



FEED market data

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0.1 Revision History

Date	Version	Notes
June 25, 2025	0.1	Initial version
September 09, 2025	0.6.draft	Alpha release. Refined message layout, identifiers and enumerations in line with early internal feedback.

1 Overview

This document details the complete specification for the TXSE (Texas Exchange) Market Data Feed. This feed is designed to provide comprehensive, real-time, and low-latency market data pertaining to all trading activities on the Texas Stock Exchange.

FEED does not include a framing or session protocol. These are handled by a higher-level protocol such as RAKE TCP or RAKE UDP for multicast distribution.

The specification covers a variety of market data messages essential for reconstructing the TXSE order book and processing trade information. These messages include, but are not limited to, symbol definitions (DefineSymbol), order additions (AddOrder), order deletions (DeleteOrder), various order execution types (ExecuteOrder, ExecuteOrderWithPrice), order modifications (ModifySizeDown, ReplaceOrder), and trade events (Trade, Break Trade)

2 Types

- This document uses the terms Byte, Short, Int, Long to refer to numeric values that are 8,16,32,64 bit long respectively. All are two's complement signed little-endian encoded.

Type	Byte Length
Byte	1
Short	2
Int	4
Long	8

- Strings are all ASCII, fixed-length. Strings shorter than the fixed-length should be left justified, by right padded with spaces (ASCII 0x20) to the full string length
- Enums are encoded as a single Byte unless they appear in a bitfield, then they use the number of bits specified.
- TimeStamps are nanoseconds since the Unix epoch in UTC time zone, encapsulated by a Long

2.1 SymbolTradingState

Symbol-specific trading state indicating current availability

Enum Constant	value	Notes
TRADING	1	Symbol is open and available for trading
HALTED	2	Trading suspended pending news or regulatory action

2.2 ShortSaleRestrictionState

Short sale restriction state under SEC Rule 201

Enum Constant	value	Notes
NONE	0	No short sale restriction in effect (CTA: Space/D, UTP: 0)
ACTIVATED	1	Restriction activated intra-day (CTA: A, UTP: 1)
CONTINUED	2	Restriction carried over from previous trading day or in effect (CTA: C/E, UTP: 2)

2.3 OperationalHaltReason

Operational and technical reasons for trading halts initiated by exchange operations

Enum Constant	value	Notes
ADMINISTRATIVE	0	Administrative or technical halt initiated by exchange

2.4 RegulatoryHaltReason

Regulatory reasons for trading halts and pauses

Enum Constant	value	Notes
REASON_NOT_AVAILABLE	0	Reason not available or not applicable (CTA: Space, UTP: Space)
NEWS_PENDING	1	Trading halted pending release of material news (CTA: P, UTP: T1)
NEWS_DISSEMINATION	2	Trading halted for dissemination of material news (CTA: D, UTP: T2)
INFO_REQUESTED	3	Additional information requested by exchange (UTP: T12)
ORDER_IMBALANCE	4	Order imbalance (CTA: I)
EXTRAORDINARY_MARKET_ACTIVITY	5	Extraordinary market activity (UTP: T6)
LULD_PAUSE	6	Limit Up-Limit Down pause (CTA: M, UTP: LUDP/T5)
NON_COMPLIANCE	7	Non-compliance with listing standards (UTP: H4)
FILINGS_NOT_CURRENT	8	Required filings not current (UTP: H9)
SEC_SUSPENSION	9	SEC trading suspension (UTP: H10)
REGULATORY_CONCERN	10	Regulatory concern from other markets (UTP: H11)
SUB_PENNY_TRADING	11	Sub-penny trading violation (CTA: Y)
ETF	12	ETF-specific halt (UTP: T8)
IPO_NOT_TRADING	13	IPO not yet trading (UTP: IPO1)
CORPORATE_ACTION	14	Corporate action in progress (UTP: M1)
CIRCUIT_BREAKER_L1	15	Market-wide circuit breaker Level 1 (CTA: 1, UTP: MWC1)
CIRCUIT_BREAKER_L2	16	Market-wide circuit breaker Level 2 (CTA: 2, UTP: MWC2)
CIRCUIT_BREAKER_L3	17	Market-wide circuit breaker Level 3 (CTA: 3, UTP: MWC3)

2.5 MarketHoursState

Current phase of the market trading day

Enum Constant	value	Notes
CLOSED_BEFORE_HOURS	0	Markets are closed before trading hours
EARLY_SESSION	1	Early trading session is active (pre-market)
REGULAR_SESSION	2	Regular trading session is active
AFTER_HOURS_SESSION	3	After-hours trading session is active (post-market)
CLOSED_AFTER_HOURS	4	Markets are closed after trading hours

2.6 SessionTradingState

Market-wide trading state indicating the default state for all symbols (individual symbols may have additional restrictions)

Enum Constant	value	Notes
CLOSED	0	Market session is closed - outside of trading hours or not yet opened
TRADING	1	Market session is open and trading is active (individual symbols may still be halted/paused)
HALTED	2	Market-wide trading halt - all symbols halted (circuit breaker or system-wide halt)

3 FEED Messages

3.1 TradingSessionStatus

Market-wide status representing the overall state of the trading session

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'i'/0x69/105
presenceBits	1	1	Byte	See Optional Fields
transactTime	2	8	TimeStamp	
marketHoursState	10	1	Enum	Enum MarketHoursState . Current phase of the market trading day
tradingState	11	1	Enum	Enum SessionTradingState . Market-wide trading state indicating the default state for all symbols (individual symbols may have additional restrictions)

3.1.1 TradingSessionStatus Presence Bits

These presence bits are as follows. Any added optional fields must be in their presence bit order See Optional Fields

Bit Name	Set Mask
hasOperationalHaltReason	0x01
hasRegulatoryHaltReason	0x02
reserved	0xFC

3.1.2 TradingSessionStatus Optional Fields

The optional fields begin directly after the end of the field above. If a bit is set in the presence bits, the field must be present, and in the order listed in the presence bits. See Optional Fields

Field Name	Size	Type	Notes
operationalHaltReason	1	Enum	Enum OperationalHaltReason . Operational and technical reasons for trading halts initiated by exchange operations
regulatoryHaltReason	1	Enum	Enum RegulatoryHaltReason . Regulatory reasons for trading halts and pauses

3.2 DefineSymbol

Symbol definition containing instrument details and trading parameters for a security

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	's'/0x73/115
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
symbol	11	8	Str(8)	Security identifier root represented in CMS format
suffix	19	8	Str(8)	Security identifier suffix represented in CMS format
matchingEngineId	27	1	Byte	The matching engine to which this symbol is assigned for the trading session
defineSymbolBitFields	28	1	Bit Field Name	Offset
			isTest	0
			reserved	1
lotSize	29	4	Int	

3.3 SymbolStatus

Symbol-specific trading status representing the current state and restrictions for an individual security

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'y'/0x79/121
presenceBits	1	1	Byte	See Optional Fields
transactTime	2	8	TimeStamp	
symbolId	10	2	Short	
tradingState	12	1	Enum	Enum SymbolTradingState . Symbol-specific trading state indicating current availability
shortSaleRestrictionState	13	1	Enum	Enum ShortSaleRestrictionState . Short sale restriction state under SEC Rule 201

3.3.1 SymbolStatus Presence Bits

These presence bits are as follows. Any added optional fields must be in their presence bit order See Optional Fields

Bit Name	Set Mask
hasOperationalHaltReason	0x01
hasRegulatoryHaltReason	0x02
reserved	0xFC

3.3.2 SymbolStatus Optional Fields

The optional fields begin directly after the end of the field above. If a bit is set in the presence bits, the field must be present, and in the order listed in the presence bits. See Optional Fields

Field Name	Size	Type	Notes
operationalHaltReason	1	Enum	Enum OperationalHaltReason . Operational and technical reasons for trading halts initiated by exchange operations
regulatoryHaltReason	1	Enum	Enum RegulatoryHaltReason . Regulatory reasons for trading halts and pauses

4 Market Data Messages

4.1 AddOrder

Details for a newly added order for display to the TXSE book

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'a'/0x61/97
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
orderId	11	8	Long	
orderBitFields	19	1	Bit Field Name	Offset
			Size	Notes
			isBuy	0 1 true(1) if resting displayed order is a bid/buy, false(0) if resting displayed order is an offer/sell
			reserved	1 7 Reserved for future purposes
price	20	8	Long	
qty	28	4	Int	

4.2 DeleteOrder

Details for an order deleted in its entirety from the TXSE book

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'd'/0x64/100
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
orderId	11	8	Long	

4.3 ExecuteOrder

Indicates that an order displayed on the TXSE book has executed in part or in full at its previously displayed price

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'e'/0x65/101
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
orderId	11	8	Long	
qty	19	4	Int	
execId	23	8	Long	

4.4 ExecuteOrderWithPrice

Indicates that an order displayed on the TXSE book has executed in part or in full at this specified price

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'p'/0x70/112
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
orderId	11	8	Long	
qty	19	4	Int	
execId	23	8	Long	
execPrice	31	8	Long	

4.5 ModifySizeDown

Modify an order by reducing its size without losing priority on the TXSE book

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'm'/0x6d/109
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
orderId	11	8	Long	
qty	19	4	Int	The number of shares by which to reduce the size of the order

4.6 ReplaceOrder

Replace an order, possibly changing price level and size (which can increase), losing priority on the TXSE book

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'r'/0x72/114
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
oldOrderId	11	8	Long	Old order identifier which will no longer be used for this trading day
newOrderId	19	8	Long	New order identifier by which activity for this order will be tracked
price	27	8	Long	
qty	35	4	Int	The number of open shares to display after replacing the previous order

4.7 Trade

Execution of non-displayed liquidity

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	't'/0x74/116
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
price	11	8	Long	
qty	19	4	Int	Number of shares executed (that were not displayed)
execId	23	8	Long	

4.8 BreakTrade

Break a previous trade or execution by execution identifier

Field Name	Offset	Size	Type	Notes
messageType	0	1	Byte	'b'/0x62/98
transactTime	1	8	TimeStamp	
symbolId	9	2	Short	
execId	11	8	Long	The previously published execution identifier of a Trade, ExecuteOrderFull, or ExecuteOrderPartial