

Using PC-SPAN version 4.02 for TRAKRS

PC-SPAN version 4.02 can be used for processing customer accounts including TRAKRS positions.

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It will do several specific calculations.

For QIB accounts - TRAKRS positions in accounts qualifying for treatment as "QIB's" ("Qualified Institutional Buyers") are margined in SPAN® normally, but there is a special Daily Adjustment cash flow, normally from the long to the short, analogous to the financing cost associated with rolling over a spot position.

In addition to calculating the normal SPAN requirement for these accounts, PC-SPAN will calculate this Daily Adjustment cash flow. The Daily Adjustment may be thought of as having two components:

- first, the cost of rolling the end-of-day net position from the current business day to the next business day, using today's Daily Adjustment Rate;
- second, and only if any as-of trades were cleared today, for each such trade, the cost of rolling each such trade from the trade date to the current date. These rates are called the Cumulative Adjustment Rates.

An "as-of" trade is any trade with a trade date earlier than the cleared date. As-of's typically arise from floor trades which are matched after the trade date, from giveups which are matched after the allocation date, or from transfers.

If your accounts to be margined cleared any as-of trades on a specific date, PC-SPAN allows you to enter the details of these as-of trades, so that you can calculate Daily Adjustment amounts taking into account both of these components of the total cash flow.

For Non-QIB accounts:

TRAKRS positions in accounts not qualifying for treatment as QIB's have a special method for calculating the SPAN performance bond requirement called the "Value Maintenance Method".

This method provides a parameterized way of:

- setting the margin requirement for each open purchase trade at 100% of the trade price, and

setting the margin requirement for each open sale trade at 50% of the trade price, but allowing the requirement for these sale trades to be reset to 50% of the current market price if the margin requirement calculated earlier drops below 30% of the current market price or climbs above 70% of the current market price.

In addition, the Open Trade Equity resulting from these open purchase or sale TRAKRS trades is treated differently than the Open Trade Equity from normal futures. It is considered to be "locked-up equity", and will result neither in the ability to withdraw collateral (if a gain) nor a call for more collateral (if a loss).

For example, if a non-QIB customer buys a TRAKR at 25, and the future settles that day at 26, the performance bond requirement is \$25 (100% of the trade price.) \$25 in collateral must be deposited, even though there is \$1 in Open Trade Equity, because all of this dollar is Locked-Up Equity. Analogously, if the future settled at 24, still only \$25 in collateral must be posted, even though there is a negative \$1 in OTE, because all of that OTE is locked-up.

So for each TRAKRS position in a non-QIB account, PC-SPAN requires you to specify the details of all open trades which together give rise to that net position, with the original trade date, trade price, and open quantity for each. Based upon this information, PC-SPAN will (a) calculate the performance bond requirement using the Value Maintenance method, (b) calculate the Locked-Up Equity, and (c) take the Locked-Up Equity into account in determining the Excess or Deficit amount.

File Format Considerations

The CME currently publishes its SPAN files in both the "standard" unpacked and packed formats, in use since 1988, and in the newer and more flexible XML-based format, available since 1999.

Both the standard-format files and the XML-based format files contain the special "Value Maintenance Rates" data which identify the TRAKRS products as such, and which drive the calculation of the SPAN requirement for non-QIB accounts for these products.

For the Daily Adjustment rates, the standard-format SPAN files contain only the current day's rate, whereas the XML-based SPAN file contains all daily and cumulative rates since the TRAKRS began trading.

So if you are using one of the standard-format SPAN files, and if you wish to calculate Daily Adjustment cash flow amounts for QIB accounts which cleared as-of trades today, then you must obtain the Daily Adjustment History file in addition to the standard-format SPAN file. If no as-of trades cleared today, then there is no need to obtain the Daily Adjustment History file in addition to the standard-format SPAN file.

If you are using the XML-based SPAN file, there is never any need to obtain the separate Daily Adjustment History file in order to calculate these cash flows for QIB accounts, regardless of whether any as-of trades were cleared.

Obtaining SPAN Files and Daily Adjustment History Files

These files are available on the Internet via the CME's public FTP server at <ftp.cme.com>. Standard unpacked-format SPAN files are available at <ftp.cme.com/pub/span/data/cme>. A typical

filename would be `cme0723s.zip`, for the file for end of day July 23rd.

XML-based SPAN files are available at <ftp.cme.com/pub/span/data/cme/xml>. The corresponding

filename would be `cme.20020723.s.cust.spn.zip`.

Daily Adjustment History files are available at <ftp.cme.com/pub/span/data/cme/trakrs>. These files are available in either a standard positional format, or an XML format. The two formats contain exactly the same data. The corresponding filename for the positional format would be `cme.20020723.s.dahist.txt.zip`, and the filename for the XML-based format would be `cme.20020723.s.dahist.xml.zip`.

CME member firms may also obtain any of these files via direct transmission to their private directory on the Firm FTP Server.

Loading SPAN files and Daily Adjustment History Files

Daily Adjustment History Files are loaded into PC-SPAN exactly like any other file type, via the Load command on the File menu.

So (a) if you are using one of the standard format SPAN files for the CME, (b) you wish to calculate Daily Adjustment cash flows for QIB accounts with TRAKRS positions, and (c) these accounts have cleared as-of trades on the current date, then:

v Obtain the Daily Adjustment History file in addition to the standard unpacked- or packed- format SPAN file for CME. Unzip the files if necessary.

v First load the CME SPAN file, then load the Daily Adjustment History file.

The QIB check box on the Portfolio dialog box

When you create a portfolio, there is a new "Qualified Institutional Buyer" check box on the main "Portfolio Data" tab on the dialog box. By default, this box is checked. In other words, by default, (a) an account is defined as QIB, (b) TRAKRS positions will be margined normally, and (c) PC-SPAN can be used to calculate Daily Adjustment cash flows.

Removing the check mark from this box means that the portfolio is for a non-QIB account. If there are TRAKRS positions for this account, (a) you will need to define the individual open trades which comprise these positions, (b) the performance bond requirement will be calculated using the Value Maintenance method, and (c) the Locked-Up Equity resulting from these open trades will be calculated and used in determination of the excess or deficit amount.

Check or un-check to indicate QIB or non-QIB

For non-QIB accounts, PC-SPAN will calculate Locked-Up Equity for TRAKRS

Leaving the "Qualified Institutional Buyer" box checked means that the portfolio is for a QIB account. If there are TRAKRS positions in the account, you define the net position quantity normally. In addition, you can define any as-of trades which cleared for the specified business date. PC-SPAN will calculate the Daily Adjustment based on both the net position for today, and the as-of trades.

Defining TRAKRS Positions for QIB Accounts

For normal hedge, spec, or member QIB accounts, you define positions in TRAKRS by specifying the net position quantity, exactly as you do for normal products. The only exception is that you may optionally choose to enter any as-of trades that cleared on the business date of the SPAN file.

If you do enter as-of trades, PC-SPAN will use them when calculating the Daily Adjustment amount. As described above, the total Daily Adjustment cash flow will take into account the cost of rolling the net position from the current business date to the next business date, plus, for each such as-of trade, the cost of rolling it from trade date to the current date.

When you are entering a position quantity for a TRAKRS contract for a QIB account, to the right of the Net Position field, is a button with a + sign on it, in a new column labeled Trades.

Click on this button to enter As-Of Trades

Click on this button and the As-of Trades dialog box pops up.

To enter an as-of trade, enter the trade date, trade quantity, and trade price. Enter buy trades with a positive quantity, and sell trades with a negative quantity. (Note that the trade price defaults to the price of the TRAKRS future as provided in the SPAN file.) Then click on the Add button. You can now enter another as-of trade. Note that once you have added the trade, you can change anything about it just by overtyping. When you're done, click on the OK button.

Defining TRAKRS Positions for Non-QIB Accounts

If you've defined an account as non-QIB, when you enter positions for a TRAKRS future, the dialog box looks a bit different. You still have the new column labeled Trades to the right of the Net position column, with a button with a + sign to the right of each TRAKRS future. But now the fields in the "Net Position" column are grayed out, and can't be entered.

Click on the + sign to enter open trades for a particular TRAKRS contract. The Open Trades dialog box for this contract will pop up.

To enter an open trade, enter (a) the trade date (normally the current date), (b) the trade quantity, positive for a buy or negative for a sell, (c) the trade price, and (d) the margin price as the same value as the trade price. Then click on the Add button. You can define as many open trades as exist.

To change the open quantity on a particular open trade, edit the value in the Trade QTY column for the desired open trade.

The value in this field should reflect the current open quantity for this trade. If an open trade has been liquidated, change the Trade QTY to zero.

When you're done entering open trade data, click on the OK button to return to the Portfolio dialog box. The net position quantity field will be updated to reflect the total of the Trade QTY on the open trades.

Note that you should only enter trades (or the portion of trades) which are opening. Liquidating trades should not be entered. Non-QIB accounts are only margined on the currently open quantity of opening trades. Also, because you are only entering the currently open quantities of open trades, either all open trades for a particular TRAKRS contract must be buys, or all must be sells. If you have entered both positive and negative open quantities, and you click on the OK button, a dialog box will display saying "All trades should have the same sign for trade quantity. Please check the trade quantity for your trades." Click on the OK button to remove this new dialog box, then correct the trade quantities.

Defining TRAKRS Positions for Omnibus Accounts

Omnibus accounts, like any customer account, are specified as being either QIB or non-QIB.

This designation pertains to the naked positions defined for the omnibus account. If there are disclosed subaccounts in the omnibus account, they may be either QIB accounts or non-QIB accounts. The same omnibus account may contain disclosed subaccounts for both QIB customers and non-QIB customers. But the naked (non-disclosed) positions must either be entirely for QIB customers, or entirely for non-QIB customers.

For naked TRAKRS positions in non-QIB omnibus accounts:

Instead of defining the naked long position and the naked short position, you define the individual open trades comprising the naked long position, and then the individual open trades comprising the naked short position. Note that when you are entering open trades for the naked long position, all of the open trades must be purchases, ie, must have positive trade quantity. When you are entering open trades for the naked short position, all of the open trades must be sales, ie, must have negative trade quantity. The Add button will not be active if you enter the trade quantity with the wrong sign. For naked TRAKRS positions in QIB omnibus accounts:

For these positions, you define the naked long position and the naked short position as you would for an ordinary naked position in an omnibus account, but in addition you may define as as-of trades which cleared on the business date of the SPAN file. Just click on the + button to pop up the dialog box for entering as-of's.

Note

Enter any as-of trades that cleared regardless of whether they were undisclosed or non-disclosed subaccounts. For a QIB omnibus account, when calculating the daily adjustment for a TRAKRS position, we take the total long position and subtract the total short position to obtain the net position. The net position based on the total long and total short is used to determine the daily adjustment for rolling the position from the current date to the next date, and then the daily adjustment amounts for any as-of trades are added in. In effect, the calculation of daily adjustment for a QIB omnibus account works the same way it does for a non- omnibus account.

Calculating SPAN Requirements for Portfolios Including TRAKRS

positions

As with any portfolio, simply use the Calculate Portfolio Requirements command, available from the menu, via Ctrl-K, or via the Calculate button on the toolbar. For QIB accounts, this will calculate the SPAN requirement normally and in addition calculate the Daily Adjustment cash flows. For non-QIB accounts, this will calculate the SPAN requirement for the TRAKRS using the Value Maintenance method.

View the Daily Adjustment Cash Flow for QIB accounts

On the Portfolio dialog box, click on the Settlements tab. The Cash Adjustment tab will contain the Daily Adjustment cash flow amount. This tab is also available at the Exchange Complex dialog box and Combined Commodity dialog box for the portfolio.

Daily Adjustment cash flow amount
Viewing the Performance Bond Requirements and Locked-Up Equity
for non-QIB accounts

For QIB accounts, where the SPAN requirement for TRAKRS positions is calculated normally, the Performance Bond Requirements tab on the Portfolio dialog box looks exactly as before:

But for non-QIB accounts, where the SPAN requirement for the TRAKRS is calculated using the Value Maintenance method, the Performance Bond Requirements tab on the Portfolio dialog box now displays the Locked-Up Equity:

Note how the Locked-Up Equity is added to the SPAN requirement to obtain the Total Requirement. If TRAKRS positions in a non-QIB account are making money, this increases the total requirement, thereby preventing that positive open trade equity from allowing other collateral to be withdrawn. If TRAKRS positions in a non-QIB account are losing money, this decreases the total requirement, thereby preventing that negative open trade equity from resulting in a deficit and a call for more collateral.

How the calculation process affects the Margin Prices for non-QIB accounts

As you calculate performance bond requirements for non-QIB accounts containing TRAKRS positions, the Value Maintenance parameters are applied to the individual open trades to determine the scan risk component of the SPAN requirement.

For each buy open trade, the margin is set to 100% of the trade price. Another way to think of this is that the margin is set as 100% of the margin price, with the margin price initialized as the trade price and never changing thereafter.

For each Sell trade, the margin is set to 50% of the margin price, with the margin price initialized as the trade price. But for sells, the margin price may change. Specifically, when you calculate the margin, the current market price is compared to the margin price. If the market price has gone up so that 50% of the margin price is now less than 30% of the current market price, or if the market price has gone down so that 50% of the margin price is now greater than 70% of the margin price, then the margin price is reset to the current market price.

The scan risk for the TRAKRS combined commodity is set to the sum of all of these individual margin requirements for all of the open trades, and the position delta for each TRAKRS position is set to zero. Thereafter, the SPAN calculation proceeds normally. Because the position delta is set to zero, the TRAKRS combined commodity will have no intracommodity spread charge, and it will participate in no delta-based intercommodity spreads.

Viewing Reports for TRAKRS

There are several new or changed reports which show data for TRAKRS.

- **The Open Trades Report** - For QIB accounts, there is a new Open Trades report which shows TRAKRS positions, and the individual open trades which comprise those positions. For each such trade, you see the trade date, the trade quantity, the trade price, the margin price, the margin rate, and the margin requirement. For sell trades, if the margin price has changed as the result of the calculation, you can see the new margin price.
- **The As-Of Trades Report** - For non-QIB accounts, the new As-Of Trades report is an exactly analogous way to view the as-of trades defined for a particular position, except that here you see only the trade date, trade quantity, and trade price.
- **The Portfolio Values Report** - The right-most column of this report, labeled Cash Adjustment, shows the amount of the Daily Adjustment cash flow for QIB accounts, at various levels in the portfolio.
- **The Positions - Cash Adjustments Report Report** - For TRAKRS positions in QIB accounts, these reports show the cash adjustment amount associated with the position, including the amount of the adjustment resulting from any as-of trades. This report shows both normal net customer accounts and, for omnibus accounts, it shows the net position quantity based on the total long less the total short position.
- **The Values Maintenance Rates Report** - For TRAKRS products, this report shows the parameters that drive the calculation of the scan risk using the value maintenance method for non-QIB accounts. You can see that for long trades, the margin is 100% of the trade price "without reset", while for short trades, the margin is 100% of the trade price "with reset" at 30% on the low side and 70% on the high side.
- **The Contract Value Adjustments Report** - For TRAKRS products, this report shows the Daily Adjustment and Cumulative Adjustment rates, by business date. Note that if you have loaded only the unpacked-format or packed-format SPAN file, you will see only the daily adjustment rate for the business date of the SPAN file, whereas if you have loaded both the SPAN file and the Daily Adjustment History file, you will see the rates for all business days since the TRAKRS contract first began trading.