



# 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.
October 28, 2025	0.7.draft	Updated support contact email.
April 06, 2026	0.8.draft	Updated regulatory halt reasons and short sale circuit breaker stages

# 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, UTP: 0).
ACTIVATED	1	Restriction activated intra-day (CTA: A, UTP: 1).
CONTINUED	2	Restriction carried over from previous trading day (CTA: C, UTP: 2).
DEACTIVATED	3	Restriction deactivated intra-day (CTA: D).
IN_EFFECT	4	Restriction in effect, status unchanged from previous close (CTA: E).

### 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 (CTA: A, 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).
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 (CTA: C, UTP: H11).
SUB_PENNY_TRADING	11	Sub-penny trading violation (CTA: Y).
ETF	12	ETF-specific halt (CTA: F, UTP: T8).
IPO_NOT_TRADING	13	IPO not yet trading (UTP: IPO1).
CORPORATE_ACTION	14	Corporate action in progress (CTA: N, 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).
CIRCUIT_BREAKER_CARRYOVER	18	Market-wide circuit breaker halt carried over from previous trading day (UTP: MWC0).
MERGER_EFFECTIVE	19	Merger effective (CTA: E).
NEW_SECURITY_OFFERING	20	New security offering (CTA: O).
INDICATIVE_VALUE_NOT_AVAILABLE	21	Intraday indicative value not available (CTA: V).
QUOTATION_NOT_AVAILABLE	22	Quotation not available (UTP: M2).

Enum Constant	Value	Notes
SINGLE_STOCK_TRADING_PAUSE	23	Single stock trading pause (UTP: T5).
OPERATIONAL	24	Non-regulatory halt due to technical or operational reasons (CTA: X, UTP: O1).
LULD_PAUSE_STRADDLE	25	Limit Up-Limit Down volatility pause — straddle condition (bid/offer crosses a band) (UTP: LUDS).
NEWS_RESUMPTION_TIMES	26	News and resumption times announced (UTP: T3).
SINGLE_STOCK_TRADING_PAUSE_QUOTING	27	Single stock trading pause (UTP: T5).
QUALIFICATIONS_ISSUES_RESOLVED	28	Qualifications issues reviewed/resolved; quotations/trading to resume (UTP: R4).
FILING_REQUIREMENTS_SATISFIED	29	Filing requirements satisfied/resolved; quotations/trading to resume (UTP: R9).
ISSUER_NEWS_NOT_FORTHCOMING	30	Issuer news not forthcoming; quotations/trading to resume (UTP: C3).
QUALIFICATIONS_HALT_ENDED	31	Qualifications halt ended; maintenance requirements met; resume (UTP: C4).
QUALIFICATIONS_HALT_CONCLUDED	32	Qualifications halt concluded; filings met; quotes/trades to resume (UTP: C9).
REGULATORY_AUTHORITY_HALT_CONCLUDED	33	Trade halt concluded by other regulatory authority; quotes/trades to resume (UTP: C11).
NEW_ISSUE_AVAILABLE	34	New issue available (UTP: R1).
ISSUE_AVAILABLE	35	Issue available (UTP: R2).
IPO_QUOTATION_RELEASED	36	IPO security released for quotation (UTP: IPOQ).
IPO_POSITIONING_WINDOW_EXTENSION	37	IPO security — positioning window extension (UTP: IPOE).
CIRCUIT_BREAKER_QUOTATION_RESUMPTION	38	Market-wide circuit breaker quotation resumption (UTP: MWCQ).

## 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).

Enum Constant	Value	Notes
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 <a href="#">MarketHoursState</a> . Current phase of the market trading day.
tradingState	11	1	Enum	Enum <a href="#">SessionTradingState</a> . 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 <a href="#">OperationalHaltReason</a> . Operational and technical reasons for trading halts initiated by exchange operations.
regulatoryHaltReason	1	Enum	Enum <a href="#">RegulatoryHaltReason</a> . 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.

Field Name	Offset	Size	Type	Notes		
defineSymbolBitFields	28	1	Bit Field Name			
			isTest	0	1	Test symbol flag.
			reserved	1	7	Reserved for future use.
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 <a href="#">SymbolTradingState</a> . Symbol-specific trading state indicating current availability.
shortSaleRestrictionState	13	1	Enum	Enum <a href="#">ShortSaleRestrictionState</a> . 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 <a href="#">OperationalHaltReason</a> . Operational and technical reasons for trading halts initiated by exchange operations.
regulatoryHaltReason	1	Enum	Enum <a href="#">RegulatoryHaltReason</a> . 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			
symbolld	9	2	Short			
orderId	11	8	Long			
orderBitFields	19	1	Bit Field Name	Offset	Size	Notes
			isBuy	0	1	True if resting displayed order is a bid/buy, false 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	
symbolld	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	
symbolld	9	2	Short	
orderId	11	8	Long	
qty	19	4	Int	
execlld	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	
symbolld	9	2	Short	
orderId	11	8	Long	

Field Name	Offset	Size	Type	Notes
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	

Field Name	Offset	Size	Type	Notes
symbolld	9	2	Short	
execlid	11	8	Long	The previously published execution identifier of a Trade, ExecuteOrderFull, or ExecuteOrderPartial.