

INTELLIGENTCROSS

IntelligentCross IQX
Market Data Feed Specification

Version 1.13

September 2026

© 2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Contents

1 Introduction 2
- 1.1 Data Types . . . 2

2 UDP Transport 2
- 2.1 Network Details . . . 2
  - 2.1.1 Multicast Addresses . . . 2
- 2.2 UDP Header . . . 3
- 2.3 UDP Message Block Header . . . 3

3 Messages 3
- 3.1 Market Event . . . 3
- 3.2 Symbol Information . . . 4
  - 3.2.1 Symbol . . . 4
  - 3.2.2 Symbol ID . . . 4
  - 3.2.3 Listing Market . . . 4
- 3.3 Symbol State . . . 5
- 3.4 New Order Add . . . 5
  - 3.4.1 Order ID . . . 6
  - 3.4.2 Price . . . 6
- 3.5 Order Partial Cancel . . . 6
- 3.6 Order Cancel All . . . 6
- 3.7 Order Updated . . . 7
  - 3.7.1 Order ID . . . 7
- 3.8 Order Executed . . . 7
- 3.9 Trade . . . 8
- 3.10 Trade Break . . . 8

4 Appendix A: Example Messages 8
- 4.1 Symbol Spins and Market Events . . . 8
  - 4.1.1 Start of Session . . . 8
  - 4.1.2 ACME Symbol Spin . . . 9
  - 4.1.3 ACME Enabled . . . 9
  - 4.1.4 ACME Inactive . . . 9
  - 4.1.5 Market accepting orders . . . 9
  - 4.1.6 ACME Bid . . . 9
  - 4.1.7 ACME Offer . . . 9
  - 4.1.8 Market open for trading . . . 10
  - 4.1.9 ACME Active . . . 10
  - 4.1.10 Order Updated due to price sliding . . . 10
  - 4.1.11 Partial Cancel . . . 10
  - 4.1.12 ACME Offer . . . 10
  - 4.1.13 Order Executed . . . 10
  - 4.1.14 Market trading ended for day . . . 11
  - 4.1.15 All remaining orders canceled . . . 11
  - 4.1.16 End of Session . . . 11

5 Appendix B: Symbology 11

6 Revision History 12

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

1 Introduction

The IntelligentCross IQX Market Data Feed disseminates all visible ASPEN resting orders, cancellations of visible ASPEN orders, and all ASPEN executions. Additionally, it provides information for each tradeable symbol, market state, and symbol matching states.

1.1 Data Types

Type	Description
Alpha	Printable ASCII characters
Integer	Binary, little endian
Number	ASCII representation of a number

2 UDP Transport

The IntelligentCross IQX Market Data Feed is disseminated over Multicast UDP.

2.1 Network Details

2.1.1 Multicast Addresses

Site	Feed Identifier	Type	Group	Port	Source IP	RP
PROD	P - Fee/Fee	Primary (A)	233.203.108.4	29049	46.255.0.74	185.136.106.2
PROD	P - Fee/Fee	Secondary (B)	233.203.108.6	29049	46.255.0.90	185.136.106.130
PROD	A - Maker/Taker	Primary (A)	233.203.108.4	29050	46.255.0.74	185.136.106.2
PROD	A - Maker/Taker	Secondary (B)	233.203.108.6	29050	46.255.0.90	185.136.106.130
PROD	Z - Taker/Maker	Primary (A)	233.203.108.4	29051	46.255.0.74	185.136.106.2
PROD	Z - Taker/Maker	Secondary (B)	233.203.108.6	29051	46.255.0.90	185.136.106.130
UAT	T - Fee/Fee	Primary (A)	233.203.108.5	18505	46.255.0.82	185.136.106.2
UAT	T - Fee/Fee	Secondary (B)	233.203.108.7	18505	46.255.0.98	185.136.106.130
UAT	B - Maker/Taker	Primary (A)	233.203.108.5	18506	46.255.0.82	185.136.106.2
UAT	B - Maker/Taker	Secondary (B)	233.203.108.7	18506	46.255.0.98	185.136.106.130
UAT	Y - Taker/Maker	Primary (A)	233.203.108.5	18507	46.255.0.82	185.136.106.2
UAT	Y - Taker/Maker	Secondary (B)	233.203.108.7	18507	46.255.0.98	185.136.106.130

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

2.2 UDP Header

Each UDP packet transports a variable number of messages. There may be zero messages as in heartbeats, or any number of messages that will fit into the data section of the packet, up to a theoretical maximum of 65535. UDP packets will be limited to 1500 byte MTUs.

UDP packets contain header fields that indicate which feed is being received and the market day for the data being transmitted. These identifiers are provided to mitigate the risk of address misconfiguration. It is recommended that customers inspect and validate these fields before processing data.

Field	Offset	Length	Type	Description
Market Day Identifier	0	9	Number	Unique identifier for trading day
Feed Identifier	9	1	Alpha	Unique code for feed
Sequence	10	8	Integer	Sequence number for next message
Count	18	2	Integer	Number of messages in packet

The Sequence field in the message header is the sequence of the first message in the packet. Each message contained in a UDP packet has an implied sequence, with the first message's implied sequence being equal to the Sequence explicitly provided in the header.

Heartbeat packets contain 0 messages, so for heartbeats, the Sequence will be the sequence of the next message to be transmitted in a subsequent packet. In this way heartbeat packets may be processed normally as they leave the implied sequence unchanged.

In every case, the next packet's expected Sequence can be calculated to be the previous packet's Sequence plus the previous packet's Count.

2.3 UDP Message Block Header

Each message within a packet will have a simple block header.

Field	Offset	Length	Type	Description
Length	0	2	Integer	Length of the message

3 Messages

3.1 Market Event

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	'A'
Reserved	1	2	Alpha	Reserved for future use

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Field	Offset	Length	Type	Description
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Event	11	1	Alpha	‘O’ : Start of Session ‘S’ : Market accepting orders ‘Q’ : Market open for trading ‘E’ : Market trading ended for day ‘C’ : End of Session

3.2 Symbol Information

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘B’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Symbol	11	11	Alpha	Stock Symbol
Listing Market	22	1	Alpha	Code identifying the primary listing market
Reserved	23	1	Alpha	Reserved for future use
Round Lot Size	24	4	Integer	Size of one round lot

3.2.1 Symbol

Please see Appendix B for information on IntelligentCross’ symbology.

3.2.2 Symbol ID

IntelligentCross uses a unique 2 byte integer ID for each symbol. Symbol ID to Symbol mapping may be changed from day to day.

The Symbol Information message as well as Symbol State, New Order Add, and Trade messages contain both Symbol ID as well as the full stock Symbol.

Consumers may choose to use symbol mappings, or simply use the Symbol on these messages. Customers using Symbol ID must update their mappings on a daily basis.

While Cancel, Order Updated, Order Executed, and Break, messages do not contain Symbol, they may be processed without relying on their Symbol ID fields.

Additionally, a static symbol mapping file in pipe delimited format will be available daily for download from the following URL: https://www.imperativex.com/market-data

3.2.3 Listing Market

Listing Market will be one of the following:

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Listing Market	Value
NYSE	N
NASDAQ	Q
ARCA	P
BATS Z	Z
AMEX	A
IEX	V
TXSE	F
XCHI	M
XBOX	B

3.3 Symbol State

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘C’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Symbol	11	11	Alpha	Stock Symbol
State	22	1	Alpha	‘I’ : Matching Inactive ‘A’ : Matching Active ‘D’: Disabled ‘E’: Enabled
Reserved	23	1	Alpha	Reserved for future use
Info	24	4	Alpha	Optional text

- Inactive State indicates that orders may be accepted, but will not currently match.
- Active State indicates that orders may be accepted and may currently match.
- Disabled State indicates that orders will not be accepted and are not eligible for matching.
- Enabled State indicates that orders will be accepted and are eligible for matching.

Note that although this will not be the typical case, symbols may at times be simultaneously in both Active and Disabled states. Likewise they may at times be both Enabled and Inactive.

3.4 New Order Add

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘D’

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Field	Offset	Length	Type	Description
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Order ID	11	8	Integer	Market Issued Unique Order ID
Side	19	1	Alpha	‘B’ or ‘S’
Shares	20	4	Integer	Qty
Symbol	24	11	Alpha	Stock Symbol
Price	35	8	Integer	Price - 6 implied decimals
Reserved	43	4	Alpha	Reserved for future use

3.4.1 Order ID

New Order Add provides the same Order ID that is returned by the FIX order gateway’s order acknowledgment message (38=8, 150=0) in FIX’s OrderID field (tag 37).

3.4.2 Price

Price is an 8 byte signed positive integer with 6 implied decimal places. For example, a price of $543.21 is represented by 543210000, or 0x2060BA10. The max theoretical price that may be represented in this format is $9223372036854.775807.

3.5 Order Partial Cancel

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘F’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Order ID	11	8	Integer	Market Issued Unique Order ID
Shares Canceled	19	4	Integer	Number of shares cancelled

3.6 Order Cancel All

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘G’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Field	Offset	Length	Type	Description
Order ID	11	8	Integer	Market Issued Unique Order ID

3.7 Order Updated

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘H’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Order ID	11	8	Integer	Market Issued Unique Order ID
Shares	19	4	Integer	Number of shares
Price	23	8	Integer	Price - 6 implied decimals

Please note: currently Order Updated messages are not sent, and are reserved for future use. Customer initiated order changes will result in either Order Partial Cancel, or Order Cancel All followed by New Order Add and/or potentially Order Executed.

3.7.1 Order ID

Note that Order ID remains unchanged as a result of an Order Updated message.

3.8 Order Executed

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘J’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Order ID	11	8	Integer	Market Issued Unique Order ID
Shares	19	4	Integer	Qty Executed
Execution ID	23	8	Integer	Market Issued Unique Execution ID
Reserved	31	1	Alpha	Reserved for future use
Price	32	8	Integer	Price - 6 implied decimals

The Order Executed message is sent when a visible order is executed.

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

3.9 Trade

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘K’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Reserved	11	8	Integer	Reserved for future use
Reserved	19	1	Alpha	Reserved for future use
Shares	20	4	Integer	Qty Executed
Symbol	24	11	Alpha	Stock Symbol
Price	35	8	Integer	Price - 6 implied decimals
Execution ID	43	8	Integer	Market Issued Unique Execution ID

The Trade message is sent when a hidden order is executed.

3.10 Trade Break

Field	Offset	Length	Type	Description
Message Type	0	1	Alpha	‘M’
Symbol ID	1	2	Integer	Symbol Index
Timestamp	3	8	Integer	Nanoseconds Since Epoch (UTC)
Execution ID	11	8	Integer	Market Issued Unique Execution ID

Please note: currently Trade Break messages are not sent, and are reserved for future use.

4 Appendix A: Example Messages

For the purposes of these examples, we will be using the fictitious stock symbol ACME, and the imagined IntelligentCross Symbol ID 31999.

4.1 Symbol Spins and Market Events

4.1.1 Start of Session

Type	Reserved	Timestamp	Event
A	-	1558340820892507229	O

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

4.1.2 ACME Symbol Spin

Type	Symbol ID	Timestamp	Symbol	Market	Reserved	Round Lot
B	31999	1558350780340746035	ACME	N	-	100

4.1.3 ACME Enabled

Type	Symbol ID	Timestamp	Symbol	State	Reserved	Info
C	31999	1558350780340793423	ACME	E	-	

4.1.4 ACME Inactive

Type	Symbol ID	Timestamp	Symbol	State	Reserved	Info
C	31999	1558350780340870855	ACME	I	-	

4.1.5 Market accepting orders

Type	Reserved	Timestamp	Event
A	-	1558357200380061105	S

4.1.6 ACME Bid

Type	Symbol ID	Timestamp	Order ID	Side	Shares	Symbol	Price	Reserved
D	31999	1558357680787589653	1073	B	100	ACME	22.78	

Type	Symbol ID	Timestamp	Order ID	Side	Shares	Symbol	Price	Reserved
D	31999	1558358520667722518	87201	B	200	ACME	22.73	

4.1.7 ACME Offer

Type	Symbol ID	Timestamp	Order ID	Side	Shares	Symbol	Price	Reserved
D	31999	1558358852031387564	99832	S	207	ACME	24.01	

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

4.1.8 Market open for trading

Type	Reserved	Timestamp	Event
A	-	1558359000702810202	Q

4.1.9 ACME Active

Type	Symbol ID	Timestamp	Symbol	State	Reserved	Info
C	31999	1558359001175989224	ACME	A	-	

4.1.10 Order Updated due to price sliding

Market NBO now 22.72

Type	Symbol ID	Timestamp	Order ID	Shares	Price
H	31999	1558359002536929727	1073	100	22.71

Type	Symbol ID	Timestamp	Order ID	Shares	Price
H	31999	1558359002536958031	87201	200	22.71

4.1.11 Partial Cancel

Type	Symbol ID	Timestamp	Order ID	Shares
F	31999	1558359767915138884	99832	7

4.1.12 ACME Offer

Type	Symbol ID	Timestamp	Order ID	Side	Shares	Symbol	Price	Reserved
D	31999	1558378307986077550	854032198	S	100	ACME	22.80	

4.1.13 Order Executed

An incoming order traded order ID 1073

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Type	Symbol ID	Timestamp	Order ID	Shares	Exec ID	Reserved	Price
J	31999	1558378758451766810	1073	100	9172853	-	22.71

4.1.14 Market trading ended for day

Type	Reserved	Timestamp	Event
A	-	1558382400969084425	E

4.1.15 All remaining orders canceled

Type	Symbol ID	Timestamp	Order ID
G	31999	1558382400969091317	87201

Type	Symbol ID	Timestamp	Order ID
G	31999	1558382400969094492	99832

Type	Symbol ID	Timestamp	Order ID
G	31999	1558382400969098223	854032198

4.1.16 End of Session

Type	Reserved	Timestamp	Event
A	-	1558384207304153346	C

5 Appendix B: Symbology

IntelligentCross utilizes standard CMS symbology, with suffixes separated from the base symbol with a space.

Example suffix specifiers are shown below:

Type	CMS Suffix
Class “A” Called	ACL
Class “A” Convertible	ACV
Class “A” when issued	AWI

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Type	CMS Suffix
Class “B” Shares	B
Called	CL
Convertible called	CVCL
Convertible	CV
Emerging Company Marketplace	EC
Partial Paid	PP
Preferred “A” called	PRACL
Preferred “A” Convertible	PRACV
Preferred Class “A”	PRA
Preferred “A” when Distributed	PRAWD
Preferred “A” when issued	PRAWI
Preferred Class “B”	PRB
Preferred called	PRCL
Preferred	PR
Preferred when distributed	PRWD
Preferred when issued	PRWI
Rights	RT
Rights when issued	RTWI
Units	U
When distributed	WD
When issued	WI
Warrants Class “A”	WSA
Warrants Class “B”	WSB
Warrants	WS
Warrants when issued	WSWI

6 Revision History

Version	Date	Change
1.01	May 20, 2019	Initial Revision
1.02	June 12, 2019	Add information on Order ID and FIX Order Ack

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.

Version	Date	Change
1.03	June 20, 2019	• Clarified when Order Update sent • Minor formatting updates • Added multicast group info
1.04	July 2, 2019	Increased Symbol fields to 11 characters Expanded list of example suffixes
1.05	July 8, 2019	Noted that OrderUpdated is reserved for future use
1.06	August 7, 2019	Added URL to download symbol mapping files
1.07	September 17, 2019	Corrected format of symbol mapping files. They are in pipe delimited format
1.08	October 8, 2019	Added a fuller description of the price field
1.09	October 18, 2019	Noted that TradeBreak is reserved for future use
1.10	November 4, 2019	Added additional Network details for new books
1.11	July 30, 2020	Update logos and copyright
1.12	March 2026	• Updated introduction and formatting • Refer to feed as “IQX” consistently
1.13	September 2026	Add Texas Exchanges

©2017-2026 Intelligent Cross, LLC. All rights reserved.
Confidential. Unauthorized use or redistribution prohibited.