

HKATS Risk Functions Pre-Trade Risk Management (PTRM) Practice Session

Ref: January 2016

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Overview

- Introduction
- Login to HKATS Risk Functions for PTRM
- Pre-Trade Limit Group (PTLG)
- Difference Between Risk Limit Manager & Trading Units Login
- Email Notifications
- Audible Alerts
- Maximum Order Size Check
- Maximum Order Rate Check
- Maximum Intraday Exposure Check
- Emergency Buttons
- Contingency
- Market Rehearsal
- Summary
- Best Practice
- PTRM Reports

Introduction



HKATS Risk Functions Overview:

- Applicable to HKATS Derivatives Market
- A mean of protection for Participants from unintended erroneous orders
- Mandatory risk checks to orders placed into HKATS Derivatives Market
- Complementary to Participants' own risk controls
- Clearing Participants (CPs) need to set limits for their Exchange Participants (EPs)
- General Clearing Participants (GCPs) set limits for their Non-Clearing Participants (NCPs)
- NCPs can execute Emergency Buttons (except Unstop Button)
- Risk Checks: Maximum Order Size Check, Maximum Order Rate Check, Maximum Intraday Exposure
- Emergency Buttons: Stop / Unstop / Mass Order Cancellation / Kill Switch
- Email Notifications
- PTRM Reports





HKATS Risk Functions User Guide

This Training Session is arranged by HKEx to familiarize Participants' Risk Limit Managers and Trading Units (Page 10) with the operations of the new software – HKATS Risk Functions. Risk Limits Managers and Trading Units are advised to read also the HKATS Risk Functions User Guide that will be disseminated by HKEx in due course.

Exchange Circulars

Important Exchange Circulars regarding HKATS Risk Functions for PTRM will be issued before production launch tentatively scheduled in Q2 2016. Risk Limit Managers and Trading Units are reminded to read the documents carefully for further information.



Introduction

Functions:

- Pre-Trade Limits Group (PTLG)
- Intraday change vs Next day change
- <u>Pre</u>-trade check vs <u>At</u>-trade check
- Three Risk Checks:
 - * Maximum Order Size
 - * Maximum Order Rate
 - * Maximum Intraday Exposure
- Emergency Buttons:
 - * Stop
 - Unstop
 - * Mass Order Cancellation
 - * Kill Switch (First Stop and then Mass Order Cancellation)



Login to HKATS Risk Functions

- <u>Delete</u> Java Cache <u>before</u> downloading the new version of the application
 - Control Panel \rightarrow Java \rightarrow View \rightarrow Delete

Control Panel Home System and Security Network and Internet Hardware and Sound Programs	Programs and Features Uninstall a program Turn Windows features on or off View installed updates Run programs made for previous versions of Windows How to install a program Default Programs	Network settings are used when making Internet connections. By default, Java will use the network settings in your web browser. Only advanced users should modify these settings Temporary Internet Files Files you use in Java applications are stored in a special folder for quick execution later. Only advanced users should delete files or modify these settings. Java in the browser is enabled. See the Security tab
User Accounts Appearance and Personalization Clock, Language, and Region Ease of Access	Change default settings for mer Make a file type always open in Set your default programs Desktop Gadgets Add gadgets to the desktop Uninstall a gadget Restore desktop gadgets install TeletexoProj35.sar http://data1.	URL Modified Expired Version Size asstocks.com/stockpenyin.htm Apr 14, 2015 58 KS asstocks.com/guotewinner/igp Nov 27, 2014 1599 KS
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Login to HKATS Risk Functions (cont'd)

- Setup Host Table & Default Gateway <u>before</u> downloading the application
- Check the firewall & security setting
- Download the GUI application from the browser with Hostnames & Ports provided by HKEx





Login to HKATS Risk Functions (cont'd)



- Login HKATS Risk Functions (Risk Limit Manager / Trading Units)
 - Username
 - Password

Login	Nasdaq
WELCOME TO	
Genium INI	ET TradeGuard
User Name P_CZZA2	0001
Password	•••••
	Login Cancel



Difference Between Risk Limit Manager & Trading Units Login



Risk Limit Manager: Setup PTLG(s), email notification, edit limit parameters and execute emergency buttons

Trading Units: Execute emergency buttons (except Unstop button)

Functions	Risk Limit Manager	Trading Units
Create / Delete PTLG	V	
Create / Delete / Edit Email Notification	\checkmark	
Edit Risk Limits	V	
Execute Stop Button	\checkmark	V
Execute Unstop Button	V	
Execute Mass Order Cancellation Button	\checkmark	V
Execute Kill Switch Button	V	V

NCP will <u>not</u> be assigned a Risk Limit Manager Login





Change Password Function

- Help \rightarrow Change Password

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Pre-Trade Limits Group (PTLG)

Points to note

- Creation / Deletion of PTLG(s) can <u>only</u> be done by <u>Risk Limit</u> <u>Manager</u>
- Base PTLG cannot be removed by Participant
- Base PTLG can exist <u>without</u> users
- PTLG <u>cannot</u> be renamed
- Participants will be given a guideline on the <u>maximum number of</u> <u>PTLG creation</u>
- Only <u>HKATS Usernames with trading functions</u> can be assigned into a PTLG / User Picker List
- <u>New / unassigned</u> HKATS trading users will be assigned to User Picker List
- Each HKATS user can be assigned to <u>one and only one PTLG</u>



- <u>Add</u> a new PTLG (Next day change)
 - Select Exchange Participants Level→ Right Click → Add Pre-Trade Limits Group → Enter the name of the PTLG (a-z, A-Z, 0-9) → Save
 - <u>At least One Tradable and One User</u> must be added before saving the changes

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• <u>Input</u> the <u>name</u> of the newly created PTLG in the input window

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• Add <u>new</u> user(s) from <u>User Picker List</u> to a <u>PTLG</u>

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- Add new Tradable(s) (Next day change)
 - Select Order Size Limits Tab → Click the Add Tradable Button
 → Choose Market → Select Instrument Type / Class in the
 Tradable Picker menu → Use this Tradable → Save

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• **<u>Remove</u>** PTLG (Next day change)

- Select PTLG \rightarrow Right Click \rightarrow Delete Pre-Trade Limits Group \rightarrow Save

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Base PTLG cannot be removed



• **Re-arrange** user(s) from Base PTLG to Non-Base PTLG

 Select user(s) from the user list in Base PTLG → Click the Remove User Button → Save → Select Non-Base PTLG → Select user(s) in <u>User</u> <u>Picker List</u> → Save

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Participants are reminded to remove the user from a particular PTLG before submitting their request to HKEx for permanently deleting the corresponding HKATS username

Email Notifications



Points to note

- Email notifications will be sent out from ptrmadmin@ptrm.hkex.com.hk
- <u>Notice, warning and breach</u> email alerts will be sent automatically to a preconfigured email list
- <u>Emails alerts for Emergency Button executions</u> will be sent automatically to a preconfigured email list
- <u>Add</u> new email alert recipients (intraday change)
- <u>Remove</u> existing email alert recipient(s) (next day change)
- <u>Switch On / Off</u> notice, warning and breach email alerts (next day change)
- Do not reply the email

Participants' Risk Limit Managers and Trading Units are reminded that email notifications are sent through internet which is not managed by HKEx. Risk Limit Managers and Trading Units should also refer to the same alerts from the interface



• <u>Add</u> New Email Alert Recipients

Click Email Alerts Tab → Add New Email Button → Enter the new email address → OK → Save

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Risk Limit Managers are advised to set up an email group to contain all email recipients. GCP's Risk Limit Managers can arrange setting up email alerts for their NCPs



• **<u>Remove</u>** Email Alert Recipients (Next day change)

Click Email Alerts Tab → Select email recipient(s)→ Delete
 Email Button → Confirm → Save

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Email Notice / Warning / Breach Configuration (Next Day Change)

- <u>Check</u> the box of Breach / Warning / Notice to <u>enable</u> the email alerts function \rightarrow Save
- <u>Uncheck</u> the box of Breach / Warning / Notice to <u>disable</u> the email alerts function → Save

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• Sample of <u>Maximum Order Size</u> breach email alert

Subject: BREACH Breach Event - HKCZZA_HKZZA_BASE – ZZA1234 Breach Event Group: HKCZZA_HKZZA_BASE Instrument: HSI FUTURES User: ZZA1234 Risk Check: Max Order Size Time: Mon 16 Nov 15:10:22 HKT 2015 Event Level: BREACH Consumed: 0 Limit: 500

Sample of Maximum Order Rate breach email alert

Subject: BREACH Breach Event - HKCZZA_HKZZA_BASE – ZZA1234 Breach Event Group: HKCZZA_HKZZA_BASE User: ZZA1234 Risk Check: Order Rate Time: Mon 16 Nov 15:10:22 HKT 2015 Event Level: BREACH Consumed: 11 Limit: 10



Sample of <u>Maximum Intraday Exposure (Warning)</u> email alert

Subject: WARN Breach Event - HKCZZA_HKZZA_BASE - ZZA1234 Breach Event Group: HKCZZA_HKZZA_BASE User: ZZA1234 Risk Check: Gross Futures Long Time: Mon 16 Nov 15:10:22 HKT 2015 Event Level: WARN Consumed: 70000 Limit: 80000

Sample of <u>Maximum Intraday Exposure (Notice)</u> email alert

Subject: NOTICE Breach Event - HKCZZA_HKZZA_BASE - ZZA1234 Breach Event Group: HKCZZA_HKZZA_BASE User: ZZA1234 Risk Check: Gross Futures Long Time: Mon 16 Nov 15:10:24 HKT 2015 Event Level: NOTICE Consumed: 50000 Limit: 80000



Sample of <u>Maximum Intraday Exposure (Breach)</u> email alert

Subject: BREACH Breach Event - HKCZZA_HKZZA_BASE - ZZA1234 Breach Event Group: HKCZZA_HKZZA_BASE User: ZZA1234 Risk Check: Gross Futures Long Time: Mon 16 Nov 15:10:22 HKT 2015 Event Level: BREACH Consumed: 1147450 Limit: 80000



• Sample of Emergency Button (Stop) email alert

Subject: **STOP BUTTON** requested from RX GUI – HKCZZA_HKZZA_BASE

Group: HKCZZA_ZZA_BASE

Requested By: P_CZZA12345

Timestamp: Mon Nov 16 17:28:41 HKT2015

• Sample of Emergency Button (Unstop) email alert

Subject: UNSTOP BUTTON requested from RX GUI – HKCZZA_HKZZA_BASE

Group: HKCZZA_ZZA_BASE

Requested By: P_CZZA12345

Timestamp: Mon Nov 16 17:29:40 HKT2015



• Sample of <u>Emergency Button (Mass Order</u> <u>Cancellation)</u> email alert

Subject: MASS CANCEL requested from RX GUI – HKCZZA_HKZZA_BASE

Group: HKCZZA_ZZA_BASE

Requested By: P_CZZA12345

Timestamp: Mon Nov 16 17:28:41 HKT2015

Sample of <u>Emergency Button (Kill Switch)</u> email alert

Subject: KILL SWITCH requested from RX GUI – HKCZZA_HKZZA_BASE

Group: HKCZZA_ZZA_BASE

Requested By: P_CZZA12345

Timestamp: Mon Nov 16 17:28:41 HKT2015

Audible Alerts



- Click the Sound Button on the top left hand corner
- Set / Disable / Reset / Play sound files
- Sound file must be in <u>wav</u> format

)				Genium	INET TradeGuard (F	_CZZA20001@10.161	.5.40)			- 🖬 🗙
ile	Sound									Help
ii I	Disable BREACH Sounds									- 2.
	Disable WARN Sounds	,	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
1-	Disable NOTICE Sounds									
	Reset BREACH sound file to default									
	Reset WARN sound file to default					75	50	922,337,203,685,477	300	0
	Reset NOTICE sound file to default					75	50	922,337,203,685,477		
	Set BREACH sound file					75	50	922,337,203,685,477	300	0
	Set WARN sound file									
	Set NOTICE sound file					75	50	922,337,203,685,477	300	
	Play BRFACH sound file)E				75	50	922,337,203,685,477	300	0
	Play WARN sound file									
	Play NOTICE sound file									

Maximum Order Size Check



Points to note

- Pre-trade check
- Maximum order quantity risk check is set per PTLG per Tradable (instrument class or type)
- If the order quantity is greater than the maximum order quantity, the order will be rejected
- The order or quote must pass the limit for <u>both</u> the instrument class and instrument type of the Tradable, otherwise it will be rejected
- The <u>smaller</u> of the two limits will be the effective limit
- If a Tradable is not configured for the instrument class or type, then the "<u>Central Order Size Limit</u>" will be applied
- Breaching does not put the PTLG into a blocked state
- Bait orders will <u>not</u> be validated against the maximum order size limit
- Combination and TMC orders are <u>excluded</u> from the scope
- Breach email notification will <u>only send once during the day unless</u>
 <u>the limit is being reset</u>
- Supports file upload function



Rejection Message after breach:

"User has exceeded max order size limit. Transaction aborted" (-850008)





- Add / Remove / Edit Tradable by Instrument Type
 or Instrument Class Level
- Support File Upload Function

	Add Tradable	Remove Tradable	Edit Existing Tradable
Intraday Change			\checkmark
Next Day Change	\checkmark	\checkmark	



• <u>Add</u> new Tradable(s) (Next day change)

Select Order Size Limits Tab → Click the Add Tradable Button
 → Choose Market → Select Instrument Type / Class in the
 Tradable drop-down menu → Use this Tradable → Save

		Genium	INET TradeGuard (P	CZZA20001@10.161.	.5.40)			- ×	
File Sound								Help	
😐 Pre Trade Limits Groups								2	
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate	
E- M HKZZA									
HKCZZA_HKZZA_BASE				75	50				
HKCZZA_HKZZA_NON-BASE	0	0	0	75	50	922,337,203,685,4	300	0	
HKZZAMM									
HKCZZA_HKZZAMM_BASE				75	50	922,337,203,685,4	300		
HKCZZA_HKZZAMM_NON-BASE				75	50	922,337,203,685,4	300		
^~									
Order Size Limits II Intraday Exposure C	Check 💈 Users 🖃	Email Alerts							
E Order Size Limits								•	
Tradable			Calculatio	n			Max Order Size		
HSI FUTURES		QUANTITY				922,337,203,685,477			
STOCK CALL OPTION		QUANTITY				922,337,203,685,477			
		QUANTITY						922,337,203,063,477	
Next Day Changes								E IL	
Tradable			Calculatio				May Order Size		
Падаріе			Calculatio				Max Order Size	Add new Tradeabl	



- <u>Add</u> new Tradable(s) (Next day change)
 - Select Order Size Limits Tab → Click the Add Tradable Button
 → Choose Market (MINI-HANG SENG FUTURES & OPTIONS) → Select
 Instrument Type / Class in the Tradable drop-down menu (MHI-FUTURES) → Use this Tradable → Save

@	Add new Tradeable								
🖌 Tradeable Picker				2					
Market:	MINI-HANG SENG FUTURES & OPTIONS HSI VOLATILITY INDEX FUTURES INDIA INDEX FUTURES LONDON METAL MINI FUTURES MINI-HANG SENG FUTURES & OPTIONS RMB CURRENCY FUTURES RMB STOCK OPTIONS RUSSIA INDEX FUTURES SOUTH AFRICA INDEX FUTURES	Name: MHI - FUTURES	Calculation: QUAMITTY						
Initialized OK	Use this tra	deable Cancel							



Select Order Size Limits Tab → Click the Add Tradable Button
 → Choose Market (MINI-HANG SENG FUTURES & OPTIONS) → Select
 Instrument Type / Class in the Tradable drop-down menu (MHI-FUTURES) → Use this Tradable → Save

		Genium IN	IET TradeGuard (P_	CZZA20001@10.161.5	.40)			— 💳 🗙
File Sound								Help
👜 Pre Trade Limits Groups								S 📑
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Ordel cause Change
- M HKCZZA								save chang
HKZZA								
HKCZZA_HKZZA_BASE				75	50			
HKCZZA_HKZZA_NON-BASE	0	0	0	75	50	922,337,203,685,4	300	0
- M HKZZAMM								
HKCZZA_HKZZAMM_BASE				75	50	922,337,203,685,4	300	0
HKCZZA_HKZZAMM_NON-BASE				75	50	922,337,203,685,4	300	0
Order Size Limits 🗄 Intraday Exposure	Check 🔒 Users 🞫	Email Alerts						
E Order Size Limits								
Tradable			Calculation	1			Max Order Size	
HSI FUTURES		QUANTITY					9	22,337,203,685,477
STOCK CALL OPTION		QUANTITY					9	22,337,203,685,477
		QUANTITY					9	22,337,203,685,477
Next Day Changes								自自
Tradable			Calculation				Max Order Size	
MHI - FUTURES		OUANTITY	Calculation		•		~ 9	22.337.203.685.477



• <u>Edit</u> existing Tradable limit(s) (Intraday change)

- Select Order Size Limits Tab \rightarrow Double Click to edit the value of the Max Order Size \rightarrow Save

2		Genium I	NET TradeGuard (P_C	ZZA20001@10.161.	5.40)			— 🗔 🗙		
File Sound								Help		
👜 Pre Trade Limits Groups								2 🖬		
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate		
= m HKCZZA		,								
⊨-∰ HKZZA										
- HKCZZA_HKZZA_BASE				75	50	922,337,203,685,477				
La HKCZZA_HKZZA_NON-BASE	0		0	75	50	922,337,203,685,477	300			
E- m HKZZAMM										
- 🔤 HKCZZA_HKZZAMM_BASE	0			75	50	922,337,203,685,477	300			
Li HKCZZA_HKZZAMM_NON-BASE	0			75	50	922,337,203,685,477	300			
へ、 道 Order Size Limits 道 Intraday Exposure	Check 😵 Users 🗖	Email Alerts								
🔋 Order Size Limits								Ē		
Tradable			Calculation				Max Order Size			
e HSI FUTURES		QUANTITY						_e 100		
STOCK CALL OPTION		QUANTITY					9	22.337.2 <mark>03.685.477</mark>		
STOCK PUT OPTION		QUANTITY					Crig	inai : : 922.337.203.685.477		
HHIFUTURES		QUANTITY					Curr	ent : : 100		



• **<u>Remove</u>** Tradable (Next day change)

- Select Order Size Limits Tab \rightarrow Select the Tradable that you want to remove \rightarrow Click Remove Tradable Button \rightarrow Save

2		Genium IN	NET TradeGuard (P_C	ZZA20001@10.161.5	5.40)			- 🗖 🗙	
File Sound								Help	
👛 Pre Trade Limits Groups									
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate	
= 10 HKCZZA									
E IKZZA									
Lin HKCZZA_HKZZA_BASE				75	5/	0 922,337,203,685,4			
HKCZZA_HKZZA_NON-BASE	0	0	0	75	54	0 922,337,203,685,4	300	0	
- IN HKZZAMM									
- HKCZZA_HKZZAMM_BASE				75	54	0 922,337,203,685,4	300	0	
HKCZZA_HKZZAMM_NON-BASE				75	5/	0 922,337,203,685,4	300	0	
V V	heck 🔋 💈 Users 🔤 I	Email Alerts							
Tradable			Calculation				Max Order Size	Remove Tradeabl	
HSI FUTURES	10	UANTITY				922,337,203,685,477			
STOCK CALL OPTION	9	UNNILLY						122,337,203,685,477	
STOCK PUT OPTION	8	UANTITY				922,337,203,685,477			
A Y Next Day Changes								R.R.	
Tradable			Calculation				Marc Order Size		
- INI ILILIRES	0	DUANTITY	Cancenaria				Max Order Size	422.337.203.685.477	


- File Format for upload function
 - File format must be in <u>CSV</u> format
- <u>Add</u> Tradable by file upload function (Next day change)
 - Click the File Button on the top left hand corner \rightarrow Choose Import Next Day Limits
- Example:

HKCZZA	HKZZĄ	BASE	MAX_	SIZE,	900,N	,MHIF
HKCZZA	HKZZA	BASE	,MAX_	SIZE,	500,N	,HEXCALL

Ľ	K	K	K			
Clearing Participant	Exchange Participant	PTLG	Function	Maximum Order Size Limit	Add / Delete Tradable (N=Add, Y=Delete)	Tradable (Instrument Class / Type level)
HKCZZA	HKZZA	BASE	MAX_SIZE	900 lots	Ν	MHIF
HKCZZA	HKZZA	BASE	MAX_SIZE	500 lots	Ν	HEXCALL



- <u>Edit existing</u> Tradable by file upload function (Intraday change)
 - Click the File Button on the top left hand corner → Choose Import Intraday Limits → Select file.csv → Accept
 - Example: HKCZZA_HKZZA_BASE,MAX_SIZE,500,M,HSIF HKCZZA_HKZZA_BASE,MAX_SIZE,500,M,SOMC

K	V	V	\mathbf{V}			
Clearing Participant	Exchange Participant	PTLG	Function	Maximum Order Size Limit	Add / Delete Tradable (N=Add, Y=Delete)	Tradable (Instrument Class / Type level)
HKCZZA	HKZZA	BASE	MAX_SIZE	500 lots	Ν	HSIF
HKCZZA	HKZZA	BASE	MAX_SIZE	500 lots	Ν	SOMC



- <u>Remove</u> Tradable by file upload function (Next day change)
 - Click the File Button on the top left hand corner → → Choose Import Next Day Limits→ Select file.csv → Accept
 - Example:

HKCZZA	HKZZA	BASE,MAX	SIZE,	500, <mark>Y</mark> ,	HHIF
HKCZZA	HKZZA	BASE,MAX	SIZE	500, <mark>Y</mark> ,	SOMC

K	V	K	K			
Clearing Participant	Exchange Participant	PTLG	Function	Maximum Order Size Limit	Add / Delete Tradable (N=Add, Y=Delete)	Tradable (Instrument Class / Type level)
HKCZAA	HKZZA	BASE	MAX_SIZE	500 lots	Y	HHIF
HKCZAA	HKZZA	BASE	MAX_SIZE	500 lots	Y	SOMC



Example 1:

- Base PTLG (HKCZZA_HKZZA_BASE)
- Base PTLG users (ZZA1234)
- Tradable: Instrument type: HSIF; Instrument class: HSIFUT
- Maximum Order Size Limit: Type Level: 1,000; Class Level: 800
- Central Order Size Limit: 1,000

Using <u>MO31</u> to place order (Single sided Order)

1. User ZZA1234 place Buy order HSIZ5 20000 x 799 lots \rightarrow Order accepted

2. User ZZA1234 place Buy order HSIZ5 20000 x 800 lots \rightarrow Order accepted

- 3. User ZZA1234 place Buy order HSIZ5 20000 x 801 lots \rightarrow Order *rejected
- 4. User ZZA1234 place <u>Combo order</u> HSIZ5/H6 HSI 1 x 900 lots \rightarrow Order accepted
- 5. User ZZA1234 place Combo order HSIZ5/H6 HSI 1 x 1,001 lots \rightarrow Order #rejected

*As the order quantity is greater than the maximum order quantity, the order is rejected

Combo order is rejected as it exceeds the Central Order Size Limit



Example 2:

- Base PTLG (HKCZZA_HKZZA_BASE)
- Base PTLG users (ZZA1234)
- Tradable: Instrument type: HSIF; Instrument class: HSIFUT
- Maximum Order Size Limit: Type Level: 1,000; Class Level: 800
- Central Order Size Limit: 1,000

Using <u>MO37</u> to place order (Double-Sided quote)

1. User ZZA1234 place order HSIZ5 Buy 20000 x 799 lots & Sell 20010 x 799 lots \rightarrow Order accepted

2. User ZZA1234 place order HSIZ5 Buy20000 x 800 lots & Sell 20010 x 800 lots \rightarrow Order accepted

3. User ZZA1234 place order HSIZ5 Buy 20000 x 800 lots & Sell 20010 x 801 lots \rightarrow *Order rejected

*Order rejected as one of the bid/offer order size is higher than the pre-set limit 800 *Whole pair of quote will be rejected



Example 3:

- Base PTLG (HKCZZA_HKZZA_BASE)
- Base PTLG users (ZZA1234)
- Tradable: Instrument type: SOMC, Instrument class: HKB
- Maximum Order Size Limit: Type Level: 1,000; Class Level: 1,000

Using MO96 to place order (Mass Quote)

1. User ZZA1234 place order HKB60.00L5 Buy 100 x 999 lots & Sell 138 x 999 lots \rightarrow Order accepted

2. User ZZA1234 place order HKB62.50L5 Buy 77 x 1,000 lots & Sell 99 x 1,000 lots \rightarrow Order accepted

3. User ZZA1234 place order HKB65.00L5 Buy 50 x 1,001 lots & Sell 88 x 1,000 lots \rightarrow *Order rejected

4. User ZZA1234 place order HKB67.50L5 Sell 55 x 1,001 lots \rightarrow *Order <u>rejected</u>

5. User ZZA1234 place order HKB70.00L5 Buy 28 x 1,001 lots \rightarrow *Order <u>rejected</u>

6. User ZZA1234 place order HKB72.50L5 Buy 1 x 800 lots & Sell 5 x 800 lots \rightarrow Order accepted *Orders (Quotes) (3-5) were rejected (other orders can still be accepted in the market), as one of the bid/offer order size is higher than the pre-set limit 1,000 42

3rd – 5th pair of quotes will be rejected, 6th quote can still be sent to the HKATS system

Maximum Order Rate Check



Points to note

- <u>At</u>-trade check
- Order Rate Limit Consumption is aggregated across all users in the PTLG
- MO37 (double-sided quote) will be counted as 2 orders
- MO96 (mass quotes) will <u>not</u> be counted
- FOK / FAK will be counted ONLY when orders are executed
- Combination orders are counted in the same way as normal orders
- A breach will occur when the order rate counter of the PTLG <u>exceeds</u> the pre-set limit. The PTLG will subsequently be blocked
- During a blocked state, only order cancellation is allowed by the users in the PTLG
- Alteration (MO33) will <u>not</u> be counted
- Supports file upload function





- Edit Order Rate Limit (Intraday Change)
 - Select Order Rate Limits \rightarrow Double click to edit the value \rightarrow Save
- Edit Order Rate Period (Intraday Change)
 - Select Order Rate Period Limits \rightarrow Double click to edit the value \rightarrow Save

Parameters	Permissible Value
Order Rate Limit	0 to Maximum Limit (2^63 / 10,000 = 922,337,203,685,477) <u>Caution: Setting 0 will trigger the blocked state</u> <u>immediately</u>
Order Rate Period	1 to 300 seconds

A new limit applied on the Order Rate Limit <u>WILL NOT</u> reset the Order Rate Counter A new limit applied on the Order Rate Period WILL reset the Order Rate Counter



Edit Order Rate Limit & Order Rate Period (Intraday Change)

0		Genium	INET TradeGuard (P	_CZZA20001@10.161	5.40)			- 🗖 X
File Sound								Help
👛 Pre Trade Limits Groups								2.
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
E- 🍿 HKCZZA								
- 🗑 HKZZA								
– 🌡 🏙 HKCZZA_HKZZA_1	0	0	0	75	50	922.337.203.685.477	300	0
HKCZZA_HKZZA_BASE				75	50	100	300	
HKCZZA_HKZZA_NON-BASE	0	0	0	75	50	922,337,203,685,477	300	0
e- 🗑 HKZZAMM								
– 🛗 HKCZZA_HKZZAMM_BASE	0	0	0	75	50	922,337,203,685,477	300	0
HKCZZA_HKZZAMM_NON-BASE	0	0	0	75	50	922,337,203,685,477	300	0



Unblock Order Rate Check (Intraday Change)

 Select Order Rate Limits → Double click to edit the value into one that is higher than the Order rate → Save → <u>Right click and</u> <u>choose Unblock order rate</u>

Or

Select Order Rate Period Limits → Double click to edit the value
→ Save → <u>Right click and choose Unblock order rate</u>

		Genium	INET TradeGuard (P	_CZZA20001@10.161	.5.40)			— 🕅 🗙		
und								Help		
Trade Limits Groups								2.		
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate		
KCZZA										
HKZZA										
Zi HKCZZA_HKZZA_1			0	75	50	922,337,203,685,477	300	0		
◎☆ HKCZZA_HKZZA_BASE				75	50	Add Pre Trad	e Limits Group			
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НКZZAMM						A Unstan Putta				
👛 HKCZZA_HKZZAMM_BASE			0	75	50	92	00	0		
🚔 HKCZZA_HKZZAMM_NON-BASE			0	75	50	92: Stop Button	00	0		
						Mass Order C	ancellation			
						Kill Switch	_			
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						📀 Unblock intra	iday exposure			
							Unblock the	e breached order rate		
	und Trade Limits Groups Participants Pre Trade Limits Group KCZZA HKCZZA HKCZZA_HKZZA_1 HKCZZA_HKZZA_NON-BASE HKCZZA_HKZZA_MM_BASE HKCZZA_HKZZAMM_NON-BASE	and Trade Limits Groups Participants Pre Trade Limits Group Breaches KCZZA BREACT AND BREACHES HKCZZA_HKZZA_11 0 HKCZZA_HKZZA_NON-BASE 0 HKCZZA_HKZZA_NON-BASE 0 HKCZZA_HKZZAMM_BASE 0 HKCZZA_HKZZAMM_NON-BASE 0	Genium articipants Group Breaches Warnings CZZA Marnings Articipants Pre Trade Limits Group Breaches Warnings CZZA Marnings Articipants Pre Trade Limits Group Breaches Warnings Articipants Pre Trade Limits Group Breaches Warnings Articipants Pre Trade Limits Group Breaches Warnings HKCZZA, HKZZA, HKZZA, 1 0 0 INCYTA, HKZZA, HKZZA, NON-BASE 0 0 INCYTA, HKZZA, HKZZA, MM_BASE 0 0 INCZZA, HKZZA, HKZZA, MM_NON-BASE 0 0	Genium INET TradeGuard (P und Trade Limits Group Breaches Warnings Notices Participants Pre Trade Limits Group Breaches Warnings Notices CZZA 0 0 0 0 HKCZZA 0 0 0 0 0 INKCZZA_HKZZA_HKZZA_I1 0	Genium INET TradeGuard (P_CZZA20001@10.161 und Trade Limits Group Breaches Warnings Notices Warn % CZZA O O O O Warn % CZZA Marnings Notices Warn % CZZA O <th colsp<="" td=""><td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Group Breaches Warnings Notices Warn % Notice % CZZA O O O Marnings Notices Warn % Notice % CZZA O O O Marnings Notices Warn % Notice % CZZA O <th cols<="" td=""><td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA INKCZA, IKZZA, IKZZA,</td><td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Groups Order Rate Period Participants Pre Trade Limits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit Order Rate Period KCZZA Image: Color of the Color of the</td></th></td></th>	<td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Group Breaches Warnings Notices Warn % Notice % CZZA O O O Marnings Notices Warn % Notice % CZZA O O O Marnings Notices Warn % Notice % CZZA O <th cols<="" td=""><td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA INKCZA, IKZZA, IKZZA,</td><td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Groups Order Rate Period Participants Pre Trade Limits Group Breaches Warnings 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Rate Limit Order Rate Period KCZZA Image: Color of the Color of the</td></th>	<td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA INKCZA, IKZZA, IKZZA,</td> <td>Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Groups Order Rate Period Participants Pre Trade Limits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit Order Rate Period KCZZA Image: Color of the Color of the</td>	Genium INET TradeGuard (P_CZZA20001@10.161.5.40) und Trade Limits Group Breaches Warnings Notices Warn % Notice % Order Rate Limit KCZZA Intits Group Breaches Warnings Notices Warn % Notice 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- File Format for upload function
 - File format must be CSV
- Edit Order Rate / Period by file upload (Intraday change)
 - Click the File Button on the top left hand corner \rightarrow Choose Import Intraday Limits
- Example:



V				<i>M</i>
Clearing Participant	Exchange Participant	PTLG	Order Rate Limit / Period	Value
HKCZZA	HKZZA	BASE	ORDER_RATE	50 orders
HKCZZA	HKZZA	BASE	ORDER_RATE_PERIOD	300 seconds



Example 4:

- Base PTLG (HKCZZA_HKZZA_BASE)
- Base PTLG users (ZZA1234)
- Order Rate Limit: 3
- Order Rate Period: 100

Using MO31 to place order

1st second: User ZZA1234 place buy order HSIZ5 20000 x 1 lot \rightarrow Order accepted (Order rate = 1)

 2^{nd} second: User ZZA1234 place buy order HSIZ5 20000 x 10 lots \rightarrow Order accepted (Order rate = 2)

 3^{rd} second: User ZZA1234 place buy order HSIZ5 20000 x 15 lots \rightarrow Order accepted (Order rate = 3)

4th second: User ZZA1234 place buy order HSIZ5 20000 x 22 lots \rightarrow *Order <u>accepted and</u> <u>breached</u> (Order rate = 4)

5th second: User ZZA1234 place buy order HSIZ5 20000 x 22 lots \rightarrow **#Order** <u>rejected</u> (Order rate = 4)

* PTLG is in a blocked state as the order rate counts exceed the limit # Order rejected as the PTLG is in a blocked state



Example 5:

- Base PTLG (HKCZZA_HKZZA_BASE)
- Base PTLG users (ZZA1234)
- Order Rate Limit: 3
- Order Rate Period: 100

Using MO37 to place order

1st second: User ZZA1234 place order (quotes) HSIZ5 bid 20000 x 1 lot & offer 20010 x 100 lots \rightarrow Order accepted (order rate = 2)

 2^{nd} second: User ZZA1234 place buy order HSIZ5 20000 x 10 lots \rightarrow Order accepted (order rate = 3)

 3^{rd} second: User ZZA1234 place order (quotes) HSIZ5 bid 20000 x 1 lot & offer 20010 x 100 lots \rightarrow *Order accepted and Base PTLG breached (order rate = 5)

4th second: User ZZA1234 place order (quotes) HSIZ5 bid 20000 x 1 lot & offer 20010 x 100 lots \rightarrow Order <u>rejected</u> (order rate = 5)

* PTLG is in a blocked state as the order rate counts exceed the limit # Order rejected as the PTLG is in a blocked state



Rejection Message after Breach:

"User has breached order rate limit. Transaction aborted" (-850004)



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ile Sound								Help
👜 Pre Trade Limits Groups								2.
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
- 🐞 HKCZZA								
🕂 🐞 HKZZA								
- 🔚 HKCZZA HKZZA 1	0	0	0	75	50	922,337,203,685,477	300	0
- 🎯 🕍 HKCZZA_HKZZA_BASE	1	0	0	75	50	0	300	0
HKCZZA_HKZZA_NON-BASE	U	U	U	/5	50	922,337,203,685,477	300	U
- m HKZZAMM								
-👜 HKCZZA_HKZZAMM_BASE	0	0	0	75	50	922,337,203,685,477	300	0
Li HKCZZA_HKZZAMM_NON-BASE	0	0	0	75	50	922,337,203,685,477	300	0



Maximum Intraday Exposure Check

Points to note

- <u>At</u>-trade Check
- Edit Risk Limit: 0 Maximum Limit (Intraday change)
- Edit Order Coefficient: 0 100 (Next day change)
- The PTLG will be blocked upon a <u>breach on any one</u> of the Maximum Intraday Exposure Risk Counters
- <u>GTC / GTD orders will contribute to the credit consumption</u> <u>everyday</u>
- If a breach occurs during reloading of GTC / GTD orders in the morning, subsequent GTC / GTD orders will still be accepted while subsequent Day Orders will be rejected
- Raising the limit without performing an unblock action will <u>not</u> release the block
- Combo legs will be counted <u>separately</u>
- Support file upload function





Points to note

- Risk Consumptions of Block Trades will be counted towards the Base PTLG
- Once the Base PTLG is breached, no block trades (T1 / T2 / T4) can be subsequently sent to the market by PTLGs that contain the same <u>HKATS Customer Code.</u> However, <u>outstanding orders and</u> <u>unmatched block trades (including T4) can still be executed</u>

PTLG State	PTLG	Normal Order Placement	Block Trade Entry
Blocked	Base PTLG	No	No
Normal	Non-Base PTLG	Yes	No





Rejection Message after breach:

"User has breached an intraday exposure limit. Transaction aborted" (-850006)







• 8 Risk Checks with <u>4 Inputs</u>:

Net Futures Long and Short, Gross Futures Long and Short Net Options Long and Short; Gross Options Long and Short

Intraday Exposure	Risk Limit (HKD Equivalent)	Long Exposure	Utilization %	Short Exposure	Utilization %
Gross Futures	1000	400	40.0%	250	25.0%
Net Futures	500	200	40.0%	100	20.0%
Gross Options	1200	455	37.9%	566	47.2%
Net Options	600	120	20.0%	200	33.3%





• Formulas:

Gross Futures Long:

(Traded Futures Long x Long Margin) + (Outstanding Futures Long x Long Margin x Futures Coefficient)

Gross Futures Short:

(Traded Futures Short x Short Margin) + (Outstanding Futures Short x Short Margin x Futures Coefficient)

Net Futures Long:

(Traded Futures Long x Long Margin) – (Traded Futures Short x Short Margin) + (Outstanding Futures Long x Long Margin x Futures Coefficient)

Net Futures Short:

(Traded Futures Short x Short Margin) – (Traded Futures Long x Long Margin) + (Outstanding Futures Short x Short Margin x Futures Coefficient)





• Formulas:

Gross Options Long:

(Bought Calls x Long Margin) + (Sold Puts x Short Margin) +(Outstanding Buy Calls x Options Coefficient x Long Margin) + (Outstanding Short Puts x Options Coefficient x Short Margin)

Gross Options Short:

(Sold Calls x Short Margin) + (Bought Put x Long Margin) + (Outstanding Sell Calls x Options Coefficient x Short Margin) + (Outstanding Buy Puts x Options Coefficient x Long Margin)

Net Options Long:

(Bought Calls x Long Margin) – (Sold calls x Short Margin) + (Sold Puts x Short Margin) – (Bought Puts x Long Margin) + (Outstanding Buy Calls x Options Coefficient x Long Margin) + (Outstanding Sell Puts x Options Coefficient x Short Margin)

Net Options Short:

(Sold Calls x Short Margin) – (Bought Calls x Long Margin) + (Bought Puts x Long Margin) – (Sold Puts x Short Margin) + (Outstanding Sell Calls x Options Coefficient x Short Margin) + (Outstanding Buy Puts x Options Coefficient x Long Margin)



<u>Notice</u> Level Visual Alert – <u>Yellow</u>

- Edit <u>Notice</u> Level (Intraday Change) \rightarrow Double Click the Notice column \rightarrow Enter value (%)

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File Sound										Help
៉ Pre Trade Limits Grou	ips									2.
Participants Pre Trade	Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order	r Rate Limit	Order Rate Pe	Order Rate
E- M HKCZZA										
e- 🝿 HKZZA										
HKCZZA_HKZ	ZA_BASE			1	75	50	922,337,	203,685,477		
	ZA_NON-BASE	0		0	75	50	922,337,	,203,685,477	300	0
🗄 🍿 HKZZAMM										
- 🔤 HKCZZA_HKZ	ZAMM_BASE	0		0	75	50	922,337,	203,685,477	300	0
HKCZZA_HKZ	ZAMM_NON	0	0	0	75	50	922,337,	203,685,477	300	0
A Y	🔋 Intraday B	xposure Ch	ieck 🏾 🎗 U	sers 🖃 F	mail Alerts					
Intraday Exposure Ch	eck									
Options Order Coefficient	(%):	100	Next Da	y Options C	order Coeffi	icient (%):	1	00		
Futures Order Coefficient	(%):	100	Next Day	y Futures O	rder Coeffi	cient (%):	1	00		
Intraday Exposure	Risk Limit (H	KD Eav)	Lona	Exposure		Utilization %		Short Expos	sure U	Itilization %
Gross Futures		1000000		541	250		54.1%		0	0.0%
Net Futures	922337	203685477		541	250		0.0%		0	0.0%
Gross Options	922337	203685477			0		0.0%		0	0.0%
Net Options	922337	203685477			0		0.0%		0	0.0%



Warning Level Visual Alert – Orange

- Edit <u>Warning</u> Level (Intraday Change) → Double Click the Notice column → Enter value (%)

@	Genium INET TradeGuard (P_CZZA20001@10.161.5.40) — 💳 🗙					- 🗆 🗙			
File Sound									Help
📕 Pre Trade Limits Grou	ps								2.
Participants Pre Trade L	imits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Pe	Order Rate
E- M HKCZZA									
e- 🙀 HKZZA									
🛍 HKCZZA_HKZZ	A_BASE				75	50	922,337,203,685,477	300	
	A_NUN-BASE	0	0	0	75	50	922,337,203,685,477	300	0
🗄 🚋 HKZZAMM									
- 🚈 HKCZZA_HKZZ	AMM_BASE	0	0		75	50	922,337,203,685,477	300	0
🛛 🔤 НКСДДА_НКДД	AMM_NON	0	0		75	50	922,337,203,685,477	300	0
Order Size Limit	🔋 Intraday E	xposure Ch	eck 🏾 🌹 Us	ers 🖃 E	mail Alerts				
💈 Intraday Exposure Che	eck								
Options Order Coefficient	(%):	100	Next Da	y Options C	Order Coeff	icient (%):	100		
Futures Order Coefficient ((%):	100	Next Da	y Futures O)rder Coeffi	icient (%):	100		
Intraday Exposure	Risk Limit (H	KD Eqv)	Long I	xposure		Utilization %	Short Expo	sure U	tilization %
Gross Futures		1000000		757	750		75.8%	0	0.0%
Net Futures	9223372	203685477		151	/ วบ		0.0%	0	0.0%
Gross Options	9223372	203685477			0		0.0%	0	0.0%
Net Options	9223372	203685477			0		0.0%	0	0.0%



- Breach Level Visual Alert Red
 - Breach Level value <u>cannot</u> be edited;
 - Once Exposure > 100% \rightarrow PTLG will be blocked

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File Sound									Help
👛 Pre Trade Limits Grou	ıps								2 -
Participants Pre Trade	Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Pe	Order Rate
E- M HKCZZA									
⊖ in: HKZZA									
-• 🔛 HKCZZA_HK	ZZA_BASE	1	0		75	50	922,337,203,685,477	300	10
	CA_NON-BASE	U	0	0	75	50	922,337,203,685,477	300	0
E THE HKZZAMM									
- HKCZZA_HKZZ	ZAMM_BASE	0	0	0	75	50	922,337,203,685,477	300	0
HKCZZA_HKZ	ZAMM_NON	0	0	0	75	50	922,337,203,685,477	300	0
Thraday Exposure Ch	🔋 📋 Intraday E eck	xposure Ch	eck 🏾 👂 U:	sers 📑 E	mail Alerts				
Options Order Coefficient	(%):	100	Next Da	y Options O	rder Coeffi	cient (%):	100		
Futures Order Coefficient	(%):	100	Next Da	y Futures O	rder Coeffi	cient (%):	100		
Intraday Exposure	Risk Limit (H	KD Eqv)	Long	Exposure		Itilization %	Short Expo	sure Ut	ilization %
Gross Futures		100000		1082	500	1	08.3%	0	0.0%
Net Futures	922337	203685477		1082	500		0.0%	0	0.0%
Gross Options	922337	203685477			0		0.0%	0	0.0%
Net Options	922337	203685477			0		0.0%	0	0.0%
								Nov 12, 20	15 1:57 PM 📑





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• File Format for upload function

- File format must be CSV
- Edit Exposure Limit by file upload (Intraday change)
 - Click the File Button on the top left hand corner \rightarrow Choose Import Intraday Limits

• Example:

HKCZZA	HKZZA	BASE,	NET_FUTURES	100	0000	
HKCZZA	HKZZA	BASE,	NET_OPTIONS,	100	0000	
HKCZZA	HKZZA	BASE,	GROSS_FUTUR	RES,	10000	000
HKCZZA	HKZZA	BASE,	GROSS_OPTIO	NS,	10000	000

Clearing Participant	Exchange Participant	PTLG	Counter	Risk Limit
HKCZZA	HKZZA	BASE	NET_FUTURES	1,000,000
HKCZZA	HKZZA	BASE	NET_OPTIONS	1,000,000
HKCZZA	HKZZA	BASE	GROSS_FUTURES	1,000,000
HKCZZA	HKZZA	BASE	GROSS_OPTIONS	1,000,000





- File Format for upload function
 - File format must be CSV
- Edit Order Coefficient by file upload (Next day change)
 - Click the File Button on the top left hand corner → Choose Import Next Day Limits

• Example:



Clearing Participant	Exchange Participant	PTLG	Coefficient	Value
HKCZZA	HKZZA	BASE	FUTURES_COEFFICIENT	75 (%)
HKCZZA	HKZZA	BASE	OPTIONS_COEFFICIENT	75 (%)



Example 6:

- Base PTLG (HKCZZA_HKZZA_BASE)
- Base PTLG users (ZZA1234)
- Gross Futures: 180,000 / Gross Options: 800,000
- Net Futures: 100,000 / Net Options: 400,000
- Order Coefficient: 100 (%)
- Margin rate (HSI Futures): HK\$100,000

1. User ZZA1234 place order HSIZ5 23000 x 1 lot \rightarrow Order accepted (Gross Futures margin = 100,000; Net Futures = 100,000)

2. User ZZA1234 place order HSIZ5 22000 x 1 lot \rightarrow Order accepted and PTLG breached (2 Breaches : <u>Gross Futures</u> = 200,000 > 180,000 ; <u>Net Futures</u> = 200,000 > 100,000)

3. User ZZA1234 place order HSIZ5 21000 x 1 lot \rightarrow *Order <u>rejected</u>

4. User ZZA1234 place order HSI22000L6 100 x 1 lot \rightarrow *Order <u>rejected</u>

* PTLG is in a blocked state as the exposures (Gross Futures / Net Futures) exceed the limit





Emergency Buttons:

- <u>Stop</u> Block all new orders and modifications, but user can still <u>cancel outstanding orders</u>
- <u>Unstop</u> Unblock the PTLG
- <u>Mass Order Cancellation</u> Cancel all outstanding orders (including T4 block trades) or quotes of a PTLG
- <u>Kill Switch</u> Stop and then execute Mass Order Cancellation (Always check order book after executing kill switch so as to confirm no outstanding orders exist for that PTLG)



Points to note

- Emergency Buttons can invoked on either a <u>single PTLG</u> or <u>all</u> <u>PTLGs of a Participant</u>
- After executing Stop / Kill Switch button on a particular PTLG, no order or quote can be sent by the user(s) assigned to that particular PTLG
- Once <u>Base PTLG</u> was blocked by Stop / Kill Switch button, <u>no</u> Block Trades (T1 / T2 /T4) can be sent to the market. However, <u>outstanding orders and unmatched block trades (including T4) can</u> <u>still be executed</u>
- <u>Not</u> every trading session supports Mass Order Cancellation
- <u>No</u> warning dialog for Unstop button
- Email notification will be sent to the email recipients after executing Emergency Buttons

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• Stop / Unstop / Mass Order Cancellation / Kill Switch

 Select Exchange Participant → Right Click → Click the Stop / Unstop (no confirmation) / Mass Order Cancellation / Kill Switch → Confirmation

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	Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
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e	HKZZA								
	– 🌄 🏥 HKCZZA_HKZZA_1	0	0	0	75	50	922,337,203,685,477	300	0
	HKCZZA_HKZZA_BASE	Add Pre Trade Limits Group	0		75	50	922,337,203,685,477		
	Li 🔤 HKCZZA_HKZZA_NON-BASE	Delete Dre Trade Limits Group	0	0	75	50	922,337,203,685,477	300	0
e	🖓 HKZZAMM	United Pitter							
	🛛 📲 HKCZZA_HKZZAMM_BASE 📑	Char Dutter	0	0	75	50	922,337,203,685,477	300	0
	🗆 📲 HKCZZA_HKZZAMM_NON-B 🔮	Stop Button	0	0	75	50	922,337,203,685,477	300	0
^ v	*	Mass Order Cancellation							
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	Email Alerts	Unblock order rate							
		Unblock intraday exposure							~~
Gei	nerate Email on: 🚿 Breach 🚿 Warning	g 💉 Notice							
		Email							



Rejection Message after Stop:

"User is in a blocked pre-trade risk state. Transaction aborted " (-850002)

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៉ Pre Trade Limits Groups								2 🖥
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
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A BASE HKCZZA_HKZZA_BASE	0			75	50	922,337,203,685,477		
HKCZZA_HKZZA_NON-BASE		0	0	75	50	922,337,203,685,477	300	0
- MKZZAMM								
HKCZZA_HKZZAMM_BASE				75	50	922,337,203,685,477	300	
L 🔤 HKCZZA_HKZZAMM_NON-BASE				75	50	922,337,203,685,477	300	







	Stop	Unstop	Mass Order Cancellation	Kill Switch
Risk Limit Mangers	\checkmark	\checkmark	\checkmark	\checkmark
Trading Units	\checkmark	X	\checkmark	

NCPs and GCPs are advised to arrange efficient communication channels for HKATS Risk Functions events such as

- Regular limit reviews
- Emergency contacts
- Request for change of settings

Contingency



Disable HKATS Risk Functions

 HKEx may <u>disable all HKATS Risk Functions</u> (all risk checks and emergency buttons)

• Failover

- If failover, users are required to switch the login from Primary Gateway to the <u>Secondary Gateway manually</u>
- If failover, all risk exposure consumption or status of the PTLGs should be the same as the image before failover. However, after failover, orders in order book will be removed and therefore risk exposure may be varied

Market Rehearsal and Implementation



Points to note for Connectivity Test and Market
Rehearsal

- Mandatory for All Participants (GCP / DCP / NCP) to participate
- Date of Connectivity Test: 16 Jan 16 & 23 Jan 16
- Date of Market Rehearsal: 30 Jan 16
- Tentative production setup
 - Tentative schedule for production: Quarter 2 in 2016
 - Only Base PTLG will be created
 - All trading users will be assigned to User Picker List
 - All risk checks will be set at maximum value
 - Setting of Order Coefficients for Maximum Intraday Exposure will be announced in due course





User Picker List

- Unassigned trading user(s) can be found in User Picker List and risk associated with those users will be counted towards the Base PTLG
- Newly created trading user(s) can be found in the User Picker List on the effective day
- Characteristics of Base PTLG
 - Base PTLG will count all block trades for that participants

Block Trade Behaviour

- Block trades will consume Base PTLG intraday risk exposure
- Once Base PTLG was Breached or Blocked by Stop / Kill Switch button, no Block Trades (T1 / T2 / T4) can be sent to the market. However, outstanding orders and unmatched block trades (including T4) can still be executed



Summary (cont'd)



Risk Checks	PTLG status after breach
Maximum Order Size	Breach Maximum Order Size Check will <u>not</u> put the PTLG into blocked state
Maximum Order Rate	Breach Maximum Order Rate Check will put the PTLG into blocked state
Maximum Intraday Exposure	Breach Maximum Intraday Exposure Check will put the PTLG into blocked state



Summary (cont'd)



Risk Checks	Notification / Warning	Alert
Maximum Order Size	Breach Email	<u>Audible alert</u> for breach
Maximum Order Rate	Breach Email	<u>Audible alert</u> for breach <u>Visual alert</u> for breach
<i>Maximum Intraday Exposure</i>	Notice, Warning and Breach Emails	<u>Audible alert</u> for notice, warning and breach <u>Visual alert</u> for notice, warning and breach
Emergency Button	Email Notification	<u>No Audible alert</u> for execution for execution of emergency button <u>Visual alert</u> after execute Stop / Unstop / Kill Switch button




Functions	Intraday Change	Next Day Change
Create / Delete PTLG(s)		
Add new email recipient(s) to an existing PTLG	\checkmark	
Remove existing email Recipient(s)		\checkmark
Edit Breach / Warning / Notice email notification		\checkmark
Adding new tradable		\checkmark
Edit / Delete existing tradable		\checkmark
Edit Maximum Order Size Limit	\checkmark	
Edit Maximum Order Rate Limit / Period	\checkmark	
Edit Maximum Intraday Exposure Limit	\checkmark	
Edit order coefficient (Futures / Options)		





Functions	Risk Limit Manager	Trading Units
Create / Delete PTLG(s)	\checkmark	
Add new email recipient(s) to an existing PTLG	\checkmark	
Remove existing email Recipient(s)	\checkmark	
Edit Breach / Warning / Notice email notification	\checkmark	
Adding new tradable	\checkmark	
Edit / Delete existing tradable	\checkmark	
Edit Maximum Order Size Limit	\checkmark	
Edit Maximum Order Rate Limit / Period	\checkmark	
Edit Maximum Intraday Exposure Limit	\checkmark	
Edit order coefficient (Futures / Options)	\checkmark	





	Stop	Unstop	Mass Order Cancellation	Kill Switch
Risk Limit Mangers	\checkmark	\checkmark	\checkmark	\checkmark
Trading Units	\checkmark	X	\checkmark	\checkmark

NCPs and GCPs are advised to arrange efficient communication channels for HKATS Risk Functions events such as

- Regular limit reviews
- Emergency contacts
- Request for change of settings





	Maximum Order Size Check	Maximum Order Rate Check	Maximum Intraday Exposure Check
MO31 (Outright)	\checkmark	\checkmark	\checkmark
MO31 (Combo)	Not in scope	\checkmark	\checkmark
MO33 (Alternation)	\checkmark	Not in scope	\checkmark
MO37 (Double Sided Quote)	\checkmark	\checkmark	\checkmark
MO74 (Block Trade – T4)	Not in scope	Not in scope	\checkmark
MO75 (Block Trade – T1)	Not in scope	Not in scope	\checkmark
MO76 (Block Trade – T2)	Not in scope	Not in scope	\checkmark
MO96 (Mass Quote)	\checkmark	Not in scope	\checkmark





	Edit Existing Maximum Order Size Parameters	Edit Maximum Order Rate & Order Rate Period Parameters	Edit Maximum Intraday Exposure Limit Parameters	Edit Order Coefficient
File Upload	\checkmark	\checkmark	\checkmark	\checkmark
Intraday Change	\checkmark	\checkmark	\checkmark	





Rejection Message	Remark
(-850002) User is in a blocked pre-trade risk state. Transaction aborted	User is in a blocked Pre-Trade Risk State and is currently not allowed to trade
(-850004) User has breached order rate limit. Transaction aborted	User has breached Max. Order Rate Limit and the transaction is rejected
(-850006) User has breached an intraday exposure limit. Transaction aborted	User has breached a Max. Intraday Exposure limit and the transaction is rejected
(-850008) User has exceeded max order size limit. Transaction aborted	User has exceeded Max. Order Size limit and the transaction is rejected

Best Practices



<u>DO'S</u>

- Contact HKEx after any breach or Emergency Button execution
- Always check the relevant order book after execute Kill Switch or Mass Order Cancellation Button
- Separate save changes for intraday changes & next day changes
- Review the Risk Limits regularly with the help of Utilization Reports
- Trading Units to have proper communication channels and arrangements with their corresponding Risk Limit Managers for any change in PTLG settings and request for unblock
- Read the HKATS Risk Functions User Guide that will be posted in the PTRM Webpage in due course and subject to updates regularly

DON'TS

• Do not edit the same PTLG with different GUIs at the same time





- There are two reports recording changes made in HKATS Risk Functions, namely <u>Audit</u> and <u>Utilization Reports</u>
- The audit report shows the whole day activities of PTLG managed by the Risk Limit Manager
- The utilization report shows the maximum utilization of each type of limit, e.g., order size, order rate, unit margin for each PTLG
- Both reports are available and can be downloaded via <u>DCASS Terminal</u> using existing procedure



Reports Window

• Login DCASS Terminal and select **Reports** from the drop down menu under **Clearing** tab

HKEx - 40662 - Genium INET Clearing Workstation 1 - 2.0.0801.40662										
<u>File Edit View Account Deal-Trade Exercise</u>	<u>C</u> learing <u>S</u> eries Ma <u>r</u> gin <u>H</u> elp									
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• Choose ALL MARKETS and ALL TYPES for market and report type, Click Search

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	PTRI	1 Utilization Report	Ascii	Loaded			LIS		
	COM	MON - EARLY RPF (CLIENT)	ZIP	Loaded			ZIP		
	COM	MON - EARLY RPF (CLEARING HOUSE)	ZIP	Loaded			ZIP		
HANG SENG FUTURES & OPTIONS	C - TP011 CAPITAL ADJUSTMENT SERIES	Ascii	Loaded			LIS			
STOCK OPTIONS	SEO	CH - TP011 CAPITAL ADJUSTMENT SERIES	Ascii	Loaded			LIS		



Saving Reports

• Right Click the report and select **Save As** to a designated location



VIEWING REPORTS

- Open the file with Microsoft Excel
- Select all files to list the report

Click on the Delimited option then press Next

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Click on the Tab and Comma options under Delimiters and press Next

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Data preview			
Timestamp	Exchange Participant	Trading Member	PTLG
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20150925-20:35:36.344	HKCABC	HKABC	HKCABC_HKABC_BASE
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• Highlight all columns of the data preview and click on the Text option, then press Finish

Convert Text to Columns Wiz	zard - Step 3 of 3		? ×			
This screen lets you select each Column data format © <u>G</u> eneral	h column and set the Dat 'General' converts dates, and all rema	a Format. numeric values to r aining values to tex	numbers, date values to			
Date: DMY	Date: DMY Do not import column (skip)					
Destination: \$A\$1 Data preview			F			
rext T	ſext	Text	Text			
limestamp E	Exchange Participant	Trading Member	PTLG ~			
20150925-20:35:36.344 H	IKCABC	HKABC	HKCABC_HKABC_BASE			
20150925-20:35:36.344 H	IKCABC	HKABC	HKCABC_HKABC_BASE			
20150925-20:35:36.344 H	IKCABC	HKABC	HKCABC_HKABC_BASE			
 ■ 			4			
	Cancel	< <u>B</u> ack	Next > <u>F</u> inish			



Audit Report

- Timestamp: Action date & time e.g. order breach / reject , change a risk limit, etc.
- Exchange Participant, Trading Members, PTLG, User: Identity of PTRM / GUI / trading users
- Category: Category of action e.g. Ref Data / Notice / Warning / Breach / Supervisory Action
- Actions: Type of action e.g. Insert / Remove / Update / Blank if Category is not Ref Data
- Effective: Effective date of the action e.g. Next Day / IntraDay
- Items: Type of parameter change or supervisory action
- Old value & new value: Parameter record before and after the change
- Event level: Notification event e.g. Notice / Warn / Breach
- Event Risk Type: Type of "at trade" risk check e.g. Gross Futures Long / Net Options Short , etc.
- Event Order ID: Order number which trigger the risk check event
- Event Side: Order side of the order which trigger the risk check event, e.g. Buy / Sell
- Event OrderBookID: System generated ID
- Reject Code: Reason for order rejection





Audit Report

Example 1 - Changed the Order Rate Limit from 300 to 15 with immediate effective

Before

Genium INET TradeGuard (P_CABC20001@dgenapp210.hkex.com.hk)								
File Sound								Help
👛 Pre Trade Limits Groups						\bigcirc		2
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
E MICABC								
🖃 👘 нкавс 💛 🕢								
– 👜 НКСАВС_НКАВС_ВАSE				75	50	300	300	
L HKCABC_HKABC_NON-BASE		0	0	75	50	922,337,203,685,477	300	0

<u>After</u>

@		- = ×						
File Sound								Help
🚈 Pre Trade Limits Groups								2 🖬
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %	Order Rate Limit	Order Rate Period	Order Rate
E- M HKCABC								
🗏 📷 НКАВС						5		
- 🛱 НКСАВС_НКАВС_ВАЅЕ				75	50	15	300	0
L HKCABC_HKABC_NON-BASE				75	50	922,337,203,685,477	300	0
			U	15	50	922,337,203,083,477	300	U





Example 2 - Removed the notification email address with effective Next Day

Co File	Sound		Genium IN	ET TradeGuard (P_CABC20001@	∮dgenapp210.hkex.com.hk)				— 🔳 🗙 Help
<u>Before</u>	Pre Trade Limits Groups Participants Pre Trade Limits Group IHKCABC HKCABC HKCABC_HKCABC_BASE HKCABC_HKCABC_NON-BASE	Breaches	Warnings 0 0 0	Notices 0 0	Warn % 75 75	Notice % 50 50	Order Rate Limit 50 922,337,203,685,477	Order Rate Period Or app 300	rder Rate
Gen Me Ger	Liii Order Size Limits Liii Intraday Exposure Chec Email Merts nerate Email on: √ Breach √ Warning ✓ No c@abc.com	k 2 User III Email Alerts tice Email tice Email tice Email			(1b) (1b)	Cor Remove this a abc@abc.con Yes	nfirm × email address? n No		
After	Sound Pre Tade Limits Groups Participants Pre Trade Limits Group PHCARC PRABLE INCARE DASE PREABLE INCARE DASE L DE HICCARC INCARE DASE	Breaches	Genium IN Warnings 0 0 0	ET TradeGuard (P. CABC20001@ Notices 0	∂dgenapp210.hkex.com.hk) Warn % 75 75	Notice % 50 50	Order Rate Limit 501 922,337,203,685,477	Order Rate Period Or 300 300	Help Trder Rate
Ger ab	i Border Size Limits i Intraday Exposure Chec Email Alerts nerate Email on: V Breach V Warning V No c@abc.com	k & User: Bit Email Alerts Itice Email							
Ger	Ar Ley Change Vinnerh V Warning No () showake.com	tice Email		e		1	2	3	4
Timestamp	Exchange Participan	it Trading Member	PTLG	Category	7 User	Action	Effective Item	Old Value	New Valu
20150620-00:52:36	101 HKCABC	HKABC	HKCABC HKAB	C BASE Ref Data	P. CABC20001	Remove	Next Day Email	abc@abc.com	null



Utilization Report

- Timestamp: Date and time of the Dayend batch
- Exchange Participant, Trading Members, PTLG: Identity of PTLG
- Tradable/RiskGroup: Instrument Type e.g. HSIF, Instrument Class e.g. A50FUT / Group
- Risk Type: Type of risk checks e.g. Maximum order side / Order Rate Limit
- Max Utilization: Maximum utilization value of a Tradable or risk group
- Max Utilization %: Maximum utilization % of that preset limit
- Max Utilization Time: Time of the order input that triggers the maximum utilization



Utilization Report

Example 1 – Maximum Utilization of the Order Rate

🕗		Genium IN	NET TradeGuard (P_CABC2	0001@dgenapp210.hkex.c	om.hk)				_ — — ×	
File Sound									Help	
Pre Trade Limits Groups										
Participants Pre Trade Limits Group	Breaches	Warnings	Notices	Warn %	Notice %		Order Rate Limit	Order Rate Period	Order Rate	
B- m HKCABC										
HKABC										
👜 НКСАВС НКАВС ВАЅЕ				75		50			,	
HKCABC_HKABC_NON-BASE	0	0	0	75		50	922,337,203,685,477	300	0	
^ v										
🔋 🔋 🔋 🔋 🔋 🔋 📕 📕 📕 📕 📕 📕 📕 📕	ers 🛛 🔜 Email Alerts									
📕 Order Size Limits									Ê	
Tradable	Tradable Calculation Max Order					Order Size				
HHI FUTURES		QUANTITY				922,337,203,685,477				
STOCK PUT OPTION		QUANTITY				922,337,203,6				
STOCK CALL OPTION		QUANTITY				922,337,203,6				
HSI FUTURES		QUANTITY							922,337,203,685,477	
A V Nevt Day Changes									88	
									LEO LEO	
								Order Size		

					1	2		
Timestamp	Exchange Particip	ar Trading Member	PTLG	Tradable/RiskGrou	ıp Risk Type	Max Utilization	Max Utilization % Max Utilization Ti	me
20150623-07:02:34.661	HKCABC	HKABC	HKCABC_HKABC_BASE	GROUP	ORDER_RATE		9 18% 20150623-07:02:34	1.647



Example 2 – Maximum Utilization of the Gross Futures Long

<u>@</u>	Genium INET TradeGuard (P_CABC20001@dgenapp210.hkex.com.hk) — 🔲 🗙								
File Sound									Help
🚔 Pre Trade Limits Groups									2 -
Particinants Pre Trade Limits Group	Breacher	Warnings	Notices	Warn %	Notice %		Order Rate Limit	Order Rate Period	Order Bate
	Dicaclies	warnings	Nouces	vvain 70	Notice 70			order Mater enou	Order Nate
e-m HKABC									
- A 📴 HKCABC_HKABC_BASE				75		50			2
La HKCABC_HKABC_NON-BASE) 0	(75		50	922,337,203,685,477	300	0
	• Hanne The Served Alaste								
Intraday Exposure Check	Subsers E Email Alerts								
Options Order Coefficient (%):	. 100	Next Day Options Order Coeffi	cient (%):	100					
Futures Order Coefficient (%):	. 100	Next Day Futures Order Coeffi	cient (%):	100					
	A		(2)		(3)				
Intraday Exposure	Risk Limit (HKD Eqv)	Long Ex	cposure	Utilization %	100.000		Short Exposure	Utilizat	ion %
Gross Futures	000000000	00000	216500		108.3%			0	0.0%
Gross Options	9223372036	35477	0		0.0%			0	0.0%
Net Options	9223372036	35477	0		0.0%			0	0.0%

Timestamp	Exchange Participant	Trading Member	PTLG	Tradable/RiskGroup	RiskType 🚺	Max Utiliza	ation Max	t Utilization % Max Utilization Time
20150623-07:02:34.898	HKCABC	HKCABC	HKCABC_HKABC_BASE	GROUP	GROSS_FUTURES_LON	NG 📿 2	:16500 🤇	3 108.30% 20150622-20:35:21.440



Questions & Answers



