

Protocol for Non-NEAT Front End (NNF)

Initial Public Offering System

Version 3.1

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National Stock Exchange of India Ltd
Exchange Plaza, Plot No. C/1, G Block,
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Pages Changed	Description
40,41,43,44,45	Cut-off orders allowed in RS series for OFS
14,16,60	Introduced a new series.
40,41,43,44,45	<ul style="list-style-type: none">Introduced a new series.Order Value should not be greater than 2 Lakh.CP Code to be set to TM Id to disallow CP orders.Flag to be set to determine TM or CP blocking (No type A and Type B)
40,41,60	Mentioning structures for Big Endian machines
32,40,43,44	Added new variable uiCarryforward for OFS Carryforward order modification.

Preface

Purpose

This document describes the protocol to be used for Non-NEAT Front end (NNF) to communicate with the Initial Public Offering (IPO) System and thus serves as a development guide for the NNF users.

Target Audience

The document is written for system designers and programmers of user organizations and third party software developers who are responsible for the development of software to interact with the IPO System of the National Stock Exchange.

Organization of This Document

This document is organized as follows:

Chapters	Description
Chapter 1	Provides a brief introduction to Non-NEAT Front end (NNF). It also details the NNF Terminal requirements.
Chapter 2	Describes the general guidelines for the designers and programmers who develop NNF. It details the data types used and also covers the Message Header that is prefaced with all the structures.
Chapter 3	Trading Access Point (TAP). Describes the protocol and message flow required to be implemented for communication through TAP
Chapter 4	Describes how a trader logs on to the trading system. It also discusses the download of the updated information on the securities, participants and the status of the markets, and describes the log on request and the system responses.
Chapter 5	Describes entering fresh orders, modifying an existing order, and canceling outstanding orders.
Chapter 6	Covers the messages that are received on the interactive connection. These messages are received by users not in response to any request.
Chapter 7	Describes the various Broadcast messages.

Chapters	Description
Appendix	Lists the error, transaction and reason codes and also covers the various market statuses, market types and book types.

Abbreviations and Acronyms Used

The abbreviations and acronyms used in this document are:

AGM	Annual General Meeting
ATO	At The Opening
BCID	Broadcast Circuit Id
BM	Branch Manager
CM	Corporate Manager
I/B	Interactive / Broadcast
DL	Dealer
GTC	Good Till Cancellation
MBO	Market By Order
MBP	Market By Price
NEAT	National Exchange for Automated Trading
NNF	Non Neat Front End
NSE	National Stock Exchange
OSL	Open Strata Link
RL	Regular Lot
TWS	Trader Workstation
VCID	Virtual Circuit ID
VSAT	Very Small Aperture Terminal
VV.RR.SS	Version. Release. Sub-release

CONTENTS

Chapter 1	Introduction.....	9
Chapter 2	General Guidelines	11
	Introduction	11
	Message Structure Details	11
	Guidelines for Designers	11
	Guidelines for Programmers.....	12
	Data Types Used.....	13
	Message Header.....	13
	Broadcast Process Header	14
	SECURITY INFORMATION.....	16
	Error Message	16
Chapter 3	Trading Access Point (TAP)	17
	Introduction	17
	DIAGRAMMATIC REPRESENTATION	17
	TAP Protocol Details.....	17
	<i>TCP/IP Connectivity between NNF system and TAP Box.....</i>	<i>17</i>
	<i>Specification for TCP/IP Connectivity between NNF and TAP</i>	<i>18</i>
	<i>Packet Validation.....</i>	<i>19</i>
	<i>Request Processing by TAP</i>	<i>20</i>
	<i>Response Processing by NNF software.....</i>	<i>20</i>
	<i>Message flow between NNF and TAP.....</i>	<i>20</i>
	<i>Flow Control Mechanism</i>	<i>20</i>
	<i>Invitation Packet Structure</i>	<i>21</i>
Chapter 4	Logon Process.....	22
	Introduction	22
	Order of Events to Be Followed During Logon and Logoff.....	22
	Logon Request.....	23
	LOGON RESPONSE	25
	LOGON CONFIRMATION RESPONSE.....	25
	LOGON ERROR.....	27
	SYSTEM INFORMATION DOWNLOAD.....	28
	<i>System Information Request.....</i>	<i>28</i>
	<i>System Information Response</i>	<i>28</i>
	UPDATE LOCAL DATABASE DOWNLOAD.....	30
	<i>Update Local Database Request.....</i>	<i>30</i>
	<i>Update Local Database Response</i>	<i>32</i>
	<i>Partial System Information Response</i>	<i>32</i>
	<i>Update Local Database Download.....</i>	<i>32</i>
	<i>Update Local Database Header</i>	<i>32</i>
	<i>Update Local Database Data</i>	<i>32</i>
	NEW LOCAL DATABASE DOWNLOAD HAS BEEN INTRODUCED:	33
	IPO CATEGORY SLAB INFO:	33
	<i>Update Local Database Trailer</i>	<i>34</i>

MESSAGE DOWNLOAD	35
<i>Message Download Request</i>	35
<i>Message Download Response</i>	35
<i>Message Download Header</i>	35
<i>Message Download Data</i>	36
<i>Message Download Trailer</i>	36
LOGOFF REQUEST	36
LOGOFF CONFIRMATION RESPONSE	37
Chapter 5 Order Management	38
INTRODUCTION	38
ORDER ENTRY	38
<i>Order Type</i>	38
<i>Rules of Order Entry</i>	38
<i>Order Entry Request</i>	39
<i>Order Entry Response</i>	45
<i>Order Requested Response</i>	46
<i>Order Confirmation Response</i>	46
<i>Order Freeze Response</i>	47
<i>Order Error Response</i>	47
ORDER MODIFICATION	47
<i>Rules of Order Modification</i>	47
<i>Order Modification Request</i>	48
<i>Order Modification Response</i>	48
<i>Order Modification Confirmation Response</i>	48
<i>Order Modification Error Response</i>	49
ORDER CANCELLATION	49
<i>For Institutional orders with 0 % margin (Type B) orders cannot be cancelled at any time.</i>	49
<i>Rules of Order Cancellation</i>	50
<i>Order Cancellation Request</i>	50
<i>Order Cancellation Response</i>	50
<i>Order Cancellation Confirmation Response</i>	50
<i>Order Cancellation Error Response</i>	50
Chapter 6 Unsolicited Messages	51
INTRODUCTION	51
FREEZE APPROVE RESPONSE	51
FREEZE REJECT RESPONSE	51
CUSTODIAN APPROVE/REJECT RESPONSE	51
INTERACTIVE/BROADCAST MESSAGES SENT FROM CONTROL	52
Chapter 7 Broadcast	54
INTRODUCTION	54
GENERAL MESSAGE BROADCAST	54
CHANGE IN SYSTEM STATUS / PARAMETERS	55
CHANGE IN SECURITY MASTER	55
CHANGE IN SECURITY STATUS	59
CHANGE OF MARKET STATUS	60
MARKET BY PRICE UPDATE	61
ONLY MARKET BY PRICE UPDATE	65
MARKET WATCH UPDATE	67
SECURITY OPEN MESSAGE	68
Appendix 	69
LIST OF ERROR CODES	69
REASON CODES	75

LIST OF TRANSACTION CODES.....75

QUICK REFERENCE FOR ORDER ENTRY PARAMETERS.....77

MARKET TYPE.....78

MARKET STATUS.....78

BOOK TYPES.....78

SECURITY STATUS.....78

Chapter 1 Introduction

The National Stock Exchange of India Ltd (NSEIL) provides a fully automated screen based trading system, enabling trading members spread across the length and breadth of India to place orders directly from their offices through an extensive telecommunication network. The system is known as 'National Exchange for Automated Trading' (NEAT) system. The trading members can use NEAT Front end or Non-NEAT Front end (NNF) to establish a network connection with the IPO host system of NSE for placing orders. NNF is a front end, which is developed and maintained by vendors other than NSE. NSE provides the NNF users with the design documents of the front end whereas they are supported by their respective vendors and NSE is not responsible for the performance of the NNF.

Communication Network

The Application and the network infrastructure make use of TCP/IP protocol. With the implementation of Trading Access Point (TAP), member end software will be able connect to trading system with TCP/IP protocol. The TAP protocol is defined in the annexure below.

Details of Communication Network

NSE's communication network uses TCP/IP protocol that ensures end to end data integrity and error free data transmission. There are two types of virtual circuit connections used to communicate with the host end. One is interactive virtual circuit ID (VCID) and the other is broadcast circuit ID (BCID). The interactive virtual circuit denotes the existence of a logical, bidirectional path from TWS to host end through TCP/IP network and the same reverse path from host end to TWS. When a call request from the TWS reaches the TAP, an interactive virtual circuit ID is created and the interactive connection between the TWS and the trading system is established. Henceforth the packets sent by the trader to the exchange and from exchange to the trader are managed through this connection. When the trader sends the call-hang request, the connection between the trader and the host end is lost and no more packets will be transferred through this connection for this trader until he/she sends another call-connect request.

Broadcast circuit ID (BCID) follows a unidirectional path which is from the host end to the TWS. All the broadcast data are transmitted through this broadcast circuit from the host

end for all the traders. Since this is a one way connection, the data flow is always from the exchange (host end) to the trader terminal.

Chapter 2 General Guidelines

Introduction

This chapter provides general guidelines for the designers and programmers who develop NNF. It also provides information on data types and their size which can help in understanding various structures.

Message Structure Details

The message structure consists of two parts namely message header and message data. The message header consists of the fields of the header which is prefaced with all the structures.

The message data consists of the actual data that is sent across to the trading system (i.e. host) or received from the trading system (i.e. host).

Transaction code, an important field of the message header, is a unique numeric identifier which is sent to or received from the trading system. This is used to identify the transaction between the TWS and the host end.

Guidelines for Designers

1. The order of the log-on messages should strictly be maintained as given in the following section (Chapter 4) of the document. Otherwise, the user cannot log on to the trading system.
2. All time fields are number of seconds from midnight January 1 1980.
3. No host-end inquiries are permitted for NNF users.
4. All price fields must be multiplied by 100 before sending to the host end and divided by 100 while receiving from the host end as the host system processes prices in paise.

Guidelines for Programmers

1. If your system uses little-endian order, the data types such as UINT, SHORT, LONG and DOUBLE contained in a packet, which occupy more than one byte should be twiddled (byte reversed). Twiddling involves reversing a given number of bytes such that the byte in 'n' position comes to the first position; the byte in (n-1) position comes to the second position and so on. For example, if the value to be sent is 1A2B (hexadecimal), reverse the bytes to 2B1A. The same applies while receiving messages. So if the value received is 02BC, the actual value is BC02. So twiddle such data types before sending and after receiving to ensure that correct data is sent and received.

Note:

Twiddling is required because of the variety in endian order—big and little. A big-endian representation has a multibyte integer written with its most significant byte on the left. A little-endian representation, on the other hand, places the most significant byte on the right. The trading system host end uses big-endian order.

2. All alphabetical data must be converted to upper case before sending to the host. No NULL terminated strings should be sent to the host end. Instead, fill it with **blanks** before sending. The strings received from the host end are padded with blanks and are not NULL terminated.
3. All the structures should be defined in the following manner:
 - Items of type char or unsigned char, or arrays containing items of these types, are byte aligned.
 - Structures are word aligned.
 - All other types of structure members are word aligned.
4. All numeric data must be set to zero (0) before sending to the host, unless a value is assigned to it.
5. All reserved fields mentioned, should be mapped to CHAR buffer and initialized to NULL.

6. Inside the broadcast packet, the first byte indicates the market type. Ignore the next 7 bytes. If the first byte is 2 it indicates Futures & Options market. The message header starts from the 9th byte. The remaining portion of the buffer has to be mapped to the broadcast structures mentioned in the document.

Note:

- The values of all the constants and transaction codes given in the document are listed in Appendix.
- The suffix IN in the transaction codes implies that the request is sent from the TWS to the host end whereas OUT implies that the message is sent from the host end to TWS

Data Types Used

Data Type	Size of Bytes	Signed / Unsigned
CHAR	1	Signed
UINT	2	Unsigned
SHORT	2	Signed
LONG	4	Signed
DOUBLE	8	Signed and Floating Point
BIT	1 bit	NA

Message Header

Each structure is prefaced with a MESSAGE_HEADER which is an interactive header. Some data in the header are fixed whereas some data are variable and set differently for each transaction code. The structure of the Message Header is as follows:

Table 1 MESSAGE_HEADER

Structure Name	MESSAGE_HEADER		
Packet Length	40 bytes		
Field Name	Data Type	Size in Byte	Offset
Reserved1	CHAR	2	0
Reserved2	SHORT	2	2
LogTime	LONG	4	4
AlphaChar	CHAR	2	8

Structure Name	MESSAGE_HEADER		
Packet Length	40 bytes		
Field Name	Data Type	Size in Byte	Offset
TransactionCode	SHORT	2	10
ErrorCode	SHORT	2	12
TimeStamp	CHAR	8	14
TimeStamp1	CHAR	8	22
Reserved3	CHAR	8	30
MessageLength	SHORT	2	38

The fields of Message Header are described below.

Field Name	Brief Description
Reserved	
LogTime	This field should be set to zero while sending messages.
AlphaChar [2]	This field should be set to the first two characters of Symbol if the structure contains Symbol and Series; otherwise it should be set to blank.
TransactionCode	Transaction message number. This describes the type of message received or sent.
ErrorCode	This field should be set to zero while sending messages to the host. In the messages coming from the host, this field describes the type of error. Refer to List of Error Codes in Appendix.
TimeStamp	This field should be set to numeric zero while sending to the host. This is used in host end.
TimeStamp1	This field should be set to numeric zero while sending. This is the time the message arrives at the trading system host. In TimeStamp1, time is sent in jiffies from host end. This 8 byte data needs to be typecasted as first four byte into double variable and typecast the other four byte into another double variable. These values need to be used while requesting message area download in the same order.
MessageLength	This field should be set to the length of the entire message, including the length of message header while sending to host.

Broadcast Process Header

The broadcast messages like market open, market close, market in pre-open are prefaced with BCAST_HEADER. Some fields in the header are fixed. The remaining fields are variable and set differently for each transaction code. The structure of the BCAST_HEADER is as follows:

Table 2 BROADCAST_HEADER

Structure Name	BROADCAST_HEADER		
Packet Length	40 bytes		
Field Name	Data Type	Size in Byte	Offset
Reserved1	SHORT	2	0
Reserved2	SHORT	2	2
LogTime	LONG	4	4
AlphaChar	CHAR	2	8
TransCode	SHORT	2	10
ErrorCode	SHORT	2	12
BCSeqNo	LONG	4	14
Reserved	BYTE	1	18
Filler1[3]	BYTE	3	19
TimeStamp2	CHAR	8	22
Reserved3	BYTE	8	30
MessageLength	SHORT	2	38

Field Name	Brief Description
LogTime	This field should be set to zero while sending to host end. For messages sent from host end this field contains the time when the message was generated by the trading system host.
AlphaChar	This field is set to the first two characters of Symbol if the structure contains Symbol and Series; otherwise it is set to blank.
TransactionCode	This field contains the transaction message number. This describes the type of message received or sent.
ErrorCode	This field contains the error number which describes the type of error. Refer to List of Error Codes in Appendix.
BCSeqNo	This field contains BCAST Sequence number of the NSE host end system. The sequence number is not the unique broadcast sequence number as it has eleven sets of sequence numbers for normal broadcast and six sets of sequence numbers for Fast broadcast each instance of the sequence number is generated by the individual processes in the host end. It is not a unique sequence number.
TimeStamp2	This field contains the time when message is sent from the host.
MessageLength	This field is set to the length of the entire message, including the length of the message header.

Security Information

Table 3 SECURITY_INFORMATION

Structure Name	SECURITY_INFORMATION		
Packet Length	12 bytes		
Field Name	Data Type	Size in Byte	Offset
Symbol	CHAR	10	0
Series	CHAR	2	10

Field Name	Brief Description
Symbol	This field should contain the symbol of a security.
Series	This field should contain the series of a security.

Error Message

When the Error Code in the Message Header is having non zero value, ERROR RESPONSE is sent. The Error Message will describe the error received. The structure is as follows:

Table 4 ERROR_RESPONSE

Structure Name	ERROR_RESPONSE		
Packet Length	180 bytes		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
SECURITY_INFORMATION (Refer Table 3)	STRUCT	12	40
Error Message	CHAR	128	52

Field Name	Brief Description
Symbol	This field should contain the symbol of a security.
Series	This field should contain the series of a security.
ErrorMessage	Stores the error message. Refer to List of Error Codes in Appendix.

Chapter 3 Trading Access Point (TAP)

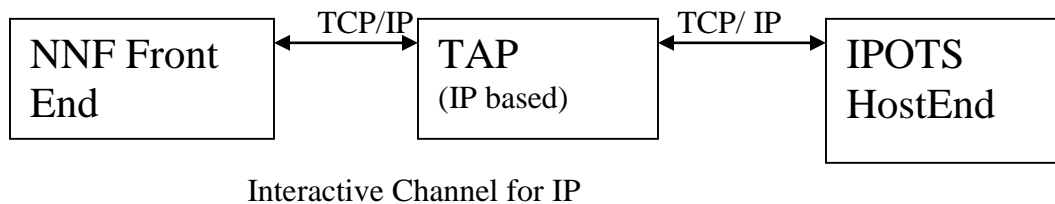
Introduction

The National Stock Exchange of India has enhanced Capital Market Trading System by changing existing 2-tier system to 3-tier system with introduction of a middle-ware between Front-End and Host End.

The introduced middle-ware is named as **TAP - Trading Access Point** and all the **interactive** message communication between front-end and host-end will be through this **TAP**.

The protocol and message flow required to be implemented for communication through TAP is explained in detail in following sections.

Diagrammatic Representation



TCP/IP communication protocol shall be used between NNF and TAP while TCP/IP communication protocol shall be used between TAP and host end as per the Network setup.

TAP Protocol Details

TCP/IP Connectivity between NNF system and TAP Box

Guidelines for TCP/IP connectivity (Windows based) between NNF and TAP are as follows:

1. Type of the socket to be used is SOCK_STREAM
2. Address family for the socket is PF_INET
3. Front-End establishes socket connection to TAP Box.
4. TAP Box accepts front-end socket connection
5. Revc () function will be called to receive data packets from TAP Box.

6. Send () function will be called to send data packets to TAP Box.
7. Pragma pack (2) to be used for all structures flowing between Front-End and TAP Box.
8. It is recommended to disable Nagle's algorithm.

Specification for TCP/IP Connectivity between NNF and TAP

```
SET socket type = SOCK_STREAM
SET socket address family = PF_INET
CREATE socket using above options
SET no. of bytes to be received and no. of bytes to be sent at SOL_SOCKET
level
SET socket option to TCP_NODELAY at IPPROTO_TCP
SET remote address of host in AF_INET address family
SET remote port id for connection with TAP Box
WAIT for events of the type FD_READ or FD_CLOSE
IF the event is FD_CLOSE then
    CONNECTION is lost
ELSEIF the event is FD_READ then
    RECEIVE the packet and process it
    WAIT for invitation packet
```

For non Windows based systems, use equivalent parameters in the above steps.

Setting TCP Keep-alive parameters

In order to detect abrupt network disconnection between TAP and NNF, it is required to enable TCP Keep-alive option in NNF application. This can be done using following

Steps:

1. After TCP socket is created, NNF application has to set SO_KEEPAIVE option of the socket at SOL_SOCKET level.
2. Also, following Keep-alive parameters should be set in the Operating System on which NNF is installed
 - a. Keep Alive Time: 20 seconds

- b. Number of Keep Alive Retries: 5
- c. Keep Alive Interval: 2 seconds

Packet structure for communication between CTCL and TAP Box

This structure is applicable to all messages that flow between NNF and Host through TAP box.

Packet Format

Length (2 bytes)	Sequence number (4 bytes)	Checksum(MD5) for business data (16 bytes)	Business data (Variable length)
------------------------	---------------------------------	--	---------------------------------------

- Max length will be the predefined value of 1024 bytes.
Length = size of length field (2 bytes) +
size of sequence number field (4 bytes) +
size of the checksum field (16 bytes) +
size of business data (variable number of bytes).
- Sequence number will start from 1 and will be incremented for every packet.
- Business data will be of variable length and comprises of 40 bytes (increased by 2 bytes) of header + variable sized data buffer.
- The checksum algorithm used will be MD5. Checksum is applied only on the Business data field and not on the entire packet.
- For more details on MD5 refer: [RFC 1321 \(rfc1321\) - The MD5 Message-Digest Algorithm](http://www.faqs.org/rfcs/rfc1321.html) (<http://www.faqs.org/rfcs/rfc1321.html>)

Packet Validation

Validation will be done for all requests flowing between TAP and Front-End.

Validation will be done through the combination of Checksum, Sequence Number and length field.

Request Processing by TAP

Before sending the request to TAP box, Front-End will have to generate a sequence number and checksum value. All the requests being sent from Front-End will be sent in the format described above.

If validation of sequence number, checksum value & length will fail at TAP Box end, TAP Box will disconnect the socket connection.

Response Processing by NNF software

On receiving the response from TAP, NNF software is expected to validate sequence number, checksum value & length field.

Sequence number must be in sequential order. For any fresh connection the number should start from 1. On reaching the maximum limit of the data type of the sequence number, the numbers should be reset to 1. Checksum field and the checksum recalculated on the data field must match. Length field must be less than or equal to 1024.

If any one of these validations fails, the Front-End needs to drop the connection and reestablish a fresh connection.

Message flow between NNF and TAP

Flow Control Mechanism

Packet flow between TAP Box and Front-End will be controlled using Flow Control Mechanism. TAP will send an '**Invitation Packet**' to Front-End on establishing a fresh connection.

Number of requests specified in Invitation Packet will be the maximum limit for requests which will be allowed to be sent to TAP from Front-End.

After the front-end has utilized the invitation count fully, the TAP will send the next invitation packet. Only on receiving the next invitation, the front-end is expected to send subsequent requests.

Invitation Packet Structure**Table 5 INVITATION_MESSAGE**

Structure Name	INVITATION_MESSAGE		
Packet Length	42 bytes		
Transaction Code	INVITATION_MESSAGE (15000)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	SHORT	40	0
InvitationCount	SHORT	2	42

The following table provides the details of the various fields present in the INVITATION_MESSAGE structure.

Field Name	Brief Description
TransactionCode	The transaction code is INVITATION_MESSAGE (15000).
InvitationCount	Maximum number of requests which will be allowed to be sent to TAP from front-end. This is an output field from the TAP.

Note:

In the invitation packet, the following fields are to be used

1. Transaction Code field
2. Message length field
3. Invitation Count Field

Rests of the fields of this packet are reserved and are to be ignored while processing.

Exception Handling:

In case of any exception while processing the 'invitation packet' the connection should be dropped. A new connection needs to be established by the front end with the TAP box.

Chapter 4 Logon Process

Introduction

This section describes how a trader logs on to the trading system. It covers the log-on request and the system responses. This section also describes the download of the updated information on the securities, participants and the status of the markets. It covers the structures and field descriptions of System Information Download, Local Database Download and Message Download.

The process by which a trader logs on to the trading system is called Logon Process. The trader, after issuing a sign-on request, waits for the system response. The response could be a successful logon or an error message.

Order of Events to Be Followed During Logon and Logoff

The following sequence explains the order in which transaction codes are sent and received during log-on process.

Sequence No	Transaction Code	Sent By	Received By
1	SIGN_ON_REQUEST_IN (2300)	TWS	Host End
2	SIGN_ON_REQUEST_OUT (2301)	Host End	TWS
3	SYSTEM_INFORMATION_IN (1600)	TWS	Host End
4	SYSTEM_INFORMATION_OUT (1601)	Host End	TWS
5	UPDATE_LOCALDB_IN (7300)	TWS	Host End
6	UPDATE_LOCALDB_HEADER (7307)	Host End	TWS
7	UPDATE_LOCALDB_DATA (7304)	Host End	TWS
8	UPDATE_LOCALDB_TRAILER (7308)	Host End	TWS
9	DOWNLOAD_REQUEST (7000)	TWS	Host End
10	HEADER_RECORD (7011)	Host End	TWS
11	MESSAGE_RECORD (7021)	Host End	TWS
12	TRAILER_RECORD (7031)	Host End	TWS

The following sequence explains the order in which the transaction codes are sent and received during log-off process.

Sequence No	Transaction Code	Sent By	Received By
1	SIGN_OFF_REQUEST_IN (2320)	TWS	Host End
2	SIGN_OFF_REQUEST_OUT (2321)	Host End	TWS

Logon Request

When the user wants to establish an interactive circuit with the host, he sends this request.

Table 6 SIGNON_REQUEST

Structure Name	SIGNON_REQUEST		
Packet Length	186 bytes		
Transaction Code	SIGN_ON_REQUEST_IN (2300)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
UserId	LONG	4	40
Password	CHAR	8	44
NewPassword	CHAR	8	52
TraderName	CHAR	26	60
LastPasswordChangeDateTime	LONG	4	86
BrokerId	CHAR	5	90
Reserved1	CHAR	1	95
BranchId	SHORT	2	96
VersionNumber	LONG	4	98
Batch2StartTime	LONG	4	102
HostSwitchContext	CHAR	1	106
Colour	CHAR	50	107
Reserved2	CHAR	1	157
UserType	SHORT	2	158
SequenceNumber	DOUBLE	8	160
WsClassName	CHAR	14	168
BrokerStatus	CHAR	1	182
Reserved3	CHAR	1	183
BROKER_ELIGIBILITY_PER_MKT (Refer Table 6.1 for Small Endian machines and Table 6.2 for Big Endian machines)	STRUCT	2	184

Table 6.1 BROKER_ELIGIBILITY_PER_MKT (For Small Endian Machines)

Structure Name	BROKER_ELIGIBILITY_PER_MKT		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	4	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Normal market	BIT	1	0

Structure Name	BROKER_ELIGIBILITY_PER_MKT		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	8	1

Table 6.2 BROKER_ELIGIBILITY_PER_MKT (For Big Endian Machines)

Structure Name	BROKER_ELIGIBILITY_PER_MKT		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Normal market	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	4	0
Reserved	BIT	8	1

Field Name	Brief Description
TransactionCode	SIGN_ON_REQUEST_IN (2300)
UserId	This field should contain User ID of the user/broker. This field accepts numbers only.
Password	This field should contain the password entered by the user. The password should be a minimum of six characters and maximum of eight characters in length. A combination of alphabets and numbers is allowed in the password. The user should enter the password for a successful Logon. When the user logs on for the first time the default password provided by NSE must be entered and the password should be changed by entering a new password.
NewPassword	This field should contain the new password entered by the user. This field should be entered only when the user wishes to change the password or the password has expired. Otherwise this field should be blank. The New Password should be entered along with the old password in the Password field. While logging on the system for the first time, the default password provided by NSE must be changed.
TraderName	This field when received from the host contains the user's name. This field should be sent to host as blanks.
LastPassword ChangeDateTime	This field should be set to numerical zero while log on.
BrokerId	This field should contain the trading member ID.
BranchId	This field should contain the Branch ID to which the broker belongs.

Field Name	Brief Description
	This field is increased from 2 digit to 3 digit
VersionNumber	This field should contain the version number of the trading system. The format is VERSION.RELEASE.SUB_RELEASE. (For example, 3.05.00). As and when these structures are changed, the version number will be changed.
Batch2StartTime	This field should be set to numerical zero.
HostSwitchContext	This field should be set to blank.
Colour	This field should be set to blank.
UserType	This field indicates the type of user. It can take one of the following values when it is sent from the host: <ul style="list-style-type: none"> • '0' denotes Dealer • '4' denotes Corporate Manager • '5' denotes Branch Manager This field should be set to '0' while sending to the host.
SequenceNumber	This field should be set to numerical zero while sending the request to host.
WorkstationNumber	The network ID of the workstation should be provided. This is a seven digit number. The first five digits are fixed by the Exchange and represent the various ports / switch locations. The last two digits denote the user's PC - ID. It must be any number other than '00'.
BrokerStatus	This field should be set to blank.
BrokerEligibilityPer Market	This field should be set to numerical zero.

Logon Response

The response will either be **Confirmation** or **Logon Error**.

Logon Confirmation Response

A successful log-on results in the Logon Confirmation response. The following structure is sent back.

Table 7 SIGNON_REQUEST

Structure Name	SIGNON_REQUEST		
Packet Length	186 bytes		
Transaction Code	SIGN_ON_REQUEST_OUT (2301)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
UserId	LONG	4	40
Password	CHAR	8	44
NewPassword	CHAR	8	52
TraderName	CHAR	26	60
LastPasswordChangeDate	LONG	4	86
BrokerId	CHAR	5	90
Reserved1	CHAR	1	95

Structure Name	SIGNON_REQUEST		
Packet Length	186 bytes		
Transaction Code	SIGN_ON_REQUEST_OUT (2301)		
Field Name	Data Type	Size in Byte	Offset
BranchId	SHORT	2	96
VersionNumber	LONG	4	98
EndTime	LONG	4	102
Reserved2	CHAR	52	106
UserType	SHORT	2	158
SequenceNumber	DOUBLE	8	160
Reserved3	CHAR	14	168
BrokerStatus	CHAR	1	182
Reserved4	CHAR	1	183
BrokerEligibilityPerMarket (Refer Table 7.1 for Small Endian Machines and Table 7.2 for Big Endian Machines)	STRUCT	2	184

Table 7.1 BROKER_ELIGIBILITY_PER_MKT (For Small Endian Machines)

Structure Name	BROKER_ELIGIBILITY_PER_MKT		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	4	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Normal market	BIT	1	0
Reserved	BIT	8	1

Table 7.2 BROKER_ELIGIBILITY_PER_MKT (For Big Endian Machines)

Structure Name	BROKER_ELIGIBILITY_PER_MKT		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Normal market	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	4	0
Reserved	BIT	8	1

Field Name	Brief Description
TransactionCode	The transaction code is SIGN_ON_REQUEST_OUT (2301).
LogTime	The current time at the trading system is sent back as number of seconds since midnight of January 1, 1980. The time at the TWS must be synchronized with this.
UserId	This field contains the ID of the user.
TraderName	This field contains the user's name.
LastPasswordChangeDate	This field contains the last date and time when the password was changed.
BrokerId	This field contains the trading Member ID.
BranchId	This field contains the ID of the branch of the particular user. This field is changed from 2 digit to 3 digit
EndTime	This field contains the time the markets last closed and it is sent as the number of seconds since midnight of January 1, 1980. If this time is different from the time sent in an earlier log-on, all orders, and messages for this user must be deleted from the Local Database.
UserType	This field contains the type of user who is logging on: <ul style="list-style-type: none"> • '0' denotes Dealer • '4' denotes Corporate Manager • '5' denotes Branch Manager
SequenceNumber	This field contains the time when the markets closed the previous bidding day.
BrokerStatus	This field contains the current status of the Broker. It is: <ul style="list-style-type: none"> • 'S' for Suspended • 'A' for Active • 'D' for Deactivated
BrokerEligibilityPerMarket	This structure specifies the markets that are allowed for the trading member. The trading member is eligible to enter orders in the market that is set to '1'.

Logon Error

In case of any error, the following structure is returned.

ERROR RESPONSE (For details refer to [Error Message](#) in Chapter 2)

Field Name	Brief Description
TransactionCode	The transaction code is SIGN_ON_REQUEST_OUT (2301).

Field Name	Brief Description
ErrorCode	This contains the error number. If the version number is not the same as at that of the host, the version number at the host can be extracted from the Error Message. It will be located in 8 bytes from the 95 th byte in the string (ERROR_RESPONSE). The format of it will be VV.RR.SS. The version number at the front end should be set to VVRRSS. Refer to Appendix for the list of error numbers.

System Information Download

The current status of the markets and the values of global variables are downloaded to the user in response to system information request.

System Information Request

This request can be sent only if the user has logged on successfully. The format of the request is as follows:

Table 8 SYSTEM_INFO_REQ

Structure Name	SYSTEM_INFO_REQ		
Packet Length	40 bytes		
Transaction Code	SYSTEM_INFORMATION_IN (1600)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0

Field Name	Brief Description
TransactionCode	The transaction code is SYSTEM_INFORMATION_IN (1600).

System Information Response

The following structure is returned as a response to the system information request:

Table 9 SYSTEM_INFO_DATA

Structure Name	SYSTEM_INFO_DATA		
Packet Length	86 bytes		
Transaction Code	SYSTEM_INFORMATION_OUT (1601)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
MARKET_STATUS (Refer Table 9.3)	STRUCT	8	40
Reserved9	LONG	4	48
Reserved4	SHORT	2	52
Reserved5	SHORT	2	54
Reserved6	SHORT	2	56
Reserved7	SHORT	2	58
Reserved8	SHORT	2	60

Structure Name	SYSTEM_INFO_DATA		
Packet Length	86 bytes		
Transaction Code	SYSTEM_INFORMATION_OUT (1601)		
Field Name	Data Type	Size in Byte	Offset
WarningPercent	SHORT	2	62
VolumeFreezePercent	SHORT	2	64
Reserved9	SHORT	2	66
TerminalIdleTime	SHORT	2	68
BoardLotQuantity	LONG	4	70
TickSize	LONG	4	74
Reserved10	SHORT	2	78
STOCK_ELIGIBLE_INDICATORS (Refer Table 9.1 for Small Endian machines and Table 9.2 for Big Endian machines)	STRUCT	2	80
Reserved11	SHORT	2	82
InqTimer	SHORT	2	84

Table 9.1 STOCK_ELIGIBLE_INDICATORS (For Small Endian Machines)

Structure Name	STOCK_ELIGIBLE_INDICATORS		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	5	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	8	1

Table 9.2 STOCK_ELIGIBLE_INDICATORS (For Big Endian Machines)

Structure Name	STOCK_ELIGIBLE_INDICATORS		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	5	0
Reserved	BIT	8	1

Table 9.3 MARKET_STATUS

Structure Name	MARKET_STATUS		
Packet Length	8 bytes		
Field Name	Data Type	Size in Byte	Offset
Normal	SHORT	2	0
Reserved1	SHORT	2	2
Reserved2	SHORT	2	4
Reserved3	SHORT	2	6

Field Name	Brief Description
TransactionCode	The transaction code is SYSTEM_INFORMATION_OUT (1601).
MarketStatus	<p>This field contains the following values:</p> <ul style="list-style-type: none"> • '0' if it is Preopen • '1' if it is Open • '2' if it is Closed • '3' if it is Suspended <p>Orders can be entered only in the pre-open state of the market. No orders can be entered for a security when the market is closed.</p>
WarningPercent	This field contains the percentage of the issue size. User gets a warning if the volume in the order is greater than or equal to this value.
VolumeFreeze Percent	This field contains the percentage of the issue size. User's order goes to freeze if the volume of the order is greater than or equal to this value.
TerminalIdleTime	This field contains the idle time of the TWS terminal.
BoardLotQuantity	The regular lot order quantity must be a multiple of this quantity.
TickSize	The order price must be a multiple of this tick size.
InqTimer	This field contains the inquiry time of the terminal.

Update Local Database Download

The list of updated securities and categories are downloaded in response to this request. Previous days orders are also downloaded with this request.

Update Local Database Request

This message is sent to request the host end to update the local database at the front end. The structure is as follows:

Table 10 UPDATE_LOCAL_DATABASE

Structure Name	UPDATE_LOCAL_DATABASE		
Packet Length	62 bytes		
Transaction Code	UPDATE_LOCALDB_IN (7300)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
LastUpdateSecurityTime	LONG	4	40
LastUpdateParticipantTime	LONG	4	44
LastUpdateCategoryTime	LONG	4	48
RequestForOpenOrders	CHAR	1	52
Reserved1	CHAR	1	53
MARKET_STATUS (Refer Table 9.3)	STRUCT	8	54

Field	Brief Description
TransactionCode	The transaction code is UPDATE_LOCALDB_IN (7300).
LastUpdate SecurityTime	This field should contain the time when the security information was last updated. This field is set for each security for which information is downloaded. Further download requests can use the latest time to get updated information on the securities. Setting this time to zero results in complete download.
LastUpdate ParticipantTime	This field should contain the time when the participant information was updated. This field is set for each participant for whom information is downloaded. Further download requests can use the latest time to get updated information on the participants. Setting this time to zero results in complete download.
LastUpdateCategoryTime	This field should contain the time when the category information was updated. This field is set for each category for which information is downloaded. Further download requests can use the latest time to get updated information on the participants. Setting this time to zero results in complete download.
RequestForOpenOrders	This field should be set to 'G' if orders of the earlier days are required to be downloaded else it should be set to 'N'
MarketStatus	This should be the market status received in the previous response. The market status fields are accepted as input to verify if the user has the latest system information. If the user has the latest market status information, the update of the information on the securities and the categories from the specified time are downloaded. If the status information specified is not the latest, the user is updated on the market status alone. Upon receiving the updated market information, the user can request for the updated security status, security, category information.

Update Local Database Response

The response will be either the database download or a partial system information download. The latter will occur if the user does not have the latest market status.

Partial System Information Response

This is returned if the market status sent in the previous message is not the same at the host end or the markets are opening. In this case the market status at the host end is sent back in the MARKET STATUS as 'wait till markets are open'. The following structure is returned:

SYSTEM INFORMATION DATA (For details, refer to [System Information Response](#) in Chapter 3)

Field	Brief Description
TransactionCode	The transaction code sent is PARTIAL_SYSTEM_INFORMATION (7321).
MarketStatus	This contains the latest market status.

Update Local Database Download

The download comprises of a header, data and the trailer. Each updated security status, category status, GTC orders and **ofs carryforward orders** will be sent as a separate message.

Update Local Database Header

This is sent only to indicate that a signon download is going to commence. There is no additional data sent. The header is sent in the following format:

Table 11 UPDATE_LDB_HEADER

Structure Name	UPDATE_LDB_HEADER		
Packet Length	42 bytes (increased from 40)		
Transaction Code	UPDATE_LOCALDB_HEADER (7307)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
Reserved	CHAR	2	40

Field	Brief Description
TransactionCode	The transaction code is UPDATE_LOCALDB_HEADER (7307).

Update Local Database Data

The actual data is sent wrapped in another header. The outer header indicates that this message is part of the Update Local Database Data. The inner header indicates the type of data received.

The packet size can be of 80 to 512 bytes and the structure is as follows:

Table 12 MESSAGE HEADER

Structure Name	MESSAGE HEADER		
Packet Length	80 to 512 bytes		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
Data	CHAR	472	40

Field	Brief Description
TransactionCode	The transaction code is UPDATE_LOCALDB_DATA (7304).
InnerTransaction Code	<p>The transaction codes sent are:</p> <ul style="list-style-type: none"> • BCAST_STOCK_MSTR_CHG (7305). It is determined by NSE-Control whether to send this or not. (Refer to <i>Change in Security Master</i> in Chapter 6). • BCAST_STOCK_STATUS_CHG (7320). This transaction code is sent when the status of the stock is different from the expected status at the host end (Refer to <i>Change of Security Status</i> in Chapter 6).

New local database download has been introduced:

IPO Category Slab Info:

This download is for Check on front end to reject the order depending on the slab download given in ipo_cat_hrchy Slab Information Download at the time of the login

This message is sent by host end whenever there is any category change. The structure sent is:

Table 13 LDB_CATGSLAB_INFO

Structure Name	LDB_CATGSLAB_INFO		
Packet Length	98 bytes		
Transaction Code	IPO_CAT_HRCHY_UPDT_RESPONSE (5728)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
cSymbol	CHAR	10	40
cSeries	CHAR	2	50
cMainCatid	CHAR	10	52

Structure Name	LDB_CATGSLAB_INFO		
Packet Length	98 bytes		
Transaction Code	IPO_CAT_HRCHY_UPDT_RESPONSE (5728)		
Field Name	Data Type	Size in Byte	Offset
cSubCatId	CHAR	10	62
ISharesReserved	DOUBLE	8	72
dMinValueSlab	DOUBLE	8	80
dMaxValueSlab	DOUBLE	8	88
cDeleteFlag	CHAR	1	96
filler	CHAR	1	97

Field Name	Brief Description
TransactionCode	The transaction code is IPO_CAT_HRCHY_UPDT_RESPONSE (5728)
Symbol	This field contains the symbol.
Series	This field contains the series.
MainCatId	This field contains the main category id
SubCatId	This field contains the sub-category id
SharesReserved	This field indicates the discount declared for the all the subcategory under each main category. The field contains the discount in paise. This field will be used to calculate the discounted margin amount for a category, if a discount on that category has been declared.
MinValueSlab	Minimum order value for the category
MaxValueSlab	Maximum order value for the category
DeleteFlag	This field indicates whether the Category is deleted: <ul style="list-style-type: none"> • 'Y' means deleted • 'N' means not deleted
Filler	Unused in frontend

Update Local Database Trailer

This structure indicates that the download is complete. This is sent in the following format:

Table 14 UPDATE_LDB_HEADER

Structure Name	UPDATE_LDB_HEADER		
Packet Length	42 bytes		
Transaction Code	UPDATE_LOCALDB_TRAILER. (7308)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
Reserved	CHAR	2	40

Field Name	Brief Description
TransactionCode	The transaction code is UPDATE_LOCALDB_TRAILER (7308).

Message Download

This request is used to download the messages intended for the user from the trading system. When the user makes a request for message download, all the transactions of the user and other important broadcasts are downloaded. The response consists of Header and Trailer to indicate the beginning and end of download and is similar to Update Local Database Download.

Message Download Request

This message is sent for requesting message download. The structure sent to the trading system is as follows:

Table 15 MESSAGE DOWNLOAD

Structure Name	MESSAGE DOWNLOAD		
Packet Length	48 bytes		
Transaction Code	DOWNLOAD_REQUEST (7000)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
SequenceNumber	DOUBLE	8	40

Field	Brief Description
TransactionCode	The transaction code is DOWNLOAD_REQUEST (7000).
SequenceNumber	This contains the time when last message was received by the workstation. This can be obtained from the Time Stamp1 of the MESSAGE_HEADER. To retrieve the messages from the beginning of the trading day, this field should be set to '0' or the Sequence Number received in the log-on response message.

Message Download Response

The download comprises of a header, data and a trailer. Each user specific and broadcast message will be sent as a separate message.

Message Download Header

This is only to indicate that a message download is going to commence. There is no additional data sent. The header is sent in the following format:

MESSAGE_HEADER (For details, refer to [Table 1](#))

Field	Brief Description
TransactionCode	The transaction code is HEADER_RECORD (7011).

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Message Download Data

The messages are similar to Update Local Database Data. The actual data is sent wrapped in another structure. The outer header indicates that this message is part of the Message Download Data. The inner header indicates the type of data received. The packet size can be of 80 to 512 bytes and the structure is as follows:

Table 16 MESSAGE HEADER

Structure Name	MESSAGE_HEADER		
Packet Length	80 to 512 bytes		
Transaction Code	MESSAGE_RECORD (7021)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER InnerHeader (Refer Table 1)	STRUCT	40	0
Data	CHAR	472	40

Field	Brief Description
TransactionCode	The transaction code is MESSAGE_RECORD (7021).
InnerData	<p>This contains the following messages:</p> <p>Trader Specific Messages</p> <ul style="list-style-type: none"> Logon / Logoff response - Refer to Logon Process, Chapter 4 Order Entry, Modification and Cancellation responses - Refer to Order Management, Chapter 5. <p>Broadcast Messages</p> <ul style="list-style-type: none"> Market Open, Market Close, Preopen Shutdown Message, Broadcast Message String, Broadcast message sent from NSE-Control. Refer to Broadcast Messages in Chapter 7.

Message Download Trailer

This indicates that message download is complete. The structure is as follows:

MESSAGE_HEADER (For details, refer to [Table 1](#))

Field	Brief Description
TransactionCode	The transaction code is TRAILER_RECORD (7031).

Logoff Request

The process by which a user quits or signs off from the trading system is called Logoff Process..

The structure sent is:

MESSAGE_HEADER (For details, refer to [Table 1](#))

Field Name	Brief Description
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TransactionCode	The transaction code is SIGN_OFF_REQUEST_IN (2320).
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Logoff Confirmation Response

When the user logs on again, the user receives a packet giving the details of when he logged off. The structure sent is:

MESSAGE HEADER (For details, refer to [Table 1](#))

Field Name	Brief Description
TransactionCode	The transaction code is SIGN_OFF_REQUEST_OUT (2321).
LogTime	The current time at the trading system is sent back as number of seconds since midnight of January 1, 1980. The time at the workstation must be synchronized with this.

Chapter 5 Order Management

Introduction

This section describes about entering new orders, modifying existing orders, and canceling existing orders. The user can begin entering the orders once he has logged on to the trading system and the normal market is in the preopen state.

Order Entry

Order entry functionality allows the user to place orders in the market. The system accepts the orders from the users and the confirmation is sent to the corresponding users. The orders are placed in the order book with the price and time stamp.

Order Type

Regular Lot

The only order type used in the IPO system is Regular Lot (RL).

Rules of Order Entry

Order entry is not allowed in the following conditions:

- Market is closed.
- Security is suspended.
- Security is not eligible in that market.
- Security does not exist in the system.
- Broker is suspended.
- Broker does not exist in trading system.
- Broker is deactivated.
- User's order value limit has exceeded.
- User is disabled.
- User does not exist in trading system.
- Order price is beyond minimum maximum range.
- Quantity is more than issued capital.
- Quantity is not equal to multiples of regular lot.
- Limit Price is not a multiple of Tick size.
- Category specified in the order doesn't exist in the Category Master
- Category is suspended.
- Number of orders on the same application number for a particular issue is greater than three.(Not Applicable for OFS)

Order Entry Request

The format of the order entry request is as follows:

Table 17 ORDER_ENTRY_REQUEST

Structure Name	ORDER_ENTRY_REQUEST		
Packet Length	224 bytes		
Transaction Code	BOARD_LOT_IN (2000)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
ModCxlBy	CHAR	1	40
Reserved	CHAR	1	41
ReasonCode	SHORT	2	42
StartAlpha	CHAR	2	44
EndAlpha	CHAR	2	46
SECURITY_INFORMATION (Refer Table 3)	STRUCT	12	48
OrderNumber	DOUBLE	8	60
ApplNumber	CHAR	10	68
Pan	CHAR	10	78
Benfld	CHAR	16	88
BookType	SHORT	2	104
BuySell	SHORT	2	106
Volume	DOUBLE	8	108
Price	LONG	4	116
Margin	DOUBLE	8	120
EntryDateTime	LONG	4	128
LastModified	LONG	4	132
ORDER_FLAGS	STRUCT	2	136
PartCategoryId	CHAR	10	138
DepPartId	CHAR	8	148
Depository	CHAR	10	156
RtgsCode	CHAR	25	166
NnfAppCount	CHAR	1	191
Filler	CHAR	11	192
BrokerId	CHAR	5	203
NnfField	DOUBLE	8	208
BranchId	SHORT	2	216
TraderId(changed from SHORT to LONG)	LONG	4	218
ProClient	SHORT	2	222

Table 17.1 ORDER_FLAGS (For Small Endian Machines)

Structure Name	ORDER_FLAGS		
Packet Length	2 bytes		
Field Name	Data Type	Size in Bit	Offset
uiFrozen	USHORT	1	0
uiModified	USHORT	1	0
uiMatchedInd	USHORT	1	0
uiGTC	USHORT	1	0
Reserved1	USHORT	1	0
uiCarryforward	USHORT	1	0
uiMkt	USHORT	1	0
uiATO	USHORT	1	0
uiFiller1	USHORT	4	1
uiTMCP	USHORT	1	1
uiSuspended	USHORT	1	1
uiFiller2	USHORT	2	1

Table 17.2 ORDER_FLAGS (For Big Endian Machines)

Structure Name	ORDER_FLAGS		
Packet Length	2 bytes		
Field Name	Data Type	Size in Bit	Offset
uiATO	USHORT	1	0
uiMkt	USHORT	1	0
uiCarryforward	USHORT	1	0
Reserved1	USHORT	1	0
uiGTC	USHORT	1	0
uiMatchedInd	USHORT	1	0
uiModified	USHORT	1	0
uiFrozen	USHORT	1	0
uiFiller1	USHORT	4	1
uiTMCP	USHORT	1	1
uiSuspended	USHORT	1	1
uiFiller2	USHORT	2	1

Field Name	Brief Description
TransactionCode	The transaction code should be BOARD_LOT_IN (2000).
Modified / CancelledBy(Mod CxlBy)	This field should denote who has modified or cancelled a particular order.

Field Name	Brief Description
	<p>During modification/cancellation, it should have one of the following values:</p> <ul style="list-style-type: none"> • 'T' for User • 'B' for Branch Manager • 'M' for Corporate Manager <p>During order entry, this field should be blank. Used only during order modification or cancellation.</p>
ReasonCode	<p>This field contains the reason code for a particular order request rejection. This, along with the error code, has the details regarding the error.</p> <p>During order entry, this field should be zero.</p> <p>Refer to <i>List of Reason Codes</i> in Appendix.</p>
StartAlpha	During order entry, this field should be blank.
EndAlpha	During order entry, this field should be blank.
Security Information	<p>This structure contains the following fields:</p> <ul style="list-style-type: none"> • Symbol • Series. <p>The Symbol field should contain the name of the security. The series field should have one of the following values:</p> <ul style="list-style-type: none"> • EQ – Equity shares • RV – Reverse book building shares • IS – Offer For Sale (OFS) • RS – Offer For Sale(OFS)
OrderNumber	<p>Order Number is a unique identification for an Order.</p> <p>During order entry this field should be zero. The order number is assigned to the order in the order requested response packet.</p>
ApplNumber	<p>This field should contain the application number of the order.</p> <p>The application number field is unique to a broker, that is, two brokers cannot place orders on the same application number.</p>
PAN	<p>This field should contain the PAN of the client. The PAN shall be of compulsory 10 lengths with first five places as alphabets, next four places as numbers and last place as alphabet. However, if it is not in the above format, an additional check shall be performed to ensure that the value is among the list of valid values allowed for the depository</p>
Benfid	<p>This field should contain the beneficiary ID of the user.</p> <p>If Depository Name is "NSDL", it shall be of compulsory 8 length (Not Applicable for OFS)</p> <p>If Depository Name is "CDSL", it shall be of compulsory 16 length.(Not Applicable for OFS)</p>

Field Name	Brief Description
	<p>For OFS security, this field would be used for CP Code. If PRO Order the field should be populated with trading member id.</p> <p>For CLI order by trading member it should be populated with its own Trading Member Code Value 'NSEIL', 'NSE' is not allowed in CP code. FOR OFS this should be of 12 lengths and remaining 4 spaces.</p> <p>The CP Code cannot be left blank, cannot be NSEIL,NSE and length should be less or equal to 12 alphachar.</p> <p>For RS securities, CP orders are not allowed so this field should always contain its own Trading Member id.</p>
BookType	<p>In IPO, only RL book type exists.</p> <p>Hence, this field should be made 1 for the order entry request.</p>
Buy / Sell Indicator	<p>This field should specify whether the order is a buy order or a sell order. It should take one of the following values:</p> <ul style="list-style-type: none"> • '1' for Buy order • '2' for Sell order <p>FOR OFS this will be a BUY Order.</p>
Volume	<p>This field should contain the order quantity.</p> <p>The quantity must always be in multiples of Regular Lot size and greater than the minimum lot size.</p> <p>Volume greater than the issued capital cannot be entered into the system. The order will go for a freeze if the quantity exceeds the freeze range specified by NSE-Control.</p> <p>For OFS Security a single order volume should not exceed the issue size.</p> <p>Also, for OFS Security with RS series, a single order value (order volume * order price) should not exceed Rs 2 Lakhs.</p>
Price	<p>This field should contain the price at which the order is placed. The price must be a multiple of the Tick Size.</p> <p>The price should be multiplied by 100 before sending the order entry request to the host.</p> <p>To enter a Market order, the price should be set to zero.</p> <p>For OFS, for general category market orders cannot be placed.Orders should be at price points.</p>

Field Name	Brief Description
	For RS security, cut-off orders can be placed for specific securities. The price should be set to zero for the same.
Margin	This field should specify the margin amount. Maximum margin amount that can be entered is 89,99,99,99,99,999. N.A for OFS Security
EntryDateTime	This denotes the time when the order first enters the trading system. This field should be set to zero for the order entry request.
LastModified Time	In the case of order entry, it will be the same as EntryDateTime. If the order has been modified it has the time when the order was last modified. It is the time in seconds from midnight of January 1, 1980. This field should be set to zero for the order entry request.
ORDER_FLAGS	<p>This structure contains the following fields:</p> <ul style="list-style-type: none"> • Frozen • Modified • MatchedIndicator • GTC • Reserved1 • Carryforward • Mkt • ATO • Filler1 • TMCP • Suspended • Filler2 <p>All the fields except GTC should be set to zero while sending the order entry request for IPO.</p> <p>For OFS Security, GTC bit should be set to 0 and Reserved1 should be set to 1. The Reserved1 field should be set to 1 to indicate this is an OFS ORDER.</p> <p>For PRO/CLI order TMCP flag will be always set to 0 to indicate blocking collateral of TM.</p> <p>For Institutional Order with 0% Margin (CP Orders)</p> <ul style="list-style-type: none"> • TM CP Flag field would be set to 1. <p>For Institutional Orders with 100% margin (CP Orders)</p> <ul style="list-style-type: none"> • TM CP Flag field would be set to 0. <p>For RS series, only 100% margin is allowed so TMCP flag should be always set to 0.</p>

Field Name	Brief Description
	For IS series order modification of carry forwarded order, uiCarryforward bit has to be set to 1.
PartCategoryId	This field should contain the Category for which the user is placing the order. No Category Reservation. Hence not applicable for OFS
DepPartId	This field should contain the Depository Participant ID If depository name is NSDL, Depository ID is mandatory and length should be 8 If the depository name is CDSL, Depository ID is not applicable. Not Applicable. To be left blank.
Depository	This field should contain the name of the Depository. Depository name shall be either CDSL or NSDL. Not Applicable For OFS Security . Can be reused for echoback for OFS only.
RTGS No	This field contains the RTGS No or the Cheque No .It is mandatory For OFS this will contain the Account Number. In case of a PRO order the RTGS field would be auto populated with the Trading Member ID. In case of CLI Order this should contain client code other than the trading member code. Value 'NSEIL' , 'NSE' is not allowed. For EQ i.e buy orders this field should contain 16 character RTGS number and remaining 9 spaces. For RV i.e sell orders this field should contain 25 character client names. For IS/RS this field would be reused for Account Number with a field length of 10 and remaining 15 spaces. The Account number field cannot be left blank, cannot be NSEIL, cannot be NSE
NnfAppCount	Reserved for NNF.
BrokerId	This field should contain the trading member ID.
NnfField	This field should contain a 15 digit unique identifier which should be arranged in the following manner. <ul style="list-style-type: none"> • First six digits should contain pin code of the user • Next three digits should contain the branch number • Next three digits should contain the terminal number • The 13th digit should contain 0 for automated trading and 1 for non- automated trading

Field Name	Brief Description
	<ul style="list-style-type: none"> The 14th digit should contain vendor code. This should be 0 for the members developing inhouse software <p>The 15th digit should be 0 for use of Exchange. The first 12 digit should be populated to '111111111111' for internet trading.</p>
BranchId	<p>This field should contain the branch number to which the broker belongs.</p> <p>This field is changed from 2 digit to 3 digit</p>
TraderId	This field should contain the User ID of the user.
ProClient	<p>This field should be set to '1' during order entry. This is currently as applicable for IPO.</p> <p>In case of OFS, for PRO Order field should be set to 2 and for Client Order field should be set to 1.</p> <p>If Pro Order i.e. field set to 2, the Account number field should be of 10 length and must contain member code.</p> <p>If CLI Order i.e field set to 1, the Account Number field should be of 10 lengths and should contain client code other than member code.</p>

Order Terms

Order Term	If to the term contains	Attribute Represented (in the packet received)	Should Be set to (while entering order)
Market	1	Market order	0
ATO	1	Market order in Preopen in IPO and Cut off order in OFS	0
Frozen	1	The order has gone for a freeze	0
Modified	1	The order has been modified	0
Reserved1	1	The order is an OFS Order.	1 for OFS, else 0 for Normal IPO. If Reserved1 field is set to 1 then GTC bit to be set as 0.

Order Entry Response

The primary response to order entry is Order Requested message. The secondary response can be Order confirmation, Order freeze, Order error or one of the general error responses. Order freeze response is generated when the order placed by the user has resulted in a quantity freeze and is waiting for the approval of the exchange. The order

error response is given when the entered order is rejected by the host. The reason for the rejection is given in the error code and/or reason code.

Order Requested Response

This response is sent back when an order is requested. This does not imply that the order has been confirmed. However, it implies that the order has reached the trading system. The message sent will be of the following format:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is BOARD_LOT_OUT (2001).
OrderNumber	This field contains the order number assigned to the order.
EntryDateTime	This field contains the date and time when the order entered the system.

Order Confirmation Response

Successful order entry results in Order Confirmation response. The confirmed order is returned to the user. When the entered order goes for a freeze and that freeze is approved, this same transaction code is sent to the user. This is an unsolicited message as well. The message sent is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_CONFIRMATION (2073).
EntryDateTime	This field contains the date and time when the order entered the system.
OrderNumber	Order Number is a unique identification for an Order. This field contains the same number as the number returned in the requested response.
Price	<p>If a market order is entered, the host will set the 'ATO' bit in ORDER TERMS.</p> <p>If it is a priced order the order, it will get confirmed at that price.</p> <p>In OFS, for RS series, if cut-off order is entered, the host will set the 'ATO' bit in ORDER TERMS. Price field will have value 2147483647.</p>
OrderTerms	The flags are set as discussed in Order Entry Request in Chapter 5.

Note:

The reason code in the structure can be used to differentiate orders that get freeze approval from orders that get normal confirmation.

- Reason code '17' or '18' denotes freeze approved/rejected.
- Reason code '0' denotes normal confirmation.

Order Freeze Response

Order freeze response is generated when the order is placed by the user or is modified by him and is awaiting approval from the exchange. Exchange approval of the order results in a Freeze Approval response and rejection results in a Freeze Reject response. These responses are sent as unsolicited messages.

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is FREEZE_TO_CONTROL (2170).
OrderTerms	For details on ORDER_ENTRY_REQUEST, refer to <i>Order Entry Request</i> in Chapter 5

Order Error Response

The Order Error response is sent when the order entered is rejected by the trading system. The reason for the rejection is given by reason code and the reason string. The message sent is:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_ERROR_OUT (2231).
ErrorCode	This field contains the error number.

Order Modification

Order modification functionality enables the user to modify the orders entered by him.

Rules of Order Modification

The following modifications are not allowed:

- Modifying Symbol and Series.
- BM modifying CM's orders.
- Dealer modifying BM's orders.
- Dealer modifying CM's orders.
- Modifying non existing order.
- Modifying an order in such a way that it results in the branch order value to be exceeded.
- Modifying an order in such a way that it results in the user limit to be exceeded.
- Modifying deactivated broker's orders.

The following modifications are allowed.

- Modifying category field.

Order Modification Request

The user can modify the quantity, price and other attributes of an order by specifying the order number of the order to be modified.

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code should be ORDER_MOD_IN (2040).
Modified / CancelledBy(ModCxlBy)	<p>This field should denote who has modified or cancelled a particular order.</p> <p>During modification/cancellation, it should have one of the following values:</p> <ul style="list-style-type: none"> • 'T' for User • 'B' for Branch Manager • 'M' for Corporate Manager
OrderNumber	<p>Order Number is the identity of the order to be modified.</p> <p>This field should have the order number of the order to be modified.</p>
EntryDateTime	Entry Date Time is the date and time when the order entered the trading system. This is available in Order Confirmation/ Order Modification Confirmation response.

Order Modification Response

This response is sent back when an order modification is requested. This does not imply that the order modification has been confirmed. The response can be order modification confirmation, order freeze, order modification error or one of the general error responses. The order modification error response is given when the modified order is rejected by the trading system. The reason for the rejection is given in reason code and/or the error code. The message sent will be of the following format:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_MOD_OUT (2041).

Order Modification Confirmation Response

Successful modification of the order results in Order Modification Confirmation response. When the order modification is confirmed, the modified order time is filled and sent back. On modification, the order can result in a freeze. If the freeze is approved, order modification confirmation will be received as an "Unsolicited Message". The structure sent is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_MOD_CONFIRM_OUT (2074).

LastModifiedTime	It is the time when the order was last modified (in seconds from midnight of January 1, 1980).
------------------	--

Order Modification Error Response

The reason for rejection will be given by the Error Code in the header. The message sent is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_MOD_REJ_OUT (2042).

Note: Trading Member shall have the option to modify / cancel the orders placed for OFS during order collection period. Order modification shall be applicable only on quantity, price, client code (RTGS No field of order packet.) and CP code (benf_id field of order packet)

Order Modification is possible only if the order is being modified from PRO to PRO, CLI to CLI or CP to CP.

For Institutional orders with 0% margin (Type B):

- Modification is allowed at any time before and after custodian confirmation till the security mod/cxl cut off time.
- Modification of an approved order would again be considered unapproved and approval for the same will be sought.
- The quantity and price can be modified upwards only.
- Downward revision of quantity and price is not allowed.
- At EOD all the unapproved orders would be retained.

For Institutional orders with 100% margin (Type A):

- Modification is allowed at any time before and after custodian confirmation till the security mod/cxl cut off time.
- Modification of an approved order would again be considered unapproved and approval for the same will be sought.
- Quantity and price can be modified upwards and downwards.
- At EOD all the unapproved orders will be cancelled.

Any other field apart from the one mentioned above will result in order modification rejection.

Order Cancellation

The user can cancel order entered by him by specifying the Order number.

For Institutional orders with 0 % margin (Type B) orders cannot be cancelled at any time.

For Institutional orders with 100 % margin (Type A) orders can be cancelled at any time till mod/cxl cut off time.

Rules of Order Cancellation

- CM can cancel BM's and User's order, but BM and User cannot cancel CM's order.
- BM can cancel User's order, but User cannot cancel BM's order.
- Deactivated broker cannot cancel his order while his status is deactivated.

Order Cancellation Request

The format of the message is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_CANCEL_IN (2070).
OrderNumber	This field should contain the identity of the order to be cancelled.

Order Cancellation Response

The response can be one of order cancellation confirmation, order cancellation error or one of the general error responses.

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_CANCEL_OUT (2071).

Order Cancellation Confirmation Response

Successful cancellation of order results in Order Cancellation Confirmation Response. The message sent is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_CANCEL_CONFIRM_OUT (2075).

Order Cancellation Error Response

The order cancellation error is sent when the cancellation request is rejected by the trading system. The reason for rejection will be given by the Error Code in the header. The message sent is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_CXL_REJ_OUT (2072).

Chapter 6 Unsolicited Messages

Introduction

This section discusses the messages that are received on the interactive connection. These messages are received by users not in response to any request.

Freeze Approve Response

This message is sent when an earlier order, which had resulted in freeze, is approved by the Exchange. The format of the message is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_CONFIRMATION (2073).
LastModifiedTime	This field contains the time when the order was last modified.

Freeze Reject Response

This message is sent when an earlier order, which resulted in freeze, is rejected by the Exchange. The format of the message is as follows:

For details on ORDER_ENTRY_REQUEST, refer to [Order Entry Request](#) in Chapter 5)

Field Name	Brief Description
TransactionCode	The transaction code is ORDER_ERROR (2231).

Custodian Approve/Reject Response

The message is sent when custodian approves or rejects Type A or Type B order.

Table 18 TRADER_INTERACTIVE_MESSAGE_CP

Structure Name	TRADER_INTERACTIVE_MESSAGE_CP		
Packet Length	299 bytes		
Transaction Code	RMS_APPROVE_REJECT(2079)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
TraderId(changed from SHORT to LONG)	LONG	4	40
cActionCode	CHAR	3	44
cFiller	CHAR	1	47
BroadCastMessage Length	SHORT	2	48
BroadCastMessage	CHAR	239	50
cFiller1	CHAR	1	289
OrderNumber	DOUBLE	8	290
ST_APPR_REJ_BIT	STRUCT	1	298

Table 18.1 ST_APPR_REJ_BIT (For Small Endian Machines)

Structure Name	ST_APPR_REJ_BIT		
Packet Length	1 byte		
Field Name	Data Type	Size	Offset
uiFiller	BIT	7	0
uiIs_unapproved	BIT	1	0

Table 18.2 ST_APPR_REJ_BIT (For Big Endian Machines)

Structure Name	ST_APPR_REJ_BIT		
Packet Length	1 byte		
Field Name	Data Type	Size	Offset
uiIs_unapproved	BIT	1	0
uiFiller	BIT	7	0

Field Name	Brief Description
TraderId	This is the trader id of the user.
cActionCode	This will be used to filter messages in message area of TWS front end screen. For example, 'SYS' - system
BroadCastMessage Length	This is the length of the bcast message to be sent to front end.
BroadCastMessage	It contains the confirmation or rejection message.
OrderNumber	The order_number of the order. The order number is assigned to the order in the order requested response packet.
uils_unapproved	This bit will tell the custodial status of CP orders. For approved Order from custodian this bit will be 0. For rejected order, this will be 1.

Interactive/Broadcast Messages Sent From Control

A message can be sent to the user(s) from the NSE-Control Workstation. If it is sent to all the users, it comes as a broadcast in the structure BROADCAST_MESSAGE. (Refer to *Broadcast*, Chapter 6). If the message is sent to a particular user, it comes as an interactive message in the following structure:

Table 19 TRADER_INTERACTIVE_MESSAGE

Structure Name	TRADER_INTERACTIVE_MESSAGE		
Packet Length	289 bytes		
Transaction Code	CTL_MSG_TO_TRADER (5295) BCAST_JRNL_VCT_MSG (6501)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
TraderId(changed from SHORT to LONG)	LONG	4	40
cActionCode	CHAR	3	44
cFiller	CHAR	1	47
BroadCastMessage Length	SHORT	2	48
BroadCastMessage	CHAR	239	50

Field Name	Brief Description
TransactionCode	The transaction code is: CTL_MSG_TO_TRADER (5295) for interactive messages and BCAST_JRNL_VCT_MSG (6501) for broadcasting messages.

Chapter 7 Broadcast

Introduction

This section describes the various Broadcast messages with their structures.

General Message Broadcast

Any general message is broadcast in the following structure. The structure being sent by host end is:

Table 20 GENERAL_BROADCAST_MESSAGE

Structure Name	GENERAL_BROADCAST_MESSAGE		
Packet Length	297 bytes		
Transaction Code	BCAST_JRNL_VCT_MSG (6501)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
BranchNumber	SHORT	2	40
BrokerNumber	CHAR	5	42
ActionCode	CHAR	3	47
Filler1	CHAR	4	50
BROADCAST DESTINATION (Refer Table No. 20.1 for small endian & Table No. 20.2 for big endian)	STRUCT	2	54
BroadcastMessageLength	SHORT	2	56
BroadcastMessage	CHAR	239	58

Note: Use any one of following two BROADCAST DESTINATION structures:

Table 20.1 BROADCAST_DESTINATION (For Small Endian Machines)

Structure Name	BROADCAST_DESTINATION		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	4	0
JournalingRequired	BIT	1	0
Tandem	BIT	1	0
ControlWorkstation	BIT	1	0
TraderWorkstation	BIT	1	0
Reserved	BIT	8	1

Table 20.2 BROADCAST_DESTINATION (For Big Endian Machines)

Structure Name	BROADCAST_DESTINATION		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
TraderWorkstation	BIT	1	0
ControlWorkstation	BIT	1	0
Tandem	BIT	1	0
JournalingRequired	BIT	1	0
Reserved	BIT	4	0
Reserved	BIT	8	1

Field Name	Brief Description
TransactionCode	The transaction code is: BCAST_JRNL_VCT_MSG (6501).
BranchNumber	This field should contain the branch number of the user to which he belongs.
BrokerNumber	This field should contain the Trading Member ID of the broker.
ActionCode	This field indicates action taken. For example, 'SYS' - system
Broadcast Destination	This field contains the destination of the message, that is, the NNF TWS.
Broadcast MessageLength	This field contains the length of the broadcast message.
BroadcastMessage	This field contains the broadcast message.

Change in System Status / Parameters

This message is sent by the host end when any global operating parameters are changed or status of market is changed. The structure sent is:

SYSTEM INFORMATION DATA (For details refer to *System Information Response* in [Table 9](#))

Field Name	Brief Description
TransactionCode	The transaction code is BCAST_SYSTEM_INFORMATION_OUT (7206).

Change in Security Master

This is sent by the host whenever the parameter of any security is changed or any new security is added. The structure is as follows:

Table 21 SECURITY_UPDATE_INFORMATION

Structure Name	SECURITY_UPDATE_INFORMATION		
Packet Length	212 bytes		
Transaction Code	BCAST_STOCK_MSTR_CHG (7305)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
Token	SHORT	2	40
SECURITY_INFORMATION(Refer Table 3)	STRUCT	12	42
InstrumentType	SHORT	2	54
Reserved1	SHORT	2	56
IssuedCapital	DOUBLE	8	58
WarningPercent	SHORT	2	66
FreezePercent	SHORT	2	68
CreditRating	CHAR	12	70
SEC_ELIGIBILITY_PER_MARKET [4]	STRUCT	12	82
IssueRate	SHORT	2	94
IssueStartDate	LONG	4	96
Reserved2	LONG	4	100
Reserved3	LONG	4	104
BoardLotQuantity	LONG	4	108
TickSize	LONG	4	112
Name	CHAR	25	116
Reserved	CHAR	1	141
Reserved4	LONG	4	142
Reserved5	LONG	4	146
Reserved6	LONG	4	150
Reserved7	LONG	4	154
Reserved8	LONG	4	158
Reserved9	LONG	4	162
Reserved10	LONG	4	166
ELIGIBILITY_INDICATORS	STRUCT	2	170
Reserved12	LONG	4	172
Reserved13	LONG	4	176
PURPOSE	STRUCT	2	180
LocalUpdateDateTime	LONG	4	182
DeleteFlag	CHAR	1	186
Remark	CHAR	25	187

Table 21.1 SEC_ELIGIBILITY_PER_MARKET (For Small Endian Machines)

Structure Name	SEC_ELIGIBILITY_PER_MARKET		
Packet Length	3 byte		
Field Name	Data Type	Size	Offset
Reserved	BIT	7	0
Eligibility	BIT	1	0
Status	SHORT	2	1

Table 21.2 SEC_ELIGIBILITY_PER_MARKET (For Big Endian Machines)

Structure Name	SEC_ELIGIBILITY_PER_MARKET		
Packet Length	3 byte		
Field Name	Data Type	Size	Offset
Eligibility	BIT	1	0
Reserved	BIT	7	0
Status	SHORT	2	1

Table 21.3 ELIGIBILITY_INDICATORS

Structure Name	ELIGIBILITY_INDICATORS		
Packet Length	2 byte		
Field Name	Data Type	Size	Offset
Reserved11	BIT	1	0
Reserved23	BIT	1	0
Reserved22	BIT	1	0
Reserved	BIT	5	0
Reserved	BIT	8	1

Table 21.4 PURPOSE

Structure Name	PURPOSE		
Packet Length	2 byte		
Field Name	Data Type	Size	Offset
Reserved20	BIT	1	0
Reserved19	BIT	1	0
Reserved18	BIT	1	0
Reserved17	BIT	1	0
Reserved16	BIT	1	0
Reserved15	BIT	1	0
Reserved24	BIT	2	0
Reserved21	BIT	8	1

Field Name	Brief Description
TransactionCode	The transaction code is BCAST_STOCK_MSTR_CHG (7305).
Token	Token number of the security being updated. This is unique for a particular symbol-series combination.
Security Information	<p>This structure contains the following fields:</p> <ul style="list-style-type: none"> • Symbol • Series <p>The Symbol field should contain the name of the security. The Series field should have one of the following values:</p> <ul style="list-style-type: none"> • EQ – Equity shares • RV – Reverse book building shares • IS – Offer For Sale • RS – Offer For Sale
InstrumentType	Instrument type of the security will be set to '0' (Equities)
IssuedCapital	This field contains the issue size of the security.
WarningQuantity	This field contains the Warning Quantity percentage.
FreezeQuantity	This field contains the Freeze Quantity percentage.
CreditRating	This field contains the Credit rating of the security.
Eligibility	The flag is set to 1 if the security is allowed to trade in a particular market i.e. it will be set to 1 for normal market.
Status	<ul style="list-style-type: none"> • '1' – Pre-open • '2' – Open • '3' – Suspended
IssueRate	This field contains the Minimum quantity for an order in the issue.
IssueStartDate	This field contains the Date of issue of the security.
BoardLotQuantity	This field contains the Regular lot size.
TickSize	This field contains the Tick size/ Min spread size.
Name	This field contains the security name.
LocalUpdateDateTime	This field contains the update date-time of the local database.
DeleteFlag	<p>This indicates whether the security is deleted or not.</p> <ul style="list-style-type: none"> • 'N' – Active • 'Y' – Deleted
Remark	Remarks.

Change in Category Status

This message is sent by host end whenever there is any category change. The structure sent is:

Table 22 CATEGORY_UPDATE_INFORMATION

Structure Name	CATEGORY_UPDATE_INFORMATION		
Packet Length	81 bytes		
Transaction Code	BCAST_CATEG_MSTR_CHG (7309)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
CategoryId	CHAR	10	40
CategoryName	CHAR	25	50
CategoryStatus	CHAR	1	75
CategoryUpdateDateTime	LONG	4	76
DeleteFlag	CHAR	1	80

Field Name	Brief Description
TransactionCode	The transaction code is BCAST_CATEG_MSTR_CHG (7309).
CategoryId	This field contains the category ID.
CategoryName	This field contains the name of the category which is changed.
CategoryStatus	This field contains the status of the category which has changed: <ul style="list-style-type: none"> • 'S' – Suspended • 'A' – Active
CategoryUpdateDateTime	This field contains the time when the category information was changed. It is number of seconds from January 1, 1980
DeleteFlag	This field indicates whether the Category is deleted: <ul style="list-style-type: none"> • 'Y' means deleted • 'N' means not deleted

Change in Security Status

This message is sent by host end whenever the status of any security changes. The structure sent is:

Table 23 SECURITY_STATUS_UPDATE_INFORMATION

Structure Name	SECURITY_STATUS_UPDATE_INFORMATION		
Packet Length	472 bytes		
Transaction Code	BCAST_STOCK_STATUS_CHG (7320) BCAST_STOCK_STATUS_CHG_PREOPEN (7210)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
NumberOfRecords	SHORT	2	40
TOKEN_AND_ELIGIBILITY [43]	STRUCT	430	42

Table 23.1 TOKEN_AND_ELIGIBILITY

Structure Name	TOKEN_AND_ELIGIBILITY		
Packet Length	10 byte		
Field Name	Data Type	Size	Offset
Token	SHORT	2	0
SEC_STATUS_PER_MARKET [4]	STRUCT	8	2

Table 23.2 TOKEN_AND_ELIGIBILITY

Structure Name	TOKEN_AND_ELIGIBILITY		
Packet Length	2 byte		
Field Name	Data Type	Size	Offset
Status	SHORT	2	0

Field Name	Brief Description
TransactionCode	The transaction codes are: BCAST_STOCK_STATUS_CHG (7320). BCAST_STOCK_STATUS_CHG_PREOPEN (7210).
NumberOfRecords	This field contains the number of tokens and their eligibility. The structure TOKEN AND ELIGIBILITY is repeated these many times.
Token	This field contains the token number of the security which is changed.
Status	This field contains the new status of the security. This can take the following values: <ul style="list-style-type: none"> • '1' - Pre-open • '2' - Open • '3' - Suspended

Change of Market Status

Whenever the status of the market changes, the following structure is changed and sent by host:

Table 24 BROADCAST_VCT_MSGS

Structure Name	BROADCAST_VCT_MSGS		
Packet Length	297 bytes		
Transaction Code	BC_CLOSE_MSG (6521) / BC_PRE_OR_POST_DAY_MSG (6531) / BC_PRE_OPEN_ENDED (6571)		
Field Name	Data Type	Size in Byte	Offset
BROADCAST_HEADER	STRUCT	40	0
SECURITY_INFORMATION (Refer Table 3)	STRUCT	12	40
Market Type	SHORT	2	52
BROADCAST_DESTINATION (Refer Table No. 20.1 for small endian & Table No. 20.2 for big endian)	STRUCT	2	54
BroadcastMessageLength	SHORT	2	56
BroadcastMessage	CHAR	239	58

Field Name	Brief Description
TransactionCode	The transaction codes are: <ul style="list-style-type: none"> BC_CLOSE_MSG (6521). This is sent when the market is closed. BC_PRE_OR_POST_DAY_MSG (6531). This is sent when the market is preopen. BC_PRE_OPEN_ENDED (6571). This is sent when the preopen period ends.
SecurityInformation	This contains the symbol and series of a security.
MarketType	This contains the type of market; for Normal market –‘1’.
BroadcastDestination	This field is set to ‘1’ and signifies the message is for the TWS.
BroadcastMessageLength	This contains the length of the broadcast message.
BroadcastMessage	This contains the contents of the broadcast message.

Market by Price Update

The information regarding the best buy orders and the best sell orders is sent by the host in the following format.

Table 25 BROADCAST_MBO_MBP_INFORMATION

Structure Name	BROADCAST_MBO_MBP_INFORMATION		
Packet Length	491 bytes		
Transaction Code	BCAST_MBO_MBP_UPDATE (7200)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER(Refer Table 1)	STRUCT	40	0
INTERACTIVE_MBO_DATA	STRUCT	213	40
RecordBuffer [sizeof (MBP_INFO) * 10]	CHAR	200	253
TotalBuyFlag	SHORT	2	453
TotalSellFlag	SHORT	2	455
TotalBuyQty	DOUBLE	8	457
TotalSellQty	DOUBLE	8	465
INDICATOR	STRUCT	2	473
Reserved13	LONG	4	475
Reserved14	LONG	4	479
Reserved15	LONG	4	483
Reserved16	LONG	4	487

Table 25.1 INTERACTIVE_MBO_DATA

Structure Name	INTERACTIVE_MBO_DATA		
Packet Length	213 bytes		
Field Name	Data Type	Size in Byte	Offset
Token	SHORT	2	0
BookType	SHORT	2	2
TradingStatus	SHORT	2	4
Reserved1	LONG	4	6
Reserved2	LONG	4	10
Reserved17	CHAR	1	14
Reserved18	LONG	4	15
Reserved3	LONG	4	19
Reserved4	LONG	4	23
Reserved5	LONG	4	27
Reserved6	SHORT	2	31
Reserved7	SHORT	2	33
Reserved8	SHORT	2	35
Reserved9	LONG	4	37
Reserved10	LONG	4	41
Reserved11	LONG	4	45
Reserved12	LONG	4	49

Structure Name	INTERACTIVE_MBO_DATA		
Packet Length	213 bytes		
Field Name	Data Type	Size in Byte	Offset
RecordBuffer [sizeof (MBO_INFO) * 10]	CHAR	160	53

Table 25.2 INDICATOR (Small Endian Machines)

Structure Name	INDICATOR		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	4	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	8	1

Table 25.3 INDICATOR (Big Endian Machines)

Structure Name	INDICATOR		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	4	0
Reserved	BIT	8	1

Table 25.4 MBO_INFO

Structure Name	MBO_INFO		
Packet Length	16 bytes		
Field Name	Data Type	Size in Byte	Offset
TraderId	SHORT	2	0
Qty	LONG	4	2
Price	LONG	4	6
MBO_MBP_TERMS	STRUCT	2	10
MinFillQty	LONG	4	12

Table 25.5 MBO_MBP_TERMS (For Small Endian Machines)

Structure Name	MBO_MBP_TERMS		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	6	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	8	1

Table 25.6 MBO_MBP_TERMS (For Big Endian Machines)

Structure Name	MBO_MBP_TERMS		
Packet Length	2 bytes		
Field Name	Data Type	Size	Offset
Reserved	BIT	6	0
Reserved	BIT	1	0
Reserved	BIT	1	0
Reserved	BIT	8	1

Table 25.7 MBP_INFO

Structure Name	MBP_INFO		
Packet Length	20 bytes		
Field Name	Data Type	Size in Byte	Offset
Quantity	DOUBLE	8	0
Price	LONG	4	8
NoOfOrders	LONG	4	12
BbFlag	SHORT	2	16
Reserved	BYTE	2	18

Field Name	Brief Description
TransactionCode	The transaction code is BCAST_MBO_MBP_UPDATE (7200).
Token	This is a unique number given to a particular symbol-series combination.
BookType	This contains the book type. In IPO, the book type is '1'
TradingStatus	This contains trading status of the security. It can be: <ul style="list-style-type: none"> • Preopen - 1 • Open - 2

Field Name	Brief Description
	<ul style="list-style-type: none"> Suspended - 3
RecordBuffer (MBO INFORMATION)	This field contains the 5 best Buy orders and 5 best Sell orders from the order book. Reserved for future use.
RecordBuffer (MBP INFORMATION)	This field contains the 5 best Buy prices and 5 best Sell prices from the order book.
TotalBuyFlag	This field contains the value zero.
TotalSellFlag	This field contains the value zero.
TotalBuyQuantity	This field contains the total quantity of buy orders for the security.
TotalSellQuantity	This field contains the total quantity of sell orders for the security.

Only Market by Price Update

The information regarding the best buy orders and the best sell orders is given in the following format:

Table 26 BROADCAST_ONLY_MBP

Structure Name	BROADCAST_ONLY_MBP		
Packet Length	333 bytes		
Transaction Code	BCAST_ONLY_MBP (7208)		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
NoOfRecords	SHORT	2	40
INTERACTIVE_ONLY_MBP_DATA [2] (Refer Table 26.1)	STRUCT	422	42

Table 26.1 INTERACTIVE_ONLY_MBP_DATA

Structure Name	INTERACTIVE_ONLY_MBP_DATA		
Packet Length	291 bytes		
Field Name	Data Type	Size in Byte	Offset
Token	SHORT	2	0
BookType	SHORT	2	2
TradingStatus	SHORT	2	4
Reserved1	LONG	4	6
Reserved2	LONG	4	10
Reserved17	CHAR	1	14
Reserved18	LONG	4	15

Structure Name	INTERACTIVE_ONLY_MBP_DATA		
Packet Length	291 bytes		
Field Name	Data Type	Size in Byte	Offset
LastTradeQuantity	LONG	4	19
Reserved4	LONG	4	23
Reserved5	LONG	4	27
Reserved6	SHORT	2	31
Reserved7	SHORT	2	33
Reserved8	SHORT	2	35
Reserved9	LONG	4	37
Reserved10	LONG	4	41
Reserved11	LONG	4	45
Reserved12	LONG	4	49
RecordBuffer [size of (MBP_INFO) * 10] (Refer Table 25.7)	CHAR	200	53
BbTotalBuyFlag	SHORT	2	253
BbTotalSellFlag	SHORT	2	255
TotalBuyQuantity	DOUBLE	8	257
TotalSellQuantity	DOUBLE	8	265
INDICATOR(Refer Table 25.2 for Small Endian & Refer Table 25.3 Big Endian)	STRUCT	2	273
Reserved13	LONG	4	275
Reserved14	LONG	4	279
Reserved15	LONG	4	283
Reserved16	LONG	4	287

Field Name	Brief Description
TransactionCode	The transaction code is BCAST_ONLY_MBP (7208).
NoOfRecords	This number contains the number of securities sent.
Token	This is a unique number given to a particular symbol-series combination.
BookType	This field contains the book type 1 (Regular Lot)
TradingStatus	This contains trading status of the security. It can be: <ul style="list-style-type: none"> • Preopen - 1 • Open - 2 • Suspended - 3
RecordBuffer (MBP INFORMATION)	This field contains 5 best Buy prices and 5 best Sell prices from the order book.
BbTotalbuyFlag	This field contains numeric zero.
BbTotalsell Flag	This field contains numeric zero.
TotalBuyQuantity	This field contains the total quantity of buy orders in a security.

Field Name	Brief Description
TotalSellQuantity	This field contains the total quantity of sell orders in a security.
MBP_INFO	This field contains quantity, price and number of orders for a maximum of five best prices.

Market Watch Update

The market watch information gives the best buy order and its quantity, best sell order and its quantity and the last trade price. The structure sent by host end for the purpose is:

Table 27 BROADCAST_INQ_RESPONSE

Structure Name	BROADCAST_INQ_RESPONSE		
Packet Length	562 bytes		
Transaction Code	BCAST_MW_ROUND_ROBIN (7201)		
Field Name	Data Type	Size in Byte	Offset
BCAST_HEADER (Refer Table 2)	STRUCT	40	0
NoOfRecords	SHORT	2	40
MARKETWATCHBROADCAST [5] (Refer Table 27.1)	STRUCT	520	42

Table 27.1 MARKET_WATCH_BCAST

Structure Name	MARKET_WATCH_BCAST		
Packet Length	104 bytes		
Field Name	Data Type	Size in Byte	Offset
Token	SHORT	2	0
MARKET_WISE_INFO [3] (Refer Table 27.2)	STRUCT	102	2

Table 27.2 MARKET_WISE_INFO

Structure Name	MARKET_WISE_INFO		
Packet Length	34 bytes		
Field Name	Data Type	Size in Byte	Offset
INDICATOR (Refer Table no. 25.2 for small endian & Table no. 25.3 for big endian)	STRUCT	2	0
BuyVolume	DOUBLE	8	2
BuyPrice	LONG	4	10
SellVolume	DOUBLE	8	14
SellPrice	LONG	4	22
Reserved1	LONG	4	26
Reserved2	LONG	4	30

Field Name	Brief Description
TransactionCode	The transaction code sent is BCAST_MW_ROUND_ROBIN (7201).
NumberofRecords	This field contains the number of tokens and their attributes. The structure MARKET_WATCH_BCAST is repeated these many times.
Token	This is a unique number given to a particular symbol-series combination.
BuyVolume	This field contains the quantity of the best Buy order.
BuyPrice	This field contains the price of the best Buy order.
SellVolume	This field contains the quantity of the best Sell order.
SellPrice	This field contains the price of the best Sell order.

Security Open Message

When the market opens, the open price of the security is sent by the host in the following structure:

Table 28 MS_SEC_OPEN_MSGS

Structure Name	SECURITY_OPEN_MSGS		
Transaction Code	SECURITY_OPEN_PRICE (6013)		
Packet Length	58 Bytes		
Field Name	Data Type	Size in Byte	Offset
MESSAGE_HEADER (Refer Table 1)	STRUCT	40	0
SECURITY_INFORMATION (Refer Table 3)	STRUCT	12	40
Token	SHORT	2	52
Reserved1	LONG	4	54

Field Name	Brief Description
TransactionCode	The transaction code is SECURITY_OPEN_PRICE (6013).
Security Information	This contains the symbol and series for a particular security.
Token	This is a unique number given to a particular symbol-series combination.

Appendix

List of Error Codes

Error Code ID	Error Code Value	Description of Error Numbers
ERR_MARKET_NOT_OPEN	16000	The trading system is not available for trading.
ERR_INVALID_USER	16001	Erroneous transaction code received.
ERR_BAD_TRANSACTION_CODE	16003	
ERR_USER_ALREADY_SIGNED_ON	16004	User already signed on.
ERR_INVALID_SIGNON	16006	Invalid signon, Please try again.
ERR_SIGNON_NOT_POSSIBLE	16007	Signing on to the trading system is restricted. Please try later on.
ERR_INVALID_SYMBOL	16012	Invalid symbol/series.
ERR_SECURITY_NOT_AVAILABLE	16035	Security is unavailable for trading at this time. Please try later.
ERR_INVALID_BROKER_OR_BRANCH	16041	Trading Member does not exist in the system.
ERR_USER_NOT_FOUND	16042	User does not exist in the system.
ERR_PASSWORD_HAS_EXPIRED	16053	Your password has expired, must be changed.
ERR_INVALID_BRANCH	16054	Branch does not exist in the system.
ERR_PROGRAM_ERROR	16056	Program error.
ERR_SYSTEM_ERROR	16104	System could not complete your transaction - ADMIN notified.
ERR_CANT_COMPLETE_YOUR_REQUEST	16123	System not able to complete your request. Please try again.
ERR_USER_IS_DISABLED	16134	This user is disabled. Please call the Exchange.
ERR_INVALID_USER_ID	16148	Invalid User Id entered.
ERR_INVALID_TRADER_ID	16154	Invalid trading member id entered.
OE_DELETED_BUT_EXISTS	16260	Has been deleted but exists in the file
ERR_NOT_FOUND	16273	Does not exist.

Error Code ID	Error Code Value	Description of Error Numbers
ERR_MARKETS_CLOSED	16278	The markets have not been opened for trading.
OE_SECURITY_NOT_ADMITTED	16279	The security has not yet been admitted in the system.
ERR_QUANTITY_EXCEEDS_ISSUED_CAPITAL	16282	The order quantity is greater than the issued capital.
ERR_PRICE_NOT_MULT_TICK_SIZE	16283	The order price is not multiple of the tick size.
ERR_PRICE_EXCEEDS_DAY_MIN_MAX	16284	The order price is out of the day's price range.
ERR_BROKER_NOT_ACTIVE	16285	The broker is not active.
ERR_QUANTITY_FREEZE_CANCELLED	16307	The order is canceled due to quantity freeze.
OE_QUANTITY_GREATER_RL	16327	Quantity is greater than Regular lot size.
ERR_QUANTITY_NOT_MULT_BOARD_LOT	16328	Quantity is not a multiple of regular lot.
ERR_BROKER_NOT_PERMITTED_IN_MKT	16329	Trading Member not permitted in the market.
ERR_SECURITY_IS_SUSPENDED	16330	Security is suspended.
ERR_BRANCH_LIMIT_EXCEEDED	16333	Branch Order Value Limit is exceeded.
OE_ORD_CAN_CHANGED	16343	The order to be cancelled has changed.
OE_ORD_CANNOT_CANCEL	16344	The order cannot be cancelled.
OE_ORD_CANNOT_MODIFY	16346	The order cannot be modified.
CHG_ST_EXISTS	16363	New status requested should not be same as existing one.
OE_SECURITY_IN_PREOPEN	16369	The security status is preopen.
ERR_WRONG_LOGIN_ADDRESS	16403	You are trying to sign on from a different location. Sign on is not allowed.
OE_ADMIN_SUSP_CAN	16404	The Order has been cancelled due to admin suspension of security.

Error Code ID	Error Code Value	Description of Error Numbers
ERR_INVALID_BUY_SELL	16413	Requested by can be either BUY or SELL & not both.
ERR_NNF_REQ_EXCEEDED	16417	No. of NNF requests exceeded.
ERR_INVALID_ORDER	16418	Order entered has invalid data.
ERR_INVALID_ALPHA_CHAR	16420	Alpha char must be the same as first two chars of symbol.
ERR_INVALID_BOOK_TYPE	16422	Book type should be 1(RL).
ERR_INVALID_MSG_LENGTH	16424	Message length is invalid.
OE_USER_LIMIT_EXCEEDED	16436	Used limit cannot exceed the user order value limit.
ORD_VAL_EXCEEDS_ORD_LIM_VAL	16442	Order value exceeds the order limit value
ORD_NOT_ALLOWED_IN_PREOPEN	16197	Order Entry or Modification not allowed0020in preopen.
SERIES_NOT_ALLOWED_IN_PREOPEN	16440	Order Entry is not allowed in preopen for the series - xx." (where xx stands for the series)
ERR_INVALID_ORDER_NUMBER	16103	Invalid Order Number
ERR_INVALID_PRICE	16247	Invalid Price
ERR_BRANCH_NOT_FOUND	16262	Branch not found.
ERR_ORDER_NOT_FOUND	16060	Order not found.
ERR_ORDER_NOT_ON_BOOK	16277	Order not on Book.
ERR_ORDER_PRICE_OUT_OF_RANGE	16179	Order price for the security out of the specified range.
OE_ATO_IN_OPEN	16169	Order Priced ATO cannot be entered when stock status is open.
ERR_NO_OF_BIDS_PER_APPLN_EXCEEDED	16501	No. of bids per application number has exceeded. A Maximum of 3 bids per application is allowed.
ERR_INVALID_CATEGORY_FOR_APPLN	16502	Invalid category for the application number.
ERR_INVALID_APPLN_NUM_FOR_TRADER	16503	Invalid application number for the trader.

Error Code ID	Error Code Value	Description of Error Numbers
OE_DISALLOW_MARKET_ORDERS	16504	ATO orders on this security are disallowed.
ERR_INVALID_QTY	16506	Invalid Quantity or exceeds maximum quantity allowed.
ERR_INVALID_FLAG	16507	One of the parameters in the <i>order terms</i> is incorrect.
ERR_INVALID_APPLN_NUMBER	16508	Invalid application number or appln 1 and appln 2 does not match.
ERR_INVALID_RTGS_CODE	16509	For EQ the error code indicates RTGS Code or Cheque Number has invalid data. For RV the error code indicates Client Name has invalid data.
ERR_INVALID_MARGIN	16510	Invalid Margin amount. Margin amount exceeds 89,99,99,99,99,99,999.
ERR_INVALID_CATEGORY	16511	Category not entered.
ERR_INVALID_NNFFIELD	16512	NnfField is invalid.
ERR_INVALID_PAN	16519	PAN has invalid data.
ERR_DEP_NSDL_CDSL	16520	Depository name should be either CDSL or NSDL.
ERR_INVALID_DPID	16521	Depository Participant ID has invalid data.
ERR_INVALID_BENFID	16522	Beneficiary ID has invalid data.
ERR_INVALID_DEPOSITORY	16523	Depository Participant ID for CDSL should be blank.
ERR_STOCK_ALREADY_SUSPENDED	16171	Stock already suspended.
ERR_STOCK_DELETED	16256	Stock deleted.
ERR_STOCK_SUSPENDED	16049	Stock Suspended.
ERR_INTERN_FILE_CHANGE	16017	Intermediate file change. Check values and resubmit.
ERR_STOCK_NOT_FOUND	16019	Stock not found.
ERR_SUSPENDED	16020	Suspended.

Error Code ID	Error Code Value	Description of Error Numbers
ERR_INVALID_ORDER_PARAMS	16415	Invalid Order Parameters.
ERR_MODCXL	16444	Order entry not allowed in this session
ERR_ALLOW_SELL	16445	Sell orders not allowed in this session
ERR_CATEGORY_BLANK	16446	Application Number Must Be Entered.
ERR_INVALID_ISSUE	16447	Issue is Invalid.
ERR_QTY_LT_MIN_QTY	16448	Quantity is less than minimum quantity.
OE_ORD_VAL_OUT_OF_BOUNDS	16564	Order Value is out of days permissible value
STR_VALUE_OUT_OF_RANGE	1667	Order Value is not within permissible limits for the Category
OE_DISALLOW_ATO_MARKET_ORDERS	16505	ATO orders are not allowed for this category under this security
OE_LMT_ORD_NOT_ALLOW_CATG	16513	Limit Orders Not Allowed for this Category.
OE_QTY_MOD_NOT_ALLOWED_UP	16515	Quantity cannot be Modified Upwards.
OE_QTY_MOD_NOT_ALLOWED_DOWN	16516	Quantity cannot be Modified Downwards.
OE_PRICE_MOD_NOT_ALLOWED_UP	16517	Price cannot be Modified Upwards.
OE_PRICE_MOD_NOT_ALLOWED_DOWN	16518	Price cannot be Modified Downwards.
OE_MARGIN_MOD_NOT_ALLOWED_UP	16524	Modification of Margin Amt Upwards not allowed.
OE_MARGIN_MOD_NOT_ALLOWED_DOWN	16525	Modification of Margin Amt Downwards not allowed.
MOD_APPL_NUM_NOT_ALLOWED	16526	Application Number Modification Not Allowed.
MOD_RTGS_NOT_ALLOWED	16527	For EQ the error code indicates RTGS No. Modification Not Allowed. For RV the error code indicates CLIENT NAME Modification Not Allowed.

Error Code ID	Error Code Value	Description of Error Numbers
MOD_DEPOSITORY_NOT_ALLOWED	16528	Depository Modification Not Allowed.
MOD_DEP_ID_NOT_ALLOWED	16529	Depository Participant Modification Not Allowed.
MOD_BENF_ID_NOT_ALLOWED	16530	Beneficiary ID Modification Not Allowed.
MOD_CATEGORY_NOT_ALLOWED	16531	Category Modification Not Allowed.
MOD_PAN_NOT_ALLOWED	16532	PAN Modification Not Allowed.
ORDER_NO_IN_STOCK_TIME	16567	The order time does not falls in open and close time of the stock.
MOD_CLOSED_FOR_MODIFICATION	16568	Stock closed for Modification
RMS_LIMIT_EXPIRED	16569	The collateral limits expired on RMS.
RMS_MASTER_VALIDATION_FAILURE	16570	Master validation failure at RMS end.
RMS_TIMEOUT	16571	Order timed out on RMS
INVALID_CP_CODE	16572	Invalid CP Code
INVALID_ACC_NO	16573	Invalid Account No
PRO_CLI_MOD_NOT_ALLOWED	16574	Pro to Cli and vice versa modification not allowed
ORDER_MOD_ALRDY_CONF_RMS	16575	Modification after confirmation by Custodian.
ORDER_CXL_ALRDY_CONF_RMS	16576	Cancellation after confirmation by Custodian.
INVALID_PRO_CLI	16577	Value entered is Invalid
ACC_NO_MOD_NOT_ALLOWED	16578	Account No Modification Not Allowed
CP_CODE_MOD_NOT_ALLOWED	16579	CP Code Modification Not Allowed
CONF_REJ_COLLAT_FUND	16580	Custodian confirmation failed due to non-availability of funds. Order retained with trading member
ORDER_CAN_CUST_UNDO	16581	Custodian has unconfirmed previously confirmed order.
ORD_CAN_COLLAT_FUND	16582	Custodian confirmation failed due to non-availability of funds.
ORD_CAN_CUST_REJ	16583	Order rejection by custodian

Error Code ID	Error Code Value	Description of Error Numbers
ORD_BATCH_CAN	16584	Order cancelled, too late to confirm
ORD_CUST_REJ	16585	Custodian rejection, order remains with Trading Member
INVALID_TYPE_TMCP	16586	Order cancelled due to TM/CP not set
ORDER_CAN_CUST	16635	Order cancellation not allowed (in case Institutional orders with 0% margin.)

Reason Codes

The reason codes for rejecting the order and the corresponding values are given below.

Reason Code	Value
Security	5
Broker	6
Branch	7
User	8
Participant	9
Order Number	11
Normal Market	12
Order	16
Quantity Freeze	18
Category	29

List of Transaction Codes

Transaction Code	Code	Structure	Size	I/B*
SYSTEM_INFORMATION_IN	1600	MESSAGE_HEADER	40	I
SYSTEM_INFORMATION_OUT	1601	SYSTEM_INFO_DATA	86	I
BOARD_LOT_IN	2000	ORDER_ENTRY_REQUEST	224	I
BOARD_LOT_OUT	2001	ORDER_ENTRY_REQUEST	224	I
ORDER_MOD_IN	2040	ORDER_ENTRY_REQUEST	224	I

Transaction Code	Code	Structure	Size	I/B*
ORDER_MOD_OUT	2041	ORDER_ENTRY_REQUEST	224	I
ORDER_MOD_REJECT	2042	ORDER_ENTRY_REQUEST	224	I
ORDER_CANCEL_IN	2070	ORDER_ENTRY_REQUEST	224	I
ORDER_CANCEL_OUT	2071	ORDER_ENTRY_REQUEST	224	I
ORDER_CANCEL_REJECT_OUT	2072	ORDER_ENTRY_REQUEST	224	I
ORDER_CONFIRMATION	2073	ORDER_ENTRY_REQUEST	224	I
ORDER_MOD_CONFIRMATION_OUT	2074	ORDER_ENTRY_REQUEST	224	I
ORDER_CANCEL_CONFIRMATION_OUT	2075	ORDER_ENTRY_REQUEST	224	I
RMS_APPROVE_REJECT	2079	TRADER_INTERACTIVE_MESSAGE_CP	299	I
FREEZE_TO_CONTROL	2170	ORDER_ENTRY_REQUEST	224	I
ORDER_ERROR_OUT	2231	ORDER_ENTRY_REQUEST	224	I
SIGN_ON_REQUEST_IN	2300	SIGNON_REQUEST	186	I
SIGN_ON_REQUEST_OUT	2301	SIGNON_REQUEST ERROR_RESPONSE	186 180	I
SIGN_OFF_REQUEST_IN	2320	MESSAGE_HEADER	40	I
SIGN_OFF_REQUEST_OUT	2321	MESSAGE_HEADER	40	I
SECURITY_OPEN_PRICE	6013	SECURITY_OPEN_MSGS	58	B
BCAST_JRNL_VCT_MSG	6501	TRADER_INTERACTIVE_MESSAGE BROADCAST_MESSAGE	289	B
BC_CLOSE_MESSAGE	6521	BROADCAST_VCT_MSGS	297	B
BC_NORMAL_MKT_PREOPEN_ENDED	6571	BROADCAST_VCT_MSGS	297	B
DOWNLOAD_REQUEST	7000	MESSAGE_DOWNLOAD	48	I
HEADER_RECORD	7011	MESSAGE_HEADER	40	I
MESSAGE_RECORD	7021	Packet of size >80 and <=512	512	I
TRAILER_RECORD	7031	MESSAGE_HEADER	40	I
BROADCAST_MBO_MBP_UPDATE	7200	BROADCAST_MBO_MBP	491	B
BROADCAST_ONLY_MBP	7208	BROADCAST_MBO_MBP	333	B
BROADCAST_MW_ROUND_ROBIN	7201	BROADCAST_INQ_RESPONSE	562	B

Transaction Code	Code	Structure	Size	I/B*
BROADCAST_SYSTEM_INFORMATION_OUTPUT	7206	SYSTEM_INFO_DATA	86	B
BCAST_STOCK_STATUS_CHG_PREOPEN	7210	SECURITY_STATUS_UPDATE_INFO	472	B
UPDATE_LOCALDB_IN	7300	UPDATE_LOCAL_DATABASE	62	I
UPDATE_LOCALDB_DATA	7304	Packet of size >80 and <=512	512	I
BCAST_STOCK_MSTR_CHG	7305	SECURITY_UPDATE_INFO	212	B
UPDATE_LOCALDB_HEADER	7307	UPDATE_LDB_HEADER	42	I
UPDATE_LOCALDB_TRAILER	7308	UPDATE_LDB_HEADER	42	I
BCAST_CATEG_MSTR_CHG	7309	CATEGORY_UPDATE_INFO	81	B
BCAST_STOCK_STATUS_CHG	7320	SECURITY_STATUS_UPDATE_INFO	472	B
PARTIAL_SYSTEM_INFORMATION	7321	SYSTEM INFORMATION DATA	86	I
IPO_CAT_HRCHY_UPDT_REQUEST	5727	MESSAGE_HEADER	40	I
IPO_CAT_HRCHY_UPDT_RESPONSE	5728	SYSTEM_INFO_DATA	98	B

* Interactive/Broadcast

Quick Reference for Order Entry Parameters

The order flags are given below.

Order Terms:

Order Flags	Input/Output
GTC	Input (for IPO)
Market	Output
ATO	Output
Frozen	Output
Modified	Input
MatchedInd	Output
Reserved1	Input (for OFS only)

Status	Market	Book Type	Order Terms and Other Characteristic Fields
Preopen	Normal Market	RL	Only GTC bit should be set. (For IPO) Only Reserved1 bit should be set (FOR OFS Only)
Open	Normal Market	RL	Order entry is not allowed.
Close	Normal Market	RL	Order entry is not allowed.

Market Type

The market type in case of IPO is:

Status	Market Status Id
Normal Market	1

Market Status

The market can be in one of the following statuses:

Status	Market Status Id
Preopen (only for Normal Market)	0
Open	1
Closed	2

Book Types

There is only one book & the book is for Normal Market.

Book Type	Book ID	Market Type
Regular Lot Order	1	Normal Market

Security Status

Status	Status ID
Pre open	1
Open	2
Suspended	3