Nasdaq ISE, Nasdaq GEMX, Nasdaq MRX, Nasdaq PHLX

Order Risk Management

AUTOMATIC RISK MANAGEMENT FEATURES

| | | INTERFACE | |
| | | OTTO, FIX, Precise | Trigger |
Feature	Description		
Price Reasonability Check (Fat Finger)	• Single leg orders entered through the Exchange BBO by the greater of $1.00 or 1% during the regular market trading state will be rejected. • Complex orders entered through the combined Exchange BBOs of the individual legs by the greater of $1.00 or 1% during the regular market trading state will be rejected.	All	Automatic
Limit Up-Limit Down Protections (LULD)	• Rejects Market orders during Limit Up-Limit Down states. • Cancels resting market orders that become marketable during Limit Up-Limit Down states. • Triggered Stop orders are canceled during Limit Up-Limit Down states.	All	Automatic
Vertical Spread Check – Applies to PHLX, ISE and MRX	• Non-crossing vertical spreads entered with a negative limit price will be rejected. • Non-crossing vertical spreads entered as market orders to sell will not execute if the net trade would result in a negative price. Non-crossing vertical spreads with a net price greater than the value of the higher strike price minus the lower strike price will be rejected. • Non-crossing vertical spreads entered as market orders to buy will not execute at a price that is greater than the value of the higher strike price minus the lower strike price. A pre-set price buffer may be applied to the net price value.	All	Automatic
Calendar Spread Check – Applies to PHLX, ISE and MRX	• Non-crossing calendar spreads entered with a net price less than zero will be rejected. • Non-crossing calendar spreads entered as market orders to sell will not execute at a price that is less than zero. • A pre-set price buffer may be applied to the net price value.	All	Automatic
Minimum Spread Price Check – Applies to PHLX, ISE and MRX	• Spreads with all buy legs entered at a net price less than the sum of the prices at which each leg can trade (leg ratio * the minimum increment) will be rejected.	All	Automatic
Spread Trade Through Limit – Applies to PHLX, ISE and MRX	• Individual spread legs will not trade through the NBBO by more than 5% of the NBBO or $0.05 per leg, whichever is less, including the stock leg.	All	Automatic
Away Market Linkage	• A single leg Limit or Market Order that would execute through the ABBO will not trade upon entry. Orders for all client categories are eligible to be routed away via linkage. • Orders marked as non-routable by the member that are locked or crossed with the NBBO will be repriced to the NBBO and displayed at one MPV away from the NBBO.	All	Automatic

AUTOMATIC RISK MANAGEMENT FEATURES

INTERFACE

Feature	Description	OTTO, FIX, Precise	Trigger
Acceptable Trade Range	• A single leg Limit or Market order would be limited to a predefined maximum range set by the Exchange where it will be permitted to execute. • If the order is not fully executed at or within the boundary price, it will be posted at the boundary price for a short period to allow the market to refresh. • A complex Limit or Market Order that would execute its component legs with orders on the simple book at multiple prices upon entry in the absence of an away market price will trade a maximum of five consecutive price ticks on each leg, and the remaining balance will be cancelled.	All	Automatic

Order-Entry Rate Check	• Counts number of orders entered in a specified period of time – configurable in seconds.
	
	• Thresholds can be established at an individual mnemonic/badge level or a group of mnemonics/badges within a firm.
	
	• Thresholds established independently for each instrument type: regular, spread, and tied to stock.
	
	• When triggered, members can select between two actions:
	  – **Block Only:** reject all subsequent orders.
	  – **Kill Switch:** reject all subsequent orders and cancel all existing orders.
	
	• Thresholds may be adjusted intraday.
	Allows a common threshold to be set across Nasdaq ISE and Nasdaq GEMX, and separate thresholds for Nasdaq Phlx and Nasdaq MRX.
		All	Automatic

Execution Rate Check	• Counts the contracts traded in a specified period of time – configurable in seconds.
	
	• Thresholds can be established at an individual mnemonic/badge level or a group of mnemonics/badges within a firm.
	
	• Thresholds established independently for each instrument type: regular, spread, and tied to stock.
	
	• When triggered members can select between two actions:
	  – **Block Only:** reject all subsequent orders.
	  – **Kill Switch:** reject all subsequent orders and cancel all existing orders.
	
	• Thresholds may be adjusted intraday.
	
	• Allows a common threshold to be set across Nasdaq ISE and Nasdaq GEMX, and separate thresholds for Nasdaq Phlx and Nasdaq MRX.
		All	Automatic

ELECTIVE RISK MANAGEMENT FEATURES

INTERFACE

Feature	Description	OTTO, FIX, Precise	Trigger
Order and Trade Drop- Copy Reporting	• FIX Order and Trade Drop Copy reports are available for orders routed via OTTO, FIX, and Precise, allowing for enhanced risk management and more efficient order and trade information maintenance.	All	Automatic*

ELECTIVE RISK MANAGEMENT FEATURES

INTERFACE

Feature	Description	OTTO, FIX, Precise	Trigger
Kill Switch	• Simultaneously cancels all orders and prevents new orders from being accepted. Once the Kill Switch is applied, the affected firm must be manually re-enabled by Market Operations. It can be initiated from FIX, OTTO or Precise.	All	Member Initiated
Cancel on Disconnect	• All orders from a firm mnemonic or badge will be removed if a loss of communication is detected with an order entry port.	OTTO, FIX	Automatic*
Mass Cancel	• Deletes all active orders on the order book for a firm for the specified market without disconnecting from the session or preventing order submissions.	OTTO, FIX, Precise	Member Initiated
Order Entry Limits	• **Maximum Quantity per Order:** Prevents orders that exceed a pre-defined maximum quantity per order from being accepted by the Exchange. • **Maximum Cumulative Quantity per Day:** Prevents orders that exceed a pre-defined total quantity per trading day from being accepted by the Exchange. • **Maximum Notional Value per Order:** Prevents orders that exceed a pre-defined maximum option notional value per order from being accepted by the Exchange. Market orders will be rejected for FIX connections with maximum notional value defined. • **Maximum Cumulative Notional Value per Day:** Prevents orders that exceed a pre-defined total option notional value per trading day from being accepted by the Exchange. Market orders will be rejected for FIX connections with maximum notional value defined. • **Restricted Securities (Precise):** Prevents orders that are a part of a specified restricted list of securities. • **Reject Pre-Open Orders (Precise):** Prevents orders that are entered before the open of the market. • **Locate Code Required (Precise):** Requires a locate code value for orders with a short-sale stock component prior to submission to the Exchange. • All settings may be adjusted intraday.	FIX, Precise	Automatic (Configured by Member or Exchange)
Do Not Trade Through (DNTT) – Applies to PHLX, ISE and MRX	• Non-crossing spread orders designated as DNTT will not trade through the NBBO on any leg of the order, including stock.	All	Automatic (Configured by Member or Exchange)
Risk Administrator Precise Terminal	• Designated Precise user with real-time access to risk management settings at control.	Precise	N/A
Supervisor Precise Terminal (Master User)	• Designated Precise user able to view and manage all Precise, FIX, and OTTO entered orders and trades.	All	N/A
Precise GUI Pop-Up Warnings	• Precise requires trader confirmation prior to order submission. • Precise users can set a 'soft warning' for maximum quantity. This does not prevent order submission. • Precise users receive an additional warning when the order is above/below the Exchange bid/offer.	Precise	Automatic
Precise User Report	• Posted to the member FTP site, includes user account information for audit records. The report includes access type, maximum quantity per order and per day, maximum notional value per order and per day, restricted product lists, and Risk Admin who edited the settings.	Precise	Member Initiated
Compliance Acknowledgement Message	• Forces users to acknowledge compliance with internal risk policies and procedures prior to application startup.	Precise	Automatic*

*configured by the Exchange