ASX New Trading Platform— User Defined Combinations

Version 1.03 | March 2017

INFORMATION CLASSIFICATION - CONFIDENTIAL



Table of Contents

1.		Intro	oduction	3				
	1.1.	Purp	bose	3				
	1.2.	Aud	ience	3				
	1.3.	Doc	ument History	3				
2.		Crea	ating UDC's	4				
3.		Leg	Price Allocation	4				
	3.1.	Exar	nple	4				
4.		Trea	atment of leg ratios for Fixed Leg Price UDCs	7				
	4.1.	Exar	nple	7				
5.		Orde	der Entry and Leg/Strategy Pricing					
6.		Trea	reatment of Negative prices for a Strategy with Differential					
	6.1.	. Example						
7.		Trea	atment of Strategy with only Sell legs	11				
	7.1.	Exar	nple	11				
8.		Rounding leg prices due to tick size						
9.		Strategies with legs that have a zero prior settlement price						
10.	. Appendix A: Trade Price Algorithm		16					
	10.1. Define Anchoring Sequence							
	10.1.1	L.	Leg Sorting	16				
	10.1.2	2.	Define the Anchoring Leg and its Preliminary Price	16				
	10.1.3	3.	Legs with a Reference Price	17				
	10.1.4	1.	Trade Price Algorithm	17				
	10.1.5	5.	Adjustment of Leg Prices	18				
11.	11. Appendix B: ASX 24 Operating Rules and Procedures – User Defined Strategy orders Error!							
Bookmark not defined.								

1. Introduction

User Defined Combinations (UDC) replace the Custom Market functionality. UDC's can be created up to 6 legs and depending on the contracts selected generally have net premium pricing. One leg (generally the futures leg of an FO) can be fixed. Customers should also ensure they have read and understand the Procedures for User Defined Strategy Orders as part of the Trading Rules.

1.1.Purpose

This document aims to provide insight and examples of how User Defined Combinations in the ASX New Trading Platform (NTP) system behave for ASX 24, specifically with regard to the order entry and calculation of net pricing with differing leg ratios. It also discusses how leg price allocation is determined for less liquid contracts.

1.2.Audience

This document is intended to provide ASX 24 Participants and Software Vendors with sufficient information to help them implement logic and understand how different strategies can be created and traded via the Under Defined Combination functionality.

1.3. Document History

This document has been through the following iterations:

Version	Date	Description
V1.01	June 2016	First release
V1.02	February 2017	Including section 2: Creating UDC's



2. Creating UDC's

To create a UDC, the Trading Participant must specify:

- underlying instrument legs; up to 6 future and option instruments may be included in a UDC.
- where appropriate, the ratios between the legs; UDC ratios will always be reduced to the lowest common denominator.
- the pricing model:
 - o net price between legs; or
 - for combination strategies including both Futures and Options, fixed leg price. Where the option component of such a strategy has multiple option strikes, the price will be a net price.
- underlying instrument legs belonging to the same partition, same currency and same trade date
- futures and/or options legs only, i.e. UDC cannot reference another UDC
- different underlying legs; Same contracts cannot be used more than once in the UDC definition

3. Leg Price Allocation

The matching engine uses a set of complex and iterative pricing rules to determine leg prices when a combination order is matched against another order in the combination book. The algorithm is attached as an appendix to this user guide.

3.1.Example

The following example is an executed Strangle where both the underlying legs have previous traded prices in the outright for that session:

Let's consider the example strategy, XTM6 97.100 Call Buy 1/ 96.900 Put Buy 1 Strangle.

Let's assume that the options contract are liquid and have a last trade price of XTM60097100C = 0.040, XTM60096900P = 0.035.

In this scenario, the UDC has a bid order at 0.075 in the book and an offer at 0.075 will create a trade. The allocated leg prices would be Long 1 XTM6 97.100 Call option @0.040 and Long 1 XYM6 96.900 Put option at @0.035, to give a net of 0.075. Since the contracts are liquid and have a last trade price for the session, the allocated leg prices would be reflective of the current underlying market.



Let's consider another scenario for the same Strangle strategy where the underlying options contract are less liquid and doesn't have a market on the day.

Let's also assume that:

• The call and put option contracts are illiquid, with no Last Trade Price and no current bid/ask in the market on the day.

The prior settlement prices for the option contract are stale and do not reflect fair market value.

The prior settlement price for the contracts are XTM6 = 97.000, XTM60097100C = 0.020, and XTM60096900P = 0.020 respectively.

If the market moves and the strangle is now worth a net of 0.070 – Buy 1 XTM6 97.100 Call option and Buy 1 XTM6 96.900 Put option, upon execution the call will be allocated a price of 0.020 and the put would be allocated a rice of 0.050.



To ensure the allocated leg prices are closer to fair value, participants can create a UDC with one leg at a fixed price.

Consider the example of a Strangle as a Fixed leg price strategy below:

- Buy 1 XTM6 97.100 Call option Fixed price of 0.035
- Buy 1 XTM6 96.900 Put option

The trade in fixed price UDC at 0.035 provides leg allocation as Long 1 XTM6 97.100 Call option **@0.035** (fixed price) and Long 1 XYM6 96.900 Put option at **@0.035**.



4. Treatment of leg ratios for Fixed Leg Price UDCs

Fixed leg price UDCs are used for Futures and Options (F&Os) strategies, where Futures contract has the fixed leg price, the optional component of the strategy can have either a single or multiple strikes, and the price is the net price for the options component.

The trade price algorithm considers leg ratio when calculating the net price for the non-fixed component of the strategy.

Net price for the non-fixed component is calculated as follows:

Net price = Sum of Buy side (leg ratio * leg price) - Sum of Sell side (leg ratio * leg price)

The fixed leg would be filled at or better than the locked-in price, and will be disregarded when calculating the overall net price of the strategy.

4.1.Example

To illustrate how leg ratios for Fixed Leg Price UDCs are treated, let's consider a strategy with the following ratios:

- IRU6 is fixed at 97.000, Buy LegRatio = 51
- IRU60097000C, Ask LegRatio = 100

Given the above scenario, an F&Os strategy is created with IRU6 51@97.000 hedging against IRU60097000C 100@0.200.

The price of the future leg is fixed at 97.000, so it would trade at the locked-in, or at a better price.

The non-fixed option component of the strategy will take into account leg ratios for calculating the net price. To get a fill in IRU60097000C 100@0.200 (the market is assumed to be at this level), the order should be placed with a price of 20.000 (100 * 0.200). This would net a fill of 100@0.200 (or better price).



5. Order Entry and Leg/Strategy Pricing

The following examples illustrate the price that would be displayed for similar strategies, at-the-money options basis futures, with a slightly different hedge.

For example, let's consider XT futures trading between 96.980 and 97.020 over the day.

1. Delta of 0.50

The UDC strategy is constructed as follows:

- Buy 50 XT futures @ 97.000 (fixed leg priced at 97.00)
- Buy 100 XT 97.000 Puts at 0.200

The leg ratio is not the least common denominator, and is reduced by the matching engine to 1:2. The net price displayed in the strategy is 0.400 (2 * 0.200).

2. Delta of 0.49

The UDC strategy is constructed as follows:

- Buy 49 XT futures @ 97.010 (fixed leg priced at 97.010)
- Buy 100 XT 97.000 Puts at 0.195

The leg ratio is already the least common denominator, and remains as is.

The net price displayed in the strategy is 19.500 (100 * 0.195).

3. Delta of 0.48

The UDC strategy is constructed as follows:

- Buy 48 XT futures @ 97.020 (fixed leg priced at 97.020)
- Buy 100 XT 97.000 Puts at 0.190

The leg ratio is not the least common denominator, and is reduced by the matching engine to 12:25. The net price displayed in the strategy is 4.750 (25 * 0.190).



4. Delta of 0.51

The UDC strategy is constructed as follows:

- Buy 51 XT futures @ 96.990 (fixed leg priced at 96.990)
- Buy 100 XT 97.000 Puts at 0.205

The leg ratio is already the least common denominator and remains as is.

The net price displayed in the strategy is 20.500 (100 * 0.205).

5. Delta of 0.52

The UDC strategy is constructed as follows:

- Buy 52 XT futures @ 97.980 (fixed leg priced at 96.980)
- Buy 100 XT 97.000 Puts at 0.210

The leg ratio is not the least common denominator and is reduced by the matching engine to 13:25. The net price displayed in the strategy is 5.250 (25 * 0.210).

The prices displayed for similar strategies for the same order type and same side are likely to look very different due to the rules used by the system to calculate net prices. However, these strategies can be defined as a separate UDC and the prices displayed would be per combination order book.



6. Treatment of Negative prices for a Strategy with Differential

When a strategy involves both buy and sell legs, the calculated net price may be displayed as a negative value. Depending on the leg ratios and current market level in the underlying legs, the calculated net price can be a negative value but the leg trade prices for each leg is always positive.

Net price for the UDC is calculated as follows:

Net price = Sum of Buy side (leg ratio * leg price) - Sum of Sell side (leg ratio * leg price)

6.1.Example

To illustrate treatment of negative prices for a strategy with differential, let's consider the following Butterfly spread.

- 1. Options Butterfly Strategy Current market level in YTU6 is at 98.000
- YTU60097800C, Buy LegRatio =1 (current market is: 0.710 0.760)
- YTU60098000C, Sell LegRatio = 2 (current market is: 0.550 0.560)
- YTU60098200C, Buy LegRatio =1 (current market is: 0.320 0.350)

If the current market level is the fair value of options at this level, then the strategy trades at a negative price.

The current market in the outright options would create an implied in the UDC butterfly spread with a negative price of -0.070 on the BID side ($0.710 \times 1 + 0.320 \times 1 - 0.550 \times 2$) and -0.010 on the SELL side ($0.760 \times 1 + 0.350 \times 1 - 0.560 \times 2$).

2. Bank Bills (IR) Futures Butterfly Strategy

- IRU6, Buy LegRatio =1 (current market is: 98.240 98.250)
- IRZ6, Sell LegRatio = 2 (current market is: 98.140 98.150)
- IRH7, Buy LegRatio =1 (current market is: 98.040 98.050)

At the current market level, the strategy trades between a negative and positive price range.

The current market in the outright Futures would create an implied in the UDC butterfly spread with a negative price of -0.020 on the BID side (98.240 * 1 + 98.040 * 1 - 98.150 * 2) and 0.020 on the SELL side (98.250 * 1 + 98.050 * 1 - 98.140 * 2).



7. Treatment of Strategy with only Sell legs

The matching engine limits creating a strategy with sell only legs for a net price UDC or sell only legs for the non-fixed component of the fixed price leg strategy this is to ensure that a positive price is displayed for the UDC

The system will create an UDC with sides inversed for all the legs if the request to create a strategy includes sell legs only for a net price UDC or sell legs only for the non-fixed component of the fixed price leg. The user will be advised to use the UDC with inversed leg sides instead.

7.1. Example

To illustrate treatment of strategy with sell leg only, let's consider the following example:

1. Options basis Futures Strategy

The options basis futures strategy is IRZ6 Buy 49@98.100 hedging against IRZ60098100C Sell 100@0.200

Users requests to create an options basis futures strategy as below:

- IRZ6 is fixed at 98.100, Buy LegRatio = 49
- IRZ60098100C, Ask LegRatio = 100

[Buy order in the strategy would Buy IRZ6 and sell IRZ60098100C. Sell order in the strategy would Sell IRZ6 and Buy IRZ60098100C]

Given that the non-fixed component includes sell leg only, the matching engine will flip the legs around and create the UDC as:

- IRZ6 is fixed at 98.100, Sell LegRatio = 49
- IRZ60098100C, Buy LegRatio = 100

[Buy order in the strategy would Sell IRZ6 and Buy IRZ60098100C. Sell order in the strategy would Buy IRZ6 and Sell IRZ60098100C.]



2. Net price strategy

A net price short-straddle strategy is YTZ6 98.000 Call Sell 1 and YTZ6 98.000 Put Sell 1

Users requests to create the strategy as:

- YTZ6 98.000 Call Sell 1
- YTZ6 98.000 Put Sell 1

[Buy order in the strategy would sell YTZ6 98.000 Call and sell YTZ6 98.000 Put. Sell order in the strategy would Buy YTZ6 98.000 Call and Buy YTZ6 98.000 Put]

Since the strategy include sell legs only, the matching engine will flip the legs around and create an UDC as:

- YTZ6 98.000 Call Buy 1
- YTZ6 98.000 Put Buy 1

[Buy order in the strategy would Buy YTZ6 98.000 Call and Buy YTZ6 98.000 Put. Sell order in the strategy would Sell YTZ6 98.000 Call and Sell YTZ6 98.000 Put]



8. Rounding leg prices due to tick size

Combinations with leg ratios greater than one may result in leg price allocations that are rounded to a valid tick increment and cannot add to the net strategy price entered by the user. Furthermore, combinations of instruments on different tick increments and leg ratios greater than one may not have a mathematical solution to price the legs on tick and add up to the net price. This means some strategy prices are impossible to solve without breaking the leg ratios.

8.1 Examples

1. Net price strategy¹

A net price long future short-option strategy is APH7 Buy 1 and APH7 5000 Call Sell 2

Users A requests to create the strategy as:

- APH7 Future Buy LegRatio = 1
- APH7 5000 Call Sell LegRatio = 2

The tick size for APH7 is 1 point and for AP Options the tick size is 0.5 points. The tick size for the strategy is 0.5 points, being the narrowest of the leg tick sizes.

User A enters a Buy order into UDC at 5004.5

User B enters a Sell order into UDC at 5004.5

APH7 last traded at 5008 points

- UDC execution traded at 5004.5
- APH7 Future traded at 5008
- APH7 5000 Call traded at 2

Adding up the leg executions results in a net price of 5008-2*2=5004. Due to the leg ratios and minimum price tick increments of the strategy, there is no combination of leg prices pAPH7 and pAPH750000C that can solve the equation pAPH7*1-pAPH750000C*2=5004.5.



¹ The strategy in this example is provided for illustrative purposes and generally FO strategies should be traded as fixed leg UDCs.

2. Options basis Futures Strategy

A fixed price strategy is YTH7 Buy 1 fixed at 97 and YTH70095000C Buy 5 YTH70095100C Sell 10 YTH70095100C Call Buy 5

Users A requests to create the strategy as:

- YTH7 Buy 1 fixed at 97
- YTH70095000C Buy 5
- YTH70095100C Sell 10
- YTH70095100C Buy 5

The minimum tick size for YTH7 and YT options is 0.005

User A enters a Buy order into UDC at 0.005

User B enters a Sell order into UDC at 0.005

- UDC execution is printed at 0.005
- 1 YTH7 traded at 97
- 5 YTH70095000C traded at 3.235
- 10 YTH70095100C traded at 3.125
- 5 YTH70095100C traded at 3.015

Adding up the leg executions results in a net price of 5*3.235-10*3.125+5*3.015=0. Due to the leg ratios and tick increments of the strategy, there is no combination of leg prices that can solve the equation pYTH70095000C*5-pYTH70095100C*10+pYTH70095100C*5=0.005.



Note

ASX Trading Operations will monitor UDC executions. ASX will contact affected Trading Participants to advise a price error has occurred and offer to re-price any UDC leg prices to equal the net price of the strategy.



9. Strategies with legs that have a zero prior settlement price

There is a system limitation with leg pricing for strategies consisting of contracts with a zero prior settlement price. The zero PSP can be used to set preliminary leg prices and can cause pricing errors when leg prices are subsequently adjusted to the minimum price increment. It is strongly recommended that out-of-the-money options are fixed in strategies such as Straddles and Strangles.

1. Out-of-the money options strategies

Users A requests to create the Straddle as:

- YTM70099000C Buy 1
- YTM70099000P Buy 1

PSP, Adjusted Close and LTP is zero for the call option. PSP is 1.16 for the Put option. The minimum tick size for both options is 0.005

User A enters a Buy order into UDC at 0.015

User B enters a Sell order into UDC at 0.015

- UDC execution is printed at 0.015
- YTM70099000C 1 @ 0.005
- YTM70099000P 1 @ 0.015

Adding up the leg executions results in a net price of 0.005 + 0.015 = 0.02. In this case the YTM70099000C option is picked as the anchoring leg due to alphabetical sorting with the preliminary price set to the PSP of 0. The put option is priced at 0.015 to equal the net price, however the call option price is subsequently rounded up to the minimum tick, which causes the net pricing error. This issue will be fixed in an upcoming service release.

(i)

Note

ASX Trading Operations will monitor UDC executions. ASX will contact affected Trading Participants to advise a price error has occurred and offer to re-price any UDC leg prices to equal the net price of the strategy.



10.Appendix A: Trade Price Algorithm

This section describes the algorithm used to determine leg prices for combination-to-combination trades.

(i) Note

For fixed leg price strategies, this algorithm disregards the fixed leg due to its locked-in price. It will always match at, or better than the locked-in price.

10.1. Define Anchoring Sequence

10.1.1. Leg Sorting

The anchoring sequence is determined by sorting all legs as follows:

- 1. The anchoring leg, see 'Define Anchoring Leg and its Preliminary Price'.
- 2. Futures with Last Trade Price (LTP), followed by futures without LTP
- 3. Options with LTP, followed by Options without LTP

If undefined, leg order is determined by the system's internal processing order of the reference data.

10.1.2. Define the Anchoring Leg and its Preliminary Price

This algorithm defines the steps required to determine the anchoring leg and its preliminary price.

From the set of possible anchoring legs, select a leg with the newest reference price in the following order:

- 1. Last Trade Price (LTP)
- 2. Anomalous Order Threshold (AOT)
- 3. Adjusted closing price for a dual session contract
- 4. Prior settlement price

If none of the legs has a reference price, the first leg in the anchoring sequence is selected as the anchoring leg and a preliminary price of min tick.

If one or more legs have a reference price (*), define the anchoring leg and set its preliminary price, as per steps in 6.1.3, and no further steps are processed.



10.1.3. Legs with a Reference Price

From the set of possible legs with a reference price, select the anchoring leg. Search based on the following priority order, and set the preliminary price accordingly. When a match is found, omit any further steps.

- Pick the leg which has reference price within ">=<" spread*, and set preliminary price to its reference price. (**)
- 2. Pick the leg which has reference price outside of "<>" spread*, and set preliminary price to reference price (**) adjusted to bid/ask (select bid/ask if it potentially improves the market).
- 3. Pick the leg which has reference price, and a bid or ask, and set preliminary price to the bid (or ask) if it improves market, else set to reference price.
- 4. Pick the leg which has reference price but no spread*, and set preliminary price to reference price. (**)
- (*) Definition of spread* = the tightest interval of orders, visible baits, and AOT lower/upper limits.
- (**) If this is fulfilled by more than one leg, select the leg with the most recent timestamp, and if more than one leg has a same timestamp, select the leg with lowest leg order after leg sorting.

10.1.4. Trade Price Algorithm

This algorithm sets a preliminary price for all the legs. Except the anchor leg, the preliminary price for each leg order book is set per the following priority rule:

- 1. If reference price** exists within the spread*, set preliminary price to this reference price.
- 2. If reference price** exists but is now outside the spread*, the preliminary price is moved onto the spread* (meaning set to closest of best bid/ask, if it improves the market).
- 3. If reference price** and a bid (or ask) exists but no spread* is available, preliminary price is set to the bid (or ask) if it improves market, otherwise set to reference price**.
- 4. If reference price** exists but no bid and ask exists, preliminary price is set to the reference price**.
- 5. If reference price** does not exist, but a spread* exists, preliminary price is set to the midpoint of the spread*.
- 6. If the order book has bid prices but no ask prices, the preliminary price is set to the best bid price.
- 7. If the order book has ask prices but no bid prices, the preliminary price is set to the best ask price.
- 8. If the leg is completely empty, the preliminary price is set to min tick.



*Spread is the tightest interval of Price bands (AOT) and Best Bid-Offer (BBO), where BBO includes both real order and visible baits.

****Reference price** is defined as:

- 1. Last Trade Price [LTP trades that update trade statistics]
- 2. If AOT is set, use AOT price
- 3. Adjusted closing price (for a dual session contract)
- 4. Prior Settlement Price

10.1.5. Adjustment of Leg Prices

Once the preliminary price has been determined for each leg, it's adjusted (if required) until it adds up to the correct net price of the strategy. For each leg, the preliminary price is modified according to the iterative algorithm below.

The modification of preliminary price is completed in four iterations at a maximum. In each iteration, in reverse "Anchoring sequence" order, the legs are adjusted one at a time, starting from the preliminary prices every time. For each iteration, if the calculated prices fulfill the net price, the following iterations are omitted.

There is a limit to how much the preliminary prices are allowed to be adjusted for each leg and for each iteration. This limit is defined by the effective spread, and the effective spread is defined somewhat differently for each iteration.

1st Iteration	The effective spread is determined by the most generous (tightest interval) of baits, orders, price bands, and 0. If the resulting net price equals the trade price after the first iteration, all further steps are omitted.
2nd Iteration	The effective spread is determined by the most generous (tightest interval) of orders, price bands, and 0. If the resulting net price equals the trade price after the second iteration, all further steps are omitted.
3rd Iteration	The effective spread is determined by orders and 0. If the resulting net price equals the trade price after the third iteration, all further steps are omitted.
4th Iteration	The effective spread is one-sided with a bid price of 1 tick (to prohibit a price of zero and negative prices).



The following adjustments are made, in each of the four iterations described above, based on the effective spread for each iteration.

1. The net price, resulting from the preliminary leg prices, is calculated by iterating over all the legs.

- If the leg is a buy leg in the combination definition, the leg price multiplied by the leg ratio is added.
- If the leg is a sell leg in the combination definition, the leg price multiplied by the leg ratio is subtracted.

The overall net price of the strategy is calculated as:

Sum of BUY (leg ratio * leg price) - Sum of SELL (leg ratio * leg price)

- 2. If the resulting net price equals the trade net price, there is no need for further calculations and the remaining steps are omitted.
 - If the resulting net price is too high and the current leg is a buy leg, or if the resulting net price is too low and the current leg is a sell leg, the leg price must be decreased to get closer to the desired net price.
 - The preliminary leg price is decreased by the net price difference divided by the leg ratio, but is not allowed to go outside the effective spread.
 - This means that if the preliminary price adjusted by the net price difference goes outside of the effective spread limit, the adjusted preliminary price is set to the price of the limit (using maximum allowed adjustment within effective spread).
 - If the resulting net price is too low and the current leg is a buy leg, or if the resulting net price is too high and the current leg is a sell leg, the leg price needs to be increased to get closer to the desired net price.
 - The preliminary leg price is increased by the net price difference divided by the leg ratio, but is not allowed to go outside the effective spread.
 - This means that if preliminary price adjusted by net price difference goes beyond the effective spread limit, the adjusted preliminary price is set to the price of the limit (maximum adjustment allowed).
- 3. The system rounds the price to the nearest tick (round half up). If the preliminary price happens to land right between two ticks the higher is taken.



11. Appendix B: ASX 24 Operating Rules and Procedures – User Defined Strategy orders

Procedure 4022(b) User Defined Strategy Order – Fixed Leg Price Combinations and Net Price Combinations

For the purpose of Rule 4022(b)(i) User Defined Combination Orders may be traded as either:

- (a) Net Price User Defined Combinations, or
- (b) Fixed Leg Price User Defined Combinations
- Amended 07/01/13

Procedures for User Defined Strategy Orders:

- 1. User Defined Strategy Orders allow Trading Participants to create their own multi-legged contingent strategies consisting of up to six (6) legs. User Defined Strategy Orders may consist of either futures or options or a combination of both. User Defined Strategy Orders eliminate legging risk as the order is filled at a user-defined ratio and at specific leg prices for all contingent legs of the order.
- 2. Strategy Orders consisting of seven (7) legs or more are permitted under the Block Trade Order Rules at Rule 4820.
- 3. As per ASIC Market Integrity Rules each individual leg of a User Defined Strategy trade must be allocated to the same account.
- 4. No User Defined Strategy Order should have any resemblance to Order functionality which may already exist in the Trading Platform, for example futures spreads that are available. As pre-defined Spread Orders must be executed on the defined market.
- 5. No Fixed Leg User Defined Combination should be created where a Net Price User Defined Order exists for the same strategy, contract month(s) and strike prices. In the event that an identical strategy is created, any orders or trades that occur may be cancelled by the Market Operator.
- 6. No Net Price User Defined Combination should be created where a Fixed Leg User Defined Order exists for the same strategy, contract month(s) and strike prices. In the event that an identical strategy is created, any orders or trades that occur may be cancelled by the Market Operator.
- 7. Prices for the fixed legs of a User Defined Strategy Order must be within the following price limits at the time of order entry:
 - (a) The high/low of the Trading Date for the appropriate contract;
 - (b) If only a bid or only an offer then the specified tick range from the existing bid or offer (if the bid is below prior settlement then prior settlement may be used, if the offer is above prior settlement then prior settlement may be used);
 - (c) If no bid or offer exist, then the specified tick range from the settlement price. In the case of an Option Contract then within the specified tick range from the system generated indicative price;
 - (d) For Futures/Options Orders, deltas must be within a range that is set out in Procedure 2500; and



- (e) Where an Anomalous Order Threshold (AOT) applies under Rule 3200, within the applicable AOT range.
- (f) When placing an Order with only two legs, one fixed price and one non-fixed, the price for the non-fixed leg should always be an on-tick price.
- 8. All User Defined Strategy Orders must be traded at the lowest common denominator, however the maximum volume that can be used in the volume ratio field is 150 lots.
- 9. One exception to this rule is where the User Defined Strategy Order is for an option strategy, which includes two or more option legs in a ratio, and is basis futures. In this situation, the volume may exceed 150 lots only for the one option leg with the larger ratio denomination. This is because available deltas would be restricted otherwise.
- 10. Once a strategy has been established as a User Defined Strategy changes to the basis require the user to create a new User Defined Strategy.
- 11. Where a bid and offer has been established in the User Defined Strategy, a trade may only be executed between that bid and offer. In the event of only a bid or only an offer, a trade may not be executed where it is lower than the best bid or higher than the best offer.
- 12. Trading Participants are advised that should they be aware of an Order that is out of market, they should contact the Market Operator.
- 13. All User Defined Strategy Orders are purged at the end of a Trading Day.
- 14. When a User Defined Strategy Order is matched, Trading Participants will receive confirmations for each leg of the User Defined Strategy Order at the user defined ratio.

15. User Defined Strategy Algorithm

The Trading Platform uses the same algorithm to determine the individual leg prices for User Defined Strategy Orders as it does for Spread to Spread Orders.

Note:

- Where the User Defined Strategy Order is also a Pre-Negotiated Order please refer to Rule 4060 and particularly the requirement to use the Request For Quote Facility (RFQ Facility) which is also a requirement under MIR 3.3.1A of the ASIC (ASX 24 Market) MIRs.
- Where the User Defined Strategy Order is not a Pre-Negotiated Order the RFQ Facility is not required to be used.
- Where a Participant is creating a User Defined Strategy (but not entering an Order) the RFQ Facility is not required to be used.



Disclaimer

This document provides general information only and may be subject to change at any time without notice. ASX Limited (ABN 98 008 624 691) and its related bodies corporate ("ASX") makes no representation or warranty with respect to the accuracy, reliability or completeness of this information. To the extent permitted by law, ASX and its employees, officers and contractors shall not be liable for any loss or damage arising in any way, including by way of negligence, from or in connection with any information provided or omitted, or from anyone acting or refraining to act in reliance on this information. The information in this document is not a substitute for any relevant operating rules, and in the event of any inconsistency between this document and the operating rules, the operating rules prevail to the extent of the inconsistency.

ASX Trade Marks

The trade marks listed below are trademarks of ASX. Where a mark is indicated as registered it is registered in Australia and may also be registered in other countries. Nothing contained in this document should be construed as being any licence or right to use of any trade mark contained within the document.

ASX®