CHAPTER 3

TRADING

3.1 Introduction

In the past, the trading on stock exchanges in India was based on open outcry system. Under the system, brokers assemble at a central location usually the exchange trading ring, and trade with each other. This was time consuming, inefficient and imposed limits on trading volumes and trading hours. In order to provide efficiency, liquidity and transparency, NSE introduced a nation-wide on-line, fully-automated screen based trading system **(SBTS)**. Under this system a trading member can punch into the computer, the number of securities and the prices at which he would like to transact. The transaction is executed as soon as it finds a matching sell or buy order from a counter party. See Box no. 3.1 for advantages of SBTS. This system was readily accepted by market participants and in the very first year of its operation, NSE became the leading stock exchange in the country.

Technology has been used to carry the trading platform from the trading hall of stock exchanges to the premises of brokers. NSE carried the trading platform further to the PCs at the residence of investors through the Internet. This made a huge difference in terms of equal access to investors in a geographically vast country like India.

The trading network is depicted in Figure 3.1. NSE has a main computer which is connected through Very Small Aperture Terminal (VSAT) installed at NSE office. The main computer runs on a fault tolerant STRATUS mainframe computer at the Exchange. Brokers have terminals (identified as the PCs in the Figure 3.1) installed at their premises which are connected through VSATs/leased lines/modems.

Box 3.1: Advantages of the Screen-Based Trading System (SBTS)

- It electronically matches orders on a strict price/time priority and hence cuts down on time, cost and risk of error, as well as on fraud resulting in improved operational efficiency.
- It allows faster incorporation of price sensitive information into prevailing prices, thus increasing the informational efficiency of markets.
- It enables market participants, irrespective of their geographical locations, to trade with one another simultaneously, improving the depth and liquidity of the market.
- It provides full anonymity by accepting orders, big or small, from members without revealing their identity, thus providing equal access to everybody.
- It also provides a perfect audit trail, which helps to resolve disputes by logging in the trade execution process in entirety.

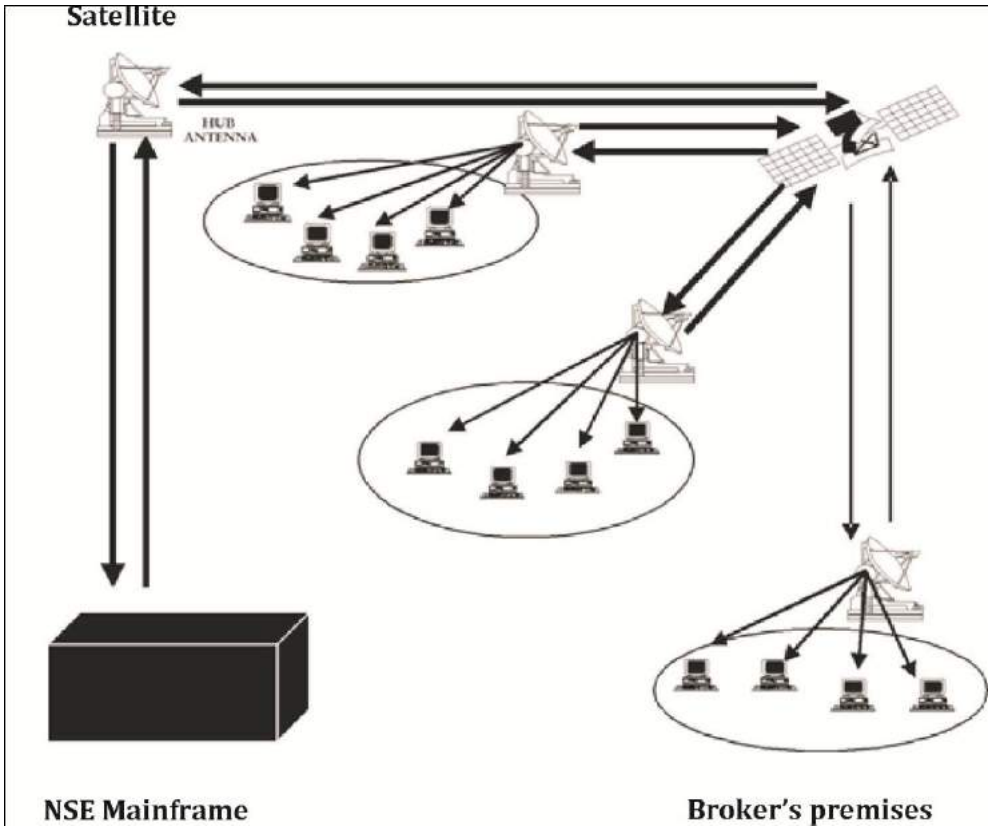


Figure 3.1: Trading Network

An investor informs a broker to place an order on his behalf. The broker enters the order through his personal computer, which runs under Windows NT and sends signal to the Satellite via VSAT/leased line/modem. The signal is directed to a mainframe computer at NSE via VSAT at NSE's office. A message relating to the order activity is broadcast to the respective member. The order confirmation message is immediately displayed on the PC of the broker. This order matches with the existing passive order(s), otherwise it waits for the active orders to enter the system. On order matching, a message is broadcast to the respective member.

The trading system operates on a strict price time priority. All orders received on the system are sorted with the best priced order getting the first priority for matching i.e., the best buy orders match with the best sell order. Similar priced orders are sorted on time priority basis, i.e. the one that came in early gets priority over the later one. Orders are matched automatically by the computer keeping the system transparent, objective and fair. Where an order does not find a match, it remains in the system and is displayed to the whole market, till a fresh order comes in or the earlier order is cancelled or modified. The trading system provides tremendous flexibility to the users in terms of kinds of orders that can be placed on the system. Several time-related (immediate or cancel), price-related (buy/sell limit and stop loss orders) or volume related (disclosed quantity) conditions can be easily built into an order. The trading system also provides complete market information on-line. The market screen at any point of time provides complete information on total order depth in a security,

the five best buys and sells available in the market, the quantity traded during the day in that security, the high and the low, the last traded price, etc. Investors can also know the fate of the orders almost as soon as they are placed with the trading members. Thus, the National Exchange for Automated Trading (NEAT) system provides an Open Electronic Consolidated Limit Order Book (OECLOB).

Limit orders are orders to buy or sell shares at a stated quantity and price. If the price-quantity conditions do not match, the limit order will not be executed. The term 'limit order book' refers to the fact that only limit orders are stored in the book and all market orders are crossed against the limit orders sitting in the book. Since the order book is visible to all market participants, it is termed as an 'Open Book'.

3.2 NEAT System

NSE is the first exchange in the world to use satellite communication technology for trading. Its trading system, called National Exchange for Automated Trading (NEAT), is a state of-the-art client server based application. At the server end all trading information is stored in an in memory database to achieve minimum response time and maximum system availability for users. It has uptime record of 99.7%. For all trades entered into NEAT system, there is uniform response time of less than one second. The NEAT system supports an order driven market, wherein orders match on the basis of time and price priority. All quantity fields are in units and prices are quoted in Indian Rupees. The regular lot size and tick size for various securities traded is notified by the Exchange from time to time.

3.3 Market Types

The Capital Market system has four types of market:

(i) **Normal Market:** Normal market consists of various book types in which orders are segregated as Regular Lot Orders, Special Term Orders, and Stop Loss Orders depending on the order attributes.

(ii) **Auction Market:** In the auction market, auctions are initiated by the exchange on behalf of trading members for settlement related reasons. The main features of this market are detailed in a separate section (3.13) on auction.

(iii) **Odd Lot Market:** The odd lot market facility is used for the Limited Physical Market and for the Block Trades Session. The main features of the Limited Physical Market are detailed in a separate section (3.14). The main features of the Block Trades Session are detailed in a separate section (3.15).

(iv) **Retail Debt Market:** The RETDEBT market facility on the NEAT system of capital market segment is used for transactions in Retail Debt Market session. Trading in Retail Debt Market takes place in the same manner as in equities (capital market) segment. The main features of this market are detailed in a separate section (3.16) on RETDEBT market.

3.4 Trading System Users Hierarchy

The trading member has the facility of defining a hierarchy amongst its users of the NEAT system. This hierarchy is depicted in Figure 3.2.

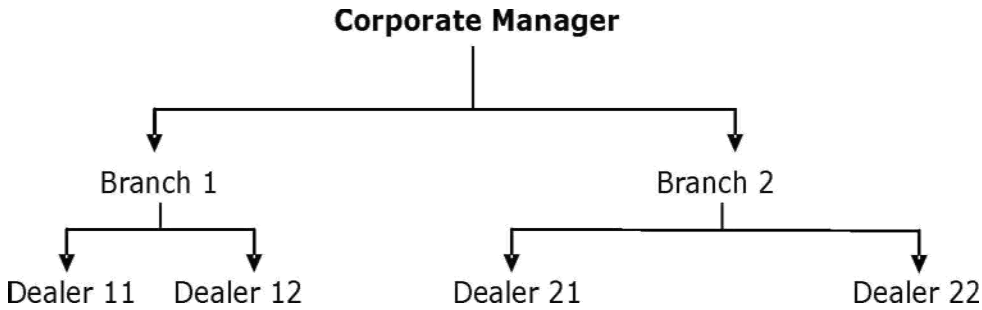


Figure 3.2: Trading System users hierarchy

The users of the trading system can logon as either of the user type. The significance of each type is explained below:

(i) **Corporate Manager:** The corporate manager is a term assigned to a user placed at the highest level in a trading firm. Such a user receives the end-of-day reports for all branches of the trading member. The facility to set branch order value limits and user order value limits is available to the corporate manager. The corporate manager also has facility to set symbol wise user order quantity limit. He can view outstanding orders and trades of all users of the trading member and can also cancel/modify outstanding orders of all users of the trading member.

(ii) **Branch Manager:** The branch manager is a term assigned to a user who is placed under the corporate manager. The branch manager receives end-of-day reports for all the dealers under that branch. He can set user order value limit for each of his branch. He can view outstanding orders and trades of all users of his branch and can also cancel/modify outstanding order of all users of his branch.

(iii) **Dealer:** Dealers are users at the lowest level of the hierarchy. A dealer can view and perform order and trade related activities only for himself and do not have access to information on other dealers under either the same branch or other branches.

3.5 Local Database

The local database provides a faster response time to the users. All inquiries made by a user for own orders/trades are serviced through the local database. If however, a corporate manager or branch manager makes inquiries for orders of any dealer/branch manager of the trading firm, then the inquiry is serviced by the host. The data stored in the local database include system messages, security related information and order/trade related data of the user.

3.6 Market Phases

The trading system is normally made available for trading on all days except Saturdays, Sundays and other holidays. Holidays are declared by the Exchange from time to time. A trading day typically consists of a number of discrete stages as below:

(i) Opening: The trading member can carry out the following activities after login to the NEAT system and before the market opens for trading:

a) Set up Market Watch (the securities which the user would like to view on the screen)

b) View Inquiry screens

At the point of time when the market is opening for trading, the trading member cannot login to the system. A message *'Market status is changing. Cannot logon for sometime'* is displayed. If the member is already logged in, he cannot perform trading activities till market is opened.

(ii) Pre-open: The pre-open session is for a duration of 15 minutes i.e. from 9:00 am to 9:15 am. The pre-open session is comprised of Order collection period and order matching period.

The order collection period of 8* minutes shall be provided for order entry, modification and cancellation. (* - System driven random closure between 7th and 8th minute). During this period orders can be entered, modified and cancelled.

The information like Indicative equilibrium / opening price of scrip, total buy and sell quantity of the scrip is disseminated on the NEAT Terminal to the members on real time basis.

Indicative NIFTY Index value & % change of indicative equilibrium price to previous close price are computed based on the orders in order book and are disseminated during pre-open session.

Order matching period starts immediately after completion of order collection period. Orders are matched at a single (equilibrium) price which will be open price. The order matching happens in the following sequence:

- Eligible limit orders are matched with eligible limit orders
- Residual eligible limit orders are matched with market orders
- Market orders are matched with market orders

Equilibrium Price Determination

In a call auction price mechanism, equilibrium price is determined as shown below.

Assume that NSE received bids for particular stock xyz at different prices in between 9.00 am & 9:07/08 am. Based on the principle of demand supply mechanism, exchange will arrive at the equilibrium price - price at which the maximum number of shares can be bought / sold. In below example, the opening price will be 105 where maximum 27,500 shares can be traded.

Share Price	Order Book		Demand/Supply schedule		Maximum tradable Quantity
	Buy	Sell	Demand	Supply	
100	13500	11500	50500	11500	11500
104	9500	9500	37000	21300	21300
105	12000	15000	27500	36300	27500
106	6500	12000	15500	48300	15500
107	5000	12500	9000	60800	9000
108	4000	8500	4000	69300	4000

During order matching period order modification, order cancellation, trade modification and trade cancellation is not allowed. The trade confirmations are disseminated to respective members on their trading terminals before the start of normal market. After completion of order matching there is a silent period to facilitate the transition from pre-open session to the normal market. All outstanding orders are moved to the normal market retaining the original time stamp. Limit orders are at limit price and market orders are at the discovered equilibrium price. In a situation where no equilibrium price is discovered in the pre-open session, all market orders are moved to normal market at previous day's close price or adjusted close price / base price following price time priority. Accordingly, Normal Market / Odd lot Market and Retail Debt Market opens for trading after closure of pre-open session i.e. 9:15 am. Block Trading session is available for the next 35 minutes from the open of Normal Market.

The opening price is determined based on the principle of demand supply mechanism. The equilibrium price is the price at which the maximum volume is executable. In case more than one price meets the said criteria, the equilibrium price is the price at which there is minimum unmatched order quantity. In case more than one price has same minimum order unmatched quantity, the equilibrium price is the price closest to the previous day's closing price. In case the previous day's closing price is the mid-value of pair of prices which are closest to it, then the previous day's closing price itself will be taken as the equilibrium price. In case of corporate action, previous day's closing price is

adjusted to the closing price or the base price. Both limit and market orders are reckoned for computation of equilibrium price. The equilibrium price determined in pre-open session is considered as open price for the day. In case if only market orders exists both in the buy and sell side, then order is matched at previous days close price or adjusted close price / base price. Previous day's close or adjusted close price / base price is the opening price. In case if no price is discovered in pre-open session, the price of first trade in the normal market is the open price.

(iii) Normal Market Open Phase: The open period indicates the commencement of trading activity. To signify the start of trading, a message is sent to all the trader workstations. The market open time for different markets is notified by the Exchange to all the trading members. Order entry is allowed when all the securities have been opened. During this phase, orders are matched on a continuous basis. Trading in all the instruments is allowed unless they are specifically prohibited by the Exchange. The activities that are allowed at this stage are Inquiry, Order Entry, Order Modification, Order Cancellation (including quick order cancellation), Order Matching and Trade Cancellation.

(iv) Market Close: When the market closes, trading in all instruments for that market comes to an end. A message to this effect is sent to all trading members. No further orders are accepted, but the user is permitted to perform activities like inquiries and trade cancellation.

(v) Post-Close Market: This closing session is available only in Normal Market Segment. Its timings are from 3.40 PM to 4.00 PM. Only market price orders are allowed. Special Terms, Stop Loss and Disclosed Quantity Orders, Index Orders are not allowed. The trades are considered as Normal Market trades. Securities not traded in the normal market session are not allowed to participate in the Closing Session.

(vi) Surcon: Surveillance and Control (SURCON) is that period after market close during which, the users have inquiry access only. After the end of SURCON period, the system processes the data for making the system available for the next trading day. When the system starts processing data, the interactive connection with the NEAT system is lost and the message to that effect is displayed at the trader workstation.

3.7 Logging On

On starting NEAT application, the logon screen appears with the following detail:

(i) User ID

(ii) Trading Member ID

(iii) Password

In order to sign on to the system, the user must specify a valid User ID, Trading Member ID and the corresponding password. A valid combination of User ID, Trading Member ID and the password is needed to access the system. Figure 3.3 shows screenshot of log on screen of

NEAT CM.

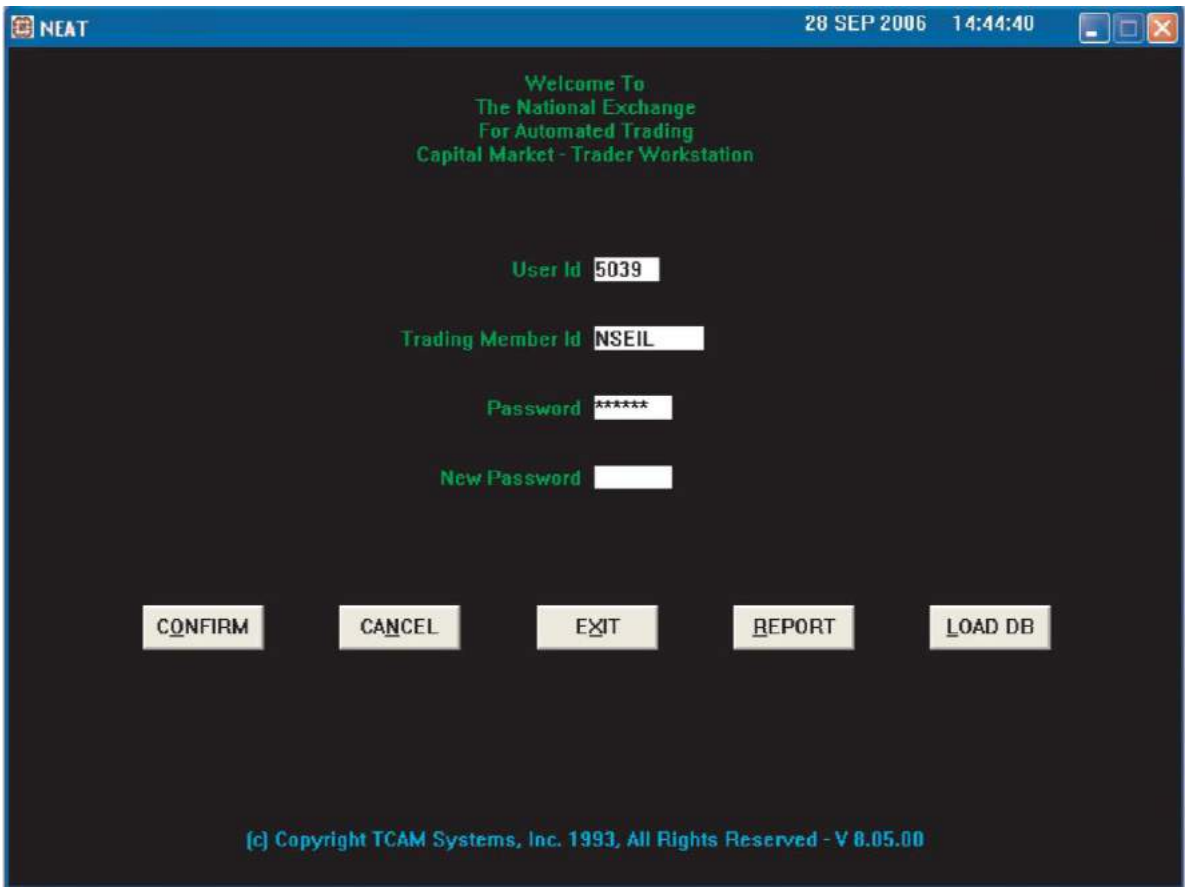


Figure 3.3: Logon Screen of NEAT CM

Following are the details of the Log-on screen:

(i) **User ID:** Each trading member can have more than one user ID. The number of users allowed for each trading member is notified by the Exchange from time to time. Each user of a trading member must be registered with the Exchange and is assigned a unique user ID.

(ii) **Trading Member ID:** The Exchange assigns a trading member ID to each trading member. The trading member ID is unique and functions as a reference for all orders/ trades of different users. This ID is common for all the users of a particular trading member. The trading member ID and user IDs form a unique and valid combination.

It is the responsibility of the trading member to maintain adequate control over the persons having access to user IDs. The trading member should request the Exchange for changes in names of the users of user ID, especially when there are changes in the users who are dealing on behalf of the trading member.

(iii) **Password:** When a user logs in for the first time, he has to enter the default password

'NEATCM' provided by the exchange. On entering this password, the system requests the user to enter a new password in the `New Password' field. On entering the new password, the system requests for confirmation of this new password. This new password is known to the user only. See box no. 3.2 for features of User ID and Password.

Box 3.2: Features of User ID and Password

Location Specific User ID: Earlier, it was possible for the members having connectivity at more than one location to use the allotted user IDs interchangeably from either location. This gave rise to various systems security related problems. To reduce such potential risks associated with the member's workstation, the exchange assigns user ID to a specific location. So, whenever a user attempts to log on to the trader workstation, the system checks for a valid location for that user ID in the database at the host end.

Password:

- The password should contain minimum of six characters and maximum of eight characters in length. A combination of characters and numbers is allowed in the password.
- The password can be changed if the user desires so and a new password can be entered. The new password must be different from the old password.
- Password appears in the encrypted form and thus complete secrecy is maintained. The system ensures the change in password for all users (password expiry period is parameterized by the exchange).
- In the event of the user forgetting his password, the trading member is required to reset the password from his corporate manager user id. In case the corporate manager id is disabled then he is required to inform the exchange in writing, requesting to reset the password. The user password is reset to the default password set by the exchange. The user can login by entering a new password as per the procedure outlined above.
- When a user tries to login with a wrong password a message 'Invalid Sign on' is displayed. If three attempts are made by a user to log on with an incorrect password, then that user is automatically disabled. In case of such an event, the trading member is required to reset the password from his corporate manager user id. In case the corporate manager id is disabled then he is required to makes a written request to the exchange for resetting of password. The user password is reset to the default password set by the exchange. The user can login by entering a new password as per the procedure outlined above.

3.8 Log Off/Exit from the Application

One can exit from the application as and when one desires before the surcon period. On invoking the log off screen, the following options are displayed to the user. Figure 3.4 shows screenshot of log off screen of NEAT CM.

(i) Permanent Sign Off: As the name suggests, a user can log off permanently from the trading system by selecting this option. The user is logged off and the log on screen appears.

(ii) Temporary Sign Off: Temporary sign off is a useful feature that allows the user to disallow the use of the trading software without actually logging off. During a temporary sign-off period, the application continues to receive all market updates in the background. The user, however, cannot enter orders or make inquiries. This allows the user to leave the trading system temporarily inactive and prevents unauthorized access to the system. On selecting the temporary sign off option, a password entry screen is displayed. The use of the NEAT system is enabled on entering the correct password. The temporary sign off is automatically activated when the user is inactive for a period of 5 minutes. The user has to enter the password to resume activities. If three attempts are made to sign on with an incorrect password, the user is permanently logged off. In this case the user has to log on again.

(iii) Exit: On selection of this option, the user comes out of sign off screen.

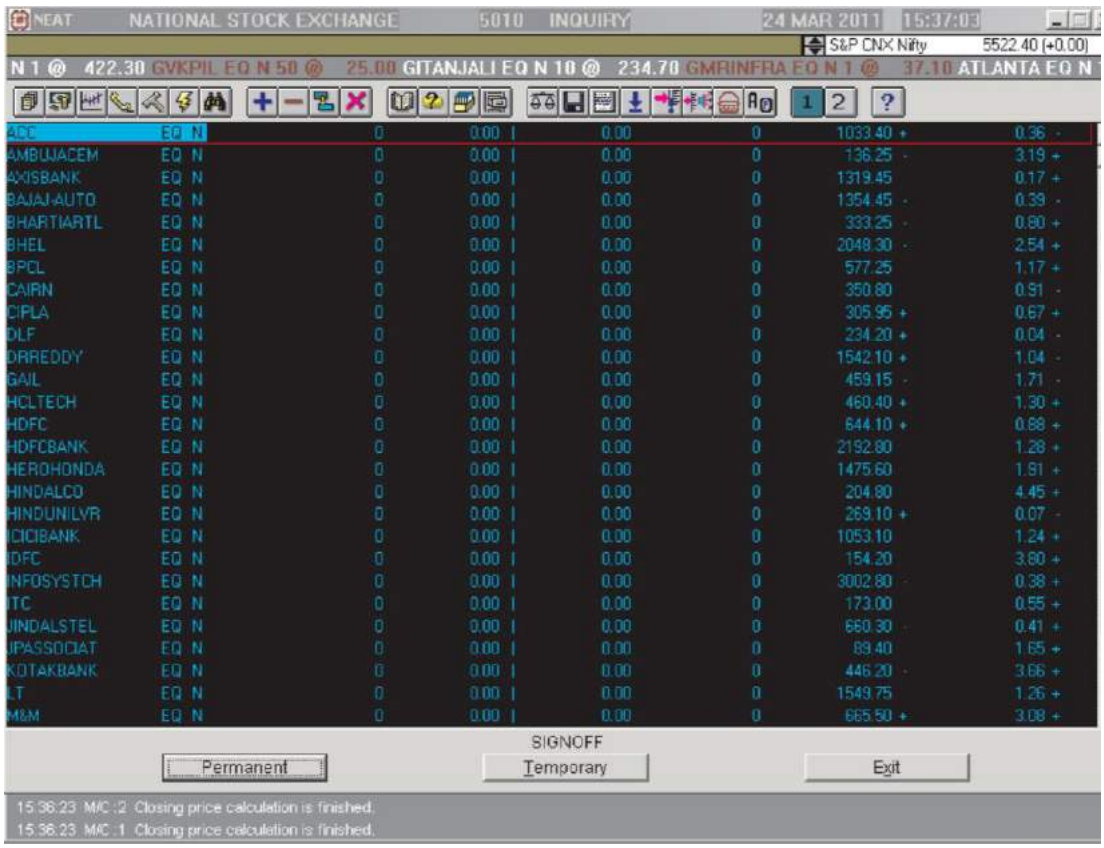


Figure 3.4 Logoff screen of NEAT CM

3.9 NEAT Screen

The trader workstation screen of the trading member is divided into the following windows:

(i) **Title bar:** It displays trading system name i.e. NEAT, the trading member name the user id, user type, the date and the current time.

(ii) **Ticker Window:** The ticker displays information of all trades in the system as and when it takes place. The user has the option of selecting the securities that should appear in the ticker. Securities in ticker can be selected for each market type. On the extreme right hand of the ticker is the on-line index window that displays the current index value of NSE indices namely CNX Nifty, CNX Defty, CNX Nifty Junior, CNX500, CNX Midcap, CNX IT, Bank Nifty, CNX 100 and Nifty Midcap 50, CNX Realty, CNX MNC, CNX FMCG, CNX Energy, CNX Infra, CNX Pharma, CNX PSU Bank, CNX PSE and CNX Service and India VIX. The user can scroll within these indices and view the index values respectively. Index point change with reference to the previous close is displayed along with the current index value. The difference between the previous close index value and the current index value becomes zero when the Nifty closing index is computed for the day.

The ticker window displays securities capital market segments. The ticker selection facility is confined to the securities of capital market segment only. The first ticker window, by default, displays all the derivatives contracts traded in the Futures and Options segment.

(iii) **Tool Bar:** The toolbar has functional buttons which can be used with the mouse for quick access to various functions such as Buy Order Entry, Sell Order Entry, Market By Price (MBP), Previous Trades (PT), Outstanding Order (OO), Activity Log (AL), Order Status (OS), Market Watch (MW), Snap Quote (SQ), Market Movement (MM), Market Inquiry (MI), Auction Inquiry (AI), Order Modification (OM), Order Cancellation (OCXL), Security List, Net Position, Online Backup, Supplementary Menu, Index Inquiry, Index Broadcast and Help. All these functions are also accessible through the keyboard.

(iv) **Market Watch Window:** The 'Market Watch' window is the main area of focus for a trading member. This screen allows continuous monitoring of the securities that are of specific interest to the user. It displays trading information for the selected securities.

(v) **Inquiry Window:** This screen enables the user to view information such as Market by Order (MBO), Market By Price (MBP), Previous Trades (PT), Outstanding Orders (OO), Activity Log (AL), Order Status (OS), Market Movement (MM), Market Inquiry (MI), Net Position, Online Backup, Index Inquiry, Indices Broadcast, Most Active Securities and so on. Relevant information for the selected security can be viewed.

(vi) **Snap Quote:** The snap quote feature allows a trading member to get instantaneous market information on any desired security. This is normally used for securities that are not already set in the Market Watch window. The information presented is the same as that of the Marker Watch window.

(vii) **Order/Trade Window:** This window enables the user to enter/modify/cancel orders and to send request for trade cancellation and modification.

(viii) Message Window: This enables the user to view messages broadcast by the exchange such as corporate actions, any market news, auctions related information etc. and other messages like order confirmation, order modification, order cancellation, orders which have resulted in quantity freezes/price freezes and the exchange action on them, trade confirmation, trade cancellation/modification requests and exchange action on them, name and time when the user logs in/logs off from the system, messages specific to the trading member, etc. These messages appear as and when the event takes place in a chronological order.

3.10 Invoking an Inquiry Screen

All Inquiry screens have a selection where the security viewed can be selected. The screen shows the details of the security selected for that inquiry. The details for each inquiry screen are discussed below:

3.10.1 Market Watch

The Market Watch window is the third window from the top of the screen that is always visible to the user. The Market Watch is the focal area for users. The purpose of Market Watch is to setup and view trading details of securities that are of interest to users. For each security in the Market Watch, market information is dynamically updated. Following are the key features of Market Watch Screen:

(i) Market Information Displayed: The one line market information displayed in the market watch screen is for current best price orders available in the Regular Lot book. For each security the following information is displayed:

a) The corporate action indicator "Ex/Cum"

b) The total buy order quantity available at best buy price

c) Best buy price

d) Best sell price

e) Total sell order quantity available at best sell price

f) The last traded price

g) The last trade price change indicator and

h) The no delivery period indicator "ND"

i) The Percentage change from previous day's closing price'

If the security is suspended, 'SUSPENDED' appears in front of the security. If a question mark (?) appears on the extreme right hand corner for a security, it indicates that the information being displayed is not the latest and the system will dynamically update it.

(ii) **Information Update:** In the Market Watch screen, changes in the best price and quantities are highlighted on a dynamic basis (in all pages of Market Watch). For example, if the best price changes as a result of a new order in the market, the new details are immediately displayed. The changed details are highlighted with a change of colour for a few seconds to signify that a change has occurred. The blue colour indicates that price/quantities have increased, while the red colour indicates that the price/quantities have decreased.

If the last traded price is higher than the previous last traded price then the indicator '+' appears or if the last traded price is lower than the previous last traded price then the indicator '-' appears. If there is no change in the last traded price, no indicator is displayed.

The list of securities that are available for trading on Capital Market segment is available in the Security List box. The user has the option to setup securities directly from the Security List without typing a single character on the market watch screen. This is a quick facility to setup securities. If the user tries to setup a security which is already present in the market watch one gets a message that the security is already setup. The user also has the option to add and delete the security set up in the market watch screen as many times as one desires. The user can print the contents of the Market Watch setup by the user. The user can either print the Market Watch on display or the Full Market Watch.

(iii) **Market Watch Download:** A user has to set up securities after the first download of the software. After setting up the market watch, it is suggested that the user should log out normally. This will help the user to save the freshly set up market watch securities in a file. If at any given time, when the user has freshly set up a few securities and encounters an abnormal exit, the newly set up securities are not saved and the user may have to repeat the process of setting up securities. The Market Watch setup is carried over to subsequent days, thus averting the need to set up the Market Watch on daily basis. During the logon stage, the relevant Market Watch details are downloaded from the trading system. The message displayed is 'Market Watch download is in progress'. The time taken for the Market Watch download depends on the number of securities set up.

(iv) **Setting up Securities:** One of the best features of this software is that the user has the facility to set up 500 securities in the market watch. The user can view up to 30 securities in one page of the market watch screen.

(v) **Easy Navigation:** The details of the current position in the Market Watch defaults in the order entry screen and the inquiry selection screen. It is therefore possible to do quick order entries and inquiries using this feature. The default details can also be overwritten.

(vi) Corporate Actions Indication: An indicator for corporate actions for a security is another feature in market watch. The indicators are as follows:

'XD' - ex-dividend

'XB' - ex-bonus

'XI' - ex-interest

'XR' - ex-rights

'CD' - cum-dividend

'CR' - cum-rights

'CB' - cum-bonus

'CI' - cum-interest

'C*' - in case of more than one of CD, CR, CB, CI

'X*' - in case of more than one of XD, XR, XB, XI

3.10.2 Security Descriptor

Information such as Security Name, Book Closure Start and End Dates, Ex-Date, No-Delivery Start and End Dates, Tick Size, daily price range, Face Value, ISIN and Remarks is displayed in the Security Descriptor. The label DPR i.e. Daily Price Range displays the permissible price band for a security for the current trading day. Figure 3.5 shows screenshot of security descriptor window in NEAT CM.

Figure 3.5: Security Descriptor in NEAT CM

3.10.3 Market by Price

The purpose of Market by Price (MBP) is to enable the user to view outstanding orders in the market aggregated at each price and are displayed in order of best prices. Figure 3.6 shows screenshot of market by price window in NEAT CM.

The fields that are available on the selection screen are Symbol, Series and Book Type. The options available in the book type field are Regular Lot and RETDEBT.

The detailed MBP screen is split into First Line, Detail Line and Summary Line. The first line displays Market Type, Symbol, Series, Total Traded Quantity, Highest Trade Price, Lowest Trade Price, Last Trade Price, % Change in LTP from Previous Day Close and Average Traded Price. The detail line displays Number of Buy Orders, Total Buy Order Quantity at that price, Buy Order Price, Sell Order Price, Total Sell Order Quantity at that price and Number of Sell Orders. The summary line displays Total Buy Order Quantity and Total Sell Order Quantity. For special term orders, the terms are not reflected in the MBP screen. Buy orders are displayed on the left side of the window and sell orders on the right. The orders appear in a price/time priority with the "best priced" order at the top. When any Regular Lot information, currently displayed on the window, is changed (for example as the result of a trade), this information is automatically reflected in the MBP i.e. dynamic updation of MBP screen is present.

All buyback orders are identified by an '*' in the MBP screen. In case a buyback order appears in the best five orders in the MBP an '*' will precede such an order record. In addition, an '*' will appear against the 'Total Buy' field in the MBP irrespective of the order being in best five orders in the MBP or not

Special Features of MBP

a) Regular lot & special term orders can be viewed in the MBP. The percentage change for last trade price with respect to previous day's closing price, open price (in case of pre-open indicative opening price), high price for a day, low price a day and the average trade price of the security in the given market are the additional fields in the screen.

b) No untriggered stop-loss order will be displayed on the MBP screen.

c) Only order details for the best 5 prices information is displayed

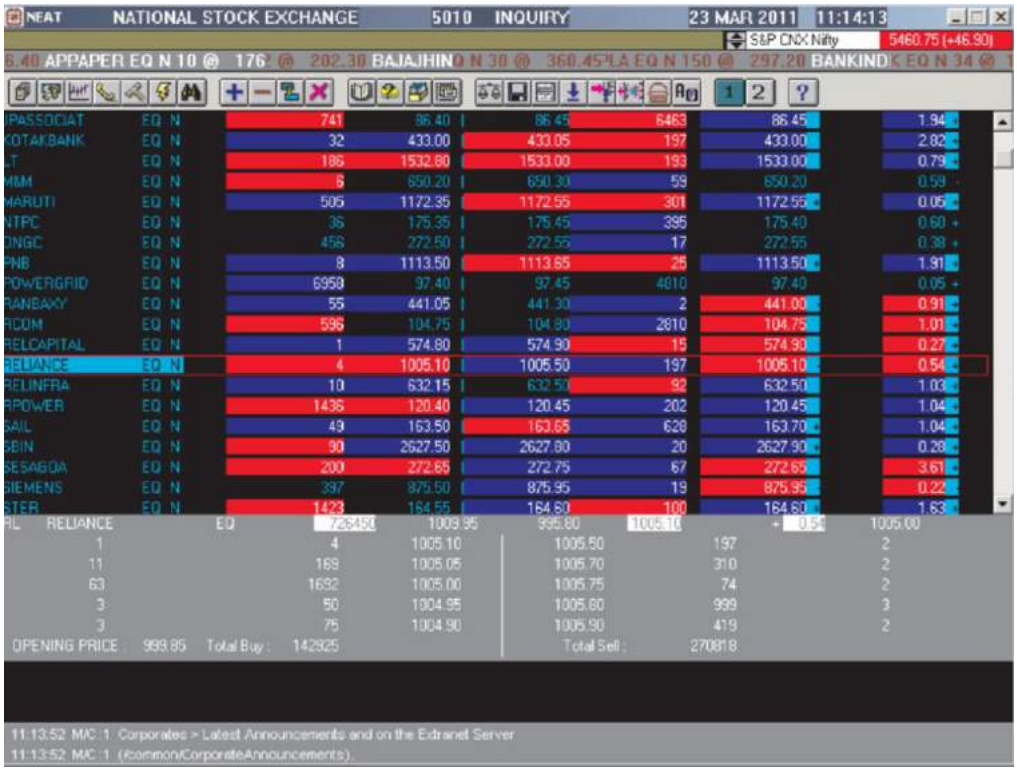


Figure 3.6: Market by Price window in NEAT CM

3.10.4 Previous Trades

The purpose of the Previous Trades window is to provide security-wise information to users for own trades. The fields that are available on the selection screen are Symbol, Series, Market type, Auction Number, Trading Member ID, Branch ID, Dealer, CLI, Buy/Sell and Time. The options available in the Market type field are Normal Market, RETDEBT, Odd Lot and Auction. If the user selects the option to view Auction Market trade details, the auction number has to be compulsorily entered. The Corporate Manager can view all the trades for all branches or for a specific branch. Under the specific branch, the user can view trade details for a specific dealer or for all dealers. The Branch Manager can view all details under that branch i.e. all previous trades for all dealers and for all clients or for all dealers or for a specific dealer. The dealer can view previous trades for own user id only. The user can select the previous trades up to a particular time period, by entering the relevant time in the time field.

The detailed Previous Trade screen information is split into First Line, Detail Line and Summary Line. The first line displays Market Type, Symbol, Series, Last Trade Price, Last Trade Quantity, Last Trade Time and Total Traded Quantity. The detail line contains Buy/Sell Indicator, PRO/CLI indicator (where P – PRO and C - CLI), Order Number, Trade Number, Trade Quantity, Trade. Price and Trade Time. The summary line contains Total Number of Buy Trades, Total Buy Quantity Traded, Total Buy Traded Value, Average Buy Traded Price, Total Number of Sell Trades, Total Sell Quantity

Traded, Total Sell Traded Value and Average Sell Traded Price. Previous Trade Screen displays the client account number also. Preopen Indicator is displayed as "P" for all Preopen Trades.

Trades are displayed in a reverse chronological order. First all buy trades are displayed and then sell trades are displayed. A facility is provided to users to view their trades for BUY side or SELL side or ALL by selecting the BUY/SELL/ALL filter in primary window. By default, the filter is on ALL. Once the query is executed with the filter, the trades are displayed with time sorting for the chosen filter option. This functionality only works for self and not for hierarchal inquiry.

Special Features of Previous Trades

a) Trade cancellation can be requested from the Previous Trade screen. This facility is available only for member's own trades. The Corporate Manager can request for trade cancellation for any branch or any dealer. The Branch Manager can request for trade cancellation for any dealer under that branch. The dealer can request for trade cancellation only for trades under that user id.

b) The user can request the Exchange to modify only the client code field. Currently trade modification facility is not enabled on trading system.

3.10.5 Outstanding Orders

The purpose of Outstanding Orders is to enable the user to view the outstanding orders for a security. An outstanding order is an order that has been entered by the user, but which has not yet been completely traded or cancelled. The user is permitted to see his orders.

The fields which are available on the selection screen are Symbol, Series, Book type, Auction Number, Branch ID, Dealer, PRO/CLI and Time. The options available in the Book type field are Pre open, Regular Lot, RETDEBT, Odd Lot, Stop Loss and Auction. If the user selects the option to view Auction Market trade details, the Auction Number has to be compulsorily entered. When the user selects Pre open book, in the detailed screen only pre open outstanding orders will be displayed. In the detailed screen, pre-open orders will have an Identifier 'P'.

The corporate manager can view all the Outstanding Orders for all branches or for a specific branch. Under the specific branch, the user can view Outstanding Orders details for a specific dealer or for all dealers. Similarly it is possible to view all Outstanding Orders for a particular client or for all clients under a dealer. The Branch Manager can view all Outstanding Orders details under that Branch i.e. all Outstanding Orders for all dealers and for all clients or for all dealers or for a specific dealer. The dealer can view Outstanding Orders for own user id only.

The detailed outstanding orders screen is split into First Line and Detail Line. The first

line contains Symbol, Series, Market Type, Security Status, Label, Current Time and Current Date. The detail line contains Book Type, User ID, Client A/C Number, Order Number, Order Quantity Pending and Order Price.

The orders are listed on the basis of price/time priority. The orders are displayed in order of Regular Lot orders and then Stop Loss orders. Outstanding order screen is not dynamically updated, but the user has option to refresh the Outstanding Orders screen by reinvoking the inquiry.

Special Features of Outstanding Orders

a) The user can modify orders from the outstanding orders screen.

b) The user can cancel orders from the outstanding orders screen.

c) The user can view status of a particular order from the outstanding orders screen.

3.10.6 Activity Log

The Activity Log (AL) shows all the activities that have been performed on any order belonging to that user. These activities include order modification/cancellation, partial/full trade, and trade modification/cancellation. It displays information of only those orders in which some activity has taken place. It does not display those orders on which no activity has taken place.

The fields that are available on the selection screen are Symbol, Series, Market Type, Branch ID, Dealer, PRO/CLI and Client Account Number. The Symbol, Series and Market Type fields are compulsory. The options available in the Market Type field are Pre open, Normal Market, RETDEBT, Odd Lot and Auction. A Pre open Identifier 'P' will be displayed for Pre open orders in Activity Log screen.

The detailed AL screen is split into first line and detail line. The first line displays Market Type, Symbol, Series, Current Time and Current Date. The detail line contains User Id, Order Number, PRO/CLI indicator (where P-PRO, C-CLI), Buy/Sell Indicator, Order quantity, Order price, Order Terms/Trade Number, Disclosed Quantity, MF Indicator, MF Quantity, Activity Indicator and Activity Time. One line appears for each activity that has taken place today. For example, if a buy order is traded against three separate sell orders, then the activity log for the buy order shows three separate lines and the original order details.

The following activities are displayed:

B For buy orders, this indicates a match.

S For sell orders, this indicates a match.

OC This indicates an order was cancelled.

OM This indicates an order was modified. The details displayed are the order after it was modified.

TC For both buy and sell orders this indicates that a trade involving this order was cancelled.

TM For both buy and sell orders this indicates that a trade involving this order was modified. Special terms associated with the order are displayed to help identify the order.

Special Features of Activity Log

a) The AL gives details of all activities in chronological orders.

b) Within the order number, the details appear with the oldest activity first and the latest last.

c) The activity consists only of orders entered by the requesting trading member.

d) This inquiry option is not available to users in inquiry mode.

3.10.7 Order Status

The purpose of the Order Status (OS) is to look into the status of one of dealer's own specific orders. The screen provides the current status of orders and other order details. The order status screen is not dynamically updated. In case the order is traded, the trade details are also displayed. In case of multiple trades the display is scrolled.

- To view the status of a particular order, enter the order number for which the order status is to be viewed in the selection screen of OS. The first part of the order number (i.e. today's date) is defaulted. The user has to enter the second part of the order number. If the user does not know the order number, then the user can position the highlight bar on the desired order on the Outstanding Order screen and then invoke the OS screen. The order number is directly defaulted in the Order Status selection screen. Additionally if it is a pre open order then there will be an identifier 'P' with tool tip as "Preopen Identifier" indicating that it is a Preopen order.

The detailed OS screen is divided into three parts. The first part covers order related information, the second part covers the trade related information if the order has resulted in a trade and the third part gives summary details.

The first part details are in two lines. The first line gives Book Type, Symbol, Series, Order Number, Type (Buy/Sell), Total Order Quantity, Order Price, PRO/CLI, Client A/C Number and Participant ID. The second line gives Disclosed Quantity, MF/AON Indicator, MF Quantity, Trigger Price, Day, Indicator 1 (Order Modified - MOD), Indicator 2 (Order Cancelled - CXL) and Indicator 3 (Order Traded - TRD). The second part details are Trade Quantity, Trade Price, Trade Time and Trade Number. The third part details are Quantity Traded Today and Balance Quantity (remaining quantity).

Special Features of Order Status

a) The OS provides the user the current status of the order i.e. whether order has been modified, order was cancelled, order was traded, or order has been partially traded on the previous day.

b) It shows all the order details. It also shows the trade details for each trade done against this order.

c) The data is presented in chronological order. One line appears for each activity that has taken place today.

d) The dealer can view order status of orders entered under that Dealer ID only.

e) This Inquiry option is not available to Users in Inquiry mode.

3.10.8 Snap Quote

The Snap Quote is a feature available in the system to get instantaneous market information on a desired security. This is normally used for a security that is not setup in the Market Watch window. The information displayed for the set up security is same as that in Market Watch window i.e. Corporate action indicator 'Ex/Cum', the total buy order quantity, best buy price, best sell price, total sell order quantity, last traded price, last trade price change indicator and the no delivery indicator 'ND'. The Snap Quote is displayed for the time specified by the exchange from time to time. The display position of Snap Quote is reserved and no other information overlaps it. A user can therefore simultaneously view a regular inquiry (e.g. MBP) and the Snap Quote display.

3.10.9 Market Movement

The purpose of the Market Movement screen is to provide information to the user regarding the movement of a security for the current day. This inquiry gives the snap shot for a particular security for a time interval as parameterised by the exchange. The fields that are available on the selection screen are Symbol, Series and Market type. The user can select the Market Type as Normal Market, RETDEBT and Odd Lot market. Figure 3.7 shows screenshot of market movement window in NEAT CM.

The detailed output screen is given in two parts. The first part gives information regarding the security for the entire day namely Symbol, Series, Market Type, Total Buy Order Quantity, Total Sell Order Quantity, Total Traded Quantity, High Price, Low Price, Open Price and Last Traded Price. The second part gives information for a particular time interval namely Time Interval, Buy Order Quantity, Sell Order Quantity, Traded Quantity, High Price and Low Price. The user can save the Market Movement screen by specifying the directory and file name to save the information. This file can be viewed in MSDOS editor.

Special Features of Market Movement

a) The Market Movement screen provides information to the user regarding the movement of a security for the current day on orders/trades done today.

b) The information displayed is from the time the market was opened today and in chronological sequence.

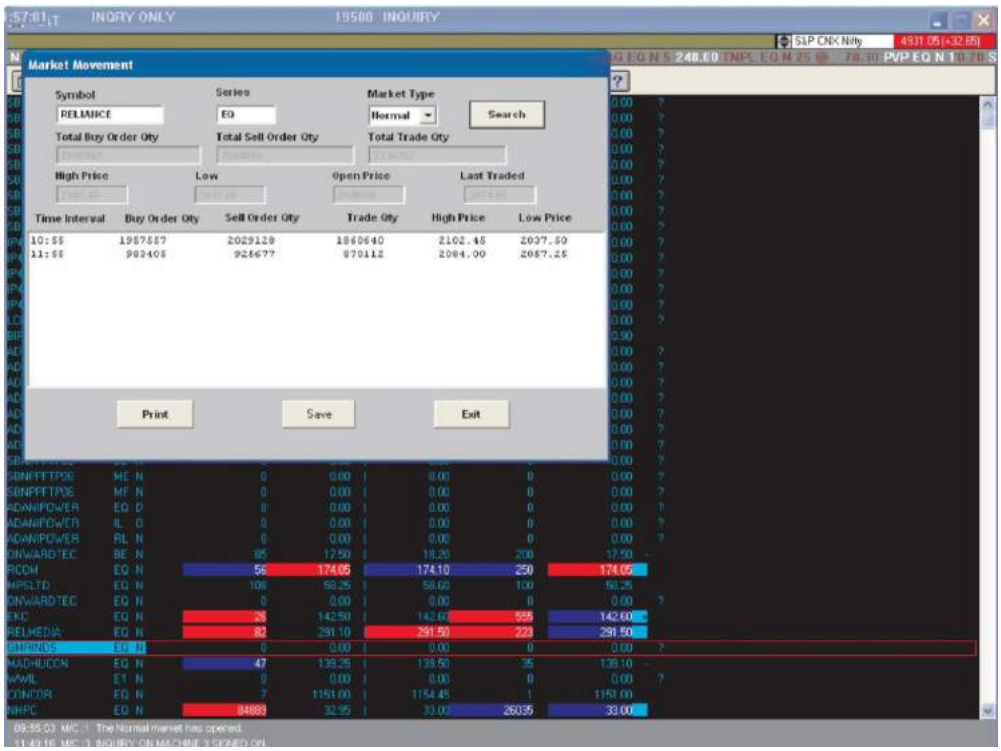


Figure 3.7: Market Movement window in NEAT CM

3.10.10 Market Inquiry

The purpose of the Market Inquiry is to enable the user to view the market statistics, for a particular market, for a security. It also displays the open price and previous close price for a security.

The fields that are available on the selection screen are Symbol, Series and Market type. The user can select market type as Normal, RETDEBT and Odd Lot. The detailed output screen is given in two parts. The first line displays Symbol, Series, Security Status, Corporate Actions Indicator 1, Corporate Actions Indicator 2, Corporate Actions Indicator 3, Total Traded Quantity, 52 Week High and 52 Week Low. The second line displays Closing Price, Opening Price, High Price, Low Price, Last Traded Price and Net change from closing price. The third line displays Last Traded Quantity, Last Traded Time and Last Traded Date. The fourth line displays Best Buy Order Quantity, Best Buy Order Price, Best Sell Order Price and Best Sell Order Quantity.

Special Features of Market Inquiry

a) This screen is not dynamically updated. It displays the security status of the security selected. 'S' indicates that the security is suspended, 'P' indicates that the security is in pre open (only for normal market) and in absence of the above indicators the security is open for trading.

b) An indicator for corporate actions for a security is displayed on the screen. The indicators are as follows:

"CD" = cum-dividend	**"XD"** = ex-dividend
"CR" = cum-rights	**"XR"** = ex-rights
"CB" = cum-bonus	**"XB"** = ex-bonus
"CI" = cum-interest	**"XI"** = ex-interest

c) The net change indicator for last trade price with respect to the previous day's closing price and the net change percentage for the last trade price with respect to the previous day's closing price are displayed.

d) The base price of a security for the day is equal to the previous day's closing price of the security in normal circumstances. Thus, in the market inquiry screen the field indicating the closing price also gives the base price for the day.

e) If the base price is manually changed (due to a corporate action) then the market inquiry will not display the new base price in the closing price field.

3.10.11 Auction Inquiry

The purpose of Auction Inquiry (AI) is to enable the users to view the auction activities for the current trading day. This window displays information about auctions currently going on and auctions that have been completed.

The detailed line in the auction inquiry screen displays: No. - Serial Number, St. - Status of the auction security, Type - Buy/Sell auction, Symbol, Series, Best Buy Qty, Best Buy Price, Best Sell Price, Best Sell Qty, Auction Qty, Auction Price and Settlement Period.

The following are the different status displayed for an auction security:

S - Auction is in Solicitor Period

M - System is matching the orders

F - Auction is over

X - Auction is deleted

P - Auction is pending and yet to begin.

The user can view the auction details of a security setup in the market watch, by invoking the auction inquiry screen after highlighting the auction security. To view the auction details for all the securities, the user should blank out the contents of all the fields in the auction inquiry selection screen. To view the auctions after a particular number, the user should blank out the contents in Symbol & Series field and enter the number in the auction number field on the selection screen. The auction inquiry screen then displays all auctions from that number onwards. This window is dynamically updated. Figure 3.8 shows screenshot of auction enquiry window in NEAT CM.

Change Screen

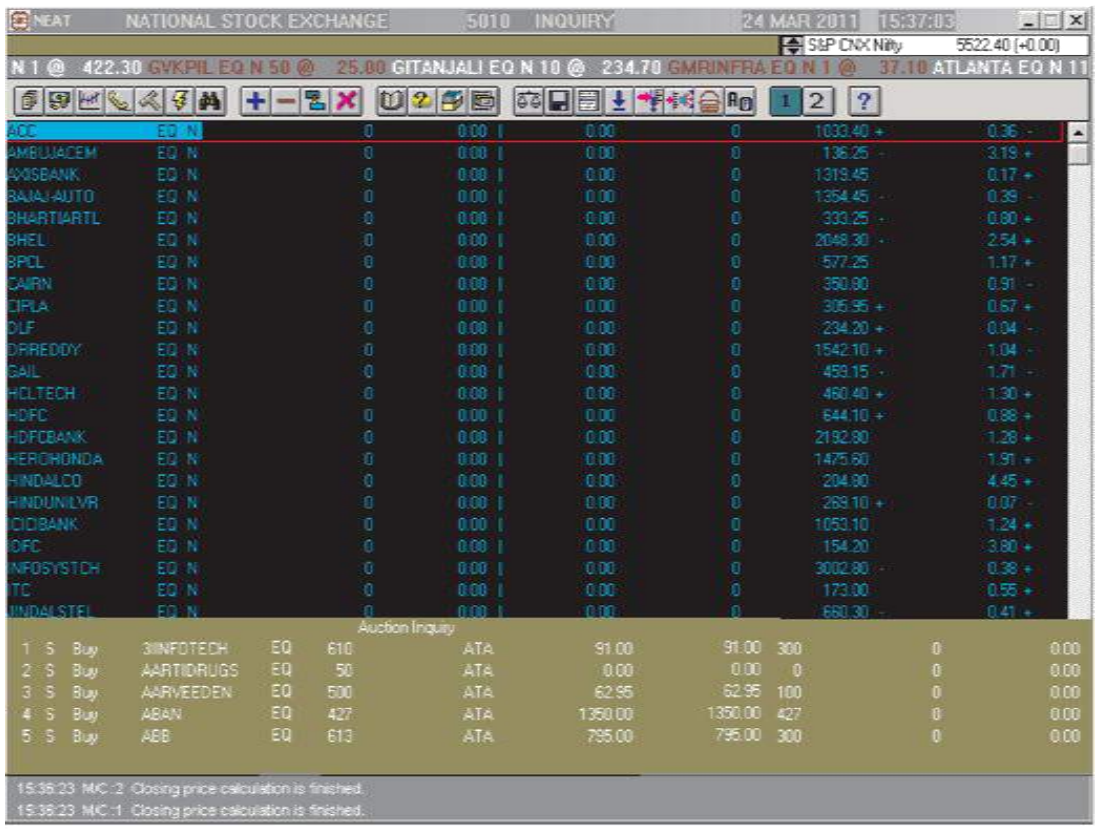


Figure 3.8: Auction Inquiry window in NEAT CM

3.10.12 Security/Portfolio List

This is a facility for the user for setting up the securities in the market watch screen. This screen also has a new facility of allowing the user to setup his own portfolio. Figure 3.9 shows screenshot of security descriptor window in NEAT CM.

(i) Security List: The user can select securities based on Symbol, Series, Instrument Type and Market Type. A blank/partial search for Symbol and Series is also possible. The Symbol, Series, Market Type and Security Name are displayed based on the selection criteria. The user can also print the selected securities.

(ii) Portfolio List: Once the security is selected, the same can be used for setting up a portfolio. The user can give a name to the list so selected. The existing portfolio can be modified and/or removed. The user can also set-up a particular portfolio in market watch. Portfolio created can be used for basket order entry also. Order files can be generated based on the portfolio created using basket trading option.

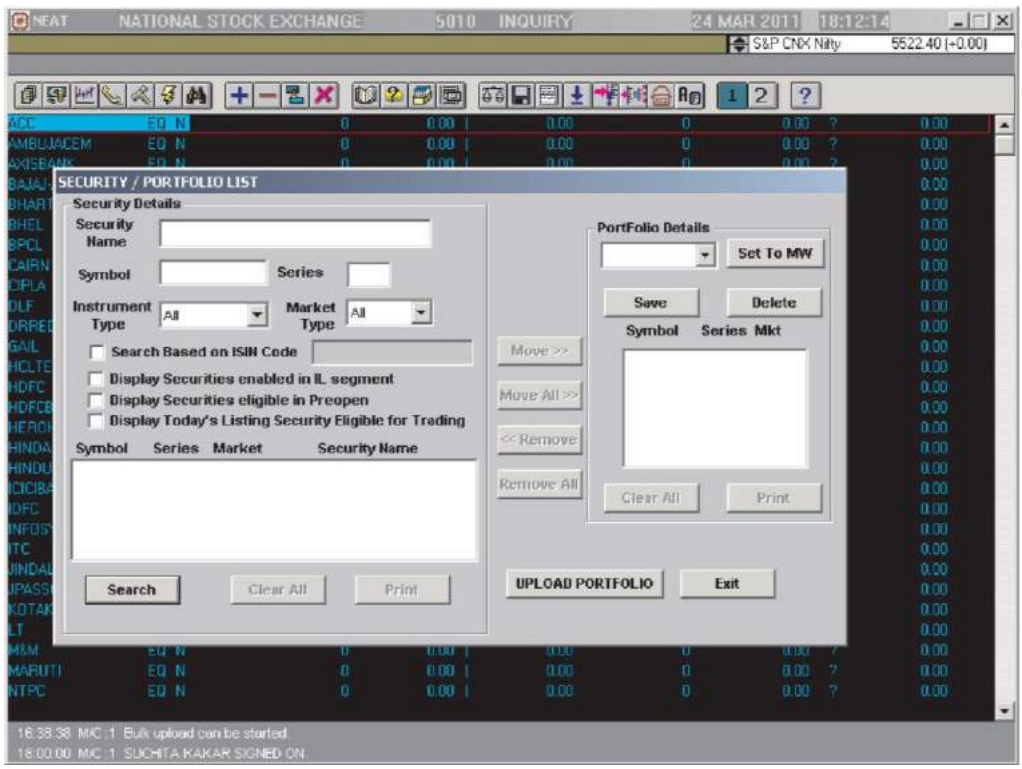


Figure 3.9: Security/Portfolio List window in NEAT CM

3.10.13 Multiple Index Broadcast and Graph

This screen displays information of NSE indices namely CNX Nifty, CNX Defty, CNX Nifty Junior, CNX 500, CNX 100, CNX Midcap CNX IT, Bank Nifty, Nifty Midcap 50, CNX Realty, CNX Infra, CNX Energy, CNX FMCG, CNX MNC, CNX Pharma, CNX PSE, CNX PSU Bank and CNX Service. The indices are labeled vertically and the information is displayed against each index horizontally. The data displayed for each index is as follows:

a) Current Index

b) High Index

c) Low Index

d) Open Index

e) Close Index

f) % change in Current Index (w.r.t. previous close index)

g) 52 week High

h) 52 week low

i) Up Moves

j) Down Moves

k) Market Capitalisation (in ₹ Lakh)

Index Graph displays all the indices on a real time basis to the market.

Figure 3.10 shows screenshot of multiple index broadcast window in NEAT CM.

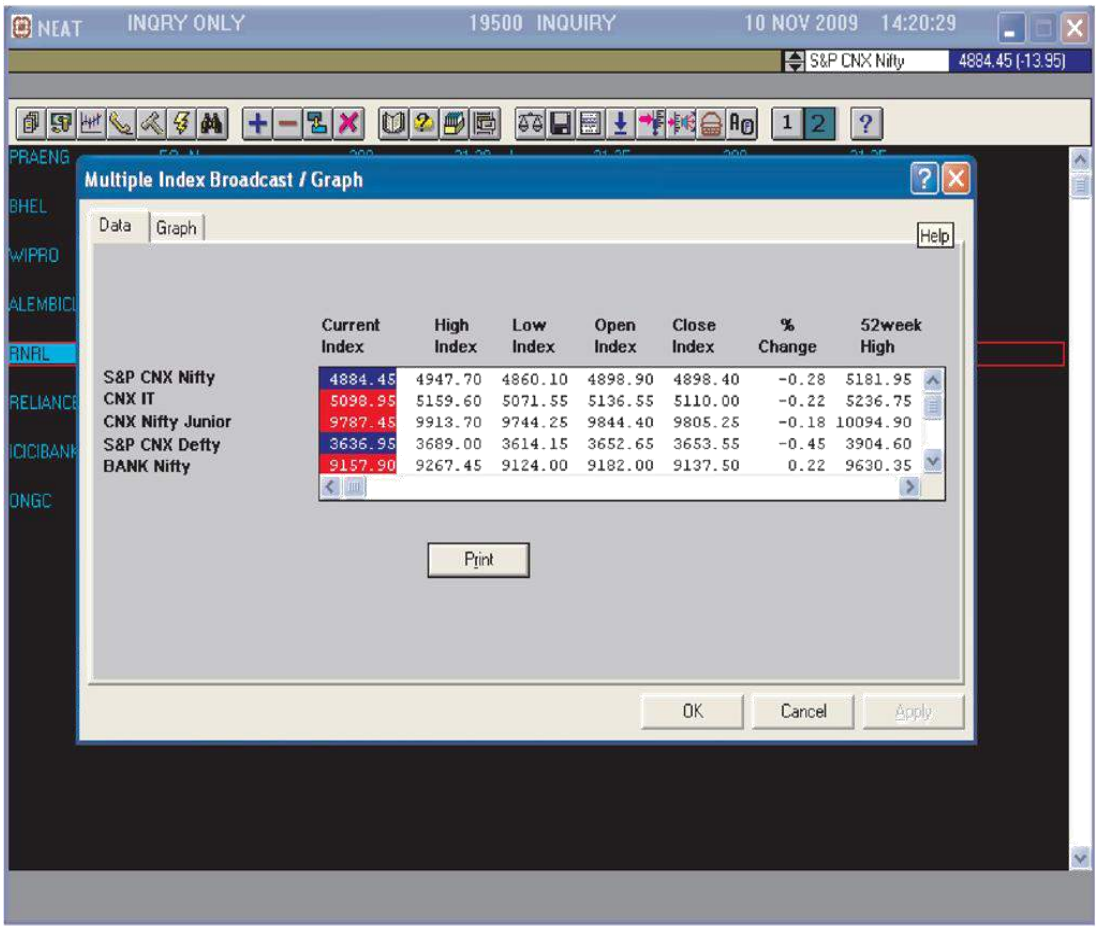


Figure 3.10: Multiple Index Broadcast window in NEAT CM

3.10.14 Online Backup

On Line Backup is a facility that the user can invoke to take a backup of all order and trade related information for the user. The information available is for the current day only.

On the selection screen the user can select the various fields on which the output will be filtered. The fields that can be filtered are CLI, Market Type, Book Type, Symbol, Series,

Instrument Type, Date, Time, Order Indicator, Trade Indicator, Buy/Sell Indicator, Order Numbers and Trade Numbers.

The user is provided the option to copy the files to any drive of the computer or on a floppy diskette. This utility generates two ASCII files namely Order.txt and Trade.txt. The user can specify any filename for Orders and Trades. This utility will help the user to generate the Contract Notes. The user is requested to take backup first on the C:\ drive and subsequently copy to A:\ drive to avoid overloading PC capacity and abnormal log-off.

3.10.15 Basket Trading

The purpose of basket trading is to provide NEAT users with a facility to create offline order entry file for a selected portfolio. On inputting the value, the orders are created for the selected portfolio of securities according to the ratios of their market capitalisations. An icon has been provided in the Toolbar which can be selected by the mouse to invoke the functionality.

In the basket trading functionality, the user first selects a portfolio from combo box. The portfolio in the combo box is user defined portfolios (which can be created or edited from the Security List screen which is an existing functionality). All users defined Portfolios are automatically loaded in to the combo box. The User then allocates an amount to the portfolio by mentioning the amount in the 'Amount' edit box. The amount entered is in lakh and must be less than or equal to ₹ 3000 lakh. If the amount entered is not sufficient to buy/sell a complete basket, a message "Insufficient amount for creating the basket" is displayed. Then, the User mentions whether he wants to buy or sell the Portfolio by selecting a choice from BUY/SELL combo box. The User has to mention the name of offline order file which would be generated. The Output Offline order file is always generated in the Basket directory of the current selected login drive. If a file with the given name already exists then it asks for overwriting the old file. A Reverse File with the same name is also generated in 'R_Basket' directory of the current login drive. The Reverse File contains reverse order (if user has selected buy then it contains sell orders and vice-versa). The user can mention order's duration (IOC or day) by selecting from a check box. The User can also specify PRO/CLI orders by selecting from the combo box. In case of CLI orders it is compulsory to mention the account number in the edit box. The participant name can be mentioned. If mentioned it is verified whether it is a valid participant or not.

The amount mentioned in the 'Amount Edit' Box is divided among the securities of the portfolio, depending on their current market capitalisation, and the amount allocated per security is used to calculate the number of shares to be bought / sold for that security which is reflected in the offline order file. The number of shares is rounded off to the nearest integer. If the basket contains any security whose regular lot is not one,

then the file will need to be corrected by the user to accommodate shares in tradable lots. If the portfolio contains a security which is suspended/not eligible in the chosen market then an error message is displayed on the screen.

All the orders generated through the offline order file are priced at the available market price.

Quantity of shares of a particular security in portfolio is calculated as under

$$\text{Number of Shares of a security in portfolio} = \frac{\text{Amount* Issued Capital for the security}}{\text{Current Portfolio Capitalisation}}$$

Where,

Current Portfolio Capitalisation = Summation [Last Traded Price (Previous close if not traded) * Number of Issued shares]

In case at the time of generating the basket if any of the constituents are not traded, the weightage of the security in the basket is determined using the previous close price. This price may become irrelevant if there has been a corporate action in the security for the day and the same has not yet been traded before generation of the file. Similarly, basket facility will not be available for a new listed security till the time it is traded. Figure 3.11 shows screenshot of basket trading window in NEAT CM.

Three portfolio names viz "NIFTY", "JUNIOR" & "CNX100" are provided in Security / Portfolio List to generate offline order entry file using basket trading facility. In this case the file will be generated based on free float market capitalization for the user defined securities under these names.

Quantity of shares of a particular security in portfolio is calculated as under:

$$\text{Number of Shares of a security in portfolio} = \frac{\text{Amount* Issued Capital for the security}}{\text{Current Portfolio Capitalisation}}$$

where,

Current Portfolio Capitalisation = Summation [Last Traded Price Previous close if not traded * Number of Issued shares]* Free float factor

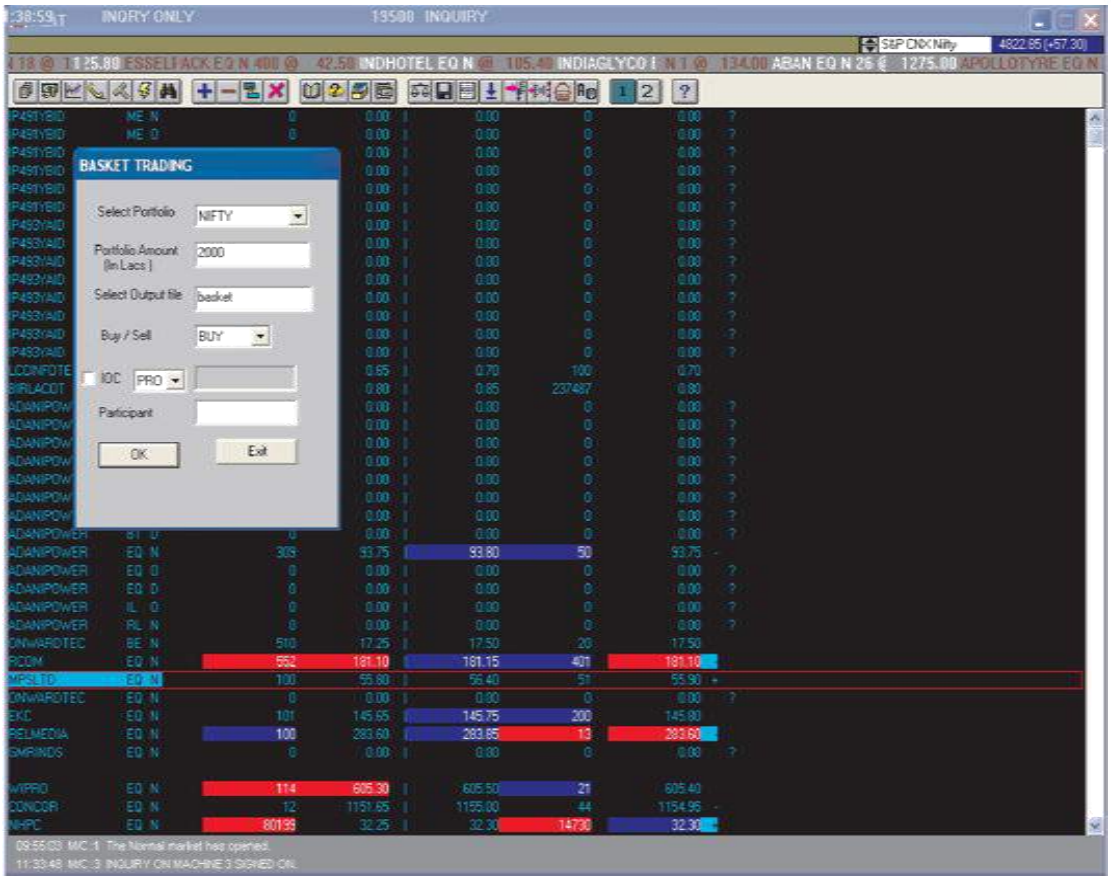


Figure 3.11: Basket Trading screen window in NEAT CM

3.10.16 Buy Back Trades

As per SEBI Notification, dated November 14, 1998, buyback of securities is permitted in the secondary market. This is termed as 'Buy-Back from the Open Market'. In the open market, buyback of shares is permitted through Stock Exchanges having electronic trading facility and such buyback orders are required to be identified upfront in the electronic trading screen as buyback orders.

The purpose of Buy Back Trade functionality is to give information to the market about the buy back trades executed from the start of the buy back period till current trading date in the securities whose buyback period is currently on. It provides information about Symbol, Series, Day's high price, Day's Low Price, Day's Weighted Average Price, Day's Volume, Total Volume, Highest/Lowest/Weighted Average Prices till previous day, Buy Back Start & End date.

The Buyback Trade functionality provides users with the information about the buyback trades going in various securities. The front screen shows Symbol, Series, Low price (Today), High price (Today), Weightage, Average price, Volume (Today) and Previous day Volume.

The user after selecting a particular row from the buyback list box can view further information viz. Symbol, Series, Start date, End date, Total Traded Qty (Till date), Previous High price, Previous Low price and Wt avg. Price till date of buyback scheme. The Buyback broadcast updates the information.

3.10.17 Supplementary Functions

This section discusses certain supplementary functions of NEAT such as Branch Order Value Limit, Most Active Securities, Colour Selection, Report Selection, Net Position and Print System Message.

The supplementary menu list box has the following options:

1	Report Selection	18	Order Limits
2	Full Message Display	19	Market Price protection functionality
3	Colour Selection	20	Order Attributes Selection
4	Print System Message ON/OFF	21	Client Master Maintenance
5	Print Order/Trade Confirmation Slips On/Off	22	Index Trading
6	Ticker Selection	23	Reverse Basket on Trading Quantity
7	Market Movement	24	Display CM Ticker
8	Most Active Securities	25	Display FO Ticker
9	Reprint Order/Trade Confirmation Slip	26	Trade Confirmation Bell
10	Branch Order Value Limit	27	Multiple Trade Cancellation
11	Net Position and Net Position backup	28	Debarred Client Maintenance
12	Online Backup	29	Reset User ID
13	One line/Tabular Slips	30	Offline File Conversion
14	Index Inquiry	31	Print Bhavcopy On/Off
15	User Order Value Limit Setup	32	Reset Password
16	Security wise User Order Quantity Limit & Security wise User Order Quantity Limit Bulk Upload	33	About
17	Offline Order Entry		

1. **Report Selection:** Report selection window allows the user (corporate manager and branch manager) to specify the number of copies to be printed for each report. The user can update the number of copies for a report. The Report Selection screen allows the user (Corporate manager and Branch Manager only) to specify the number of copies to be printed for each report. All the reports are generated at the end of day. Once the reports are printed, the Report Selection screen shows the date and the time the reports were printed. The user can request for reprinting any of the reports. The reports that are available to the trading member are Market Statistics and Market Indices.

   a) **Market Statistics:** The purpose of this report is to show the market statistics of that trading day. This report gives details related to all the securities traded on that day for all markets.

   b) **Market Indices:** A separate Market Indices Report is also disseminated to members which contains details regarding the Open, High, Low, Close, Previous Close and % change over the Previous Close of CNX Nifty, CNX Defty, CNX Nifty Junior, CNX 500, CNX 100, CNX Midcap CNX IT, Bank Nifty, Nifty Midcap 50, CNX Realty, CNX Infra, CNX Energy, CNX FMCG, CNX MNC, CNX Pharma, CNX PSE, CNX PSU Bank and CNX Service

2. **Full Message Display:** This option enables the display of all the system messages right from the start of the Opening Phase. It is also possible to filter the messages depending on the message code, symbol, series, PRO/CLI, Client, date and time. The system messages can be printed, if needed.

   Message area contains user ID for order and trade confirmation\modification\ cancellation and rejection. The trade confirmation\modification\cancellation messages displayed in the message area will contain the corresponding remarks entered during the order entry.

   The user can filter, print and save messages. In the message filtering screen the message code by default shows ALL. The user has the option to select the desired message code on which the messages can be filtered. The messages can also be filtered on Symbol, Series, Trading member Code, PRO/CLI/ ALL, Client A/C Number, Date and Time fields.

   In case the user desires to filter messages for trading member's own order/trade related messages, 'PRO' has to be specified with the trading member code defaulting in the 'Client Account' field. In case the user desires to filter messages for a particular client, 'CLI' has to be specified with the client account code in the 'Client Account' field. In case the user desires to view all messages, 'ALL' has to be specified and the 'Client Account' field should be blank. The message filter displays 'ALL' by default when the user invokes the full message display screen.

Message area will contain the machine number along with the message specifying from which machine the message have been generated. An extra filter code has been provided in the message area to filter messages on the machine number parameter. The messages are filtered as per the selection criteria. The message codes on which the selection can be made are:

Message Code	Description of Messages Selected
ALL	All messages
AUC	Auction order/trade messages
AUI	Auction initiation messages
LIS	All listing related messages
MAR	Margin Violation messages ORD Order Related messages
OTH	Miscellaneous
SPD	Security Suspension/De-suspension
SYS	System Messages
TRD	Trades

The full message display and filtered messages can be printed by invoking the print command by ensuring that the printer is online. The user can save messages by invoking the Save option on the Full Message Display screen and by specifying the directory and file name in the pop up box. Here an option is available to the user to both specify the directory and file name to save messages, or to choose the default directory i.e. nse-cm/user directory. This file can be viewed in MS-DOS editor.

3. **Colour Selection:** The user can customise the colours for various inquiry and other trader workstation screens as per choice. The background and the foreground colours can be selected by invoking the Colour Selection option. The following is displayed on the colour selection list box:

   a) **List of Screens:** Lists all the screens in NEAT system. The user has the option of changing both the foreground and the background colours of any screen.

   b) **Display Window:** Displays the screen with the changed colours. To change the colour of a particular screen, the user has to position the highlight bar on the desired screen and select any one of the sixteen colour buttons. The change in the colour can be seen in the Display window. The user can reset the colour to default setting by selecting the Default option. It is to be noted that the user cannot select the same colour for foreground of an inquiry screen.

4. **Print System Messages On/Off:** The 'Print System Messages ON/OFF' enables/ disables printing of the system messages as and when they appear in the messages window. By default the option is set to `OFF'. The user can change the On/Off position by pressing the space bar. The current mode (On/Off) is displayed for this option on the Supplementary Menu screen itself.

5. **Print Order/Trade Confirmation Slips On/Off:** The 'Print Order/Trade Confirmation ON/OFF' enables/disables printing of the order/trade slips. By default the option is set to `OFF'. The user can change the On/Off position by pressing the space bar. The current mode (On/Off) is displayed for this option on the Supplementary Menu screen itself. Pre open Identifier 'P' is displayed for Pre open records.

6. **Ticker Selection:** The ticker selection screen allows the user to set up the securities that should appear in the user's ticker window. All the securities available in the system for a particular market are displayed. If a security is deleted from the system, it is also removed from the ticker selection display. The selection of securities can be done for each market separately. The user can select one or all security type for display.

7. **Market Movement:** The purpose of the 'Market Movement' screen is to provide information to the User regarding the movement of a security for the current day. This inquiry gives the snap shot for a particular security for a time interval as parameterised by the exchange.

8. **Most Active Securities:** This screen displays the details of the most active securities based on the total traded value during the day. The number 'N' is parameterised by the Exchange. The information provided on this screen is not dynamically updated. The user, however, can get the latest information by refreshing the screen.

9. **Reprint Order/Trade Confirmation Slips:** Although the order and trade slips for 'confirmation', 'modification', 'rejection' and 'cancellation' slips can be printed as and when a particular operation is performed. The user, however, can reprint these slips later during the trading day by using this option.

   The user can select the order or trade and the type of slips i.e. confirmation, modification, cancellation or rejection. There is facility to select one or more operations for printing the slips.

   For example one can select 'confirmation' as well as 'modification' at a time. After the user specifies the type of slip to be printed, the start and end order/trade numbers are automatically filled. The user has to specify the range of order or trade numbers by appropriately selecting the start and the end order/trade numbers. Initially, the options have such values that all the order related slips can be printed. The start and the end order numbers contain order numbers that was

entered by the user on the current day. On selecting Print option all the selected order/trade slips are printed and on selecting the Cancel option, no slips are printed.

10. **Branch Order Value Limit Setup:** The purpose of this screen is to enable corporate manager to setup a limit on order entry for each branch under the trading member firm. This option in supplementary menu is available to the user only if the user is a corporate manager. On selection, the Branch Order Value Limit Setup screen appears. To view the limit for a particular branch, the user has to select the Branch ID and the details for the branch i.e. branch name, the limit set and the used up value are displayed. The values for the branch order limit are displayed in ₹ lakhs.

    To change the limit for a branch, the user has to select the 'Limited' option and enter the new limit in the 'New Limit Value'. The new limits are then updated by the system.

    The corporate manager can also authorize a branch with unlimited order entry by clicking on 'Unlimited'. The user can also print the details of a branch by selecting the Print option. Viewing and modification is possible during market hours.

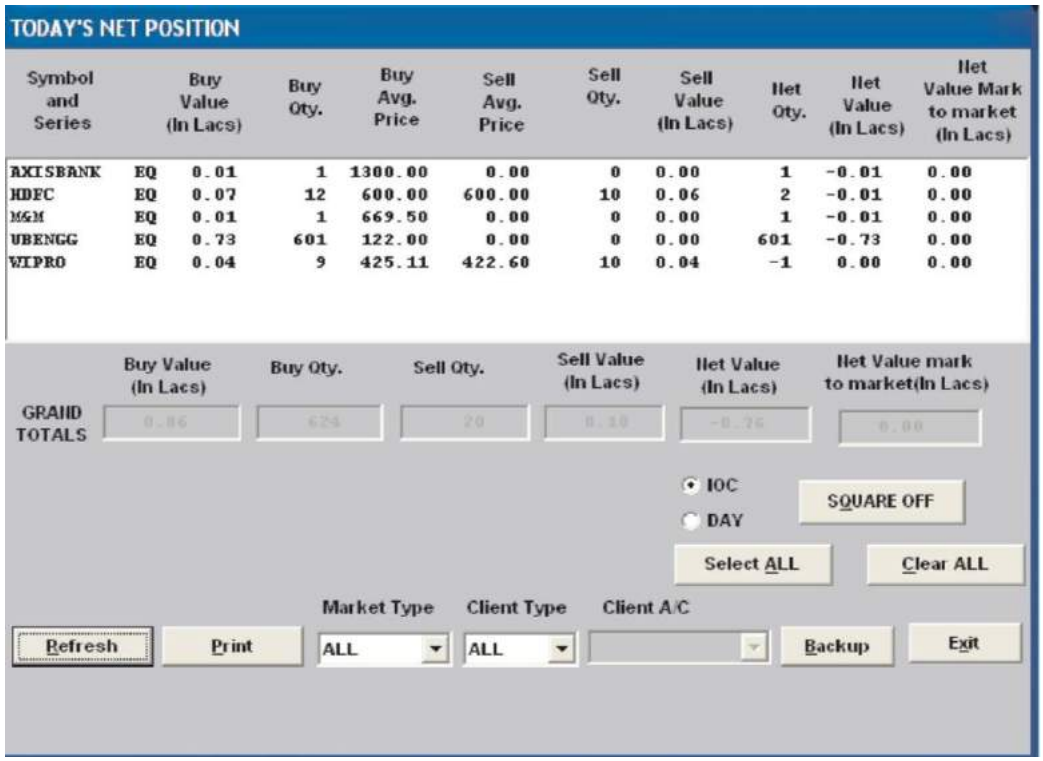
    A corporate manager can set the branch order value limit for any/all branches either before or during trading hours. Also, the corporate manager can view the set limit and the used limit any time during the trading day. Whenever the corporate manager modifies the branch order limit of any of his branches, the branch manager receives a message to that effect at his trader workstation.

11. **Net Position and Net position Backup:** The user can interactively view his net position across securities. The Net Position screen displays Symbol, Series, Buy Value (in lacs), Buy Qty, Buy Average Price, Sell Average Price, Sell Qty, Sell Value (in lacs), Net Qty and Net Value (in lacs).

    It also displays the Grand Total of Buy Value (in lacs), Buy Qty, Sell Qty, Sell Value (in lacs), Net Value (in lacs) and Net Value Mark to Market (in lacs). Net position screen displays the Net Mark to market value scrip wise as well as total net mark to market value.

    The user has the option for selecting market type as Normal/RETDEBT/Odd Lot/All. The user can also select Client Type as CLI/PRO/All. The user is provided with an option to select the client code from the drop down menu to view the net position of specific client. The user can refresh the screen to update the Net Position and can also print the details of the Net Position screen at any point of time. Net position backup is available from the Net position screen. The User can select the fields as Symbol, Series, PRO/CLI and CLI A/c Number on which the output would be filtered.

By default the output file is generated and stored as 'Netpos.txt'. The user can overwrite and specify any other file name also. The user has a option of generating the output file in any directory he wants to or on a floppy diskette.



SQUARE OFF:

This special functionality has been added for the user to Square of his position. This can be done by clicking the new option Square Off provided in the screen.

The user first needs to select one or more records from the list box. To select all the records, Select All button is provided. To clear all the selected records, Clear All button is provided.

When user clicks on Square off, an offline file will be generated containing counter orders which will square off the position of that particular user. The offline file generated will be stored in the drive from where the exe is re-inflated. The name of the offline file generated will be SqrOffPosition.txt".

The position can be squared off only for Normal Market. If the RETDEBT or ODDLOT market is selected, the Square Off button will get disabled.

If ALL is selected from the Market type drop down list, then the positions will be squared off for open position of NORMAL Market only.

If the user selects PRO or CLI from the Client Type drop down box, then the position would be squared off only for those corresponding Open positions.

In case of CLI if user selects a particular Account Number, then the position would be squared off only for those corresponding Open positions only.

The user is given an option to generate either DAY/IOC (IOC is defaulted) order while generating the offline file.

12. **Online Backup:** On Line Backup is a facility which the User can invoke to take a backup of all order and trade related information for the User. The information available is for the current day only. Figure 3.12 shows screenshot of online backup window in NEAT CM.

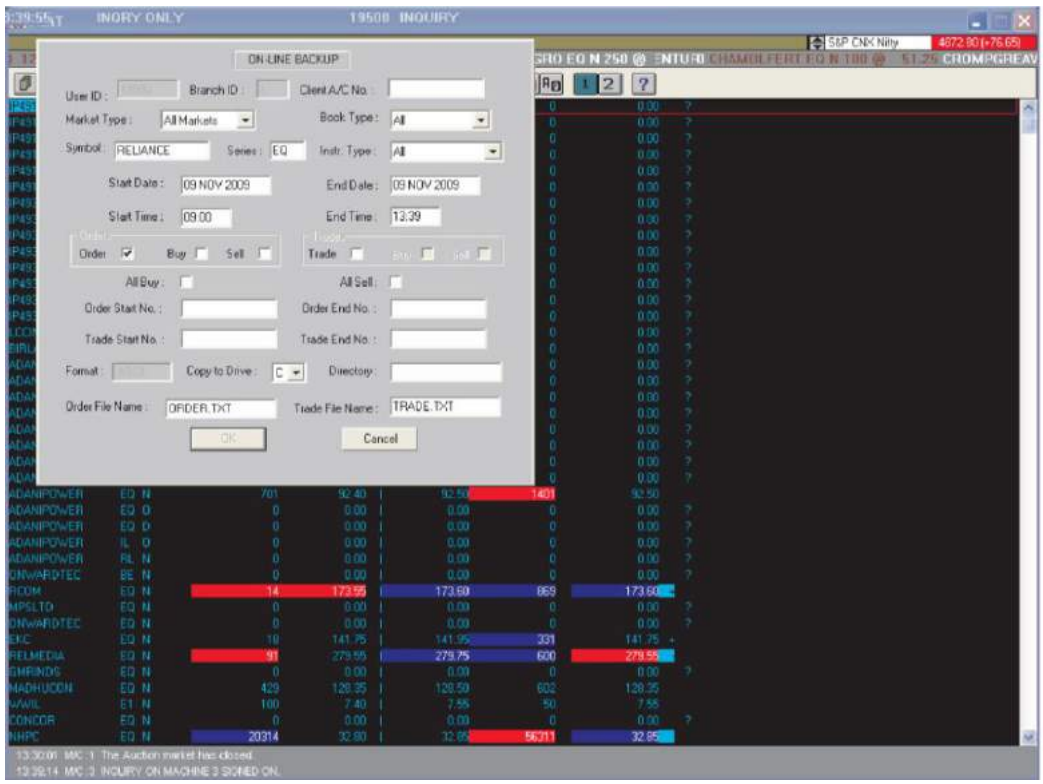


Figure 3.12 Online Backup window in NEAT CM

13 **One line/Tabular Slips:** The 'One Line or Tabular slips' is used to select the format for printing confirmation slips. By default the option is set to 'One Line'. The user can change the format to 'Tabular slip' by pressing the spacebar. The current mode is displayed on the Supplementary Menu screen.

14 **Index Inquiry:** Index Inquiry gives information on Previous Close, Open, High, Low and Current Index values of CNX Nifty at the time of invoking this inquiry screen. This screen displays information of CNX Nifty as of the time the screen was invoked on the current trading day. The data displayed is as follows:

a) 52 week High

b) 52 week Low

c) Closing Index

d) Opening Index

e) High Index

f) Low Index

g) Current Index

h) Net Change

i) % Change

At the end of day after market closure the Previous Close field will display current day's closing index value. The user requires to refresh the details of the screen by re-invoking the screen.

15. **User Order Value Limit Setup:** User order value limit is the cumulative value of orders placed by the user during the day across all securities. This enables the corporate manager to set up different limits among the users depending upon the permitted user activity in single/multiple scripts. For a new user, the user order value limit is set as zero by default.

Every order entry will be checked for user order value limit. A user is restricted to enter orders greater than the order value limit specified by his corporate manager. In case the user order value limit is exhausted a message "Order number ……. request rejected. Used limit cannot exceed the user order value limit." is displayed on the message window screen.

Following are the main features of user order value limit functionality:

a) A corporate manager can set up branch order value limit and user order value limit for all users. A branch manager can also set up the user order value limit for the users under his branch. The corporate manager can also query for order limits of any user under the trading member firm. While the branch manager can view the user order limits of the users under his branch only.

b) User order value limits are dependent on branch order value limit. It is not possible for a corporate manager to set only branch order value limit and not assign any user order value limit. It is mandatory for the corporate manager to configure user order value limit. The branch manager may also set up the user order value limit for users under his branch.

c) If a corporate manager sets the branch order value limit as 'unlimited' then the user order value limit can either be set unlimited or a specified limit. The cumulative value of user order value limit should not exceed the corresponding branch order value limit. Also, user order value limit cannot be set as unlimited if branch order value limit is set as specific value. In case

the corporate manager tries to revise the branch order value limit to a value less than the user order value limit a message "Cumulative user limit exceeded the branch limit" is displayed on the branch order value limit screen.

d) When the corporate manager sets up the user order value limit as specified/unlimited, a message "User order value limit for user number... has been set to ₹ ..... lakh/unlimited" is displayed on the message window screen of the corporate manager, respective Branch Manager and the concerned user.

e) The user order value limit can be revised during trading hours.

f) The corporate manager/branch manager can also print the user order value limit details.

Example: M/s. Agre Financial Services, a trading member on the NSE, has a branch order value of ₹ 700 lakh for his Chennai branch and ₹ 650 lakh for Kolkata branch. Chennai branch has two users 'X' and 'Y' with user order value limits of ₹ 250 lakh and ₹ 300 lakh respectively. Kolkata branch has one user 'Z' with user order value limit of ₹ 350 lakh. The member applies for a new user at Chennai. What is the maximum user order value that can be set for the new user?

The maximum User Order Value limit for Chennai is
= ₹ 700 - (₹ 250 + ₹ 300) = ₹150 lakh

17. **Security wise User Order Quantity Limit & Security wise User Order Quantity Limit Bulk Upload:** The trading system has a facility for setting up Branch Order Value Limit (BOVL) and User Order Value Limit (UOVL). The Corporate Manager can set up BOVL for each branch and UOVL for all the users (dealers and BMs) under him. The Branch Manager (BM) can set the UOVL of the dealers in his branch. Sum of the UOVLs of all the users under a particular branch cannot exceed BOVL, set by the corporate manager. While this enables the corporate manager and branch manager to restrict the total value of order entered by the users, it is not possible to restrict buying or selling in specific securities.

An additional facility for setting up Security wise user-wise Order Quantity Limits (SUOQL) for buy and/or sell has been provided. This function will be available only to the NEAT users. Salient features of the functionality are given below:

a) The corporate member is allowed to set the SUOQL separately for buy and sell orders for each security for all the branch manager and Dealers (except inquiry only users) under him including himself.

b) A 'view only' facility is given to the BM for his own limit and the dealers under him.

c) View only facility is given to the dealer for his own limit.

d) For the newly added user or security the SUOQLs record is not to be added by default (i.e. No SUOQL will be set for new security or user).

e) It is possible to modify the SUOQL anytime during trading hours and it should not be set less than the used limit for that security.

f) The used limit field is displayed for buy and sell separately for each security.

g) Any activity like order modification or cancellation is reflected in used limit figure for the respective security and respective side.

h) This limit is applicable for a symbol across all series, across all the markets.

i) The set value is not less than zero.

j) Modification of set limits for a security is possible multiple times.

k) SUOQL setting option is given in supplementary menu.

l) A bulk upload facility to set the security wise buy sell limit through a csv file is provided. In case of failure to upload a particular record/s, failure message will be written in the input file in the form of an error code. The file is reusable.

m) SUOQL bulk upload facility is not available during the market hours.

n) After the limit is set successfully, the message will be sent to the respective corporate manager/ branch manager/dealer.

o) For a symbol both buy and sell quantity can be set to unlimited.

p) The facility to print the set SUOQL limits is provided.

q) A facility to limit trading to the securities set up in the SUOQL is provided. If limit trading option is set for the user, the user is allowed to place orders only for symbols set in his SUOQL list by the corporate manager. It is however possible to enable this facility without having any security in the SUOQL list, which prevents the user from entering any fresh orders.

r) Corporate Manager is given a facility to allow or disallow a user from entering Index orders. By default all dealers are allowed to place index orders. Index orders are not validated for SUOQL limits. The orders once entered are updated in the used limits.

s) Set limits can be set equal to or greater than used limits.

t) If a symbol is added/set in SUOQL list during the market hours, previously used quantities, till that time would be taken into account.

u) It is possible that dealer is restricted to enter order in particular security, but allowed to enter index order and that restricted security is a part of Nifty.

v) If the order is modified by corporate manager / branch manager for a respective dealer then the used limit will be updated accordingly, but in this case it can exceed the set limit.

w) SUOQL used limit is not validated and updated for Auction orders.

Bulk upload by corporate manager for setting SUOVL for dealers is allowed after receiving the message in the trader work station (TWS) after market close and in morning till cut off time set by the exchange before the market opens.

The structure of input csv file for bulk upload is as follows:

- User-Id
- Action-Type
- Symbol
- Buy Set Limit
- Sell Set Limit
- Error-Code

18. **Offline Order Entry:** A facility 'Offline Order Entry' has been incorporated in the trading software where the user can generate order file in a specific format outside the trading system and upload the file in the system by invoking this facility. The user has to specify the exact file location that can be a hard disk drive or a floppy drive. The status of the orders so uploaded is recorded in last two fields of the same file. Once the order processing is complete, the user can open the same file in MS-DOS editor. If the system assigns an order number, the same is written against the record. In case of any error(s), the corresponding error code is written against the record. Offline order entry is also available for RETDEBT market. Users can place bulk orders in pre-open with book type as 'PO'.

The user has to specify the relevant order file name in the Offline Order Entry pop-up box and then initiate the upload process. The user can also interrupt the injection of the orders. It should be noted that the file has to be in the format as specified by the Exchange. The offline order entry facility accepts comma separated file structure (file saved as *.csv where * is the file name).

Advanced Offline Order Entry

A special feature 'Advanced Offline Order Entry' has been incorporated in the trader workstation for all types of users ('Corporate Manager ', 'Branch Manager' and 'Dealer') except 'Inquiry users'. The user can create an offline order file using this feature. This file can be used to place orders in bulk. The user has the option of adding, modifying or deleting a record in the created file. The user can also

create the file in a specific format (as mentioned below) outside the trading system and upload the file in the system by invoking this facility.

18. **Order Limits:** An Order limit is a facility to enable the user to specify maximum value per order and maximum quantity per order that can be entered from the trader workstation. At the time of order entry and order modification this limit is checked by the system. Order limits are set by individual users and are provided as safety measure against any inadvertent error during data entry while entering orders.

    For a user logging in for the first time, order limits are specified as unlimited by default. In case specific value/quantity is to be specified, data has to be entered in the respective input fields namely 'Order Value (in lakh)' & 'Order Quantity'. In case unlimited is to be specified, the checkbox allows the user to set 'Unlimited' as his limit.

    The order limits can be modified during market hours. When the user modifies these limits, a message 'Max. Value/Qty for one order has been set to Rs ..... Lakh/ .....' is displayed on the message window screen. When the user sets the limit as unlimited, a message 'Max. Value/Qty for one order has been set to unlimited' is displayed on the message window screen. While modifying the values if either of the input fields is left blank, the dealer gets an error message, either 'Quantity Limit not Entered' or 'Value Limit not Entered' respectively. In case the user tries to modify without entering any new values, a message 'Values not changed' is displayed. Whenever the user places an order, the order values are validated against these values to confine the checking to the trader workstation. In case the user enters an order that exceeds the specified quantity limit, a message 'Order quantity entered exceeds the order limit quantity' is displayed. In case the user enters an order which exceeds specified order value (order price x order quantity) a message 'Order value exceeds order value limit' is displayed. The quantity check is always done prior to order value check. Only if both values are not exceeded, the order is sent to the system for further processing. In case of a market order if the order quantity exceeds the order quantity limit, the checking is done at the trader workstation itself as in the case of priced orders. For order value check, however, the check is performed by the Host.

19. **Market Price protection functionality:** This functionality gives an option to a trader to limit the risk of a market order, within a pre-set percentage of the Last Trade Price (LTP). The pre-set Market price protection percentage is by default set to 5% of the LTP. The users can change the pre-set Market price protection percentage from the Order Limit Screen which can be invoked from the Supplementary Menu. The set percentage will be applicable till the Ntreltdr EXE is re-inflated.

At the time of order entry, the user can check the cursor is in the price field. In case of a buy order, the price value shown is taken as the default price, which is greater than LTP by a pre-set percentage. In case of a sell order, the default value will be lesser than the LTP by a pre set percentage. The time condition in both cases will automatically change to IOC. The user has the option to change any of the fields. Since the calculations are based on LTP if broadcast for the security is not received, the default value will be 'MARKET'.

20. **Order Attribute Selection:** The order attribute selection enables user to set default parameters for two fields – PRO/CLI and Custodial Participant id fields in the order entry screens. The selection screen provides a facility whereby users can select or deselect required options. The PRO/CLI and custodial participant ID options as selected by the user is available in the order entry screen. In case the user deselects all options for PRO/CLI the following error message is displayed "Either PRO or CLI must be selected". If a member sets the default option in the PRO/CLI field as 'PRO', then each time the order entry screen is invoked, 'PRO' will be displayed and 'CLI' will not be available to the user for order entry. If a member selects 'PRO' and 'CLI', then each time the order entry screen is invoked, 'PRO' and 'CLI' will be available to the user for order entry. Similarly, if a member selects 'NCIT' in the custodial participant field, only 'NCIT' will be displayed on invoking the order entry screen. If a member selects broker id as default option in the custodial participant field, then only the broker id will be displayed in the order entry screen.

    By default this screen has all the options marked for display in the order entry screen. Options can be changed during trading hours. However, if a user exits the NEAT application and logs in again, the required parameters will have to be selected again for order entry.

    The order entry screen is defaulted at "Book Type" field. The member is provided with the facility where he can choose the order entry screen default to be "Book Type" or "Quantity".

    By default this screen has "Book Type" option marked. Options can be changed during trading hours.

    If the member selects 'Book Type' in Book/Quantity field, the default cursor will be placed at "Book Type" in order entry screen/order modification screen.

    If the member selects 'Quantity' in Book/Quantity field, the default cursor will be placed at "Quantity" in the order entry screen, except if the market watch is blank, in this case the default cursor will be placed at "Book Type" while in the order modification screen the default cursor will be placed at "Quantity".

    This parameter selected by member will remain even if the member exits the NEAT application and until the member reinflates the NEAT exe.

The users have been provided with a facility to set up the last entered Client account number, Participant & remarks fields in the order entry screens as the default values. These values will be taken as default till the time the fields in the order entry screens are not altered or the NEAT front end is not closed. On setting the checkboxes, the values entered in the previous order will be taken as default in the relevant fields. These fields will continue to have the default values till any one of the fields is toggled, or a different order is placed. Each of these three fields can be taken as default individually or in any desired combination.

An option has also been provided to warn the user if the account number being entered for the client is not present in the client master file. A checkbox has been provided in the Order Attribute Selection screen to enable or disable this facility. Once the user receives a warning, he has the option of entering the client account number and details in the client master and resumes order entry or skip this. In case of offline order entry, the warning is for each order in the input file. The user has the option of stopping the offline file by clicking on the Offline order entry screen and clicking on the Stop button. Figure 3.13 shows screenshot of order attribute window.

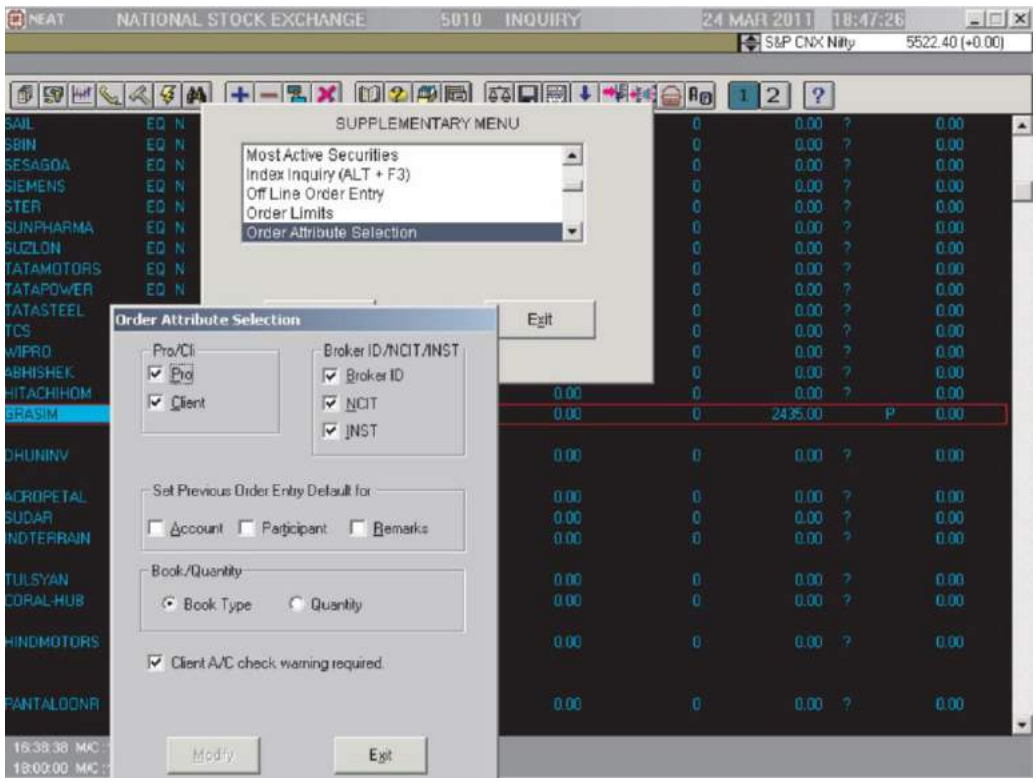


Figure 3.13: Order Attribute Window in NEAT CM Change Screen

21. **Client Master Maintenance:** This facility allows the user to maintain list of client in trader workstation. Along with client code other information like Client Name, PAN No., Participant Code can be maintain in client master. The user can add,

modify, upload or delete clients. During order entry when the user selects the cli option and press the down arrow key in the account field, a drop down list of clients will be enabled. The user can select a particular record, by typing the first character of account number. On pressing Enter key, the account number of that record will be defaulted in the Account No. field. Also if participant exists for the selected account number, the Participant ID gets populated in the participant field of the order entry screen.

22. **Index Trading:** The purpose of Index Trading is to provide users with a facility of buying and selling of Indexes, in terms of securities that comprises the Index. The users have to specify the amount, and other inputs that are sent to the host, and the host generates the orders. The Index Trading enables the users for buying or selling an Index Basket. Putting orders in securities in proportion that comprises the chosen index, simulates the buying and selling of Index basket.

Formula Used to calculate no of shares of each security is

$$\text{No of Shares of a security in index} = \frac{\text{Amount} * \text{Issued Capital for the security} * \text{Free Float Factor}}{\text{Current Market Capitalization of the Index}}$$

Current Market Capitalization of the Index = Summation [Last Traded Price (Previous close if not traded) * No of Issued shares]

The no of shares are rounded off to the nearest integer. If the Index basket contains any security whose regular lot is not one, then the file will need to be corrected by the user to accommodate shares in tradable lots.

23. **Reverse Basket on Traded Quantity:** The purpose of Reverse Basket Trading is to provide the users with an offline file for reversing the trades that have taken place for a basket order. This file will contain orders for different securities of the selected basket file. The Orders will be created according to the volume of trade that has taken place for that basket. This feature can also be used to monitor the current status of the basket file as the latest status of the orders are displayed in the list box. The functionality of creating reverse basket offline order file based on orders at the time of creating the basket will continue to be available. The new functionality is another alternative to create the reverse file based on the trades executed till the point of time.

User can invoke the functionality by selecting it from the supplementary menu. On selecting the relevant basket file the details of that file are loaded in the list box. The basket file names in the combo box are user defined file names (which can be created or edited from Basket Trading Screen which is an existing functionality). All User defined basket file names are automatically loaded in to the Combo box. The User can select the basket of his choice. It is advisable to create each basket with a different name and clean up the directories regularly

and not tamper with the original basket file once it has been loaded as it may give erroneous results.

On pressing the Reverse button the reverse basket file would be generated in the RTRDBASKET folder in the login drive. The file would have the same name as the basket file prefixed with a REV_. If a file with the given name already exists then it asks for overwriting the old file. The User can mention Order's duration (IOC or day) by selecting from a check box.

24. **Display CM Ticker:** The 'Display CM Ticker' is used to enable or disable CM ticker.

25. **Display FO Ticker:** The 'Display F&O Ticker' is used to enable or disable F&O ticker.

26. **Trade Confirmation Bell:** The 'Trade confirmation Bell 'is used to enable or disable the bell sound at trade confirmation.

27. **Multiple Trade Cancellation:** An additional facility 'Multiple Trade Cancellation' is provided to the user to cancel all the trades done by him, based on an order number.

28. **Debarred Client Maintenance:** This facility allows to maintain a list of Debarred Clients. The user is provided option to add, modify, save, upload or delete debarred clients. During order entry, if a user tries to place an order for any debarred client added in the Debarred Client Master, then an error message "The account is debarred from trading" will be displayed on the order entry screen.

29. **Reset User ID:** This will facilitate the members to terminate the active session for users under the trading member. The facility has been provided to all corporate managers and branch managers. A branch manager can terminate the active session for all the users of that branch except for self. Active session of the branch manager can be terminated by the corporate manager. The session of the corporate manager can be terminated only by the Exchange.

30. **Offline File Conversion:** The feature Offline File Conversion has been incorporated in the trading software. The user can use this functionality to convert a file with a predefined format into an output file of Offline file format. The user can upload this converted file using Offline Order Entry functionality or Advance Offline Order Entry functionality.

    While using the Offline File Conversion Functionality, User has to give the complete input file name (e.g. C:\Example.txt); the output file will be generated at the same location as of input file with the name as "<filename>_conv" (e.g. C:\Example_conv.txt).

The Offline File Conversion is available only for Normal Market under RL orders.

The Offline File Conversion facility will accept comma separated file as input.

This Facility is not available for the Inquiry user.

In case of any error(s), the corresponding error code is written against the record in the output file and Pop-Up "Error in File Conversion" is displayed when Offline File Conversion is completed.

31. **Print Bhavcopy On/Off:** "Print Bhavcopy On/Off" is used to enable or disable the printing the bhavcopy, interim bhavcopy and index bhavcopy reports.

    By default, the option will be set to 'Enable'. To change the [Enable/Disable] status presses the [Spacebar]. The current status is immediately displayed on the supplementary menu screen.

32. **Reset Password:** This screen enables Corporate Manager to reset the password and to enable the users of their trading member who got disabled by entering wrong passwords for more than 6 times.

33. **About:** The 'About' window displays the software related version number details and copyright information

3.11 Order Management

Order Management consists of entering orders, order modification, order cancellation and order matching.

3.11.1 Entering Orders

The trading member can enter orders in the normal market, odd lot, RETDEBT and auction market. A user can place orders in any of the above mentioned markets by invoking the respective order entry screens. After doing so, the system automatically picks up information from the last invoked screen (e.g. Market Watch/MBP/OO/SQ and Security List). When the user invokes the order entry screen, the fields that are taken as default are Symbol, Series and Book Type.

In case of other fields, the system takes the following defaults:

Qty	Regular lot quantity available at best price on counter side
Price	Price of best counter order
Pro	Trading member ID of the user
Order Duration	Day
Disclosed quantity	Fully Disclosed
Participant ID	Trading member ID of the user

Active & Passive Order

When any order enters the trading system, it is an active order. It tries to find a match on the other side of the books. If it finds a match, a trade is generated. If it does not find a match, the order becomes a passive order and goes and sits in the order book.

Order Books

As and when valid orders are entered or received by the trading system, they are first numbered, time stamped and then scanned for a potential match. This means that each order has a distinctive order number and a unique time stamp on it. If a match is not found, then the orders are stored in the books as per the price/time priority. Price priority means that if two orders are entered into the system, the order having the best price gets the higher priority. Time priority means if two orders having the same price is entered, the order that is entered first gets the higher priority. Best price for a sell order is the lowest price and for a buy order, it is the highest price.

The different order books in the NEAT system are as detailed below:

- **Pre-open Book**: An order during Pre-open session has to be a Pre-open (PO) order. All the Pre-open orders are stacked in system till the Pre-open phase. At the end of Pre-open phase, the matching of Pre-open orders takes place at the Final Opening Price. By default, the Pre-open (PO) book appears in the order entry screen when the Normal Market is in Pre-open and the security is eligible for Pre-open Session. Order entry in Pre-open book type is allowed only during market status is in Pre-open.
- **Regular Lot Book:** An order that has no special condition associated with it is a Regular Lot order. When a dealer places this order, the system looks for a corresponding Regular Lot order existing in that market (Passive orders). If it does not find a match at the time it enters the system, the order is stacked in the Regular Lot book as a passive order. By default, the Regular Lot book appears in the order entry screen in the normal market. Buyback orders can be placed through the Regular Lot (RL) book in the Normal Market. The member can place a buyback order by specifying 'BUYBACKORD' in the Client Account field in the order entry screen. Such company buyback orders will be identified in MBP screen by an '*' (asterisk) indicator against such orders.
- **Special Terms Book:** Orders which have a special term attribute attached to it are known as special terms orders. When a special term order enters the system, it scans the orders existing in the Regular Lot book as well as Special Terms Book. Currently this facility is not available in the trading system.
- **Stop Loss Book:** Stop Loss (SL) orders are released into the market when the last traded price for that security in the normal market reaches or surpasses the

trigger price. Before triggering, the order does not participate in matching and the order cannot get traded. Untriggered stop loss orders are stacked in the stop loss book. The stop loss orders can be either a market order or a limit price order. For buy SL orders, the trigger price has to be less than or equal to the limit price. Similarly, for sell SL orders, the trigger price has to be greater than or equal to the limit price.

- **Odd Lot Book:** The Odd Lot book can be selected in the order entry screen in order to trade in the Odd Lot market. Order matching in this market takes place between two orders on the basis of quantity and price. To enter orders in the odd lot market, select the book type as OL.

- **RETDEBT Order Book:** RETDEBT market orders can be entered into the system by selecting the RETDEBT Order book. These orders scan only the RETDEBT Order book for potential matches. If no suitable match can be found, the order is stored in the book as a passive order. To enter orders in the RETDEBT market, select the book type as 'D'.

- **Auction Order Book:** Auction order book stores orders entered by the trading members to participate in the Exchange initiated auctions. Auction orders can be initiator orders, competitor orders and solicitor orders.

Symbol & Series

Securities can be taken as default values from the order entry screen from any of the inquiry screens such as MBP, OO, PT, AL, MI and SQ. In case the security is not set up in the Market Watch screen, the Security List can also be used to take the codes as default values.

Order entry in a security is not possible if that security is suspended from trading. E.g. If a security is suspended in the normal market a message "Security is suspended in the normal market" is displayed on the order entry screen. The label 'Suspended' is also displayed in the market watch screen for the setup security.

Order entry is also not possible in case the security is not eligible to trade in a particular market. E.g. If a security is not eligible to trade in the normal market a message "Security is not allowed to trade in normal market" is displayed on the order entry screen. In case the user types the symbol series incorrectly a message "Invalid symbol series" is displayed on the screen.

Quantity

When the buy/sell order entry screen is invoked, the regular lot size available at the best price on the counter side gets defaulted in the order entry screen. In case auction book is selected for display, the quantity has to be specifically mentioned by the user. Quantity mentioned should be in multiples of regular lot size for that security.

Quantity Freeze

All orders with very large quantities will receive quantity alert at member terminal. Currently, if member enters any order exceeding the lowest of the quantity given below, results in an alert which will read as *"Order entered exceeds alert quantity limit. Confirm availability of adequate capital to proceed"* and only after the member clicks the button 'Yes' the order will be further processed for execution.

Quantity Freeze parameters:

a) 0.5% of the issue size of the security or

b) value of the order is around ₹ 2.5 crores or

c) a global alert quantity limit of more than 25000 irrespective of the issue size of the security, whichever is less.

Price

Along with the regular lot quantity, the best price on the counter side is also taken as default value in the order entry screen. A user has the option to either enter the order at the default price or overwrite it with any other desired price. If a user mentions a price, it should be in multiples of the tick size for that particular security and within the day's minimum / maximum price range, otherwise the order is not accepted by the system and an order rejection message / confirmation slip is generated. For a No price band scrips (scrip), if a price outside the Operational Range is entered, the order results in a price freeze and is not accepted as a valid order till the time the Exchange approves it. All auction orders require the user to mention a price.

In case the user enters an order with a 'Market' price, the order takes the last traded price in the respective market as the market price, provided no passive order exists on the same side or the counter side in that security and in that market. On the other hand, if suitable orders exist on the counter side, then the order takes the price of the counter order and a trade is generated. If an order exists on the same side but no orders exists on the counter side, then the order takes the price of the best order on that side and is stacked immediately below it. If the security has never been traded, then the market order takes the value of the base price and sits in the books as a passive order.

Another option provided to Users in the Pre-open phase of the Normal market is 'ATO' or the 'At Open Price' concept. 'Market' orders entered in the pre-open are termed as 'ATO'. Based on the opening algorithm, the system computes a potential opening price. Once the market is open for trading, the ATO orders take these prices.

In case of stop loss orders, a user has the flexibility of specifying a limit price along with the trigger price. This limit price can be selected as equal to the trigger price in the price field so as to leave it with the word 'Price'. Alternatively, a user can specify a limit price as 'Market' price.

Circuit Breakers

The Exchange has implemented index-based market-wide circuit breakers in compulsory rolling settlement with effect from July 02, 2001. In addition to the circuit breakers, price bands are also applicable on individual securities.

Index-based Market-wide Circuit Breakers: The index-based market-wide circuit breaker system applies at 3 stages of the index movement, either way viz. at 10%, 15% and 20%. These circuit breakers when triggered bring about a coordinated trading halt in all equity and equity derivative markets nationwide. The market-wide circuit breakers are triggered by movement of either the BSE Sensex or the CNX Nifty, whichever is breached earlier.

a) In case of a 10% movement of either of these indices, there would be a one-hour market halt if the movement takes place before 1:00 p.m. In case the movement takes place at or after 1:00 p.m. but before 2:30 p.m. there would be trading halt for ½ hour. In case movement takes place at or after 2:30 p.m. there will be no trading halt at the 10% level and market shall continue trading.

b) In case of a 15% movement of either index, there would be a two-hour halt if the movement takes place before 1 p.m. If the 15% trigger is reached on or after 1:00 p.m., but before 2:00 p.m., there shall be a one-hour halt. If the 15% trigger is reached on or after 2:00 p.m. the trading shall halt for remainder of the day.

c) In case of a 20% movement of the index, trading shall be halted for the remainder of the day.

These percentages are translated into absolute points of index variations on a quarterly basis. At the end of each quarter, these absolute points of index variations are revised for the applicability for the next quarter. The absolute points are calculated based on closing level of index on the last day of the trading in a quarter and rounded off to the nearest 10 points in case of CNX Nifty.

Price Bands

Daily price bands are applicable on securities as below:

a) Daily price bands of 2% (either way) on securities as specified by the Exchange.

b) Daily price bands of 5% (either way) on securities as specified by the Exchange.

c) Daily price bands of 10% (either way) on securities as specified by the Exchange.

d) No price bands are applicable on scrips on which derivative products are available or scrips included in indices on which derivative products are available. In order to prevent members from entering orders at non-genuine prices in such securities, the Exchange has fixed operating range of 20% for such securities.

e) Price bands of 20% (either way) on all remaining scrips (including debentures, preference shares etc).

The price bands for the securities in the Limited Physical Market are the same as those applicable for the securities in the Normal Market. For auction market the price bands of 20% are applicable.

Order Types and Conditions

The system allows the trading members to enter orders with various conditions attached to them as per their requirements. These conditions are broadly divided into Time Conditions, Quantity Conditions, Price Conditions and Other Conditions. Several combinations of the above are allowed thereby providing enormous flexibility to the users. The order types and conditions are summarised below:

(i) Time Conditions

a) DAY: All orders entered into the system are currently considered as Day orders only.

b) IOC: An Immediate or Cancel (IOC) order allows the user to buy or sell a security as soon as the order is released into the system, failing which the order is cancelled from the system. Partial match is possible for the order, and the unmatched portion of the order is cancelled immediately.

(ii) Quantity Conditions

DQ: An order with a Disclosed Quantity (DQ) allows the user to disclose only a portion of the order quantity to the market. For e.g. if the order quantity is 10,000 and the disclosed quantity is 2,000, then only 2,000 is released to the market. After this quantity is fully matched, a subsequent quantity of 2,000 is disclosed. Thus, totally five disclosures with the same order number are shown one after the other in the market.

(iii) Price Conditions

a) Market: Market orders are orders for which price is specified as 'MKT' at the time the order is entered. For such orders, the system determines the price.

b) Stop-Loss: This facility allows the user to release an order into the system, after the market price of the security reaches or crosses a threshold price called trigger price.

Example: If for stop loss buy order, the trigger is ₹ 93.00, the limit price is ₹ 95.00 and the market (last traded) price is ₹ 90.00, then this order is released into the system once the market price reaches or exceeds ₹ 93.00. This order is added to the regular lot book with time of triggering as the time stamp, as a limit order of ₹ 95.00.

All stop loss orders are kept in a separate book (stop loss book) in the system until they are triggered.

c) **Trigger Price:** Price at which an order gets triggered from the stop loss book.

d) **Limit Price:** Price of the orders after triggering from stop loss book.

(i) **Other Conditions**

a) **Proprietary (PRO) / Client (CLI):** A user can enter orders on his own account or on behalf of clients. By default, the system assumes that the user is entering orders on the trading member's own account. The client account field is an alphanumeric field. It is mandatory to enter the client account number in the field provided in case the user enters orders on behalf of clients. The system will assign a code 'Cli' to such an order. The user cannot specify the trading member code in the client account field.

b) **Participant Code:** In case of "Pro" order by default, the system displays the trading member ID of the user in the participant field. In case of Cli order if "Participant ID" exist in client master maintenance the same will appear in participant filed, else trading member ID will be reflected. Only a valid participant code can be entered. In case the participant is suspended, a message to this effect is displayed to the user on the order entry screen.

3.11.2 Order Modification

All orders can be modified in the system till the time they do not get fully traded and only during market hours. Once an order is modified, the branch order value limit for the branch gets adjusted automatically. Following is the corporate hierarchy for performing order modification functionality:

a) A dealer can modify only the orders entered by him.

b) A branch manager can modify his own orders or orders of any dealer under his branch.

c) A corporate manager can modify his own orders or orders of all dealers and branch managers of the trading member firm.

The corporate manager/branch manager, however, cannot modify order details such that it exceeds the branch order value limit set for the day. Order modification cannot be performed by/for a trading member who is suspended or de-activated by the Exchange for any reason.

3.11.3 Order Cancellation

Order cancellation functionality can be performed only for orders which have not been

fully or partially traded (for the untraded part of partially traded orders only) and only during market hours and in pre-open period.

- **Single Order Cancellation**

  Single order cancellation can be done during trading hours either by selecting the order from the outstanding order screen or from the function key provided. Order cancellation functionality is available for all book types. But the user is not allowed to cancel auction initiation and competitor orders in auction market.

- **Quick Order Cancellation**

  Quick Order Cancellation (Cancel All) is an extension of Single Order Cancellation enabling a user to cancel multiple outstanding orders in various trading books subject to the corporate hierarchy. The different filters available for cancelling orders by using quick order cancellation facility are symbol, series, book type, branch, user, PRO/CLI, client account number and buy/sell. Quick order cancellation can be performed by invoking the function key provided and cannot be done from the outstanding orders screen. If the criterion is not found to be correct by a trading member then an error message is displayed and the focus is set on the incorrect field to enable the user to correct it. If the selection criterion is correct then a message appears on the quick order cancellation screen stating the number of buy and sell orders to be cancelled. Quick order cancellation can be done only during market hours.

- **Order Cancellation for Disabled Member**

  The Exchange suspends a member from trading due to various reasons. In case a member is suspended from trading by the Exchange, all pending orders in all books of the member are immediately cancelled by the system. A message: "Order Number ……. cancelled due to suspension" is displayed at the message window screen at the trader workstation. Inquiry screens such as MBP, Market Watch and trader specific screens such as Outstanding Orders, Activity Log etc. get updated accordingly.

3.11.4 Order Matching

The buy and sell orders are matched on Book Type, Symbol, Series, Quantity and Price.

Pre-open Matching Priority

The opening price is determined based on the principle of demand supply mechanism. The equilibrium price is the price at which the maximum volume is executable. In case more than one price meets the said criteria, the equilibrium price is the price at which there is minimum unmatched order quantity. In case more than one price has same minimum order unmatched quantity, the equilibrium price is the price closest to the

previous day's closing price. In case the previous day's closing price is the mid-value of pair of prices which are closest to it, then the previous day's closing price itself will be taken as the equilibrium price. In case of corporate action, previous day's closing price is adjusted to the closing price or the base price. Both limit and market orders are reckoned for computation of equilibrium price. The equilibrium price determined in pre-open session is considered as open price for the day. In case if only market orders exists both in the buy and sell side, then order is matched at previous days close price or adjusted close price/base price. Previous day's close or adjusted close price / base price is the opening price. In case if no price is discovered in pre-open session, the price of first trade in the normal market is the open price.

Matching Priority

The best sell order is the order with the lowest price and a best buy order is the order with the highest price. The unmatched orders are queued in the system by the following priority:

(a) **By Price:** A buy order with a higher price gets a higher priority and similarly, a sell order with a lower price gets a higher priority. E.g. Consider the following buy orders:

1. 100 shares @ ₹ 35 at time 9:30 a.m.
2. 500 shares @ ₹ 35.05 at time 9:43 a.m.

The second order price is greater than the first order price and therefore is the best buy order.

(b) **By Time:** If there is more than one order at the same price, the order entered earlier gets a higher priority. E.g. consider the following sell orders:

1. 200 shares @ ₹ 72.75 at time 9:30 a.m.
2. 300 shares @ ₹ 72.75 at time 9:35 a.m.

Both orders have the same price but they were entered in the system at different time. The first order was entered before the second order and therefore is the best sell order.

As and when valid orders are entered or received by the system, they are first numbered, time stamped and then scanned for a potential match. This means that each order has a distinctive order number and a unique time stamp on it. If a match is not found, then the orders are stored in the books as per the price/time priority.

An active buy order matches with the best passive sell order if the price of the passive sell order is less than or equal to the price of the active buy order. Similarly, an active sell order matches with the best passive buy order if the price of the passive buy order is greater than or equal to the price of the active sell order.

Regular Lot Matching

- If the combined quantity of one or more matching orders on the opposite side of the regular lot book is equal to or more than the quantity of active order, the active order is *completely traded.*
- If the combined quantity of one or more matching orders on the opposite side of the regular lot book is equal to or less than the quantity of active order, the active order is *partially traded.*
- If after trading any quantity is left untraded, the order is added to the regular lot book in the price/time priority.
- The orders with the IOC attribute try to match maximum possible quantity after they are entered. Any remaining quantity is cancelled.
- The orders with DQ attribute disclose only a part of the total order quantity to the market.
- An active order with disclosed condition tries to maximise the quantity as possible regardless of the disclosed quantity i.e. a single trade takes place for a quantity more than the disclosed quantity.

If an active order with the disclosed quantity cannot trade its total quantity, it is added to the regular lot book in the price/time priority. The disclosed order quantity is determined as follows:

a) If the remaining order quantity is less than or equal to the original disclosed quantity, the disclosed order quantity is set as equal to remaining order quantity.

b) If the remaining order quantity is more than the original disclosed quantity, the disclosed order quantity is set to the original disclosed quantity.

Once an order with the disclosed quantity has become a passive order, it trades only in units of disclosed quantity or less. However, if there is no other competing order with the same price, a single trade of as much quantity as possible takes place between the two orders.

When the entire disclosed order quantity is fully traded the disclosed quantity gets replenished and this continues till the entire order quantity is fully traded. Each time the disclosed quantity is replenished; the order is stamped with the current trading time and added to the regular order book as fresh order.

Stop Loss Matching

All stop loss orders entered into the system are stored in the stop loss book. These orders can contain two prices:

a) Trigger Price: It is the price at which the order gets triggered from the stop loss

book.

b) **Limit Price:** It is the price for orders after the orders get triggered from the stop loss book. If the limit price is not specified, the trigger price is taken as the limit price for the order. The stop loss orders are prioritised in the stop loss book with the most likely order to trigger first and the least likely to trigger last. The priority is same as that of the regular lot book.

The stop loss condition is met under the following circumstances:

a) **Sell Order:** A sell order in the stop loss book gets triggered when the last traded price in the normal market reaches or falls below the trigger price of the order.

b) **Buy Order:** A buy order in the stop loss book gets triggered when the last traded price in the normal market reaches or exceeds the trigger price of the order.

When a stop loss order with IOC condition enters the system, the order is released in the market after it is triggered. Once triggered, the order scans the counter order book for a suitable match to result in a trade or else is cancelled by the system.

RETDEBT Order Matching

The rules for matching the RETDEBT orders are similar to the Regular Lot book except that RETDEBT order matching takes place only for orders in the RETDEBT order book.

Odd Lot Order Matching

Odd Lot matching takes place only for orders in Odd Lot book. There are no partial trades for an Odd Lot order i.e. each match is an exact match where the quantity of the passive order is equal to that of the active order.

Auction Matching

All auction orders are entered into the auction order book. The rules for matching of auctions are similar to that of the regular lot book except for the following points:

a) Auction order matching takes place at the end of the solicitor period for the auction.

b) Auction matching takes place only across orders belonging to the same auction.

c) All auction trades take place at the auction price.

Validation Check

While matching orders, the system performs the validation check, if the participant of any of the orders is 'Suspended', the trade does not go through.

3.12 Trade Management

A trade is an activity in which a buy and a sell order match with each other. Matching of two

orders is done automatically by the system. Whenever a trade takes place, the system sends a trade confirmation message to each of the users involved in the trade. The trade confirmation slip gets printed at the trader workstation of the user with a unique trade number. The system also broadcasts a message to the entire market through the ticker window displaying the details of the trade.

This section describes trade-related activities like viewing the trades, trade cancellation, etc. Before the trade is effected, the system performs checks with respect to the following parameters:

a) The security in which the trade is to be effected is not suspended from operations.

b) Trading members involved in the potential trade are not suspended from operations.

Once the trade for an order entered is confirmed by the system, a message is sent to the trader workstation. The system generates a Trade Confirmation Slip that is printed on the printer of the trader workstation.

3.12.1 Trade Cancellation

The user can use trade cancellation screen for cancelling trades done during the day. If the user is a corporate manager of a trading member firm, he can request for trade cancellation for the trades of any dealer of the trading members firm and if he is a branch manager of a branch, then he can request for trade cancellation for the trades for any dealer of the branch of the trading member firm.

The user can request for trade cancellation either from the previous trades screen or by using the function key provided in the workstation. The trade cancellation request is sent to the Exchange for approval and message to that effect is displayed in the message window. The counterparty to the trade also receives the message. The counterparty then has to make similar request on the same trading day. Once both the parties to trade send the trade cancellation request, the Exchange either approves or rejects it. The message to that effect is displayed in the message window.

When a request for the trade cancellation is approved by the Exchange, the parties to trade receive a system message confirming the trade cancellation and the trade cancellation slip is printed at their respective trader workstations. If the Exchange rejects the trade cancellation request, the trade cancellation rejection slip is printed at their respective trader workstations. If counter party to the trade does not enter a trade cancellation request the Exchange rejects the trade cancellation request.

3.13 Auction

Auctions are initiated by the Exchange on behalf of trading members for settlement related reasons. The main reasons are shortages, bad deliveries and objections. There are three types of participants in the auction market:

a) **Initiator:** The party who initiates the auction process is called an initiator.

b) **Competitor:** The party who enters on the same side as of the initiator is called a competitor.

c) **Solicitor:** The party who enters on the opposite side as of the initiator is called a solicitor.

The trading members can participate in the Exchange initiated auctions by entering orders as a solicitor. e.g. If the Exchange conducts a buy-in auction, the trading members entering sell orders are called solicitors.

When the auction starts, the competitor period for that auction also starts. Competitor period is the period during which competitor order entries are allowed. Competitor orders are the orders which compete with the initiator's order i.e. if the initiator's order is a buy order, then all the buy orders for that auction other than the initiator's order are competitor orders. If the initiator order is a sell order then all the sell orders for that auction other than the initiators order are competitor orders. After the competitor period ends, the solicitor period for that auction starts. Solicitor period is the period during which solicitor order entries are allowed. Solicitor orders are the orders which are opposite to the initiator order i.e. if the initiator order is a buy order, then all the sell orders for that auction are solicitor orders and if the initiator order is a sell order, then all the buy orders for that auction are solicitor orders.

After the solicitor period, order matching takes place. The system calculates trading price for the auction and all possible trades for the auction are generated at the calculated trading price. After this the auction is said to be complete. Competitor period and solicitor period for any auction are set by the Exchange.

3.13.1 Entering Auction Orders

Auction order entry allows the user to enter orders into auctions that are currently running. To view the information about currently running auctions 'Auction Inquiry' screen has to be invoked. Further one can view one's own outstanding orders for any auction by invoking 'Outstanding Order Inquiry' for auction market. All auction orders are valid for the trading day only.

The user can do auction order entry by entering 'AU' in the book type of the order entry screen. Symbol and Series that is currently selected in any of the market information windows (i.e. MW) provides the defaults in the auction order entry screen. If Auction Outstanding Orders is up for an auction that is either in a competitor or solicitor period, then the auction number has to be entered. All fields in the auction order entry screen except auction number and settlement days are same as normal market order entry screen. The screen also displays competitor period and solicitor period.

The defaults that are provided on the auction inquiry screen are symbol, series, auction number, settlement days and quantity (available for auction). The user can edit the

default values if required. The fields in the auction order entry screen that has to be entered are PRO/CLI selection, account number (not mandatory), participant and remarks.

Solicitor period for an auction starts as soon as the auction starts. The duration of the solicitor period is set by the Exchange. The system accepts the solicitor orders in any currently running auction only if the solicitor period for that auction is in progress. Currently, the trading members cannot initiate auctions in any security. They can only participate as solicitors in auctions initiated by the Exchange. In Exchange initiated auctions, the competitor period is set to zero and therefore only solicitor period is available.

(i) Entering Solicitor Order: To enter a solicitor order, auction order entry screen has to be invoked and the auction number or symbol series in AUC No. (auction number) field has to be entered. The AUC No. and symbol series combination is validated and if an error is encountered then an appropriate error message is displayed in the message window and the focus is set on the AUC No. When the order details are found to be correct, the system assigns a unique order number to the order and sends an order confirmation message to the trader workstation. If the solicitor period for that auction is over, the order is not accepted. Auction number for each security is displayed in the Auction Inquiry screen.

(ii) Validation of Auction Orders: Following validation checks are performed, in addition to the routine order entry validation checks, to verify initiator orders:

a) If the auction market is not open for trading, the user is not allowed to enter an auction order.

b) If a trading member or a participant is suspended, then no auctions can be entered for the trading member or for the participant.

c) If the security is not allowed to trade in the auction market or if the security is suspended, the orders for that security are not allowed.

d) If the quantity entered exceeds Warning Quantity Percentage, the system asks the user for confirmation of the order.

e) Any order with a price outside the Day Min/Max range is not allowed.

Following validation checks are performed to verify the competitor and the solicitor orders:

a) If a competitor order is entered, then a check is made if the auction in which order entry is desired is in the competitor period.

b) If a solicitor order is entered, then a check is made if the auction in which order entry is desired is either in competitor period or solicitor period.

c) The Trading Member cannot enter order for a security in which initiator

order is entered against him.

Auction order entry in auctions which are yet in a pending state or which are cancelled is prohibited.

3.13.2 Auction Order Modification

The user is not allowed to modify any auction orders.

3.13.3 Auction Order Cancellation

The user can cancel any solicitor order placed by him in any auction provided the solicitor period for that auction is not over. The order cancellation procedure is similar to that of normal market. The user can also use quick order cancellation key to cancel his outstanding auction orders.

3.13.4 Auction Order Matching

When the solicitor period for an auction is over, auction order matching starts for that auction. During this process, the system calculates the trading price for the auction based on the initiator order and the orders entered during the competitor and the solicitor period. Currently, for Exchange initiated auctions, the matching takes place at the respective solicitor order prices.

Example:

Auction is held in XYZ for 5,000 shares. The closing price of XYZ on that day was ₹ 155. The last traded price of XYZ on that day was ₹ 150. The price of XYZ last Friday was ₹ 151. The previous day's close price of XYZ was ₹ 160. What is the maximum allowable price at which the member can put a sell order in the auction for XYZ? (The price band applicable for auction market is +/- 20%)

Maximum price applicable in auction=Previous day's close price*(100+price band)

= ₹ 160*1.20

= ₹ 192

Minimum price applicable in auction=Previous day's close price*(100-price band)

3.14 Limited Physical Market

Pursuant to the directive of SEBI to provide an exit route for small investors holding physical shares in securities mandated for compulsory dematerialised settlement, the Exchange has provided a facility for such trading in physical shares not exceeding 500 shares. This market segment is referred to as 'Limited Physical Market' (small window). The Limited Physical Market was introduced on June 7, 1999.

3.14.1 Salient Features of Limited Physical Market

a) Trading is conducted in the Odd Lot market (market type 'O') with Book Type 'OL' and series 'BT'.

b) Order quantities should not exceed 500 shares.

c) The base price and price bands applicable in the Limited Physical Market are same as those applicable for the corresponding Normal Market on that day.

d) Trading hours are the same as that of the normal market.

e) Settlement for all trades is done on a trade-for-trade basis and delivery obligations arise out of each trade.

f) Orders get matched when both the price and the quantity match in the buy and sell order. Orders with the same price and quantity match on time priority i.e. orders which have come into the system before will get matched first.

g) Trading Members are required to ensure that shares are duly registered in the name of the investor(s) before entering orders on their behalf on a trade date.

3.15 Block Trading Session

The Exchange has introduced a separate trading session for the block trades from November 14, 2005. In this session, trading is conducted in the Odd Lot market (market type 'O') with Book Type 'OL' and series 'BL'. It is a 35 minute market; i.e. the trading window shall normally remain open from 9:15 hours to 9:50 hours. There is no pre-open and post close in the block trade session. For a block trade, order should be of a minimum quantity of 5,00,000 shares or minimum value of Rs 5 crore which ever is lower. Orders get matched when both the price and the quantity match for the buy and sell order. Orders with the same price and quantity are matched on time priority i.e. orders which have come into the system before will get matched first. The securities, base price, alert quantity applicable in the block trade session are same as those applicable for the corresponding Normal Market on that day. As per SEBI requirement, member is required to put orders at a price not exceeding (+/-) 1% from the previous close price/ruling market price, as applicable, of normal market. Accordingly, every order price is validated for (+/-) 1% on the ruling LTP in normal market and any order away from this will be rejected by the system. Currently, market order is not allowed for BL series. Order with special terms such as 'Stop Loss', 'Disclosed Quantity' is not available in this session

3.16 Retail Debt Market (RDM)

Trading in the Retail Debt Market takes place in the same manner in which the trading takes place in the equities (Capital Market) segment. The RETDEBT Market facility on the NEAT system of Capital Market Segment is used for entering transactions in RDM session.

3.16.1 Members eligible for trading in RDM segment

Trading members who are registered members of NSE in the Capital Market segment or Wholesale Debt Market segment are allowed to trade in Retail Debt Market (RDM) subject to fulfilling the capital adequacy norms.

3.16.2 Trading Parameters

The trading parameters for RDM segment are as below:

Face Value	₹ 100/-
Permitted Lot Size	10
Tick Size	₹ 0.01
Operating Range	+/- 5%
Mkt. Type Indicator	D (RETDEBT)
Book Type	RD

3.16.3 Market Timings and Market Holidays

Trading in RDM segment takes place on all days of the week, except Saturdays and Sundays and holidays declared by the Exchange in advance. The market timings and the holidays on the RDM segment are the same as those on the Equities segment. The Exchange however, can close the market on days other than the above schedule holidays or may open the market on days originally declared as holidays. The Exchange may also extend, advance or reduce trading hours when it deems fit and necessary.

3.16.4 Trading System

The RETDEBT Market facility on the NEAT system of Capital Market Segment is used for entering transactions in RDM session. The trading system features and user navigation for RETDEBT Market are described below. Further details are available on the on-line help facility of NEAT system:

a) **Setting up Securities in Market Watch:** For setting up securities in the Market Watch screen, the user can enter the required details in Symbol, Series and Market Type fields.

b) **Order Entry:** Buy/ Sell orders can be entered in RETDEBT Market by selecting 'RD' in the Book Type field.

c) **Quantity:** Order quantity should be in multiples of Market Lot. Quantity conditions such as MF, AON and DQ are not allowed.

d) **Price:** Members can enter either market orders or limit price orders. Order price

for limit price orders should be in multiples of tick size.

e) **PRO/CLI:** In the PRO/CLI field only 'PRO' and 'CLI' orders are allowed.

f) **Time Conditions:** Members can specify time conditions as 'Day' or 'IOC'.

g) **Participant Code:** A valid Participant Code can be entered in this field. Other options allowed are 'O', 'C', 'NCIT' 'INST' and the trading member's own id. Orders in book type NT and SL are not allowed.

h) **Order Cancellation/Modification:** Order cancellation and modification is allowed for orders entered in the RETDEBT Market. Both Single and Quick Order Cancellation functions are available. Quick Cancellation can also be done for all securities in the RETDEBT Market by selecting the Book Type as 'RD' and other parameters as relevant.

i) **MBP:** Member can query order information for the RETDEBT Market in MBP by selecting 'RETDEBT' as book type in the selection screen. Orders are stacked according to price in MBP. The high, low, last trade price, percentage change and average trade price figures are calculated with respect to trades in RETDEBT Market.

j) **Market Inquiry:** Security statistics for RETDEBT market can be viewed by selecting 'RETDEBT' as market type.

k) **Outstanding Orders/Activity log/ Previous Trade:** Outstanding order/ Activity log/ Previous Trade information in a particular security can be viewed for RETDEBT Market by selecting the book type 'RETDEBT' in the respective selection screens.

l) **Order and Trade Confirmation Slips:** The order confirmation slip for orders entered in RETDEBT Market displays 'RD' as Book Type field. Similarly, trade confirmation slip generated for RETDEBT Market trades show 'D' in the Market Type field.

m) **Net Position**: The Net Position screen displays consolidated statistics for all markets as well as separately for each market.

n) **Market Movement:** Market Movement statistics for a security can be viewed by selecting market type as 'RETDEBT'.

o) **On-line Backup:** In the On-line Backup function a facility is provided to select order/ trades based on market type. Alternately, members can take a backup for all markets by selecting 'All' in the Market Type field.

p) **Full Message Display:** In Full Message Display, messages can be filtered on Symbol and Series. The option to filter messages for a market type is presently not available.

q) **Offline Order Entry:** This function is available for RETDEBT Market. The

structure for the input file is given in the online help.

r) **Branch/User Order Value Limit:** Branch/User Order Limit is applicable for a particular Branch/User for orders across all Markets.

s) **Securities Order Quantity Limit:** Securities Order Quantity Limit is applicable for a particular security across all Markets.

t) **Order Limits:** Order limits set by a user are applicable for a single order across all Markets.

u) **Ticker Selection:** A facility is provided for filtering securities in the ticker for RETDEBT market.

v) **Reports:** Trades report generated for members i.e. Trades Done, Order Log and Open Orders report, displays records in ascending order of security name. Within a security records are displayed by Market Type.

w) **Bhav Copy:** Security statistics pertaining to RETDEBT Market trades are shown separately in the Market Statistics report.

3.16.5 Trading Cycle

Trading in Retail Debt Market is permitted under **Rolling Settlement**, where in each trading day is considered as a trading period and trades executed during the day are settled based on the net obligations for the day. Settlement is on a T+2 basis i.e. on the 2nd working day. For arriving at the settlement day all intervening holidays, which include bank holidays, NSE holidays, Saturdays and Sundays are excluded. Typically trades taking place on Monday are settled on Wednesday, Tuesday's trades settled on Thursday and so on.

3.17 Trading information downloaded to Members

The Exchange downloads certain trading related reports and files to the trading member on a regular basis. Following is the list of reports and files downloaded to the members.

(i) **On-line Backup:** The files are Trade.txt and Order.txt or file with user defined name. Member can take on-line backup of orders and trades for the current trading day only. The backup can be taken during market hours and till approximately 1 hour after the market close time.

(ii) **Trader messages in Full message display:** Full message area contains member's own order and trade information across all securities. It is available for current trading day only. An option to save as a text file is also provided. The trading members are required to keep copy of full message area for a period as per NSE regulations. Refer to section Full Message Display screen.

(iii) **Bhav copy:** Bhav copy is downloaded in \nsecmtdr\reports directory on a daily basis. It is downloaded two times after market close. First Bhav copy (Interim Bhav copy) downloaded approximately 20 minutes after the market close time. The second Bhav

copy (final Bhav copy) downloaded 20 minutes after the post close market. The interim Bhav copy is overwritten by final Bhav copy. Users are advised to check for message to this effect. The files downloaded are ddmmxxxx.ms and ddmmxxxx.md where xxxx is the user id. The ms extension file is formatted txt file whereas the md extension file has Bhav copy records in csv (comma separated value) format. Only the last seven Bhav copy files are stored in the reports directory. When Bhav copy is broadcast, the system checks for the number of Bhav copy files. If it is seven the system deletes the earliest received file and stores the current day's file.

(iv) **Security Information:** The Exchange downloads on a daily basis the following files for the members to update their local database for NEAT front end. These files are required to be unzipped and uploaded in their respective trading software by the members on a daily basis.

Sr. No.	File Name	Content
1	Security.zip	Security.txt
2	Participant.zip	Participant.txt
3	FreeFloat.txt	FreeFloat.txt

(v) **Circulars:** Circulars as and when issued by NSE, are available to members on the website.

(vi) **Order/Trade slips:** The order/trade slips are Confirmation/Modification/ Cancellation/ Rejection slips. The trade and order slips are generated on-line. The trade confirmation is generated when a trade is executed and order slip when a member places an order. The option at the supplementary menu 'Print Trade and Order confirmation' should be set 'ON'. Members can also take print of confirmation slips at the end of the day from the reprint option in the supplementary menu. The trading members are required to keep copy of the trade confirmation slip for a period as per NSE regulations.

(vii) **Reports:** Once the market closes, the details of trading activities done by the user are generated as trade reports. They are downloaded on the workstation of Corporate/ Branch manager. Downloaded reports are stored at the workstation as well as sent to the printer. This allows the user to reprint any report any time. The reports that are available to the trading member are Market Statistics and Market Indices.

(viii) **Market Statistics:** The purpose of this report is to show the market statistics of that trading day. This report gives details related to all the securities traded on that day for all markets.

(ix) **Market Indices:** A separate Market Indices Report is also disseminated to members which contains details regarding the Open, High, Low, Close, Previous Close and % change over the Previous Close of CNX Nifty, CNX Defty, CNX Nifty Junior, CNX500, CNX

Midcap, CNX IT, Bank Nifty, CNX 100 and Nifty Midcap 50, CNX Realty, CNX MNC, CNX FMCG, CNX Energy, CNX Infra, CNX Pharma, CNX PSU Bank, CNX PSE and CNX Service and India VIX.

(x) **Trade Verification:** A facility to verify trades is available on the NSE website. Using this facility, an investor who has received a contract note from a trading member of the Exchange, can check whether the trade has been executed on the Exchange. This facility is available on the NSE website for the Capital Market segment, F&O (Derivatives) segment and Retail Debt Market segment.

3.18 Internet Broking

SEBI Committee approved the use of Internet as an Order Routing System (ORS) for communicating clients' orders to the Exchanges through brokers. ORS enables investors to place orders with his broker and have control over the information and quotes and to hit the quote on an on-line basis. Once the broker's system receives the order, it checks the authenticity of the client electronically and then routes the order to the appropriate Exchange for execution. On execution of the order, it is confirmed on real time basis. Investor receives reports on margin requirement, payments and delivery obligations through the system. His ledger and portfolio account get updated online.

NSE was the first stock exchange in India to launch internet trading in early February 2000. It provides web-based access to investors to trade directly on the Exchange. The orders originating from the PCs of the investors are routed through the Internet to the trading terminals of the designated brokers with whom they are connected and further to the Exchange for trade execution. Soon after these orders get matched and result into trades, the investors get confirmation about them on their PCs through the same internet route.

3.19 Co-location

The term ''co-location/proximity hosting services'' means space, power, telecommunications, and other ancillary products and services made available to market participants for the purpose of enabling them to position their computer systems/servers in close proximity to the transaction execution facility (at the Exchange). Exchanges internationally are introducing co-location services to support high frequency trading using Algorithmic Trading (ALGO) and Direct Market Access (DMA). In keeping with the global trends and maintaining high service excellence, NSE started co-location facility in Jan 2010. The state-of-the-art co-location facility at NSE provides one of the most modern datacenter facilities.

3.20 Wireless Application Protocol (WAP)

SEBI has also approved trading through wireless medium on WAP Platform. NSE-IT launched the Wireless Application Protocol (WAP) in November 2000. This provides access to its order book through the hand held devices, which use WAP technology. This serves primarily retail investors who are mobile and want to trade from any place when the market prices for stocks