

Repo/Reverse Repo System

Version 3.0

LDB CONSULTING, INC.

PO BOX 512

VALPARAISO, IN 46384

(219) 477-1928

FAX (219) 531-2643

EMAIL:LEN@LDBCI.COM

WEB Site: WWW.LDBCI.COM

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Repo/Reverse Repo System Overview

The Repo/Reverse Repo (REPO) system utilizes daily position, margin and OBD (one business day) files. It produces detail reports by counter party and cusip as well as summary reports that enumerate charges for Repos, Reverse Repos, 15c3-1(a)(9) and Repurchase Undue Concentration per paragraphs B and C.

NOTE: Margin Deficiencies are not computed.

Once installed on the computer in the directory selected by the user, the REPO system will build five directories:

- 1) DATA where all system data base files are stored;
- 2) IMPORT where ASCII files to be imported are stored;
- 3) DATA\TEMPLATE where backup structures for all system DBF files are stored;
- 4) PRINT where all network print files are placed;
- 5) HELP where the online documentation files are placed;

By using the INI file, described in the MAINTAIN section, the user may alter the locations for all of these subdirectories EXCEPT the TEMPLATE directory.

REPO expects one position file and one margin file. The OBD file, which contains adjustment data for a prior day, is optional. The user may also manually insert adjustments into the History file.

After performing an import to update the history file, the user may then calculate daily charges using the data directly from the history file.

When started, the system will present a bar menu containing pads for Import, Calculate, View, Report, Maintain, Help and Quit. The user may choose a pad by moving to it with the arrow keys, by clicking on the pad with a mouse, or by pressing the ALT key plus the underlined letter for the appropriate pad, such as ALT+Q for quit. When a pad has multiple selections, each selection may have a key letter underlined. The user may choose a selection by typing the underlined letter for that selection, clicking on the selection with the mouse, or by pressing the down arrow to highlight the selection and then hitting the ENTER key. Some menu selections are marked with an arrow to the right. This indicates a cascading menu with additional items. You may move into the cascading menu as discussed above and make your final selection there.

Each menu pad and its optional selections are discussed below.

The user may interrupt execution by hitting Alt+F4.

To Generate a Daily Report

Click on the REPO10 icon. You MAY have to go to the MAINTAIN menu to alter INI entries. Most often you will NOT have to go here.

From the Import menu, select Daily File Import.

From the Calculate menu, select Compute.

Enter the date you want to view as the date to calculate.

From the Report menu, you may then view or print the reports.

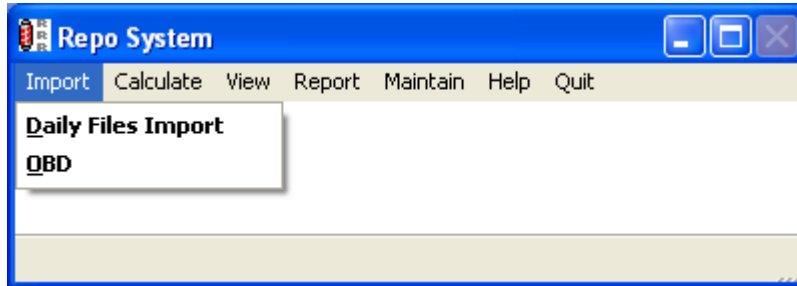
An OBD file may be imported if one is available. Entries may be ADDED to the history file via the Maintain menu. A given date may be recalculated whenever you like. If you rerun Import Daily Files with a date that has already been imported, all data from OBD file and all data manually entered will be LOST. However, importing an OBD file will only remove previous OBD data and manual adjustments entered by

the user for the import file date.

QUIT.

REPO Menu Bar

IMPORT



The import menu allows the REPO program to bring the CSV import files into the system. The user defines the file names, and locations in the INI file. All REPO import files are in comma separated format.

Daily File Import

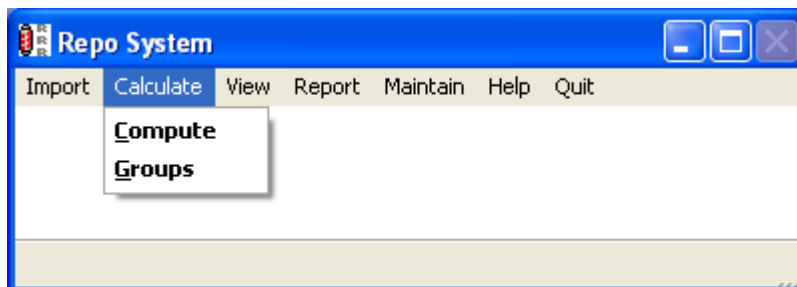
The Daily File contains a single day's worth of repo/reverse repo information for a given firm. The import function will read the position and margin files. The imported file dates will be cross referenced and the files will NOT be processed if the dates do not match. **Any prior data in the History file for the requested date will be deleted before new data is imported.** The user will be asked permission to purge the date from the History file and may decide not to do the purge. In that case the import function is aborted.

OBD File Import

OBD import reads the file specified in the INI file in the Maintain menu.

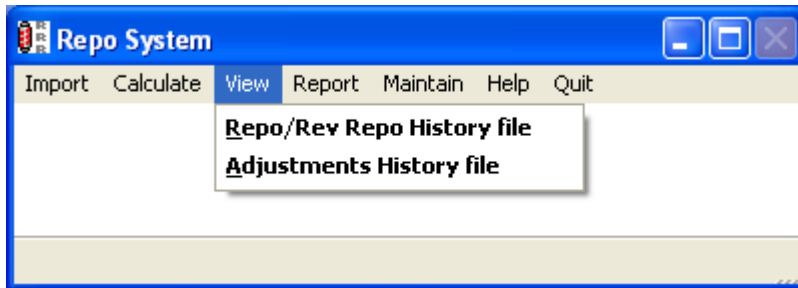
The OBD file function adds records to the History and replaces or removes any OBD or Manual Adjustment data already there for the requested date. The OBD file is the source of margin call, mark to market and other deposits information.

CALCULATE



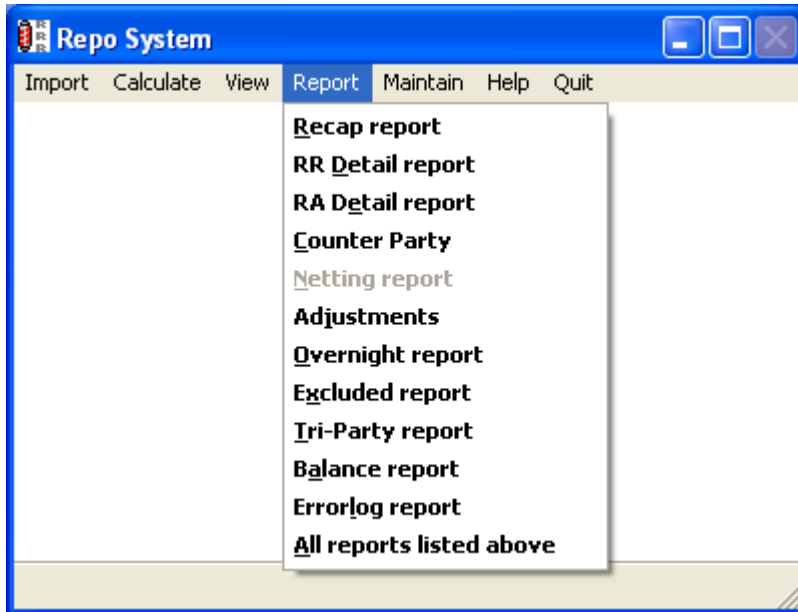
Selecting Compute will allow the user to compute charges for any date in the history file. Selecting Groups also computes charges, but the system will combine counter parties based on the information in the groups table (see Maintain/Groups section below) and generate charges for the combined counter parties, using the group description in reports for the combined counter parties.

VIEW



The user may view either the repo/rev repo history file (in date and counter party order) or the Adjustments History file that contains margin/OBD data.

REPORT



All reports are presented on the screen for viewing. The user may utilize the forward, fast forward, rewind and fast rewind keys in the Print Preview popup box. When finished viewing, the user may select the printer icon to initiate printing. She will then be allowed to select the printer for report generation and to alter its default settings.

The Recap REPO report lists the final REPO charge for Repurchase deductions, Reverse Repurchase deductions, 15c3-1(a)(9) charges and 15c3-1(c)(2)(iv)(3)(i)(b/c) charges.

The Counter Party report lists the final REPO charge for each counter party.

The RR Detail, and RA Detail REPO reports provides supporting information for the charges in the recap and counter party reports. It includes a record for each cusip and shows the market value, contract amount, accrued interest and coupons, deficits, and rate.

The Adjustments report includes a record for each counter party with margin, margin call, mark, or

deposits information from the OBD and/or margin import files. Information from manual adjustments is included as well.

The Overnight report includes all overnight and next day settlement positions only when OVERNIGHT and/or NEXTSETT is set to Y in the INI. Overnight positions are positions for which the start date and end date are populated and the number of business days from the start date to the end date is less than 2. Next day settlement positions are positions for which the end date field is populated and the number of business days from trade date to end date is less than 2. When computing the number of business days, the system considers weekends and holidays as defined in the Holiday table (see Maintain section of manual). These positions are not included in the computations.

The Excluded report, if GSCCEXCL is set to Y in the INI, includes all positions having GSCC in the counterparty field (this may be populated in the position file, or by using the groups functionality). Positions having already been placed into the Overnight report will not be eligible for this report. These positions are not included in the computations.

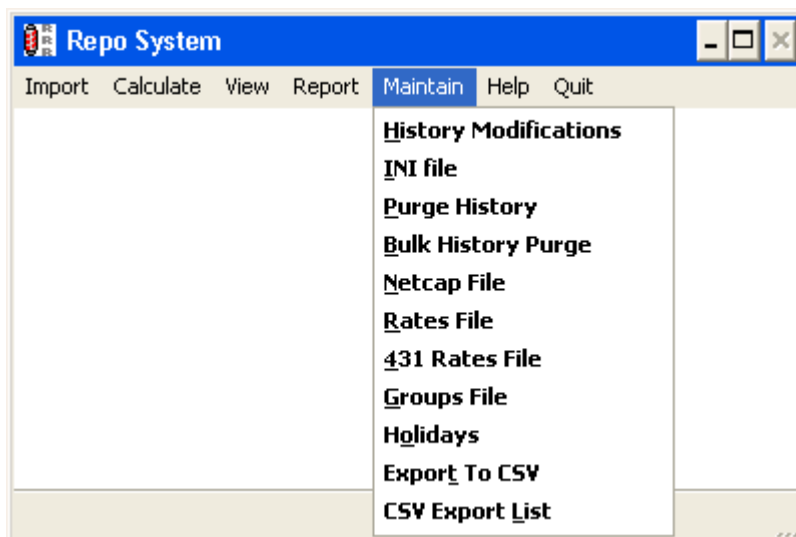
The Tri-Party report, when TRIPARTY is set to Y in the INI, includes all positions having TP in the RVRR field. Positions having already been placed into the Overnight or GSCC Excluded reports will not be eligible for this report. These positions are not included in the computations.

The Balance report presents values for all positions from all reports in one place, including the errorlog.

The Errorlog shows all errors.

All Reports Listed Above will print all available reports

MAINTAIN



INI file

All INI parameters (items on the left side of the equal sign) are case insensitive and should be entered without spaces. The parameter is followed by an equal sign and the appropriate value is entered to the right of the equal sign. Valid entries are:

ADDXS controls how RR Excess is used in 431 calculations. Y - RRXS+431 or N – just use 431
ADDXS = Y (Default = Y)

ADOBEPRN defines the Adobe printer name
ADOBEPRN = Adobe PDF (Default = Adobe PDF)

ASKTNC allows the user to enter the TNC number via a prompt; the default is false
ASKTNC = Y (Default = F)

BACKUPDIRECTORY defines directory in which PDF report files are saved as YYYYMMDD.XXX (e.g., 19990731.dtl for detail). The user must be running the PDFREPORT functionality in-order to use this setting.
BACKUPDIRECTORY = .\BACKUP

BATCH number not equal to zero indicates a batch run. A negative value will cause RRR to terminate after running. A positive number will let RRR continue to run and wait for another semaphore file.
BATCH = 3 (Default = 0)

BATCHGRP indicates batch is run in Groups mode
BATCHGRP = Y (default is N)

BROWSEFONT allows user to pick font size for VIEW windows; 6 is the default size
BROWSEFONT = 6

BROWSER defines location and name of default browser program
BROWSER = F:\PROGRAM FILES\INTERNET EXPLORER\EXPLORE.EXE (Default is %ProgramFiles%\Internet Explorer\EXPLORE.EXE)

DATADIRECTORY defines the full DOS path for all network data base files
DATADIRECTORY = D:\REPO\DATA\

DELIMITER define data delimiting character in report export files
DELIMITER = TAB or BLANK or SDF (COMMA is default); SDF produces column delineated output

FIRMNAME the name the user wishes to appear on reports
FIRMNAME = LDB CONSULTING, INC.

GSCCEXCL excludes the GSCC counterparty from the calculation and reports separately.
GSCCEXCL = Y

HELPDIRECTORY defines location of online documentation files
HELPDIRECTORY = D:\REPO\HELP\ (Default = .\HELP\)

HISTPURGE defines how many days of history to keep
HISTPURGE = 3 (DEFAULT = 0 keep all history)

IMPORTDIRECTORY the full DOS path for all files to be imported
IMPORTDIRECTORY = D:\REPO\IMPORT\

MARGFILE = defines the path and name of the daily margin file to import
MARGFILE = .\IMPORT\margin.csv (Default is margin.csv in the IMPORTDIRECTORY)

NEXTSETT exclude the next day settlement repo/reverse repo's from the calculation and report separately.

NEXTSETT = Y

OBDFILE defines the path and name of the daily OBD file to import
OBDFILE = .\IMPORT\obdimport.csv (Default is obdimport.csv in the IMPORTDIRECTORY)

OVERNIGHT exclude the overnight repo/reverse repo's from the calculation and report separately.
OVERNIGHT = Y

PDFERASE deletes all of the previously created PDF reports within the Adobe port directory.
PDFERASE = Y (Default = N)

PDFREPORT creates PDF reports in addition to the text files automatically created with each run.
PDFREPORT = Y (Default = N)

POSFIL defines path and name of the daily position file to import
POSFIL = .\IMPORT\position.csv (Default is position.csv in the IMPORTDIRECTORY)

PRINTDIRECTORY defines the full DOS path for all network print files
PRINTDIRECTORY = D:\REPO\PRINT\

RUNDOS complete path and name (including extension) of DOS program executed after BATCH run
RUNDOS = C:\WORKING\DOSPROG.EXE (default is REPOFINI.EXE in RRR directory)

RUNWIN complete path and name (including extension) of Windows program executed after BATCH run
RUNWIN = C:\WORKING\WINPROG.EXE (default is REPOFINIW.EXE in RRR directory)

SEMAPHORE complete path and name of file whose existence triggers BATCH execution
SEMAPHORE = C:\WORKING\READYSET.TXT (default is REPOBATCH.TXT in IMPORTDIRECTORY)

TRIPARTY exclude the tri-party positions from the calculation and report separately.
TRIPARTY = Y

USEADJ use the RA excess including the cushion to reduce RA deficits.
USEADJ = Y

USEEXCESS = use the excess when computing the adjusted deficits. If set to false, 0 will be used in the adjusted deficit calculation when there is an excess in the standard deficit calculation.
USEEXCESS = Y (Default = Y)

USETAXID swaps CP and TAXID info in the system
USETAXID = N (Default = N)

History Modifications

The user may enter data to the margin history file. No existing data may be deleted or altered, but additional fields, which will be summed with other fields in the file when reports are generated, may be added. The user is asked for a counter party and date to alter. All counter party identifiers are treated as alphanumeric and must match the identifiers in the imported files. If numeric identifiers have leading zeroes, they must be entered. Leading spaces in imported counter party identifiers will be removed during import and need not be entered here. A blank counter party entry ends the modification loop.

The user is presented with a line for each margin history entry. Entries for any of the pertinent data may be entered. A comment may be appended to each line as well. Negative numbers will decrease the deduction, while positive numbers will increase the deduction taken for the counter party. The fields user 1, user 2, user 3 and user4 may be used for ANY adjustments and the comment field may be used to annotate the changes.

Purge History

The user is shown the oldest and newest dates in the position history file and may indicate a single date to delete. All records in the position and margin history files with a date matching the input date are deleted. Entering a blank date results in nothing being purged.

Bulk History Purge

The user is shown the oldest and newest dates in the position history file and may indicate the OLDEST date to retain. All records in the position and margin history files with a date prior to the input date are deleted. Entering a blank date results in nothing being purged.

Netcap

The user may choose to utilize this table for the Excess Capital number. The number will be used to compute concentration charges. Alternatively, the user may set the ASKTNC in the INI file and be prompted for his TNC value.

Rates

This table should contain the three character security types used by the firm to identify government, agency and other securities, and their respective multipliers. For example, USG (U.S. Gov't) would be at 1.05, while AGY (Agency) would be at 1.10, and OTH (Other) at 1.20.

431 Rates

This table contains rates used in the 431 calculation. Users are only able to adjust the market and contract value percentages. This is a user-requested add on - Please contact LDB for information on how to use this logic.

Groups

Since it is sometimes necessary to consolidate information for different counter parties, the Groups file allows the user to indicate which Counter Party IDs should be consolidated into combined entities. The user may create a new CP indicator for this combined group and the indicator may be alphanumeric or numeric. In reports, the group will be indicated by its group CP indicator and the name contained for this group in the Groups file Description field.

Holiday

The user may enter the dates of business holidays. These entries will be used in computing elapsed business days in the overnight logic. If no holidays are entered, all weekdays will be considered business days.

Export to CSV

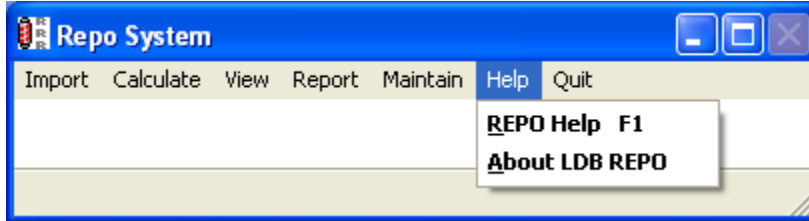
Users may navigate to and select data base files (files with extension .dbf) to export. The newly created CSV file will be placed into the user defined PRINT directory and will have the same name as the selected file. We believe all of the records from the DBF will be contained within the CSV file, although Microsoft Excel has a limit of 65,000 records which may hinder the user's ability to see all of the records when opening the file in Excel.

CSV List

Users may maintain a list of names for database files to export to CSV when the EXPORT INI entry is turned on. The program will look in the user defined DATA directory for the files in this list. The newly

created CSV file will be placed into the user defined PRINT directory and will have the same name as the selected file. We believe all of the records from the DBF will be contained within the CSV file, although Microsoft Excel has a limit of 65,000 records which may hinder the user's ability to see all of the records when opening the file in Excel.

HELP



REPO Help will give the user access to an HTML version of the manual via the default system browser. If REPO cannot find the default browser, the user may define its location using the BROWSER parameter in the INI file. Hitting F1 will launch the HTML help function.

About LDB REPO shows version, default directory and creation information for the application.

File Layouts

The three import files are expected in comma separated values (CSV) format.

Position File

The file name must be position.csv unless there is an entry for POSFILE in the INI file.

Header record:

FIELD NAME	SIZE	FMT	JUSTIFY/FILL
*Record ID	1	X	H for header
*Date	8	N	Date in YYYYMMDD format

Detail records:

FIELD NAME	SIZE	FMT	JUSTIFY/FILL
Record ID	1	X	Blank
*CP	10	X	Counter Party
*CP Description	30	X	CP Description
*RA/RR/TP	2	X	RR, RA or TP (tri-party)
*CUSIP	9	X	CUSIP
*Market Value	12	N	Right
*Accrued Coupon	12	N	Right
*Contract	12	N	Right
*Accrued Interest	12	N	Right
*Type	3	X	User Defined Security Type
End Date	10	X	MM/DD/YYYY
Start Date	10	X	MM/DD/YYYY
Tax ID	10	X	Blank
<Optional fields below are required for 431 on RR types Only. RA/TP types are to be left blank>			
Security Type	1	X	(A)gency, (C)orporate, (G)overnment, (M)uni, (O)ther, (S)ov; else, BLANK
Maturity Date	10	X	MM/DD/YYYY
Moody Rating	4	X	Blank (only for types C and S)
S&P Rating	4	X	Blank (only for types C and S)
Dominion Rating	4	X	Blank (only for types C and S)
Fitch Rating	4	X	Blank (only for types C and S)
Optional User Defined rating	4	X	Blank (see Note 1)
SMMEA	1	X	Y if SMMEA Eligible, N if NOT (only for type C)
Counterparty Type	1	X	(E)xempt or (N)on Exempt

Note 1 : BBB or above will be considered investment grade.

Margin File

The file name must be margin.CSV unless there is an entry for MARGFILE in the INI file.

Header record:

FIELD NAME	SIZE	FMT	JUSTIFY/FILL
*Record ID	1	X	H for header
*Date	8	N	Date in YYYYMMDD format

Detail records:

FIELD NAME	SIZE	FMT	JUSTIFY/FILL
Record ID	1	X	Blank
*CP	10	X	Counter Party
*Margin	12	N	Right

OBD File

The file name must be obdimport.csv unless there is an entry for OBDFILE in the INI file.

Header record:

FIELD NAME	SIZE	FMT	JUSTIFY/FILL
*Record ID	1	X	H for header
*Date	8	N	Date in YYYYMMDD format

Detail records:

FIELD NAME	SIZE	FMT	JUSTIFY/FILL
Record ID	1	X	Blank
*CP	10	X	Counter Party
*Margin Calls	12	N	Right
*Marks	12	N	Right
*Other Deposits	12	N	Right

Suggested Minimum Backup Procedures

After installation, the following directories should be backed up:

Program Files\LDB Consulting\10REPO

Program Files\LDB Consulting\10REPO\DATA

Program Files\LDB Consulting\10REPO\DATA\TEMPLATE

Once the system is operational, you need to back up Program Files\LDB Consulting\10REPO only when you have altered the INI file.

The Program Files\LDB Consulting\10REPO\DATA\TEMPLATE directory contains empty versions of all DBF (database) and CDX (index) files. If you get an error message indicating that a table or index has been corrupted, you should retrieve the appropriate files from your system backup or from the template directory. Files that you alter via the MAINTAIN menu are copied to the template directory when you access them. This assures that the TEMPLATE directory will have the latest versions of all files. When retrieving files from the TEMPLATE directory, COPY the files: do NOT MOVE them. If you encounter difficulty in retrieving files, contact LDB Consulting, Inc.

Unattended/Batch Processing

The system may be set to run in an unattended, batch mode. BATCH should be set to a non-zero value in the INI file. Once all user files have been provided to the computer running SBL, a semaphore file (see SEMAPHORE setting in INI file section of this manual) should be created. SBL will sense the existence of this file and proceed to import files and perform calculations.

Upon completion of the run, a user-supplied routine (See RUNDOS and RUNWIN settings in INI file) may be executed. Program messages are placed in batchmsg.txt in the print directory. If the BATCH parameter setting is greater than zero, SBL remains open, waiting for another semaphore file. If the parameter is negative, bond will close upon completion.

Repo/Reverse Repo Calculations

Reverse Repurchase Detail:

Raw Deficit/-Excess: (Contract Value + Accrued Interest) – (Market Value + Accrued Coupon)

Cushion: (Contract Value + Accrued Interest) * Multiplier (See NOTE 1)

Adjusted Deficit/-Excess: (Market Value + Accrued Coupon) - (Contract Value + Accrued Interest + Cushion) (See NOTE 2)

Deduction: Equal to the Raw Deficit or ZERO if there is a Raw Excess

Repurchase Agreement Detail:

Raw Deficit/-Excess: $(\text{Market Value} + \text{Accrued Coupon}) - (\text{Contract Value} + \text{Accrued Interest})$
Cushion: $(\text{Contract Value} + \text{Accrued Interest}) * \text{Multiplier}$
Adjusted Deficit/-Excess: $(\text{Market Value} + \text{Accrued Coupon}) - (\text{Contract Value} + \text{Accrued Interest} + \text{Cushion})$ (See NOTE 2)
Deduction: Equal to the Adjusted Deficit or ZERO if there is an Adjusted Excess

Counterparty Report:

RR: Deduction: SUM of the RR Deductions – Adjustments – RA Residual Excess (RA excess may be used to reduce an RR deficit)
(a)(9): SUM of Adjusted RR Deficits by TYPE (NOTE: Excesses may be used to reduce deficit for same type. All type TOTALS in excess are set to ZERO)

RA: Deduction: SUM of the RA Deficits – Adjustments (that have not been used against RR deficits)
(b) Concentration: SUM of Raw Deficits/Excesses – $(0.25 * \text{Net Capital})$ – RA Deduction already taken (ZERO if result is negative)
(c) Concentration: SUM of Raw Deficits (excluding excesses)

Final Charge Report:

Reverse Repurchase: Sum of RR counterparty deductions
Repurchase Agreement: Sum of RA counterparty deductions
RR 15c3-1(a)(9): SUM of (a)(9) numbers from counterparty report * 0.10
RA (b)/(c): Greater of (1) SUM of (c) concentration from counterparty report in excess of 300% of Net Capital
(2) SUM of (b) concentration from counterparty report
(3) ZERO

Notes

NOTE 1: Not used in computing Reverse Repurchase Deduction. However, it is used in the NASD (a)(9) calculation.

NOTE 2: If USEEXCESS functionality is turned off (via setting in INI file), and the Raw Deficit/-Excess calculation results in an excess, the system will reduce the Adjusted Excess by the amount of the Raw Excess. Otherwise, the system will use the calculations above. Effectively, this limits the Adjusted Excess to no more than the Cushion.

PDF Reports

The purpose is to create PDF reports in addition to the text files automatically created with each run. When the functionality is on, the PDF reports will be created in the ADOBEPORT (see below) directory.

Adobe Acrobat Setup

1. Adobe Acrobat must be installed.
2. Navigate to the “printers” directory through Windows Control Panel. Right-click on Adobe PDF and select “properties”. Select “printing preferences”.
3. Uncheck “view Adobe PDF Results”, “Do not send fonts to Adobe PDF”, and “Prompt for Adobe PDF Filename”, click “apply”, and click “OK”.
4. Select the “Ports” tab (at top of properties box). Click on “Add Port”. Ensure that the Adobe PDF Port type is highlighted. Click “New Port”, and then navigate to the desired directory to contain the PDF files (C:\Program Files\10RRR\PDFPRINT, for example). Click “close”, then “apply”, followed by “ok”.

Adobe INI Entries

1. PDFREPORT = Y to turn on the logic. Default is N.
2. PDFERASE = Y to delete all of the previously created PDF reports within the Adobe port directory. Default is Y.
3. ADOBEPRN = Adobe PDF to define the printer name. Default is Adobe PDF.