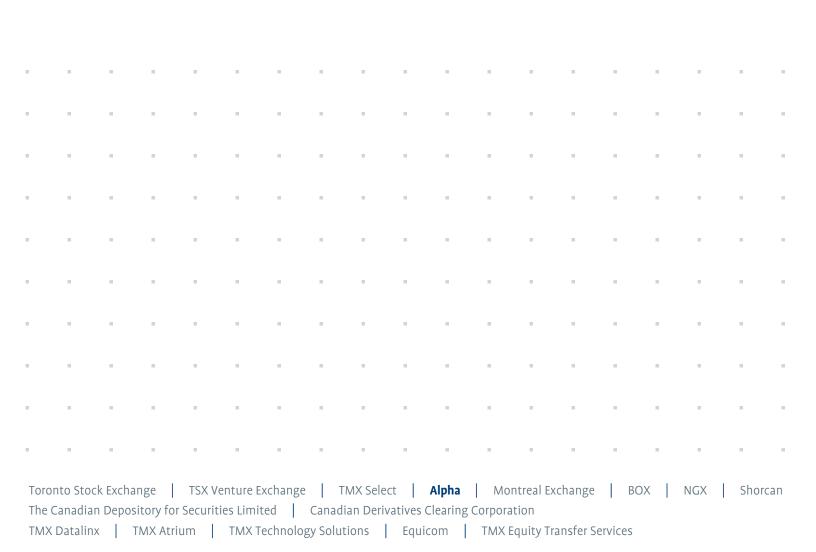# TMX | Alpha

Alpha IntraSpread

Alpha IntraSpread™ is a facility designed to optimize interaction of retail flow with lit and dark liquidity on Alpha, as well as to facilitate large size liquidity discovery without pre-trade transparency.

Retail customers obtain better quality of execution for active orders though maximized price improvements, enhanced trade sizes and improved fill rates. Other participants obtain higher probability of trading with retail flow by posting dark liquidity, and also gain access to dark liquidity posted by other participants.

Alpha IntraSpread is compliant with the UMIR amendments respecting dark liquidity which require that Small orders receive price improvement when trading against dark liquidity. Small orders are defined as orders for 50 or fewer board lots and $100,000 or less in value.

Alpha IntraSpread is available to all Members and for all symbols traded on Alpha.

Members interact in Alpha IntraSpread using Dark and Seek Dark Liquidity™ (SDL™) orders.

DARK ORDER

A Dark order is a fully hidden order which can trade with other Dark orders or SDL orders, but does not trade with CLOB orders. IntraSpread™ supports Touch and Midpoint Dark orders.

- A **Touch Dark** order is pegged to the NBB for a buy order and to the NBO for a sell order. It can trade with incoming Large SDL orders after all visible and iceberg reserve liquidity booked on Alpha at the same price has been exhausted. It can also trade with Small SDL orders after all lit liquidity on Alpha is exhausted, but only if there is no volume available at the same price on other marketplaces. A Touch Dark order cannot trade with other Dark orders.

- A **Midpoint Dark** order is pegged to the midpoint of the NBBO for both a buy and a sell order. It can trade with other Midpoint Dark orders and with incoming SDL orders regardless of size.
  - By setting the Contra Order Type Matching Preference (COMP) to SDL, DARK or ALL, a user can choose to trade a Midpoint Dark order only against incoming SDL orders, only against Dark orders, or both.
  - By setting the Minimum Acceptable Quantity (MAQ), a user can choose to trade a Midpoint Dark order only against contra Dark orders over a certain size. The MAQ constraint does not apply to trades with incoming SDL orders.

- For an active Dark order, the pegged price is calculated based on the NBBO at the time of the order entry. For a resting Dark order, the pegged price is calculated when there is a change in the NBBO.
  - A Dark order cannot be priced and will not trade if the NBBO is locked or crossed or if the relevant side of the NBBO is not set.

- A Dark order can optionally be assigned a price cap, in which case its price is the less aggressive of its pegged price and its price cap.

- A Midpoint Dark order marked for Self Trade Management (STM) will not trade with a matching STM Dark order on the other side of the book. Two such orders will remain in the book, and continue to be eligible for trading with other orders, but will not trade with each other.

- A Dark order is accepted in either the Pre-Open or Continuous trading session. The order can trade in the Continuous trading session but does not participate in opening or closing auctions.

- A Dark order must be a day order and must be a round lot. A Dark order cannot have Immediate-or-Cancel duration, and cannot be an Iceberg, On-Stop, Passive Only or Special Terms order.

- A Dark order can be amended, including quantity, peg offset, price cap and MAQ, in addition to other standard amendable order attributes. The COMP attribute is not amendable. The order will lose priority if the peg offset is amended or quantity increased.

SEEK DARK LIQUIDITY (SDL) ORDER

An SDL order is an Immediate-or-Cancel order that trades with passive Dark orders and with CLOB orders, while not trading through price levels on other markets.

- SDL orders are marked with a Seek Liquidity Type attribute which will determine what type of liquidity the orders will interact with. There are three values for the Seek Liquidity Type attribute:
  - All Dark and Lit: SDL orders marked with this attribute value will trade with all eligible Dark and visible orders.
  - Price Improving Dark Only: SDL orders marked with this attribute value will only trade with Dark orders that offer price improvement.
  - All Dark orders: SDL orders marked with this attribute will trade with all eligible Dark orders whether price improvement is offered or not. SDL orders marked with this attribute value will not interact with visible orders.
- An SDL order trades with eligible Dark and CLOB orders in price priority, with lit volume having priority over dark liquidity at the same price level.
  - A Small SDL order will trade with all Midpoint Dark orders where COMP setting supports trading with SDL orders. It will also trade with Touch Dark orders but only if there is no volume at the same price level on other markets. With this functionality, the Small SDL order will always receives a price improvement of at least one trading increment over the NBBO, or half a trading increment if the NBBO spread is one trading increment when trading with dark liquidity.
- An SDL order can be market or limit, it must be for a board lot quantity, and cannot be Iceberg, On-Stop, Passive Only, Special Terms, Inside Match, FAK or Bypass. An SDL order is accepted only during the Continuous trading session.
- An SDL order can only be entered on behalf of Retail Customers.
  - IIROC's definition of Retail Customer applies. Members are responsible for ensuring that only eligible orders are sent as SDL orders. Alpha may block a Trader ID from entering further SDL orders if Alpha determines that non-eligible orders are being sent.

ALPHA INTRASPREAD TRADES

Alpha IntraSpread trades are disseminated on the public data feed in real-time. Trade prices may have up to three decimal places for prices above $0.50 and up to four decimal places for prices below $0.50.

An Alpha IntraSpread trade sets the Alpha Last Sale Price (ALSP). For the purpose of setting the ALSP, the price will remain unrounded.

SDL TRADES

- SDL orders trade with resting Dark and CLOB orders in price priority.
- Within a price level, visible and reserve volume in the CLOB has priority over Dark orders.
- SDL and Dark orders trade according to broker/smart size/round-robin priority:
  - **Broker Priority** - Dark orders from the same Member - irrespective of the anonymous attribute - have priority; then
  - **Smart Size Priority** - Dark orders with sufficient size to fully fill the incoming SDL™ order have priority; then
  - **Round-Robin Priority** - Dark orders take turns in interacting with the incoming SDL™ order. Each time a Dark order is inserted, is traded against, or its priority is changed through amendment, the order is placed at the end of the round-robin priority queue.
- SDL and CLOB orders trade according to price/broker/time priority:
  - **Broker Priority** - CLOB orders from the same Memberhave priority, except jitney orders; then
  - **Time Priority** - Each time a CLOB order is inserted or its priority is changed through amendment, the order is placed at the end of the time priority queue.

DARK/DARK TRADES

- Dark orders trade with other Dark orders at the midpoint of the NBBO according to broker/smart size/round-robin priority, except Jitney orders, which do not have broker preferencing.
- When in the Continuous Trading session, Dark orders trade with other Dark orders on a continuous basis. Resting Dark Midpoint orders become tradable due to NBBO changes.

EXAMPLES

EXAMPLE 1 – LARGE SDL ORDER TRADING WITH DARK AND LIT LIQUIDITY

NBBO: 25.02 – 25.05
Best bid on markets other than Alpha: 25.02

Alpha Book – buy orders

Order #	RR Priority	Time of Entry	Order Type	COMP	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D2	2	10:15 AM	Dark	ALL	A	500		Midpoint	25.035
D3	3	10:20 AM	Dark	ALL	B	1,500		Midpoint	25.035
D1	1	10:10 AM	Dark	SDL	A	1,200		Touch	25.02
C1		10:00 AM	Lit		B	1,200			25.02
C2		10:05 AM	Lit		B	600			25.01

- Dealer B enters Large SDL™ order S1 to sell 6,000 at 25.01
- The following trades are executed:

Trade	Comment
S1 & D3 **1,500 @ 25.035**	• Dark Midpoint orders D2, D3 have priority over CLOB orders C1, C2 and Dark Touch order D1 due to better price • Dark order D3 has priority over D2 due to broker priority
S1 & D2 **500 @25.035**	• Dark Midpoint order D2 has priority over CLOB orders (C1, C2) and Dark Touch order D1 due to better price
S1 & C1 **1,200 @25.02**	• Dark Touch order D1 and CLOB order C1 have priority over C2 due to better price • CLOB order C1 has priority over Dark Touch order D1, due to priority of lit liquidity over dark at the same price level
S1 & D1 **1,200 @25.02**	• Dark Touch order D1 has priority over CLOB order C2 due to better price

- S1 does not trade with C2 @25.01 as that would trade through the best price on other markets
- Remaining 1,600 shares of S1 are cancelled.

EXAMPLE 2 – SMALL SDL ORDER TRADING WITH DARK AND LIT LIQUIDITY

NBBO: 4.56 – 4.58
Best bid on markets other than Alpha: 4.56

Alpha Book – buy orders

Order #	RR Priority	Time of Entry	Order Type	COMP	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D1	1	10:10 AM	Dark	ALL	B	500		Midpoint	4.57
D2	2	10:15 AM	Dark	SDL	A	400		Touch	4.56
C1		10:00 AM	Lit		A	200			4.56
C2		10:05 AM	Lit		B	600			4.55

- Dealer B enters Small SDL™ order S1 to sell 2,000 at 4.55
- The following trades are executed:

Trade	Comment
S1 & D1 **500 @4.57**	• Dark Midpoint order D1 has priority over Dark Touch order D2 and CLOB orders C1 and C2 due to better price.
S1 & C1 **200 @4.56**	• CLOB order C1 has priority over C2 due to better price

- S1 does not trade with D2 @4.56 as its price is not better than the current best bid (D2 does not provide minimum price improvement over NBB of 4.56)
- S1 does not trade with C2 @4.55 as that would trade through the best price on other markets (4.56)
- Remaining 1,300 shares of S1 are cancelled.

EXAMPLE 3 – SMALL SDL ORDER TRADING WITH DARK AND LIT LIQUIDITY WHEN NO LIQUIDITY AT THE NBBO ON OTHER MARKETS (ALPHA sets the NBBO)

NBBO: 4.56 – 4.58
Best bid on markets other than Alpha: 4.55

Alpha Book – buy orders								
Order #	RR Priority	Time of Entry	Order Type	COMP	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D1	1	10:10 AM	Dark	ALL	B	500		Midpoint	4.57
D2	2	10:15 AM	Dark	SDL	A	400		Touch	4.56
C1		10:00 AM	Lit		A	200			4.56
C2		10:05 AM	Lit		B	600			4.55

- Dealer B enters Small SDL order S1 to sell 2,000 at 4.55
- The following trades are executed:

Trade	Comment
S1 & D1 **500 @4.57**	• Dark Midpoint order D1 has priority over Dark Touch order D2 and CLOB orders C1, C2 due to better price.
S1 & C1 **200 @4.56**	• CLOB order C1 and Dark Touch order D2 have priority over C2 due to better price • CLOB order C1 has priority over Dark Touch order D2, due to priority of lit liquidity over dark at the same price level
S1 & D2 **400 @4.56**	• Dark Touch order D2 has priority over C2 due to better price • Dark order D2 is tradeable as its price is better than current best bid (4.55)
S1 & C2 **600@4.55**	• Trade with C2 @4.55 does not trade through best price on away market

- Remaining 300 shares of S1 are cancelled.

EXAMPLE 4 – IMPACT OF PRICE CAPS ON DARK ORDERS

NBBO: 9.98 – 10.01

Best bid on markets other than Alpha: 9.98

Alpha Book – buy orders

Order #	RR Priority	Time of Entry	Order Type	COMP	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D1	1	10:00 AM	Dark	ALL	A	500	10.00	Midpoint	9.995
D2	2	10:05 AM	Dark	ALL	B	1,500	9.99	Midpoint	9.99
D3	3	10:10 AM	Dark	SDL	A	1,200	9.97	Touch	9.97

- Dealer B enters Large SDL order S1 to sell 6,000 at market
  - Dark Midpoint order D1 is priced to NBBO midpoint, as it is less aggressive than its price cap
  - Dark Midpoint order D2 is priced to its price cap, as it is less aggressive than the NBBO midpoint
  - Dark Touch order D3 is priced to its price cap, as it is less aggressive than the NBB
- The following trades are executed:

Trade	Comment
S1 & D1 **500 @9.995**	• Dark order D1 has priority over Dark orders D2, D3 due to better price
S1 & D2 **1,500 @9.99**	• Dark order D2 has priority over Dark order D3 due to better price

- S1 does not trade with D3 @9.97 as that would trade through the best price on other markets
- Remaining 4,000 shares of S1 are cancelled.

EXAMPLE 5 – SMART SIZE PRIORITY

NBBO: 17.66 – 17.67

Alpha Book – buy orders

Order #	RR Priority	Time of Entry	Order Type	COMP	MAQ	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D1	1	10:10 AM	Dark	ALL		B	1,000		Midpoint	17.665
D2	2	10:20 AM	Dark	SDL		A	1,000		Touch	17.66
D3	3	10:25 AM	Dark	ALL		A	5,000		Touch	17.66
C1		10:05 AM	Lit			C	500			17.66

- Dealer B enters Large SDL order S1 to sell 6,000 at market
- The following trades are executed:

Trade	Comment
S1 & D1 **1,000 @17.665**	• Dark Midpoint order D1 has priority over Dark Touch orders D2, D3 and CLOB order C1 due to better price
S1 & C1 **500 @17.66**	• CLOB order C1 has priority over Dark Touch orders D2, D3 due to priority of lit liquidity over dark at the same price level
S1 & D3 **4,500 @17.66**	• No orders have priority due to broker priority. • Dark Touch order D3 has priority over Dark Touch order D2 due to smart-size priority (its volume 5,000 fully fills S1's remaining 4,500 volume)

EXAMPLE 6 – DARK ORDERS TRADING WITH OTHER DARK ORDERS

NBBO: 6.04 – 6.07

Alpha Book – buy orders

Order #	RR Priority	Time of Entry	Order Type	COMP	MAQ	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D1	1	10:10 AM	Dark	ALL		B	5,000		Midpoint	6.055
D2	3	10:20 AM	Dark	SDL		A	6,000		Midpoint	6.055
D3	4	10:25 AM	Dark	ALL		A	6,000	6.05	Midpoint	6.05
D4	5	10:30 AM	Dark	DARK	12,000	B	20,000		Midpoint	6.055
D5	6	10:35 AM	Dark	ALL		A	2,000		Midpoint	6.055
D6	7	10:40 AM	Dark	ALL		B	1,000		Midpoint	6.055
D7	8	10:45 AM	Dark	DARK	2,000	C	3,000		Midpoint	6.055
D8	2	10:15 AM	Dark	SDL		A	4,000		Touch	6.04
C1		10:05 AM	Lit			C	100			6.04

- Dealer A enters Dark Midpoint order D9 to sell 10,000
  - Dark order D2 is not eligible to trade as its COMP is set to SDL
  - Dark order D3 is not eligible to trade as it is priced to less than the midpoint of NBBO due to its price cap.
  - Dark order D4 is not eligible to trade due to its MAQ condition (volume of D9 is less than the MAQ)
  - Dark order D8 is not eligible to trade as it not a Midpoint Dark order
  - CLOB order C1 is not eligible to trade as Dark orders do not trade with CLOB orders
- The following trades are executed:

Trade	Comment
D9 & D5 2,000 @6.055	• Dark order D5 has priority over D1, D6 and D7 due to broker priority.
D9 & D1 5,000 @6.055	• Dark order D1 has priority over D6 and D7 due to round-robin.
D9 & D6 1,000 @6.055	• Dark order D6 has priority over D7 due to round-robin.
D9 & D7 2,000 @6.055	

The final state of the orderbook is:

Alpha Book – buy orders

Order #	RR Priority	Time of Entry	Order Type	COMP	MAQ	Bid Broker	Bid Size	Price Cap	Peg Type	Calculated / Limit Price
D2	3	10:20 AM	Dark	SDL		A	6,000		Midpoint	6.055
D3	4	10:25 AM	Dark	ALL		A	6,000	6.05	Midpoint	6.05
D4	5	10:30 AM	Dark	DARK	12,000	B	20,000		Midpoint	6.055
D7	8	10:45 AM	Dark	DARK	1,000	C	1,000		Midpoint	6.055
D8	2	10:15 AM	Dark	SDL		A	4,000		Touch	6.04
C1		10:05 AM	Lit			C	100			6.04

- Dark order D7 has remaining quantity 1,000
  - Dark order D7's MAQ has been reduced accordingly from 2,000 to 1,000

STAMP AND FIX ORDER ENTRY PROTOCOLS

ALPHA INTRASPREAD ORDER ENTRY

Order Type	STAMP Fields	FIX Fields
Dark	Midpoint Undisplayed (604) = Y Pegtype (597) = M Touch Undisplayed (604) = Y Pegtype (597) = M Volume (64) = multiple of board lot Price (41) = valid price to add a price cap Order Duration (39) = Day, GFD MinQty(598) = multiple of boardlot COMP (612) = SDL (1), DARK (2), ALL (3); Default is SDL.	Midpoint TSX Undisplayed (7726) = Y TSX Pegtype (7723) = M Touch TSX Undisplayed (7726) = Y TSX Pegtype (7723) = R OrderQty (38) = multiple of boardlot OrdType (40) = Pegged (P) Price (44) = valid price to add a price cap TimeInForce (59) = Day (0); Post Open (P) MinQty(110) = multiple of boardlot COMP (7730) = SDL (1), DARK (2), ALL (3); Default is SDL.

ATTRIBUTES SPECIFIC TO ALPHA INTRASPREAD TRADES

Feature	Description	FIX OE	STAMP OE	Broadcast Feed
Identifying a dark execution	A private tag value that identifies if the execution involved a dark order	6780 TSXExchangeAdmin Position 4=D	380 ExchnageAdmin Position 4=D	380 ExchnageAdmin Position 4=D
Identifying an Alpha IntraSpread execution	A public tag value that identifies if the execution occurred in the IntraSpread Facility™	N/A	N/A	617 IsDark = Y

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For more information on Alpha IntraSpread, please contact TMX Equity Trading Account Management at 877-421-2369 or email **trading_sales@tsx.com**

www.tmx.com/alpha