FIX/FAST Direct Message Specification

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Table of Contents

FIX Header (across messages)

Header

FAST messages over TCP are preceded by message length and two bytes, first of which is a sequential number and the other is 0x00. FAST messages over UDP multicast lack this information.

Tag	FIX Name	Format	Valid Values	Description
35	MsgType	String	35 = 0 35 = 4 35 = 5 35 = A 35 = B 35 = c 35 = d 35 = f 35 = W 35 = X	Defines message type. 35 = 0 - Heartbeat 35 = 4 - Sequence reset 35 = 5 - Logout 35 = A - Logon 35 = c - Security Definition Request 35 = d - Security Definition 35 = f - Security Status 35 = W - Market Data Snapshot Full Refresh 35 = X - Market Data Incremental Refresh
1128	ApplVerID	String (1)	8	8= FIX.5.0.SP1. Specifies the service pack release being applied at message level.
49	SenderCompID	String (7)	CQG	Assigned value used to identify firm sending message.
34	MsgSeqNum	SeqNum (9)		Integer message sequence number.
52	SendingTime	UTCTimestamp (21)		Time of message transmission (always expressed in UTC: Coordinated Universal Time)

Heartbeat (35=0)

This message does not have a body.
This message is only the header with the message type 0.
This message is sequenced like any other message.

Sequence Reset (35=4)

Tag	FIX Name	Format	Valid Values	Description
36	NewSeqNo	SeqNum (9)	1 – next message will have MsgSeqNum set to ‘1’	New sequence number

Logout (35=5)

This message type is used to logout from Security Definition Server (SDS) and Replay Server.

Tag	FIX Name	Format	Valid Values	Description
58	Text	String (180)		Free Format text string. May include logout confirmation or reason for logout.

Logon (35=A) – from customer to CQG

This message type is used to logon to SDS and Replay Server.

Tag	FIX Name	Format	Valid Values	Description
553	Username	String (100)		UserID or username.
554	Password	String (100)		Password or passphrase.

Logon (35=A) – from CQG to customer

Tag	FIX Name	Format	Valid Values	Description
98	EncryptMethod	Int (1)	0 = None	CQG does not use encryption, so this value is always set to 0.
108	HeartBtInt	Int (3)		Heartbeat interval (seconds).

Security Definition Request (35=c) – from customer to CQG

Tag	FIX Name	Format	Valid Values	Description
1180	ApplID	String (50)		The channel ID from the XML Configuration File for which this request is done.

Security Definition Request (35=c) – from CQG to customer

Tag	FIX Name	Format	Valid Values	Description
1180	ApplID	String (50)		The channel ID from the XML Configuration File for which this request is done.

58	Text	String (180)		Free Format text string. May include reason for reject.

Security Definition (35=d)

Tag	FIX Name	Format	Valid Values	Description
911	TotNumReports	Int (9)		Total number of reports returned in response to a request.
864	NoEvents	NumInGroup (5)		Number of repeating EventType entries.
Repeating Group				
→865	EventType	Int (1)	7 = Last eligible trade date (UTC)	Code to represent the type of event.
→866	EventDate	LocalMktDate (8)		Date of event.
→1145	EventTime	UTCTimeOnly (12)		Time of event. **Note** – This value needs to be zero-padded from the left until there are a full 9 digits.
1151	SecurityGroup	String (6)		Product Code
1180	ApplID	String (50)		The FeedID as defined in XML Configuration File.
107	SecurityDesc	String (20)		Security Description
48	SecurityID	String (12)		Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource.
22	SecurityIDSource	uInt32		Identifies source of tag 48-SecurityID value.
461	CFICode	String (6)	6 bytes populated as follows: Future: FXXXXX Option Put: OPXXXX Option Call: OCXXXX Index: MRIXXX	Indicates the type of security using ISO 10962 standard, Classification of Financial Instruments (CFI code) values. ISO 10962 is maintained by ANNA (Association of National Numbering Agencies) acting as Registration Authority.
202	StrikePrice	Price (20)		Strike Price for an Option.
947	StrikeCurrency	Currency (3)		Currency in which the StrikePrice is denominated.
15	Currency	Currency (3)		Identifies currency used for price. Absence of this field is interpreted as the default for the security. It is recommended that systems provide the currency value whenever possible.
120	SettlCurrency	Currency (3)		Identifies currency used for settlement price.
1141	NoMdFeedTypes	Int (1)		Number of repeating FeedType entries.

Tag	FIX Name	Format	Valid Values	Description
Repeating Group				
→ 1022	MDFeedType	String (3)	1022 = CQGC: combined 1022 = CQGI: implied 1022 = 0: unlimited 1022 = 1: top level only	Specifies the type of market data feed.
→ 264	MarketDepth	Int (2)	264 = 0: no DOM 264 = 1: DOM enabled	Indicates whether DOM is enabled or not.

Repeating Group				
→ 870	NoInstrAttrib	Length		Number of repeating InstrAttribType entries.
→ 871	InstrAttribType	uInt64	**For 871=25**: Price Denominator **For 871=26**: Price Numerator Fraction	Represents the type of instrument attribute.
→ 872	InstAttribValue	String (2)		When the preceding tag 871 = ‘25’ this tag will contain the price denominator. When the preceding tag 871 = ‘26’ this tag will contain the price numerator.
200	MaturityMonthYear	month-year (6)		This field provides the actual calendar date for contract maturity - month and year (used for standardized futures and options). Format: YYYYMM (i.e. 200712). For strategies (i.e. spreads), this field will contain the earliest leg maturity.
969	MinPriceIncrement	Float (20)		Minimum fluctuation for instrument price.
1146	MinPriceIncrementAmount	Amt (20)		Under development.
9787	DisplayFactor	Float (20)		Contains the multiplier to convert the CQG display price to the conventional price.
Repeating Group				
5001	NoConnections	length		Number of connections for given Feed ID.
5002	ConnectionType	uInt32	1: incremental 2: snapshot 3: replay	Connection type: incremental refresh channel, snapshots channel, replay channel.
5003	ConnectionIPAddress	String		IP address of the connection.
5004	ConnectionPortNumber	uInt32		Port number of the connection.
Repeating Group				
5005	NoTradingSessions	length		Number of trading sessions for this security.
5006	TradingDate	TradingDate		Trading Date (UTCTimestamp)
341	TradSesStartTime	uInt64		Trading session start time (UTCTimestamp)
342	TradSesOpenTime	uInt64		Trading session open time (UTCTimestamp)
344	TradSesCloseTime	uInt64		Trading session close time (UTCTimestamp)
345	TradSesEndTime	uInt64		Trading session end time (UTCTimestamp)

Security Status (35=f)

This message can have either “Symbol” field set to instrument group (see the SecurityDefinitionMessage – Symbol field), or SecurityID field set to security id. When first –the status is valid for the whole group. When second – for single security.

Tag	FIX Name	Format	Valid Values	Description
55	Symbol	String (6)		Instrument group.
48	SecurityID	String (12)		Unique instrument ID.
326	SecurityTradingStatus	Int (2)	2 = Trading Halt 17 = Ready to trade (start of session) 18 = Not Available for trading (end of session) 20 = Unknown or Invalid 21 = Pre-Open	Identifies the trading status applicable to the transaction.

Replay Data Request (35=V)

Tag	FIX Name	Format	Valid Values	Description
1180	ApplID	String (50)		The channel ID from the XML Configuration File for which this request is done.
262	MDReqID	String (32)		Unique identifier for Market Data Request.
1182	ApplBeginSeqNo	SeqNum (9)		Message sequence number of first message in range to be re-sent. If the request is for a single message, ApplBeginSeqNo (tag 1182) and ApplEndSeqNo (tag 1183) are the same.
1183	ApplEndSeqNo	SeqNum (9)		Message sequence number of last message in range to be re-sent. If the request is for a single message, BeginSeqNo (tag 7) and EndSeqNo (tag 16) are the same. The maximum number of messages that can be requested is 2000.

Market Data Snapshot Full Refresh (35=W)

Body

Tag	FIX Name	Format	Valid Values	Description
83	RptSeq	Int (1)		Sequence number per Instrument update, which contains the same data as the corresponding RptSeq in the Market Data Incremental Refresh (tag 35-MsgType=X).
369	LastMsgSeqNumProcessed	SeqNum (9)		The last sequence number of real-time channel as of the

				time the snapshot was generated. This is used to synchronize the snapshot with the real-time feed.
911	TotNumReports	Int (9)		Total number or reports returned in response to a request.
48	SecurityID	String (12)		Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource.
268	NoMDEntries	NumInGroup (5)		Number of FIX Market Data Snapshot Full Refresh Data Blocks in the Market Data Snapshot Full Refresh message
1682	MDSecurityTradingStatus	Int (2)	2 = Trading Halt 17 = Ready to trade (start of session) 18 = Not Available for trading (end of session) 20 = Unknown or Invalid 21 = Pre-Open	Identifies the trading status of the security.

FIX Market Data Snapshot Full Refresh Repeating Group (Data Block)

Tag	FIX Name	Format	Valid Values	Description
→ 269	MDEntryType	Char (1)	0 = Bid 1 = Offer	Type Market Data entry.
→ 270	MDEntryPx	Price (20)		Price of the Market Data Entry.
→ 271	MDEntrySize	Qty (9)		Quantity or volume represented by the Market Data Entry.
→ 276	QuoteCondition	MultipleValueString2 (1)	K = Implied	Space-delimited list of conditions describing a quote.
→ 1023	MDPriceLevel	Int (2)		Position in the book.
→ 1020	TradeVolume	Qty (9)		Total traded volume since the beginning of the session. If this tag is not present, then there is no volume.

Market Data Incremental Refresh (35=X)

Body

Tag	FIX Name	Format	Valid Values	Description
268	NoMDEntries	NumInGroup (5)		Number of FIX Market Data Incremental Refresh Data Blocks in the Market Data Incremental Refresh message.

FIX Market Data Incremental Refresh Repeating Group (Data Block)

Tag	FIX Name	Format	Valid Values	Description
→ 279	MDUpdateAction	Char (1)	0 = New 1 = Change 2 = Delete 5 = Overlay	Type of Market Data update action.
→ 269	MDEntryType	Char (1)	0 = Bid 1 = Offer 2 = Trade 4 = Opening Price 6 = Settlement Price B = Total Trade Volume C = Open Interest	Type of Market Data entry. In most cases, CQG does not send Opening and Closing prices.
→ 83	RptSeq	Int (1)		Sequence number per Instrument update.
→276	QuoteCondition	MultipleValueString2 (1)	K = Implied	Space-delimited list of conditions describing a quote.
→1023	MDPriceLevel	Int (2)		Position in the book.
→273	MDEntryTime	UTCTimeOnly (12)		Time of Market Data Entry. Note – This value needs to be zero-padded from the left until there are a full 9 digits.
→271	MDEntrySize	Qty (12)		Quantity or volume represented by the Market Data Entry.
→270	MDEntryPx	Price (20)		Price of the Market Data Entry.
→48	SecurityID	String (12)		Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource.
→1070	MDQuoteType	Int (1)	0 = Indicative	Identifies the type of quote.