Side (35=PI)	3	3	3
Directed Order (35=D) Preferred Order	1, 3	3	2, 3
Solicitation/Facilitation - Non-Contingent, Broker Side (35=PI, 9383=B or C)	N/A	3	3
Solicitation/Facilitation - Non-Contingent, MBF Side (35=PI, 9383=B or C)	3	3	3
Solicitation/Facilitation - Contingent, Broker Side (35=PI, 9383=B or C, 7388=2)	N/A	2	2

MESSAGE TYPE	RULE 80A		
	C PUBLIC CUSTOMER T PROFESSIONAL CUSTOMER	F BROKER DEALER W BROKER DEALER CLEARED AS CUSTOMER X AWAY MARKET MAKER	M MARKET MAKER
Solicitation/Facilitation - Contingent, MBF Side (35=PI, 9383=B or C, 7388=2)	2	2	2
Customer Cross Order (35=PI, 9383=X)	3 (C: Public Customer is the only supported value)	N/A	N/A
Qualified Contingent Cross Order (35=PI, 9383=X)	3	3	3
Any message type related to Complex Order (35=D, 35=AB, 35=G, 35=AC, 35=PI 'non-Contingent')	3	3	3
Any message type related to Complex Order (35=D, 35=AB, 35=G, 35=AC)	6	6	6

Fill and Kill orders are not eligible to NBBO exposition nor IML routing. If either NBBO Control and IML Routing or NBBO filtering is selected, BOX will eliminate the remaining quantity even if it could be traded at another market.