



PROOF FIX SPECIFICATION

Version 1.1

Updated: October 2021

Table of Contents

OVERVIEW	3
FIX TAGS	3
Session FIX Tags	3
Header	3
Trailer	4
Duplicate Messages	4
Order Transaction FIX Tags	4
New Order Single	4
Order Cancel / Replace Request	5
Order Cancel Request	6
Execution Report / Cancel Reject Messages	7
APPENDIX A: SYMBOLOGY	9
APPENDIX B: LAST MARKET VALUES	10
REVISION HISTORY	11

OVERVIEW

This specifications document outlines the format in which Proof Services LLC customers should correctly format their FIX messages for order entry as well the expected format for execution messages received back from Proof. Proof supports FIX 4.2 as a base protocol, with Proof-specific modifications detailed in this specification.

FIX TAGS

This section lists the FIX tags and values supported while transacting with Proof.

Session FIX Tags

Header

Tag	Field Name	Details	Guidelines
8	BeginString	Identifies beginning of new message and protocol version 4.2. ALWAYS FIRST FIELD IN MESSAGE	
9	BodyLength	Message length, in bytes, forward to the CheckSum field. ALWAYS SECOND FIELD IN MESSAGE.	
35	MsgType	Defines message type. ALWAYS THIRD FIELD IN MESSAGE. Supported values: 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=Order Single F=Order Cancel Request G=Order Cancel/Replace Request	
34	MsgSeqNum	Integer message sequence number	
49	SenderCompID	Assigned value used to identify the firm sending the message	
50	SenderSubID	Assigned value used to identify specific message originator	
52	SendingTime	Time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT"))	YYYYMMDD-HH:MM:SS.sss (sss indicating milliseconds)
56	TargetCompID	Counterparties will target "PROOF" or agreed-upon value	
57	TargetSubID	Assigned value used to identify specific individual or unit intended to receive message	

Trailer

Tag	Field Name	Details	Guidelines
10	Checksum	Three byte, simple checksum. ALWAYS LAST FIELD IN MESSAGE; i.e., serves, with the trailing <SOH>, as the end-of-message delimiter. Always defined as three characters.	

Duplicate Messages

Tag	Field Name	Details	Guidelines
43	PossDupFlag	Indicates possible retransmission of message with this sequence number	Default: Not sent. Only required for resend messages (PossDup or PossResend)
97	PossResend	Indicates that message may contain information that has been sent under another sequence number	
122	OrigSendingTime	Original time of message transmission (always expressed in UTC (Universal Time Coordinated, also known as "GMT") when transmitting orders as the result of a resend request	

Order Transaction FIX Tags

New Order Single

Tag	Field Name	Details	Guidelines
1	Account	If sent by customer, this value will be echoed back in execution reports	Max length: 32 chars
11	ClOrdID	Unique identifier, per session, per trading day for Order as assigned by the counterparty	Max length: 32 chars
38	OrderQty	Number of shares ordered	1-10,000,000
40	OrdType	1=Market 2=Limit	Price (44) must be populated for Limit orders
44	Price	Required for Limit Orders	The Minimum Price Variation ("MPV") is \$0.01 for orders priced \$1.00 or greater, and \$0.0001 for orders priced below \$1.00.
54	Side	Side of Order 1=Buy 2=Sell Long 5=Sell Short	When [5]=Sell Short, LocateReqd (114) must be populated with [N], and LocateBroker (5700) must be populated with the identifier of the broker who provided the locate.
55	Symbol	Ticker symbol	INET and CMS symbology supported (See Appendix A)

58	Text	Free form text. Will not be processed and will not be echoed back on execution reports.	
59	TimeInForce	0=Day	Tag 168 (EffectiveTime) and tag 126 (ExpireTime) are supported.
60	TransactTime	Time of order creation (expressed in UTC)).	YYYYMMDD-HH:MM:SS.sss
65	SymbolSfx	Additional information about the security (e.g., preferred, warrants, etc.).	Suffix only when using CMS Symbology (See Appendix A)
114	LocateReqd	Required for Sell Short orders. N=Locate not required	[N] is the only accepted valid value.
115	OnBehalfOfCompID	Assigned value used to identify firm sending message.	
126	ExpireTime	Must be today's date with a valid value within the remaining trading day.	
168	EffectiveTime	Must be today's date with a valid value within the remaining trading day. Must be before ExpireTime.	
847	TargetStrategy	1001=VWAP 1002=Proof 1003=Custom	
5700	LocateBroker	Required for Sell Short orders. Identifier of the broker who provided the locate (MPID preferred).	Free Text (Max 4 chars)
20001	MustComplete	Algo Parameter, Boolean Value	N = (default) order may or may not complete Y = order must complete if able to
20002	LowCost	Algo Parameter, Boolean Value	N = (default) standard routing logic Y = cost-effective routing logic
20004	Custom	Algo Parameter, Text	Free Text (Max 128 chars)

Order Cancel / Replace Request

The following properties of Proof orders are amendable

- Order Quantity (38)
- Price (44) – for Limit Orders
- OrdType (40) – from Market to Limit, and vice-versa
- Algo Parameters - EffectiveTime (168), ExpireTime (126), MustComplete (20001), LowCost (20002), Custom (20004)

Bold tags in the tables below are required

Tag	Field Name	Details	Guidelines
35	MsgType	G	
11	ClOrdID	Unique ID of cancel/replace request	
38	OrderQty	Requested total shares for the order to be amended to	
40	OrdType		
41	OrigClOrdID	ClOrdID referencing the order to be replaced	
54	Side	Must match original Side	
55	Symbol	Must match original Symbol	
59	TimeInForce	Must match original TimeInForce	
60	TransactTime	Time of cancel/replace creation expressed in UTC	Must be today's date
44	Price	Requested price for the order to be amended to	
65	SymbolSfx	Must match original SymbolSfx, if applicable	
847	TargetStrategy	Must match original TargetStrategy	
168	EffectiveTime	New start time of the order. If omitted, the original value on the order remains in effect.	
126	ExpireTime	New end time of the order. If omitted, the original value on the order remains in effect.	
20001	MustComplete	New value of MustComplete. If omitted, the original value on the order remains in effect	
20002	LowCost	New value of LowCost. If omitted, the original value on the order remains in effect.	
20004	Custom	New value of Custom. If omitted, the original value on the order remains in effect.	

Order Cancel Request

Tag	Field Name	Details	Guidelines
35	MsgType	F	
11	ClOrdID	Unique ID of cancel request	
41	OrigClOrdID	ClOrdID referencing the order to be cancelled	
55	Symbol	Must match original symbol	
60	TransactTime	Time of cancel/replace creation expressed in UTC	
65	SymbolSfx	Must match original SymbolSfx, if applicable	

Execution Report / Cancel Reject Messages

Tag	Field Name	Details	Guidelines
6	AvgPrice	Calculated average price of all fills on this order	
11	ClOrdID	Will match last confirmed ClOrdId of the order chain	
14	CumQty	Total number of shares filled	
17	ExecID	Unique identifier of execution message	Case sensitive alphanumeric free format string. Max 32 chars.
20	ExecTransType	Identifies transaction type 0=New 1=Cancel	
29	LastCapacity	1=AGENT	
30	LastMkt	Market of execution for last fill.	4 char market mnemonic
31	LastPx	Price of this (last) fill.	
32	LastShares	Quantity of shares executed on this (last) fill.	
37	OrderID	Unique Proof Order ID (same value for all messages across an order chain)	
38	OrderQty	Current order quantity	
39	OrderStatus	0=New 1=Partial fill 2=Fill 4=Canceled 5=Replaced 6=Pending Cancel (e.g., result of Order Cancel Request) 8=Rejected E=Pending Replace (e.g., result of Order Cancel/Replace Request)	Identifies current status of order.
40	OrdType	OrdType of the order	
41	OrigClOrdId	ClOrdId of the order referenced (for Cancel and Cancel/Replace reuests)	
44	Price	Current limit price of the order, if applicable	
47	Rule80A	Rule80A received on the order, or 'Agent' by default	
54	Side	Side of the order	
58	Text	Free Text Field; may contain contextual info or further details on any order or cancel/replace rejections	Max 32 chars

102	CxlRejReason	0=Too late to cancel 1=Unknown order 2=Broker Option 3=Already Pending Cancel or Pending Replace	Code to identify reason for cancel rejection.
103	OrdRejReason	0=Broker Option 1=Unknown Symbol 2=System Closed 3=Order Exceeds Limit 4=Too Late To Enter 5=Unknown Order 6=Duplicate Order	
126	ExpireTime	ExpireTime of the order, if specified	
128	DeliverToCompID	Assigned value used to identify firm the message is intended for.	
150	ExecType	0=New 1=Partial fill 2=Fill 4=Canceled 5=Replace 6=Pending Cancel (e.g., result of Order Cancel Request) 8=Rejected E=Pending Replace (e.g., result of Order Cancel/Replace Request)	Describes the specific Execution Report (e.g., Pending Cancel) while OrdStatus will always identify the current order status (i.e., Partially Filled)
151	LeavesQty	Number of shares open for further execution.	
168	EffectiveTime	EffectiveTime of the order, if specified	
434	CxlRejResponseTo	1=Order Cancel Request 2=Order Cancel/Replace Request	Identifies the type of request that a Cancel Reject is in response to.
851	LastLiquidityInd	1=Added Liquidity 2=Removed Liquidity 3=Routed	Identifies source of execution and whether an execution resulted from liquidity provision or removal (passed through from Execution Venue).
9730	TradeLiquidityIndicator	Passed through from Execution Venue (see individual venue specs to decipher values)	To be used in conjunction with LastMkt(30) to determine trading costs.
9882	FeeCode	Specific fee code associated with execution. Passed through from Execution Venue (see individual venue specs to decipher values)	To be used in conjunction with LastMkt(30) to determine trading costs.

APPENDIX A: SYMBOLOGY

Orders may be entered using the following tag / symbology:

1. Tag 55 using Nasdaq Integrated (INET) symbology (as seen here: <http://www.nasdaqtrader.com/dynamic/SymDir/nasdaqlisted.txt>)
2. Tag 55 using CMS format with a SPACE as the delimiter between the root and suffix (as used by CAT symbol master: https://files.catnmsplan.com/symbol-master/FINRACATReportableEquitySecurities_SOD.txt)
3. Tag 55/65 using CMS format

Translation between CMS and INET symbology can be accomplished using: <http://www.nasdaqtrader.com/trader.aspx?id=CQSsymbolconvention>

Some examples:

Security	INET Symbology	CMS Symbology	CMS Symbology with Suffix Tag
<i>Berkshire Class B</i>	55=BRK.B	55=BRK B	55=BRK, 65=B
<i>Ares Acquisition Corp Warrants</i>	55=AAC+	55=AAC WS	55=AAC, 65=WS
<i>Ares Acquisition Corp Units</i>	55=AAC=	55=AAC U	55=AAC, 65=U
<i>Morgan Stanley Preferred Series F</i>	55=MS-F	55=MS PRF	55=MS, 65=PRF
<i>Bristol-Myers Squibb Rights</i>	55=CELG^	55=CELG RT	55=CELG, 65=RT
<i>International Flavors When Issued</i>	55=IFF#	55=IFF WI	55=IFF, 65=WI
<i>Gabelli Utility Trust Rights When Issued</i>	55=GUT^#	55=GUT RTWI	55=GUT, 65=RTWI
<i>DuPont When Distributed</i>	55=DD\$	55=DD WD	55=DD, 65=WD

APPENDIX B: LAST MARKET VALUES

Below are some of the last market values that may be sent back over the session. Other values may be added by market centers or Proof at their discretion:

ARCA
ARCX
BATS
BATY
CAES
EDGA
EDGX
EPRL
IEXG
ISLD
JPMX
LEVL
MEMX
SGMT
UBSA
XASE
XBOS
XCHI
XCIS
XNAS
XNGS
XNYS
XPHL

REVISION HISTORY

Version	Date	Author	Change
1.0	April 12, 2021	Prerak Sanghvi	Document created with the first algos (1001-1003) and 3 algo parameters: Must Complete, Low Cost, Custom.
1.1	October 13, 2021	Prerak Sanghvi	<ul style="list-style-type: none">• Support amendment of algo parameters EffectiveTime, ExpireTime, MustComplete, LowCost, Custom• New LastMarket values in Appendix B