

Protocol for Drop Copy
Capital Market Trading System

Version 1.5

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| Capital Market Trading System | | |
|-------------------------------|------------|---|
| Revision History | | |
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| 1.5 | 22-23 | New field "LastActivityReference" related changes |
| | 24, 26, 28 | Addition of Trade Modification functionality |



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Chapter 1 Introduction

The NSE Drop Copy is the trade data feed of NSE. It disseminates information about members / users trades on a real time basis. The data is sent to clients on a TCP/IP communication protocol. Members need to connect to separate gateways called 'Drop Copy Gateways' using TCP/IP communication protocol. Login access to Drop copy gateway will be via trading system user credentials only.

A Corporate Manager user will get all member firm level trade data while branch manager and dealer users will get only respective user trade data.

Any changes to the login credentials during the day on the trading system will be effective on drop copy gateway on the same trading day.

The login and trades data structures will be same as used in the existing NNF protocol document.



Chapter 2 General Guidelines

Introduction

This chapter provides general guidelines for the designers and programmers who develop Drop Copy API. 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 Programmers

1. All time fields are number of seconds from midnight January 1 1980.
2. 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.

3. All alphabetical data must be converted to upper case except password before sending to the host. A combination of alphabet, numbers and special characters are allowed in the password. More details on password are explained in later chapters in this document. 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.
4. 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.
 - All structures are pragma pack 2.
 - All other types of structure members are word aligned.
5. All numeric data must be set to zero (0) before sending to the host, unless a value is assigned to it.
6. All reserved fields mentioned, should be mapped to CHAR buffer and initialized to NULL.

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 Client to the Trading Host end whereas OUT implies that the message is sent from the Trading Host end to Client



Data Types Used

Table 2.1 DATA TYPES

| Data Type | Size of Bytes | Signed / Unsigned |
|-----------|---------------|---------------------------|
| CHAR | 1 | Signed |
| UINT | 2 | Unsigned |
| SHORT | 2 | Signed |
| LONG | 4 | Signed |
| LONG LONG | 8 | 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 2.2 MESSAGE HEADER

| Structure Name | MESSAGE_HEADER | | |
|-----------------|----------------|--------------|--------|
| Packet Length | 40 bytes | | |
| Field Name | Data Type | Size in Byte | Offset |
| TransactionCode | SHORT | 2 | 0 |
| LogTime | LONG | 4 | 2 |
| AlphaChar [2] | CHAR | 2 | 6 |
| TraderId | LONG | 4 | 8 |
| ErrorCode | SHORT | 2 | 12 |
| TimeStamp | LONG LONG | 8 | 14 |
| TimeStamp1 [8] | CHAR | 8 | 22 |
| TimeStamp2 [8] | CHAR | 8 | 30 |
| MessageLength | SHORT | 2 | 38 |

The fields of Message Header are described below.



| Field Name | Brief Description |
|-----------------|---|
| TransactionCode | Transaction message number. This describes the type of message received or sent. |
| 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. |
| TraderId | This field should contain the user ID. |
| 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. For transcodes listed in appendix, time in this field will be populated in nanoseconds (from 01-Jan-1980 00:00:00). This time is stamped at the matching engine in the trading system. |
| 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. |
| TimeStamp2 | This field should be set to numeric zero while sending to the host. For messages coming from the host, this field contains the machine number from which the packet is coming. In TimeStamp2, machine number is sent from host end. |
| MessageLength | This field should be set to the length of the entire message, including the length of message header while sending to host. |



SEC_INFO

Table 2.3 SEC_INFO

| Structure Name | SEC_INFO | | |
|----------------|-----------|--------------|--------|
| 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. |

ST_ORDER_FLAG

For Small Endian Machines:

Table 2.4 ST_ORDER_FLAGS

| Structure Name | ST_ORDER_FLAGS | | |
|----------------|----------------|-------------|--------|
| Packet Length | 2 bytes | | |
| Field Name | Data Type | Size in Bit | Offset |
| MF | BIT | 1 | 0 |
| AON | BIT | 1 | 0 |
| IOC | BIT | 1 | 0 |
| GTC | BIT | 1 | 0 |
| Day | BIT | 1 | 0 |
| OnStop | BIT | 1 | 0 |
| Mkt | BIT | 1 | 0 |
| ATO | BIT | 1 | 0 |
| Reserved | BIT | 3 | 1 |
| Preopen | BIT | 1 | 1 |



| Structure Name | ST_ORDER_FLAGS | | |
|----------------|----------------|-------------|--------|
| Packet Length | 2 bytes | | |
| Field Name | Data Type | Size in Bit | Offset |
| Frozen | BIT | 1 | 1 |
| Modified | BIT | 1 | 1 |
| Traded | BIT | 1 | 1 |
| MatchedInd | BIT | 1 | 1 |

For Big Endian Machines:

Table 2.5 ST_ORDER_FLAGS

| Structure Name | ST_ORDER_FLAGS | | |
|----------------|----------------|-------------|--------|
| Packet Length | 2 bytes | | |
| Field Name | Data Type | Size in Bit | Offset |
| ATO | BIT | 1 | 0 |
| Mkt | BIT | 1 | 0 |
| OnStop | BIT | 1 | 0 |
| Day | BIT | 1 | 0 |
| GTC | BIT | 1 | 0 |
| IOC | BIT | 1 | 0 |
| AON | BIT | 1 | 0 |
| MF | BIT | 1 | 0 |
| MatchedInd | BIT | 1 | 1 |
| Traded | BIT | 1 | 1 |
| Modified | BIT | 1 | 1 |
| Frozen | BIT | 1 | 1 |
| Preopen | BIT | 1 | 1 |
| Reserved | BIT | 3 | 1 |



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 2.6 ERROR_RESPONSE

| Structure Name | ERROR RESPONSE | | |
|---|----------------|--------------|--------|
| Packet Length | 180 bytes | | |
| Field Name | Data Type | Size in Byte | Offset |
| MESSAGE_HEADER (Refer Table 2.2) | STRUCT | 40 | 0 |
| Reserved | CHAR | 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. |

Book Types

There are seven books. These books fall in four markets.

Table 2.7 BOOK_TYPES

| Book Type | Book ID | Market Type |
|---------------------|---------|----------------|
| Regular Lot Order | 1 | Normal Market |
| Special Terms Order | 2 | Normal Market |
| Stop Loss Order | 3 | Normal Market |
| Negotiated Order | 4 | Normal Market |
| Odd Lot Order | 5 | Odd Lot Market |
| Spot Order | 6 | Spot Market |



| Book Type | Book ID | Market Type |
|---------------|---------|----------------------|
| Auction Order | 7 | Auction Market |
| Call Auction1 | 11 | Call auction1 market |
| Call Auction2 | 12 | Call auction2 market |

Heart Beat Exchange

Member systems must exchange heartbeat signals with exchange trading system during periods of inactivity. Trading Host will consider the member system as inactive after missing two heartbeats in succession, and disconnect the socket connection. Heartbeats will carry following data in *MessageData* segment of the message. Heartbeat is to be sent only if there is inactivity for 30 seconds. The format is MESSAGE_HEADER with following detail.

Table 2.8 HEARTBEAT

| Structure Name | HEARTBEAT | | |
|--|-----------|--------------|--------|
| Packet Length | 40 bytes | | |
| Field Name | Data Type | Size in Byte | Offset |
| MESSAGE HEADER (Refer Table No 2.2) | STRUCT | 40 | 0 |

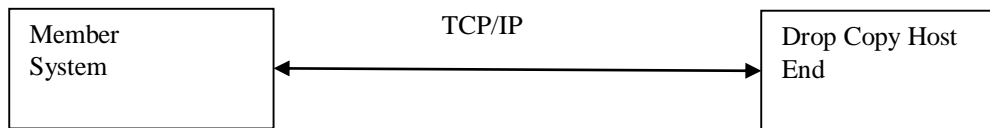
| Field Name | Brief Description |
|-----------------|---|
| TransactionCode | The transaction code is HEARTBEAT (23506) |



Chapter 3 Drop Copy Communication

Introduction

TCP/IP communication protocol shall be used between Member System and Drop Copy Host end as per the Network setup.



Packet Format

Packet structure for communication between Member System and Host End

This structure is applicable to all messages that flow between Client and Drop Copy Host

| | | | |
|---------------------|------------------------------|---|-----------------------------------|
| Length (2 bytes) | Sequence number (4 bytes) | Checksum(MD5) for Message data (16 bytes) | Message Data (Variable length) |
|---------------------|------------------------------|---|-----------------------------------|

- Max length will be the predefined value of 1024 bytes.

$$\text{Length} = \text{size of length field (2 bytes)} +$$

$$\text{size of sequence number field (4 bytes)} +$$

$$\text{size of the checksum field (16 bytes)} +$$

$$\text{size of Message data (variable number of bytes as per the transcode)}.$$
- Sequence number will start from 1 and will be incremented for every packet.
- Message data will be of variable length and comprises of 40 bytes of message header + variable sized data buffer as per transcode being sent.



- The checksum algorithm used will be MD5. Checksum is applied only on the Message 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 Member System and Host End.

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

Processing by Host

Before sending the request to Host, Member System 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 fails at Host End then the disconnection of the socket connection between Member System and Host End will happen.

Processing By Member System

On receiving the response from Host, Member 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. 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 Member System needs to drop the connection and reestablish a fresh connection.



Chapter 4 Logon Process

Introduction

This section describes how a user logs on to the trading system. It covers the log-on request and the system responses.

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 for Drop Copy Feed

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) | Client | Host End |
| 2 | SIGN_ON_REQUEST_OUT (2301) | Host End | Client |
| 3 | DC_DOWNLOAD_REQUEST (8000) | Client | Host End |

Logon Request & Response

When the user wants to establish a connection with the host, he sends SIGN_ON_REQUEST_IN (2300) request. In response to this request SIGN_ON_REQUEST_OUT (2301) is sent from host.

Table 4.1 SIGNON_IN



| Structure Name | SIGNON IN | | |
|--|---|--------------|--------|
| Packet Length | 276 bytes | | |
| Transaction Code | SIGN_ON_REQUEST_IN (2300) SIGN_ON_REQUEST_OUT (2301) | | |
| Field Name | Data Type | Size in Byte | Offset |
| MESSAGE HEADER(Refer Table No 2.2) | STRUCT | 40 | 0 |
| UserId | LONG | 4 | 40 |
| Reserved | CHAR | 8 | 44 |
| Password | CHAR | 8 | 52 |
| Reserved | CHAR | 8 | 60 |
| Reserved | CHAR | 38 | 68 |
| BrokerId | CHAR | 5 | 106 |
| Reserved | CHAR | 117 | 111 |
| Reserved | CHAR | 16 | 228 |
| Reserved | CHAR | 16 | 244 |
| Reserved | CHAR | 16 | 260 |

| Field Name | Brief Description |
|-----------------|--|
| TransactionCode | The transaction code is SIGN_ON_REQUEST_IN (2300) in login request and SIGN_ON_RESPONSE_OUT (2301) in login response |
| AlphaChar [2] | In SIGN_IN_RESPONSE_OUT this field contains the number of streams from which the drop copy data feed is sent. User needs to send the DC_DOWNLOAD_REQUEST (8000) for each stream to download the trade data. |
| UserId | This field should contain User ID of user. |



| Field Name | Brief Description |
|------------|--|
| Password | This field should contain the password entered by the user. A combination of alphabet, numbers and special characters are allowed in the password. The user should enter the valid password for a successful Logon. |
| BrokerId | This field should contain the trading member ID. |

Logon Error

In case of any error, the structure returned is:

ERROR RESPONSE (Refer to [Error Message](#) in Chapter 2)

| Field Name | Brief Description |
|-----------------|--|
| TransactionCode | The transaction code is SIGN_ON_REQUEST_OUT (2301). |
| ErrorCode | This contains the error number. Refer to List of Error Codes in Appendix. |

Chapter 5 Drop Copy Message Download

Introduction

NSE drop copy data feed sends the user intended trade confirmation packets to the connected users, for this user has to send the Drop Copy Download Request on drop copy gateways. In response to this request the trade packets are sent to the user.

The separate request from user is need to be sent for each stream. The number of stream is obtained in SIGNON_OUT from host during login sequence.

Drop Copy Message Download Request

Table 5.1 DROP COPY MESSAGE DOWNLOAD

| Structure Name | DROP COPY MESSAGE DOWNLOAD | | |
|---|----------------------------|--------------|--------|
| Packet Length | 48 bytes | | |
| Transaction Code | DC_DOWNLOAD_REQUEST (8000) | | |
| Field Name | Data Type | Size in Byte | Offset |
| MESSAGE HEADER(Refer to Table 2.2) | STRUCT | 40 | 0 |
| SequenceNumber | DOUBLE | 8 | 40 |

| Field Name | Brief Description |
|-----------------|---|
| TransactionCode | The transaction code is DC_DOWNLOAD_REQUEST (8000). |
| AlphaChar | This contains the stream number of the host to which it has to send the DC_DOWNLOAD_REQUEST. The alpachar is the character array of size 2. The stream number of the host is sent in the first byte of the alphachar. The number of streams is obtained in SIGN_ON_REQUEST_OUT from host during login sequence. |



| Field Name | Brief Description |
|----------------|---|
| SequenceNumber | This contains the time last message was received by the user. This can be obtained from the Time Stamp1 of the last received trade confirmation packet's MESSAGE HEADER. To retrieve the messages from the beginning of the trading day, this field should be set to '0'. |

Trade Confirmation

In response to DC_DOWNLOAD_REQUEST the below mentioned trade confirmation packets are sent to user. The trades happened after the timestamp, sent in Sequence Number field of DC_DOWNLOAD_REQUEST are only downloaded to the user. After recovering the old messaged the trades happening in online market are also sent in the same packet structure.

Table 5.2 TRADE_CONFIRMATION

| Structure Name | TRADE_CONFIRMATION | | |
|---|---------------------------|--------------|--------|
| Packet Length | 228 bytes | | |
| Transaction Code | TRADE_CONFIRMATION (2222) | | |
| Field Name | Data Type | Size in Byte | Offset |
| MESSAGE HEADER (Refer Table No 2.2) | STRUCT | 40 | 0 |
| ResponseOrderNumber | DOUBLE | 8 | 40 |
| BrokerId | CHAR | 5 | 48 |
| Reserved | CHAR | 1 | 53 |
| TraderNum | LONG | 4 | 54 |
| AccountNum | CHAR | 10 | 58 |
| BuySell | SHORT | 2 | 68 |
| OriginalVol | LONG | 4 | 70 |
| DisclosedVol | LONG | 4 | 74 |



| Structure Name | TRADE_CONFIRMATION | | |
|---|---------------------------|--------------|--------|
| Packet Length | 228 bytes | | |
| Transaction Code | TRADE_CONFIRMATION (2222) | | |
| Field Name | Data Type | Size in Byte | Offset |
| RemainingVol | LONG | 4 | 78 |
| DisclosedVolRemaining | LONG | 4 | 82 |
| Price | LONG | 4 | 86 |
| ST_ORDER_FLAGS (Refer Table 2.4 for small endian machines and Table 2.5 for big endian machines) | STRUCT | 2 | 90 |
| Gtd | LONG | 4 | 92 |
| FillNumber | LONG | 4 | 96 |
| FillQty | LONG | 4 | 100 |
| FillPrice | LONG | 4 | 104 |
| VolFilledToday | LONG | 4 | 108 |
| ActivityType | CHAR | 2 | 112 |
| ActivityTime | LONG | 4 | 114 |
| OpOrderNumber | DOUBLE | 8 | 118 |
| OpBrokerId | CHAR | 5 | 126 |
| SEC_INFO (Refer Table No 2.3) | STRUCT | 12 | 131 |
| Reserved | CHAR | 1 | 143 |
| BookType | SHORT | 2 | 144 |
| NewVolume | LONG | 4 | 146 |
| ProClient | SHORT | 2 | 150 |
| PAN | CHAR | 10 | 152 |
| Algo ID | LONG | 4 | 162 |
| Reserved Filler | SHORT | 2 | 166 |



| Structure Name | TRADE_CONFIRMATION | | |
|-----------------------|---------------------------|--------------|--------|
| Packet Length | 228 bytes | | |
| Transaction Code | TRADE_CONFIRMATION (2222) | | |
| Field Name | Data Type | Size in Byte | Offset |
| LastActivityReference | LONG LONG | 8 | 168 |
| Reserved | CHAR | 52 | 176 |

| Field Name | Brief Description |
|-----------------------|--|
| TransactionCode | The transaction code is TRADE_CONFIRMATION (2222). |
| ResponseOrderNumber | This field contains the order number of the trader's order taking part in the trade. |
| BrokerId | This field contains the Trading Member ID. |
| TraderNum | This field contains the trader's or user ID. |
| AccountNum | This field contains the Account Number or Client code. |
| BuySell | This field contains one of the following values based on Buy or Sell. '1' for Buy '2' for Sell. |
| OriginalVol | This field contains the Original traded volume. |
| DisclosedVol | This field contains the quantity to be disclosed to the market. |
| RemainingVol | This field contains the volume remaining after trade(s). |
| DisclosedVolRemaining | This field contains the disclosed volume remaining after trade(s). |
| Price | This field contains the order price. |
| OrderFlags | Refer to Table No 2.4 Note : Preopen Indicator will be set as 0 for the trades happening in Normal Market session for Normal Market orders and pre-open carried forward orders Preopen indicator will be set as 1 for trades happening in the call auction 2 market. |
| Gtd | This field contains the number of days for a GTD Order. |
| FillNumber | This field contains the trade number. |
| FillQty | This field contains the traded volume. |



| Field Name | Brief Description |
|-----------------------|--|
| FillPrice | This field contains the price at which order is traded. |
| VolFilledToday | This field contains the quantity traded today. |
| ActivityType | This field contains the activity type. 'B' for Buy 'S' for Sell |
| ActivityTime | This field contains the time when the activity took place. |
| OpOrderNumber | This field contains the order number of the counter order taking part in the trade. |
| OpBrokerId | This field contains the Trading Member ID of the counter party taking part in the trade. |
| SEC_INFO | This field contains the Symbol and Series of the security. |
| BookType | This field contains the book type - RL/ ST/ SL/ NT/ OL/ SP/ AU/CA/CB. |
| NewVolume | This field is always set to zero for trade confirmation. |
| ProCli | This field is same as Pro/Client /WHS indicator having one of the following values: '1' - client's order '2' - broker's order '4' - warehousing order |
| PAN | This field shall contain the PAN (Permanent Account Number) |
| Algo ID | This field shall contain the Algo ID |
| Reserved Filler | This field is reserved for future use |
| LastActivityReference | This field contains a unique value. Currently the same shall be in nanoseconds. Changes if any shall be notified. |

Preopen Trades

Preopen Indicator will be set as 0 for the trades happening in Normal Market session for Normal Market orders and carried forward orders.

Preopen Indicator will be set as 1 for the Preopen Trades happening in the Opening Phase.



Note: All trades for CALL AUCTION 2 market will be sent with Book type Regular Lot (1).

Trade Cancellation Confirmation Response

When NSE-Control approves the trade cancellation request the structure sent is:

TRADE_CONFIRMATION (Refer to [Table No 5.2](#) discussed earlier in this chapter)

| Field Name | Brief Description |
|-----------------|--|
| TransactionCode | The transaction code is TRADE_CANCEL_CONFIRM (2282). |

Trade Cancellation Rejection Response

When NSE-Control rejects the trade cancellation alert the structure sent is:

TRADE_CONFIRMATION (Refer to [Table No 5.2](#) discussed earlier in this chapter)

| Field Name | Brief Description |
|-----------------|---|
| TransactionCode | The transaction code is TRADE_CANCEL_REJECT (2286). |

Trade Modification Confirmation Response

The trade modification is confirmed and the new trade data is sent.

TRADE_CONFIRMATION (Refer to [Table No 5.2](#) discussed earlier in this chapter)

| Field Name | Brief Description |
|-----------------|--|
| TransactionCode | The transaction code is TRADE_MODIFY_CONFIRM (2287). |



Appendix

List of Error Codes

| Error Code ID | Error Code Value | Description of Error Code |
|--------------------------------|------------------|--|
| ERR_INVALID_USER_TYPE | 16001 | Invalid User Type |
| ERR_BAD_TRANSACTION_CODE | 16003 | Erroneous transaction code received. |
| ERR_USER_ALREADY_SIGNED_ON | 16004 | User already signed on. |
| ERR_INVALID_SIGNON | 16006 | Invalid sign-on, Please try again. |
| ERR_SIGNON_NOT_POSSIBLE | 16007 | Signing on to the trading system is restricted. Please try later on. |
| ERR_INVALID_BROKER_OR_BRANCH | 16041 | Trading Member does not exist in the system. |
| ERR_USER_NOT_FOUND | 16042 | Dealer 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 Dealer is disabled. Please call the Exchange. |
| ERR_INVALID_USER_ID | 16148 | Invalid Dealer ID entered. |
| ERR_INVALID_TRADER_ID | 16154 | Invalid Trader ID entered. |
| ERR_BROKER_NOT_ACTIVE | 16285 | The broker is not active. |



List of Transaction Codes

| Transaction Code | Code | Structure |
|-----------------------------|-------------|----------------------------|
| SIGNON IN | 2300 | SIGN_ON_REQUEST_IN |
| SIGN ON OUT | 2301 | SIGN_ON_REQUEST_OUT |
| DROP COPY MESSAGE DOWNLOAD | 8000 | DROP_COPY_DOWNLOAD_REQUEST |
| TRADE_CONFIRMATION | 2222 | TRADE_CONFIRMATION |
| TRADE_CANCEL_CONFIRM | 2282 | TRADE_CONFIRMATION |
| TRADE_CANCEL_REJECT | 2286 | TRADE_CONFIRMATION |
| TRADE_MODIFY_CONFIRM | 2287 | TRADE_CONFIRMATION |

List of Transaction Codes Containing Timestamp in Nanoseconds

The transaction codes that will contain timestamp in nanoseconds from 01-Jan-1980 00:00:00 are listed in following table:

| Transaction Code | Code |
|--------------------|------|
| TRADE_CONFIRMATION | 2222 |



FAQs

Q – What do I need to do before I try connecting directly to Exchange trading system?

You will have to inform Member Services Team, They will help you with the workflow.

Q – Where to connect?

Exchange shall provide a list of addresses, IP address and Port numbers, that member systems must connect to. Member systems must initiate a TCP socket connection to this address.

Q – How to connect?

Member systems must initiate a TCP socket connection to the address given by the exchange. After TCP socket connection, member systems has to follow the login process mentioned in this document

Q – How to Logoff?

Member system has to shut down his TCP connection properly.

Q – What User Ids / Passwords to be used for login to drop copy?

Trading user ID and password should be used.

Q – How to reset the password through drop copy?

Through drop copy user can't reset the password but the password change done on trading system will be get reflected in drop copy system. New login on drop copy, after password reset on trading system, should be done with new password.

Q – With the same user id can we take simultaneously login on Interactive channel for order entry and on Drop Copy channel?

Yes. Drop copy channel is independent of the Interactive channel.



Q – What information shall be provided in the drop copy?

Following information will be sent through Drop Copy system

- Trade confirmation
- Trade modification confirmation
- Trade cancel confirmation
- Trade cancel reject

Q – Will clearing member also get trade data?

Yes. All the trades related to him will be available.

Q – How shall we know that we have received all the trades (End of Day)?

No explicit message will be sent to indicate end of messages.

Q – What happens if I login late or miss receiving some trade in the drop copy channel?

During download request user needs to specify the time from where the messages download should start.

Q – Will trades executed in IPO Listing / Relisting, Illiquid call auction session, block trades and trade in closing session be available in the drop copy channel?

The trades executed in the following sessions shall be available in the drop copy channel

- Pre-open
- Normal market (Continuous matching)
- Special Pre-open for IPO listing / Relisting
- Illiquid call auction session
- Block trades
- Post close session

Q – Time from which login available to the system?



Details shall be clarified through a circular.

Q – Can I connect to the drop copy channel after close of market?

Details shall be clarified through a circular.

Q – Till when I can connect to the drop copy channel?

Details shall be clarified through a circular.

