

GTP Version 1.02

January 12, 2007

## **WARNING!**

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GTP is a communication protocol with the Laser Trading System. You can use GTP to send order information and receive order information.

The functionality is detailed in this document.

GTP is an order communication system only; it does not receive nor disseminates market data.

# 1 Inbound Message

## 1.1 Shake-Hand Message (binary format, little endian)

This is the first message of the connection, which the client sends to our server. The client must send all the following bytes. The server will disconnect if not sent.

Name	Len	Value	Notes
Word 1	2	Binary	0x0002
Word 2	2	Binary	0x0008
Word 3	2	Binary	0x0111
Word 4	2	Binary	0x0101
Word 5	2	Binary	0x0000
Word 6	2	Binary	0x0000

## 1.2 Login Message

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"L"	1 single ASCII byte identifying this message as a login message
User ID	16	Alpha	User ID (CAPITAL)
Machine Name	32	Alpha	Local machine name
IP Address	16	Alpha	Local IP address
Date	8	Numeric	Current date. E.g., 20050621
Time	6	Numeric	Current time. E.g. 093001
Password	16	Alpha	Password for this user (plain text)
EOL	2	CRLF	

### 1.3 Logout Message

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"G"	1 single ASCII byte identifying this message as a logout message
User ID	16	Alpha	User ID
Date	8	Numeric	Current date. E.g., 20050621
Time	6	Numeric	Current time. E.g. 093001
EOL	2	CRLF	

#### 1.4 Heartbeat Message

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"H"	1 single ASCII byte identifying this message as a heartbeat message
User ID	16	Alpha	User ID
Date	8	Numeric	Current date. E.g., 20050621
Time	6	Numeric	Current time. E.g. 093001
EOL	2	CRLF	

## 1.5 Order Message

Name	Len	Value	Notes
Type	1	"O"	1 single ASCII byte identifying this message as a order message
User ID	16	Alpha	User ID
Date	8	Numeric	Current date. E.g., 20050621
Time	6	Numeric	Current time. E.g. 093001
Account ID	16	Alpha	Account ID
Trader Seq No	8	Numeric	Trader sequence number
Stock	11	Alpha	Symbol of this stock
Side	1	Alpha	'B': Buy, 'S': Sell, 'T': Short sell
Share	8	Numeric	Number of shares
Max Floor	8	Numeric	Maximum floor
TIF	5	Numeric	Time in force. 0: IOC, 99999: Day
Price Indicator	1	Alpha	Price Indicator Market: '1', Limit: '2', Stop:'3', Stop Limit:'4'
Price	12	Numeric	Limit price or Trigger price. 4 decimals
Stop Limit Price	12	Numeric	Stop limit price. 4 decimals
Display	1	Alpha	Only for INET orders Show: 'Y', Hidden: 'N'.
Method	4	Alpha	Method
Place	4	Alpha	Destination for order * Used for DOT line orders (NYSE, AMEX, etc)
Route Out	1	Alpha	Route out flag. Yes: 'Y', No: 'N'
Discretionary	1	Alpha	Discretionary. Yes: 'Y', No: 'N'
Discretionary Offset	5	Numeric	Offset of discretionary
SOES TIF	1	Numeric	SOES TIF OC 'Y' NO 'N' OO 'O' IO 'I' X 'X' IOX 'x'
Imbalance	1	Alpha	Imbalance. Yes: 'Y', No: 'N'
Pegged	1	Alpha	Pegged order Regular: 'G', Reverse: 'R', None: 'N'
Pegged Cap	1	Alpha	Pegged cap or not. Yes: 'Y', No: 'N'
Cap Value	12	Numeric	Pegged cap value. 4 decimals.
Pegged Offset	5	Numeric	Pegged offset
Strategy	4	Alpha	Routing Strategy
EOL	2	CRLF	



**Please note:** all DOT Line orders require a PLACE (destination) field for the order. To send an order to the NYSE specialist using Belzberg, for example, please use **BELZ** for METHOD and **NYSE** for PLACE.

OES currently supports regional exchanges. For example, to send order to the Chicago Stock Exchange, please use **OESD** for METHOD and **MWSE** for PLACE.

## 1. 6 Cancel Message

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	“X”	1 single ASCII byte identifying this message as a cancel message
User ID	16	Alpha	User ID
Date	8	Numeric	Current date. E.g., 20050621
Time	6	Numeric	Current time. E.g. 093001
Account ID	16	Alpha	Account ID
Ticket No	8	Numeric	Ticket number
EOL	2	CRLF	

## 2 Outbound Message

### 2.1 Shake-Hand Message (binary format, little endian)

This is the first message of the connection, which our server sends to client. The client must check every byte to make sure all bytes are the same as the following. Or, the client must disconnect immediately.

Name	Len	Value	Notes
Word 1	2	Binary	0x0002
Word 2	2	Binary	0x0008
Word 3	2	Binary	0x0007
Word 4	2	Binary	0x0106
Word 5	2	Binary	0x0000
Word 6	2	Binary	0x0000

## 2.2 Login Message

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"L"	1 single ASCII byte identifying this message as a login message
Message	16	Alpha	"You are welcome!"
EOL	2	CRLF	

### 2.3 Log-Out Message

Name	Len	Value	Notes
Type	1	"Z"	1 single ASCII byte identifying this message as a logout message
Message	12	Alpha	"You are out!"
EOL	2	CRLF	

## 2.4 Heartbeat Message

Our server sends heartbeats to clients every 5 seconds.

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"H"	1 single ASCII byte identifying this message as a heartbeat message
EOL	2	CRLF	

## 2.5 Executor ID Message

If you do not know what Executor ID is, you can ignore this message.

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"T"	1 single ASCII byte identifying this message as a executor ID message
Executor ID	2	Numeric	Executor ID
EOL	2	CRLF	

## 2.6 Transfer-end Message

After receiving login message, our server will send all information about this user and account before this message.

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"T"	1 single ASCII byte identifying this message as a transfer-end message after login.
Message	13	Alpha	"Transfer end!"
EOL	2	CRLF	



## 2.7 Account Information

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"A"	1 single ASCII byte identifying this message as an account message.
Account	16	Alpha	Account ID
Buying Power	16	Numeric	Buying power
EOL	2	CRLF	

## 2.8 Open position

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	“O”	1 single ASCII byte identifying this message as an open position message.
Account	16	Alpha	Account ID
Stock	11	Alpha	Symbol of this stock
Side	1	Alpha	Long: ‘B’, Short: ‘T’
Shares	8	Numeric	Shares of this open position
Price	12	Numeric	Price of this open position
EOL	2	CRLF	

## 2.9 Trade

Name	Len	Value	Notes
Type	1	"T"	1 single ASCII byte identifying this message as a trade message.
Account	16	Alpha	Account ID
Ticket No	10	Numeric	Ticket Number
Match No	10	Numeric	Match Number
Ref No	35	Alpha	Reference Number
Stock	11	Alpha	Symbol of this stock
Side	1	Alpha	Buy: 'B', Sell 'S', Short: 'T'
Shares	8	Numeric	Shares of this trade
Price	12	Numeric	Price of this trade
Contra	4	Alpha	Contra firm of this trade
Time	6	Numeric	Execution time
Liquidity	1	Alpha	Liquidity tag
Short sell violation	1	Alpha	Yes: '1', No: '0' <b>Attention:</b> <b>If this field is 1, there is a short sell violation! Users have to report it to Genesis Securities immediately with details of the order.</b>
EOL	2	CRLF	

## 2.10 Pending order

Name	Len	Value	Notes
Type	1	"P"	1 single ASCII byte identifying this message as a pending order message.
Account	16	Alpha	Account ID
Ticket No	10	Numeric	Ticket Number
Trader Seq No	10	Numeric	Trader sequence number
Ref No	35	Alpha	Reference Number
Stock	11	Alpha	Symbol of this stock
Side	1	Alpha	Buy: 'B', Sell 'S', Short: 'T'
Shares	8	Numeric	Shares of this pending order
Price	12	Numeric	Price of this pending order
Time	6	Numeric	Pending time
Method	4	Alpha	Method
Place	4	Alpha	Destination for order * Used for DOT line orders (NYSE, AMEX, etc)
EOL	2	CRLF	

## 2.11 Cancel order

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	“X”	1 single ASCII byte identifying this message as a cancel order message.
Account	16	Alpha	Account ID
Ticket No	10	Numeric	Ticket Number
Trader Seq No	10	Numeric	Trader sequence number
Ref No	35	Alpha	Reference Number
Stock	11	Alpha	Symbol of this stock
Shares	8	Numeric	Shares to be cancelled order
Time	6	Numeric	Cancel time
Reason	4	Alpha	Cancel reason
EOL	2	CRLF	

## 2.12 Reject order

Name	Len	Value	Notes
Type	1	"R"	1 single ASCII byte identifying this message as a reject order message.
Account	16	Alpha	Account ID
Ticket No	10	Numeric	Ticket Number
Trader Seq No	10	Numeric	Trader sequence number
Ref No	35	Alpha	Reference Number
Stock	11	Alpha	Symbol of this stock
Shares	8	Numeric	Shares to be rejected order
Time	6	Numeric	Reject time
Reason	64	Alpha	Reject reason
EOL	2	CRLF	

### 2.13 Remove order

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	“V”	1 single ASCII byte identifying this message as a remove order message.
Account	16	Alpha	Account ID
Ticket No	10	Numeric	Ticket Number
Trader Seq No	10	Numeric	Trader sequence number
Ref No	35	Alpha	Reference Number
Stock	11	Alpha	Symbol of this stock
Time	6	Numeric	Remove time
Reason	64	Alpha	Remove reason
EOL	2	CRLF	

## 2.14 Cancel reject order

Name	Len	Value	Notes
Type	1	"J"	1 single ASCII byte identifying this message as a cancel reject order message.
Account	16	Alpha	Account ID
Ticket No	10	Numeric	Ticket Number
Trader Seq No	10	Numeric	Trader sequence number
Ref No	35	Alpha	Reference Number
Stock	11	Alpha	Symbol of this stock
Time	6	Numeric	Reject time
Reason	64	Alpha	Reject reason
EOL	2	CRLF	



## 2.15 Error Message

<b>Name</b>	<b>Len</b>	<b>Value</b>	<b>Notes</b>
Type	1	"E"	1 single ASCII byte identifying this message as a cancel reject order message.
Reason No	5	Numeric	Reason Number
Trader Seq No	8	Numeric	Trader sequence number
Text	80	Alpha	Reason in text
EOL	2	CRLF	

### **3 History**

#### **3.1 Jun 27, 2005**

Created by Genesis Securities, LLC.

#### **3.2 Feb 6, 2006**

Some errors in documents are fixed.

- a. Change Message Type in “Remove order” from ‘R’ to ‘V’.
- b. Change Message Type in “Cancel reject order” from ‘R’ to ‘J’.
- c. Change Text Notes in “Error Message” from “Trade Reference Number” to “Reason in text”.

#### **3.3 Jan 12, 2007**

Added Routing strategy in Order message.