BookMap

User Guide

Introduction

BookMap is an innovative analysis and trading application that delivers a consolidated visualization of past and present market depth. Using a configurable color scheme, BookMap keeps record of the order book activity over time and displays it to the trader together with current market depth. The visualization of the evolving order book activity, enhancestraders' ability toanalyze market dynamics and patterns, as well as assessing the perpetual strength and weakness of different price levels. BookMap allows traders to quickly translate market analysis into trading actions with one click trading capability directly from the BookMap chart.

1. SystemRequirements

   The following hardware and software specifications are the minimal requirements for installing and using BookMap:

   a) Windows 7, Vista, 2000 or XP.
   b) Monitor with minimum resolution of 1024x768
   c) Minimum of 3Gigabytes RAM and 40 Megabytes free disk space.
   d) Intel Core 2 DUO (or equivalent), 2.0 GHz or above
   e) Stable internet connection. Minimal speed 1Mb/Sec
   f) A mouse with a middle button is required for one-click trading.

2. User manual

   BookMaphas two modes of operation: BookMap live and BookMap replay (offline). The live mode presents real-time market data transmitted by the user's market depth data provider through the NinjaTrader platform. It also allows thetransmission of orders to the NinjaTrader platformusing one-click order placement directly from the BookMap chart.The replay mode allows traders to replay recorded trading sessions and view the evolution of the order book over the entire session. Traders can place and execute simulated orders to verify how theirtrading decisions and strategies fit theiranalysis of the market based on BookMap insights. Unlike the live mode, BookMap Replay is independent of any trading platform and runs as a standalone application

Importing BookMap Live

Before running BookMap live for the first time, the BookMap script has to be imported as a Strategy to the NinjaTrader platform.

To import the BookMap script to the following (please note, this process is only performed during the first operation of BookMap)

a.) Open you NinjaTrader platform. Got to File -> Utilities -> Import NinjaScript. This should open a file browser.

b.) From the file browser, go to the "BookMap for NinjaTrader" folder. By default, this will be located under "C:\Program Files (x86)\BookMap\BookMap for NinjaTrader\". Select BookMapIndicator.zip and click OK. This should start the import process and add BookMap as an Indicator to NinjaTrader.

Note that BookMap for NinjaTrader includes also BookMap.zip. This file should be used by those who wish to import BookMapto NinjaTrader as a Strategy. The difference between running BookMap as an Indicator or as a Strategy is that the latter provides trading capabilities. However, due to the specific way NinjaTrader has implemented its API, there are several important limitations to consider when using BookMap as a Strategy. More on these limitations below under ***important notes about order handling and order status***.

Running BookMap Live after

To run BookMap live after importing the BookMap script, take the following steps:

a.) Open NinjaTrader Platform and connect to your market depth data provider from the NinjaTrader platform. Please note that we recommend to start using BookMap first with a live data feed, but with a paper trading account, before switching to a live account.

b.) Click File -> New -> Chart. Choose any instrument for the chart. In order to reduce loading time, set Period -> Type to "Seconds" and set Data -> Load Data as "Bars". Click OK.Please note that you should only select a single instrument for the chart. The chart only serves as a launching pad for BookMap. You will be able to add more instruments on BookMap as described below.

c.) Right click on the chart and choose Indicators (or Strategies if you imported BookMap as a Strategy). From the list of available strategies double click on BookMap. This will open an indicator configuration window.
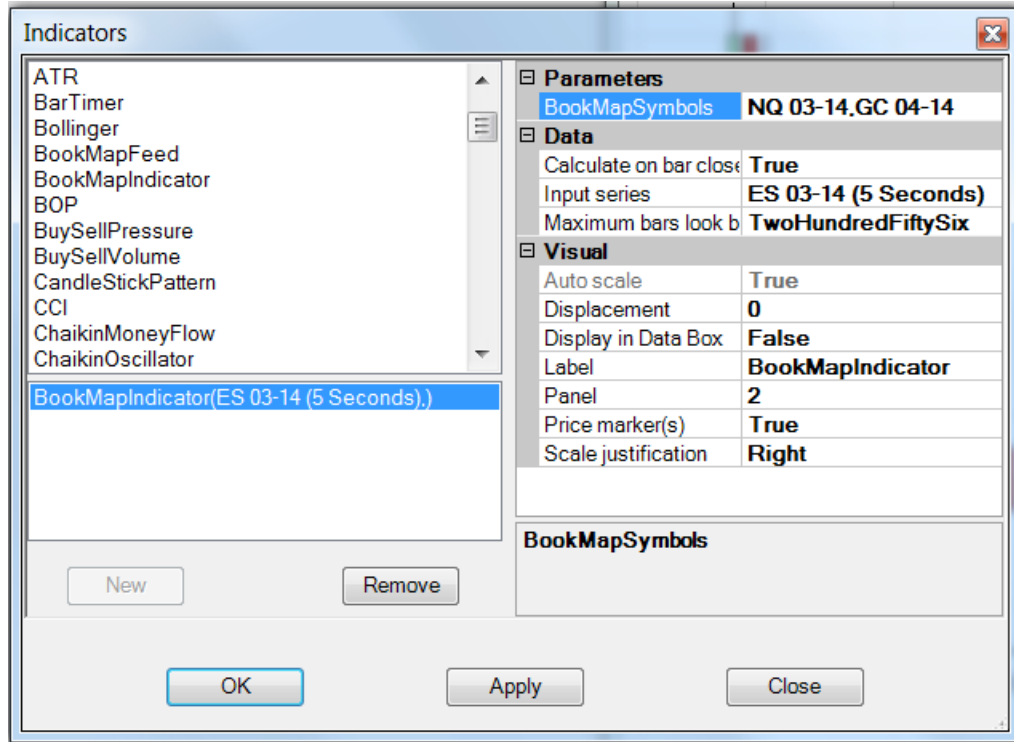
BookMap Indicator Configuration Window

d.) If you are using BookMap as a Strategy, set General -> Enable to "True".

e.) BookMap will open by default the instrument you chose for the NinjaTrader chart. To display more instruments on BookMap simply add the comma separated (without spaces) list of additional instruments to "BookMap Symbols" on the strategy configuration window (e.g. ES 03-14,FDAX 03-14,NQ 03-14,CL 03-14,GC 04-14). Please note the instrument's syntax should be the same syntax used by NinjaTrader. Use Tools -> Instrument Manager to find the NinjaTrader instrument syntax. BookMap will only present instrument for which you have market depth data. To make sure your data provider to supply depth data check the data provided for your instruments of choice using File -> New -> Level II.

f.) After you entered the list of BookMap Symbols, click OK. This will open the BookMap control window with all your specified instruments. Click any of the symbols' buttons to open their respective BookMap charts.
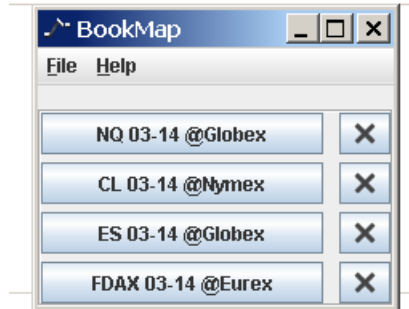
BookMap Control Window

Additional configuration notes

a.) If you are running BookMap as a Strategy, you should pay attention to your NinjaTrader Order Handling settings on the BookMap strategy configuration window. Depending on your NinjaTrader configuration, once you close and/or reopen BookMap, NinjaTrader may close pending orders and open positions that you have entered using BookMap. To avoid this, set "Exit on close" under Order Handling (on the strategy configuration window) to False.

b.) Please note that due to a NinjaTrader limitation, open orders and position you already have on the platform before starting any BookMap session will not be displayed on BookMap. BookMap will only present orders and position you have entered into during your current BookMap session.

c.) Due to a NinjaTrader limitation, it is impossible to add more instruments after BookMap has started. However, you can remove instruments by pressing X near the corresponding instrument in the BookMap control window. If you want to add other instruments, you will have to close BookMap and the chart on which BookMap runs as a strategy and reopen BookMap as explained above with your new list of instruments.

BookMap Live

General Orientation:

BookMap Live has several distinctive elements:

a) The blue and green bars on the far right side represent the volume of executed orders at each price level accumulated from the start of the session. The blue and green colors represent the relative size of executed orders by each group of aggressors. Blue represents buyers were the aggressors and green represents sellers were the aggressors. This can help traders assess which aggressors have had more power at the relevant price level since the start of the session.

The volume bars can be reset to restart accumulating executed orders. This can be done either manually or automatically at a preset frequency. To reset the volume bars, place the mouse cursor over the volume bars area and right click to choose from either a manual reset or automatic reset settings.

b) The green and blue bars to the left of the volume bars represent the size of the current bid (blue) and ask (green) orders at each price level.

c) The green and blue lines on the left side of the chart represent the best bid and ask prices.

d) The color shadesof the various price levels represent the evolution of the order book during the session. BookMap keeps the history of the order book size at each price level with a matching color code. The brighter the color the larger the order book size at that price level. The color shade settings are configurable, as explained below.

When a price level goes out of the range transmitted by the exchange (for example, CME transmits only the best 10 levels of bid and ask) BookMap keeps record of its last transmitted size and updates it once the level returns to the transmitted range. This allows traders to estimate market depth even beyond the exchange transmitted range.

e) The progressing yellow vertical line represents the current time. The area left of the vertical line representshistorical price changes and order book size. The area to the right of the yellow line is an extended picture of the current price and order book size.
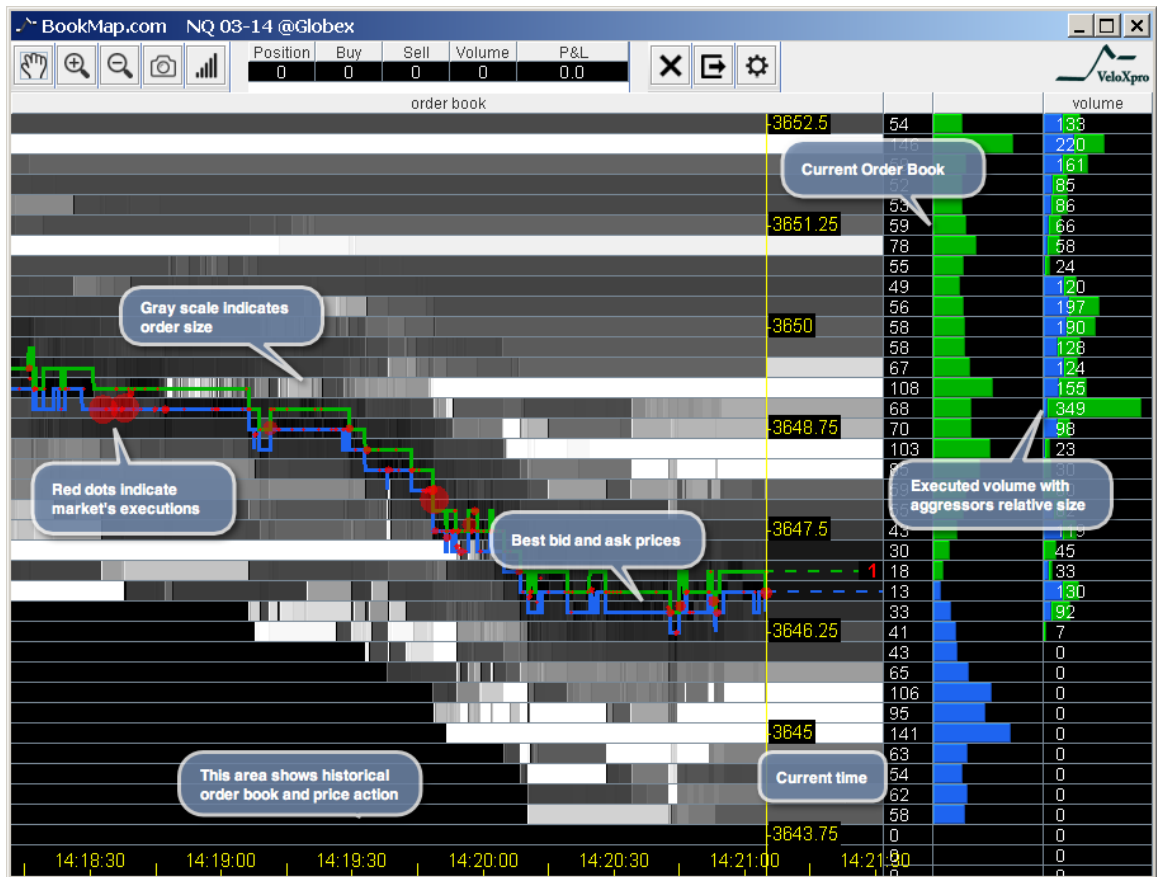
BookMap Chart

Placing Orders:

Note: **the sections relating to order placement and order status are only relevant when running BookMap as a Strategy. None of the features described in the next 2 section is available when running BookMap as an Indicator.**

Every time the BookMapchartopens the one-click trading feature is disabled. To enable one click trading click the ⚙ icon above the chart for trading configurations. This will open a new window. Check **Enable One-Click Trading** and specify the number of contracts per click (order size). Once One-Click Trading is enabled follow the instruction below to place or cancel orders:

a) To place a **Buy Limit**order, click the left mouse button below the current bid at the desired price level. Note that clicking the left mouse button at or above the current ask will result in a buy limit at current market price.

b) To place a **Sell Limit**order, click the right mouse button above the current ask at the desired price level. Note that clicking the right mouse button at or below the current bid will result in a sell limit at current market price.

c) A single mouse click places an order for the number of contracts specified by the trader in the trading configuration.Each additional mouse click will add another order for a similar number of contracts.

d) To cancel pending orders, place the mouse pointer over the relevant price level and click the middle mouse button.

e) To delete all of the pending orders at a certain price level place the mouse pointer over the relevant price level and press CTRL + click the middle mouse button.

f) The cancel all pending orders function, normally accessible using the ✖icon above the chart, is disabled in BookMap for NinjaTrader due to the limitation of the NinjaTrader API detailed below.

g) The cancel exit all open positions,normally accessible usingthe ⇥ icon above the chart, is disabled in BookMap for NinjaTrader, due to the limitation of the NinjaTrader API detailed below.

Order Status:

a) Cyan circle marks the placement of a buy order. Cyan line extends from the circle until the order is either filled or cancelled. A filed buy order is marked by cyan square.

b) Magenta circle marks the placement of a sell order. Magenta line extends from the circle until the order is either filled or cancelled. A filed buy order is marked by magenta square.

c) It is possible to define what type of order information will be displayed on the chart. By default pending orders, cancelled orders, and executions are all presented on the chart. To change the default settings, click the ⚙ icon for trading configurations and uncheck the relevant information.

d) The pending orders and open positions are also designated by counters above the chart.

e) P&L is indicated above the chart. The P&L is asummation of both the realized and unrealized P&L during the session.

Important notes about order handling and status:

a) Due to limitations and design of the NinjaTrader API BookMap can only display orders and positions that were initiated using BookMap during the current session. BookMap will not be able to display orders and positions initiated through the NinjaTrader platform or orders and position that existed prior to the current BookMap session, whether they were initiated through NinjaTrader or through BookMap

b) Due to NinjaTrader API structure, whenever a trader is using the close all orders/positions from the NinjaTraderSuperdom, or flatten all function, BookMap will be closed.

c) By NinjaTrader design there are limitations using BookMap as a Strategy while using NinjaTraderChart Trader at the same time.

[See figure on the next page]
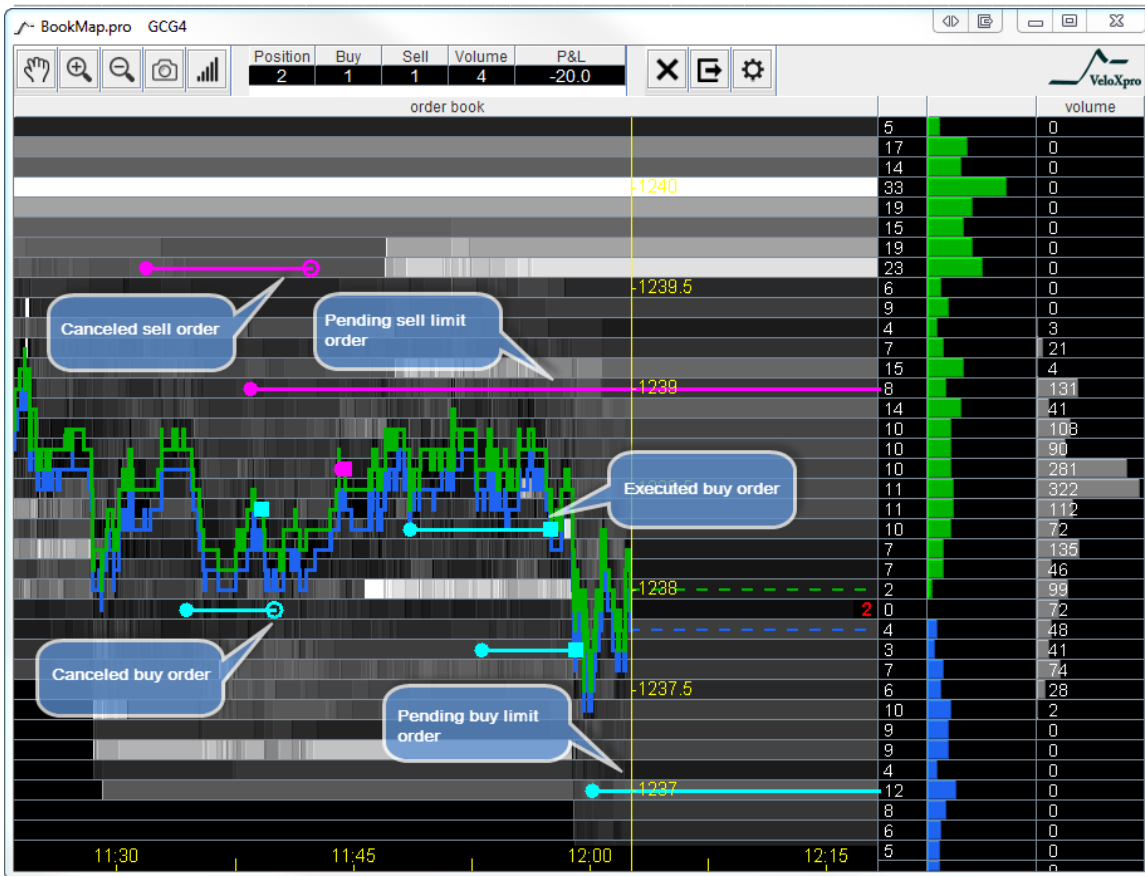
BookMap Live with pending, cancelled and executed orders

Approximation of Order Queue:

BookMap can display an approximation of the position of the trader's order in the queue of all pending orders at the relevant price level. BookMap approximates the position in the queue according to FIFO matching algorithm, using pessimisticassumptions relating to cancelled orders. The ability to display a more accurate position in the queue ultimately depends on the quality of data that is available for distribution on the trading platform.

BookMap presents queue approximation with white vertical lines on top of the current order book histogram. The place in the queue is illustrated by the position of the line over the bar representing the current size of pending order at any given price level.

In order to activate the presentation of queue approximation, click the ⚙ icon for trading configurationand check Orders Queue.

Trades Visualization:

BookMap can display a graphical representation of all trades (i.e. of all market participants) that took place during the session for the displayed instrument. BookMapdrawsvarying sizes of red or yellow circles over the best bid and ask line. The circles are drawn with precision of a single pixel of your monitor. The area of the circle represents total executed volume. This size is scaled to create circles of a reasonable range per each instrument's volume. The center of the circle represents the exact time and the volume weighted average price of all trades that occurred at given pixel (if occurred). According to the location of the circles on the price axis and the red-to-yellow color gradient used, users can identify whether the traded volume was initiated by buyer(s) or by seller(s).The redder the color of the circle, the greater the sellingactivityat that price and time. The yellower the color of the circles, the greater the buying activity at that price and time.

To activate trades visualization, click the ⚙ icon for trading configurationand check Market's trades.

Chart contrast and other Settings:

a) BookMap automatically sets the contrast of the chart heat map based on the maximum size on the order book and the distribution of pending prders at the different price levels.

Users can control when BookMap recalibrates the heat map contrast. It can be set at predefined frequencies and at every time the chart is recentered. To control these setting, click the contrast icon above the chart and check the recalibration options you want to use.

User can also control the brightness of the display by using the slider on the contrast settings window.
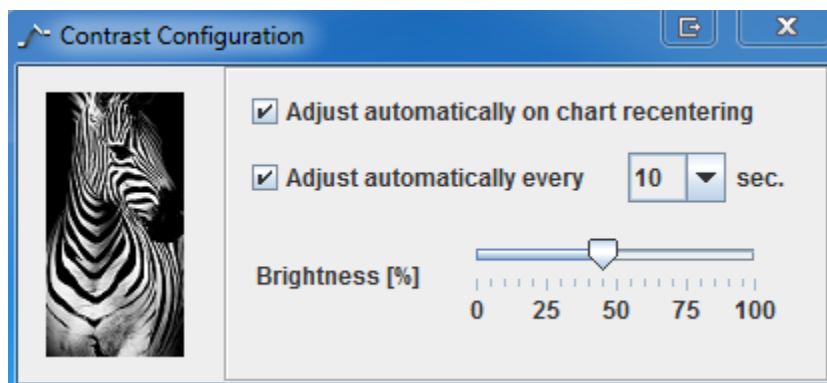
BookMapContrast Configuration

b) For a zoomed in and out view of the chart click the ⊕ and ⊖ icons above the chart.

c) Use the 🖐 icon above the chart to scroll the chart sideways. Note that while thehand icon is pressed BookMap will keep the presentation anchored to the area chosen by the trader. While in scrolling mode the chart can be zoomed in and out while anchoring to the middle point of the current chart view. Zooming in and out in scrolling mode can be done either with the zoom in and out icons or with mouse scrolling. In order to switch back to current time unclick the hand icon.

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BookMap Replay

BookMap Replay enables to replay pre-recorded market data and place order in simulation mode during the replayed session. Except for playing non-real time data, the chart in the BookMap replay mode has the same features as in the live mode BookMap live

Running BookMap Replay:

a.) Open BookMap Replay by clicking your desktop shortcut. This will open BookMap Replay control window.
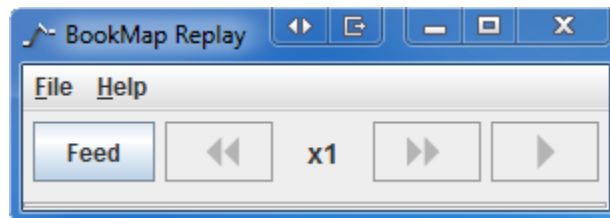
c.) In the control windowclick "Feed". This will open a new window. Choose one of the text feed files and click "Open". Each feed file represents a prerecorded trading sessions.
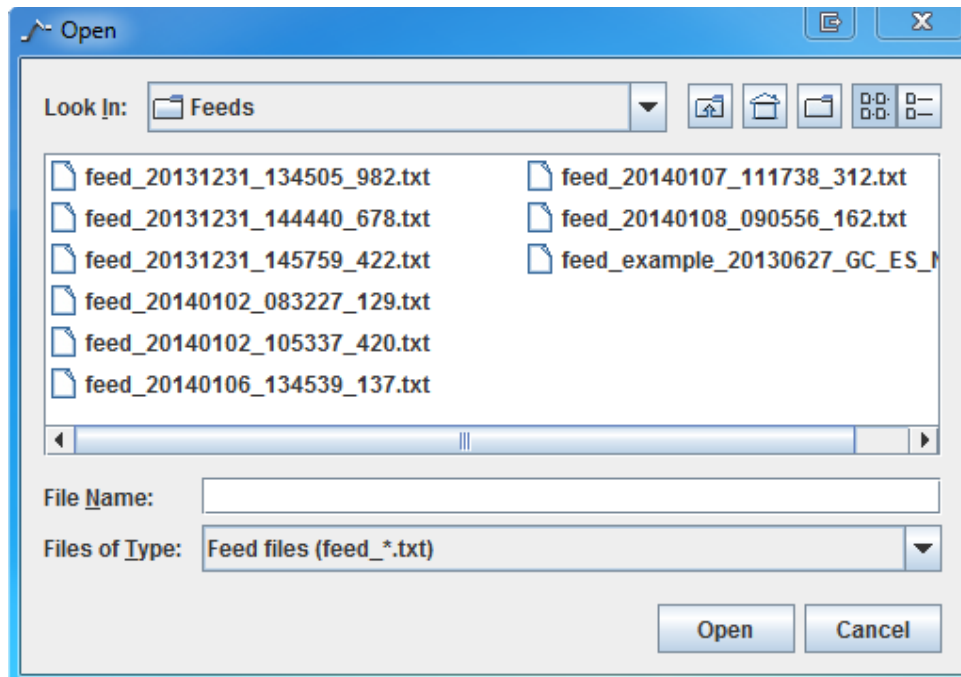
d.) The recorded instruments will now load. They will initially be displayed as grayed out buttons and will turn active once information is fully loaded.
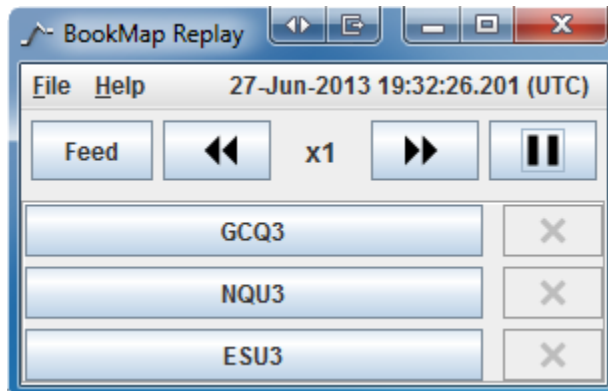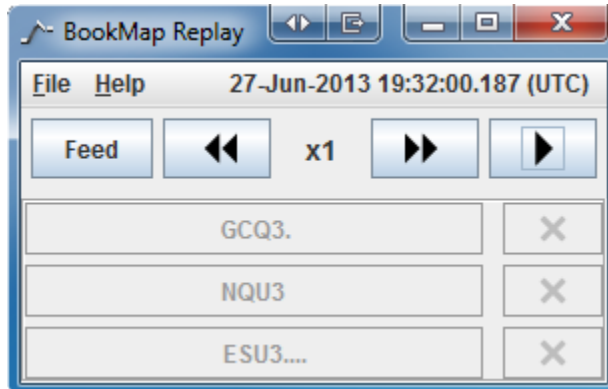
e.) You are now ready to replay the recorded session. Click any of the recorded instruments' buttons to open the relevant BookMap Replay chart window. Note that once the data of the recorded instruments isfully loaded the file start replaying automatically even if the chart is not open. You can view the date and time progression above the instruments symbols on the BookMap replay control window. Click any of the active symbols'buttons to open BookMap chart.

f.) To pause and for faster or slower replay speed, use the controllers above the BookMap chart.