

Japannext PTS GLIMPSE Market Data Specification for Equities

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1. Introduction

This document explains access to the equities market data services of Japannext PTS via the GLIMPSE protocol. It describes the service's configuration and specifies the application messages. For further information and inquiries regarding market data services or for questions concerning connectivity please contact Japannext PTS Technical Support via email to: ito@japannext.co.jp.

2. Overview

The message protocol of GLIMPSE provides the current state of the Japannext PTS execution system. It utilizes the same messages as the Japannext PTS ITCH protocol.

The point-to-point transport layer for GLIMPSE payloads is [SoupBinTCP](#).

3. Data Types

Integer fields are unsigned big-endian (network byte order) binary encoded numbers.

Alpha fields are left-justified and padded on the right with spaces.

Shares are integer fields with a maximum representable value of 2,147,483,647 (7FFFFFFF in hex).

Prices are integer fields. When converted to a decimal format, prices are in fixed point format with 9 whole number digits followed by 1 decimal place. The maximum representable price is 214,748,364.6 (7FFFFFFE in hex).

4. Service Usage

A client establishes a connection to the GLIMPSE host with a requested sequence number of 1 in the log in request packet. The service will respond with a snapshot, sending out messages containing the current state of the Japannext PTS execution system. The final message in the snapshot provides the sequence number of the real-time ITCH market data feed at the time the snapshot was taken.

5. Outbound Sequenced Messages

Outbound messages are generated by the GLIMPSE host and received by the client's application.

5.1 Timestamp – Seconds Message

For bandwidth efficiency reasons, the protocol separates the timestamp into two parts. The seconds part comes as a standalone Timestamp – Seconds Message and reflects the number of seconds past midnight that the message was generated. The nanoseconds part comes as a field within individual message formats and reflects the number of nanoseconds since the most recent Timestamp – Seconds Message that the payload message was generated.

A Timestamp – Seconds Message will be sent for every second for which there is at least one payload message.

Name	Offset	Length	Type	Comments
Message Type	0	1	"T"	Timestamp – Seconds Message.
Timestamp – Seconds	1	4	Integer	Number of seconds since midnight.

5.2 System Event Message

System Event Messages signal data feed, system and market events.

The snapshot includes all System Event Messages that occurred up to the time the snapshot was taken.

Name	Offset	Length	Type	Comments
Message Type	0	1	"S"	System Event Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Group	5	4	Alpha	Security group identifier. Blank if system wide event. Values: DAY = Daytime market NGHT = Nighttime market DAYX = X-Market DAYU = U-Market
System Event	9	1	Alpha	Refer to the System Events table below.

Table 1: System Events

Event	Description
O	Start of Messages – Outside timestamp messages, always the first message sent in any trading day.
S	Start of System Hours – Indicates the market is open and ready to start accepting orders.
Q	Start of Market Hours – Start of trading session.
M	End of Market Hours – End of trading session.
E	End of System Hours – Indicates the market is closed and will not accept any new orders.
C	End of Messages – Always the last message sent in any trading day.

5.3 Price Tick Size Message

Price Tick Size Messages define a set of price tick size tables.

Price Tick Size Messages are sent before the Security Directory messages.

Name	Offset	Length	Type	Comments
Message Type	0	1	"L"	Price Tick Size Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Price Tick Size Table Id	5	4	Integer	Price tick size table identifier.
Price Tick Size	9	4	Integer	Price tick size.
Price Start	13	4	Integer	Start of price range for this price tick size.

5.4 Security Directory

Security Directory messages provide information about securities available in the Japannext PTS execution system.

Note that reference prices are provided via Add Order Messages.

Name	Offset	Length	Type	Comments
Message Type	0	1	"R"	Security Directory.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.

Name	Offset	Length	Type	Comments
Security Id	5	4	Integer	Security identifier.
Security	9	12	Alpha	Denotes the security symbol for the issue.
Group	21	4	Alpha	Security group identifier. Values: DAY = Daytime market NGHT = Nighttime market DAYX = X-Market DAYU = U-Market
Round Lot Size	25	4	Integer	Number of shares that represent a round lot.
Price Tick Size Table Id	29	4	Integer	Price tick size table identifier.
Price Decimals	33	4	Integer	Number of decimal places in price fields. Value is 1.
Upper Price Limit	37	4	Integer	Maximum tradable price. A value of 214,748,364.7 (7FFFFFFF in hex) denotes no upper price limit available.
Lower Price Limit	41	4	Integer	Minimum tradable price. A value of 214,748,364.7 (7FFFFFFF in hex) denotes no lower price limit available.

5.5 Security Trading Action

Security Trading Action messages indicate the current trading status of securities.

Security Trading Action messages are sent for all securities which are eligible for trading at the time the snapshot was taken. If there is no Security Trading Action message for a particular security, clients should assume that the security was suspended at the time the snapshot was taken.

Name	Offset	Length	Type	Comments
Message Type	0	1	"H"	Security Trading Action.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Security Id	5	4	Integer	Security identifier.
Group	9	4	Alpha	Security group identifier. Values: DAY = Daytime market NGHT = Nighttime market DAYX = X-Market DAYU = U-Market
Trading State	13	1	Alpha	Current trading status. Values: T = Trading V = Suspended

5.6 Short Selling Price Restriction Indicator

Short Selling Price Restriction Indicator messages indicate the current short selling price restriction status of securities.

Short Selling Price Restriction Indicator messages are sent for all securities which have short selling price restriction in effect at the time the snapshot was taken. If there is no Short Selling Price Restriction Indicator message for a particular security, clients should assume that the security had no short selling price restriction at the time the snapshot was taken.

Name	Offset	Length	Type	Comments
Message Type	0	1	“Y”	Short Selling Price Restriction Indicator.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Security Id	5	4	Integer	Security identifier.
Group	9	4	Alpha	Security group identifier. Values: DAY = Daytime market NGHT = Nighttime market DAYX = X-Market DAYU = U-Market
Short Selling Price Restriction State	13	1	Alpha	Current short selling price restriction status. Values: 0 = No price restriction 1 = Price restriction in effect

5.7 Add Order Message

An Add Order Message indicates that an order exists in the Japannext PTS execution system's displayable book. This message includes an Order Reference Number which is unique per day per security group.

There are two variations of the Add Order Message.

5.7.1 Add Order – No Attributes

This message will be generated for normal orders present in the system.

If the Order Reference Number has a value of zero, this indicates a reference price update for the security. Reference price updates are sent after the Security Directory messages.

Name	Offset	Length	Type	Comments
Message Type	0	1	“A”	Add Order Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Order Reference Number	5	8	Integer	Reference number of the accepted order. Zero indicates a reference price update.
Buy/Sell Indicator	13	1	Alpha	Side of the order. Values: B = Buy S = Sell Ignore if reference price update.
Shares	14	4	Integer	Total number of shares added to the book. Ignore if reference price update.
Security Id	18	4	Integer	Security identifier.
Group	22	4	Alpha	Security group identifier. Values: DAY = Daytime market NGHT = Nighttime market DAYX = X-Market DAYU = U-Market
Price	26	4	Integer	Price of the order. For a reference price update, a value of 214,748,364.7 (7FFFFFFF in hex) denotes no reference price available.

5.7.2 Add Order with Attributes

This message will be generated for orders with market specific attributes present in the system.

Name	Offset	Length	Type	Comments
Message Type	0	1	"F"	Add Order with Attributes Message.
Timestamp – Nanoseconds	1	4	Integer	Number of nanoseconds since last Timestamp – Seconds Message.
Order Reference Number	5	8	Integer	Reference number of the accepted order.
Buy/Sell Indicator	13	1	Alpha	Side of the order. Values: B = Buy S = Sell
Shares	14	4	Integer	Total number of shares added to the book.
Security Id	18	4	Integer	Security identifier.
Group	22	4	Alpha	Security group identifier. Values: DAY = Daytime market NGHT = Nighttime market DAYX = X-Market DAYU = U-Market
Price	26	4	Integer	Price of the order.
Attribution	30	4	Alpha	Reserved. Always blank.
Order Type	34	1	Alpha	Type of the order. Values: Q = DLP order

5.8 End of Snapshot Message

The End of Snapshot Message provides the sequence number of the real-time ITCH market data feed at the time the snapshot was taken.

The ITCH market data consumer should begin to process the real-time feed from the sequence number provided in this message.

Name	Offset	Length	Type	Comments
Message Type	0	1	"G"	End of Snapshot Message.
Sequence Number	1	8	Integer	ITCH market data feed sequence number at the time the snapshot was taken.

Revision History

Date	Version	Description
2013-12-19	1.0	Initial revision.
2014-10-03	1.1	Mentioned U-market.