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APL Separately Managed Account (SMA) Trading

User Guide

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Overview

The APL SMA Trading User Guide provides a comprehensive overview of the Separately Managed Account (SMA) trading workflows within the APL platform. This guide covers key features, including account setup, trading restrictions, trade creation tools, and reporting utilities. It offers step-by-step instructions for tasks such as single-security and multi-security trading, account rebalancing, and using the Intraday Cash Adjuster.

The APL SMA Trading module is a powerful and versatile component of the APL ecosystem, designed to facilitate real-time trading and portfolio adjustments across multi-custodial accounts. By integrating customizable trading rules, model-driven workflows, and automated cash management, the system empowers portfolio managers to align investments with client mandates seamlessly.

The solution's robust reporting and trade validation features enhance transparency and decision-making, while its interoperability with broader APL modules ensures an efficient end-to-end trading process.

1.1 What is APL?

APL stands out as a comprehensive and mature wealth management platform that integrates a wide range of functionalities across portfolio management, model management, data reconciliation, order execution, billing, and performance reporting. Its unified ecosystem streamlines workflows by connecting front-, middle-, and back-office operations through seamless interoperability between key components.

With solutions for centralized trading, model management, and data validation, APL ensures that users can align investment strategies with real-time market insights and execute tax-sensitive trades efficiently. This interconnectivity empowers wealth managers, financial advisors, and operations teams to achieve operational excellence while maintaining regulatory compliance and enhancing client outcomes.

APL's depth of feature coverage, supported by decades of innovation and strategic enhancements, offers unparalleled versatility and precision. The platform's components bridge gaps between sponsors, advisors, and asset managers, enabling real-time collaboration and data synchronization. Advanced audit tracking, customizable dashboards, and integrated compliance checks reduce manual errors and provide robust decision support.

APL's robust architecture supports complex portfolios and multi-custodial environments, reinforcing its reputation as a future-proof solution that meets the evolving needs of the financial industry.

Chapter 2: Account Master Database

This chapter describes fields in the Account Master database that are relevant to the APL Trading system.

2.1 Required fields

There are several Account Master database fields that should be coded to enable the use of an account in the APL Trading system.

> **Note:** Some “free” (unassigned) fields can also be used in the Account Master database, but doing so may require custom programming.

Account identifier

Field	Description
BWNUM	Account number
SNAM	Short name
DTCNO1	The first six digits of the DTC account number
DTCNO2	The last six digits of the DTC account number

Group fields

These fields are used to designate which group the account belongs to.

Field	Description
ADM	Account administrator
MGR	Manager
INVGRP	Investment group
RR	Registered representative or broker code. Valid values are: • 0 - 98 = Open accounts • 99 = Closed and non-billable accounts 100 = Indexes

Field	Description
	• 101 and up = Combined accounts

Broker fields

These fields identify the broker responsible for an account.

Field	Description
DESBRK	Designated broker
BRKPCT	Broker percent, for commissions

Model, investment type, sell code and target fields

These fields relate to how investments within an account are handled.

Field	Description
DESFIX	Designated fixed income target for the account
DESPCT	Designated equity target for the account
FDTYPE	Fund or investment strategy
FOFO	Sell code, identifying how trades should be booked. Valid values are: • 1 = LIFO (last in, first out) • 2 = FIFO (first in, first out) • 3 =MINTAX (minimum tax) • 4 = HIGHCOST (highest cost) • 5 = AVGCOST (average cost) • 6 = LOWCOST (lowest cost)
OBJECT	Trading objective

Depository Trust Company (DTC)

These fields are specific to share accounting by the DTC.

Field	Description
DTCBRK	DTC broker firm identification number
DTCNO	DTC account number (combination of DTCNO1 and DTCNO2)
DTCNO1	Custodian account number, first six numbers
DTCNO2	Custodian account number, last six numbers

Calculated fields

These fields are calculated by the system when a block of trades is committed. The adjustments are made in overnight processing. (NAMES is only updated overnight).

Field	Description
WCASH	Dollars in cash and cash equivalents
WCOST	Dollars in cost basis of holdings
WEQUTY	Dollar value of equity holdings
WFIXED	Dollar value of fixed income holdings
WTOTAL	Dollar value of total holdings
W13321	Dollar value of free cash
NAMES	Number of unique securities in the account

2.2 Rebuilding trading windows for specific accounts

Each manager's group of accounts is stored in a separate APL Windows universe. Each universe is identified by the manager's code and is updated on a nightly basis. Windows can be built based on specific individual accounts or a group of accounts by a specific manager.

When a new account is added, it is not included in a manager’s APL Windows universe until the next day. However, to add the account to the universe immediately, use WINDBUILDACTS. This function rebuilds Windows universes based on the accounts you select.

Note: The APL Expert functions EDITAC and NEWACCT also enable users to add new accounts to a trading universe immediately.

Rebuilding data universes from selected accounts

After adding new accounts to the system or changing existing account data, use the WINDBUILDACTS function to rebuild the APL Windows universe. This function can be run from either the APL Windows or the APL Expert user interface.

1. Select WINDBUILDACTS. The Account Selection window will appear:

```
+-----------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|---------------------+-------------------------------------------|
|FUNCTION: AND|SEARCH:|
|---------------------+-------------------------------------------|
|1384 RECORDS FOUND|
||
|
||
||
||
||
||
||
||
|-----------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+-----------------------------------------------------------------+
```

2. Type in the account identifier or the manager selection criteria, and press ENTER or F10 to go. A message will appear, summarizing the criteria entered. For example, if the user enters MGR EQ CHI at the Search For What? prompt, the message that will appear is:

```
Building Accounts that Meet the Criteria : MGR EQ CHI
```

When the function has run successfully, a confirmation message will appear:

```
Windows Universe for Accounts MGR EQ CHI Has Been Re-Built
```

Notes:

- There is a limit of 50 accounts that can be rebuilt at one time
- If an account has a committed trade against it, or if the account's cash has been modified through the Cash Adjuster, then the account will not be rebuilt. However, if the commits are removed and the cash is re-adjusted to its original level, then the account will be rebuilt. A warning message will appear when the user tries to rebuild an account that meets either of the above criteria

Chapter 3: Trading Restrictions

The Trading system accommodates various types of trading restrictions. Restrictions can be based on characteristics such as:

- Issue types
- Security industry classes
- Trade types
- Account holdings

There are two types of restrictions:

- User-defined
- Defined by security master fields using database manager commands

Restrictions can be specific to each account, or can be coded across all accounts.

3.1 User-Defined Restrictions

A user defined restriction is a restriction where the user has to define the restriction and make the necessary coding adjustments on the account and security. Below is an example of a user-defined restriction:

```
(0)  RESTRICTIONS TABLE (RESTRC)
(1)
(2)   CODE RESTRICTIONS-
(3)   ---- --------------------
(4)A   NO SOUTH AFRICAN
(5)B   NO ABUSIVE ANIMAL TESTING
(6)C   NO COSMETIC
(7)D   NO DEFENSE/WEAPONS/MILITARY
(8)E   NO UTILITIES
(9)F   NO FINANCE
(10)NO GAMBLING
(11)I   NO SIN STOCKS
(17) P   NO POLLUTERS
```

Setting up User-Defined Restrictions

To set up user-defined restrictions, you have to create a table of restrictions using the function EDRESTRC.

1. Type EDRESTRC, and press ENTER. The restriction editor, as displayed in the screen above, will appear
2. In the CODE column, type either a letter or number. Then, in the RESTRICTIONS column, type the restriction description. Then, press ENTER

> **Note:** The restriction code must be only one character, either a letter (from A-Z) or number (from 0-9). The limit on the number of restrictions that can be entered in EDRESTRC is 26 letters and 10 numerals.

3. Delete a restriction by typing [DX, where X is the line number you wish to delete. Then, press ENTER
4. Type [Q and press ENTER to save changes and exit the function

After the restrictions have been defined, the code needs to be added to the RESTRC security master field for each security affected by the restriction.

5. Type EDSEC, and press ENTER. The following will appear:

```
WHICH FUNCTION: ? EDSEC

EDSEC

**************************

Try SCREENSEC or EDITSEC

**************************

NOTE: USE - FOR BLANK IN TICKER SYMBOL

ENTER SACUS, CUSIP, TICKER, OR #POOL (RETURN TO QUIT) IBM
```

6. Type the security identifier for the security (or securities) to be affected by the restriction, and press ENTER. The following will appear:

```
EDIT WHICH FIELDS: (? TO LIST FIELDS, RETURN TO QUIT):
```

7. Type RESTRC as the field to edit, and press ENTER. The following will appear:

```
WHICH FUNCTION: ? EDSEC
EDSEC
**************************
 Try SCREENSEC or EDITSEC
**************************
NOTE: USE - FOR BLANK IN TICKER SYMBOL
ENTER SACUS, CUSIP, TICKER, OR #POOL (RETURN TO QUIT) IBM
EDIT WHICH FIELDS: (? TO LIST FIELDS, RETURN TO QUIT): RESTRC
(1)
(2)   RESTRC     DESCRIPTION
(3)   ------     --------------------
(4)   AT         IBM
(5)
```

8. Type the restriction codes, and press ENTER. Up to three user- defined restrictions can be applied to each security. You can also use EDITSEC or EDFEND to code the RESTRC field

> **Note:** Restrictions may be entered in any order.

9. Type [Q and press ENTER to save changes
10. Type [Q and press ENTER again to exit the function

3.2 Restrictions Using Database Manager Commands

These types of restrictions are based on fields already set up for you. Any of the security master fields can be used as a restrictive identifier, along with a primary database operator.

Below are some examples of database manager restrictions:

- Restricts securities that do not pay a dividend:

```
RESTRC: INDIV EQ 0
```

- Restricts trading on municipals:

```
RESTRC: ISSTY EQ 50
```

- Restricts trading of IBM:

```
RESTRC: TICK EQ IBM
```

Setting up Account Restrictions

Database manager restrictions are set up on the account level in EDMEMO.

1. Type EDMEMO, and press ENTER. The following prompt will appear:

```
SEARCH FOR WHAT?
```

2. Type the identifier of the account for which you are setting up restrictions, and press ENTER. The following prompt will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

3. Type the proper commands to narrow or broaden the search or to sort the search results (if necessary), and press ENTER. The following will appear:

```
EDIT OR PRINT ?
```

4. At this point, edit or print the restrictions

a. To print restrictions, type P, and press ENTER. The following will appear:

```
SCAN FOR SPECIFIC FIELDS(E.G. RESTRC OR FOR ALL):
```

- Type RESTRC to print the restrictions, and press ENTER. If specific fields were selected, the following will appear:

```
SHOW ACCOUNTS CONTAINING OR MISSING THE FOLLOWING FIELDS : ?
```

(The names of the selected fields appear in parentheses).

- Type C and press ENTER to see accounts containing the selected fields
- Type M and press ENTER to see accounts missing the selected fields
- A print file, EDMEMO.LRP, is created with all of the selected accounts

b. To edit restrictions, type E, and press ENTER. The following will appear:

```
(1)LNAME= LUCILLE BALL
(2)SNAM= BALLLU ACNUM= -001188DTC= 654328123
(3)MEMOS/NOTES
(3)    ----------------------------
(4)  AIMR: E1 10/31/97 06/30/98 (5)   AIMR: E2 7/31/98
(6)RESTRC: RESTRC HAS A
(7)
```

Edit the account restrictions, using the following operators:

Operator	Description
HAS	Use only with user-defined restrictions. For example, HAS A B means that this account cannot trade securities coded with restrictions A and B.
NE	Not equal
EQ	Equal
LT	Less than
GT	Greater than

After making changes, type [Q and press ENTER to save changes and exit the function.

Notes:

- Please be aware that the EDMEMO file is also used for purposes other than defining restrictions. Therefore, be sure that each line containing a restriction begins with RESTRC. Otherwise, the restriction will not take effect, and errors may be generated in processing the file
- There must be exactly one space between the word RESTRC and the restriction definition

3.3 Compound Restrictions

A compound restriction is any trading restriction that involves more than one criterion at a time, such as "Don't trade any corporate bonds that are rated lower than AA" or "Don't trade any common stocks unless they pay dividends."

The following examples illustrate compound restrictions:

- Restricts against trading of any municipal bond rated lower than AA. However, other securities rated lower than AA can still be traded:

```
RESTRC: MRATNG LT AA*ISSTY EQ 50
```

- Restricts against trading of any common stock without a dividend. However, other securities without dividends can still be traded:

```
RESTRC: ISSTY EQ 28*INDIV EQ 0
```

The asterisk ("*") in the command can be read as the word "and". Enter the command A*B, and restrict the trading of any security for which both condition A and condition B are true. To restrict trading of securities for which either condition A or condition B is true, then put the two restrictions on two different lines.

Here are two different examples to illustrate the difference:

- Account #1

```
RESTRC: ISSTY EQ 50 RESTRC: MRATNG LT AA
```

- Account #2

```
RESTRC: ISSTY EQ 50*MRATNG LT AA
```

Account #1 does not trade any municipal bonds, regardless of their Moody's rating, nor does it trade any security rated lower than AA. Account #2 does not trade municipal bonds rated lower than AA, but it does trade munis rated AA and above, and it does trade non- munis of any rating.

Note: There must be no space between the asterisk (*) character and the expression it joins. For example:

```
RESTRC: $PCTSIC LT 5*SIC EQ 100 is correct, but
RESTRC: $PCTSIC LT 5 * SIC EQ 100 is not correct.
```

3.4 Restriction Scenarios

Restrictions are typically for any trading activity of the specified security or group of securities, unless it is specified that the restriction is for a buy or a sell.

The following are example restriction scenarios that are recognized in Trading System.

Restrictions Based on Trade Type

(Recognized by the What-If and Account Rebalancer functions only).

In What-If, the restriction module allows you to restrict purchases and sales.

- Restricts the account from doing any purchases

```
RESTRC: BUYS
```

- Restricts the account from doing any sales

```
RESTRC: SELLS
```

Used in a compound restriction, specify either no buying or no selling of a specific security, issue type or any other security characteristic.

- Prohibits the purchase of IBM. However, sales of IBM are permitted

```
RESTRC: BUYS*TICK EQ IBM
```

Restrictions Based on Amounts Held

(Recognized by the What-If and Account Rebalancer functions only).

In What-If and Account Rebalancer, the restriction modules allow the user to maintain a set cash level; either a percentage ($PCTCSH) or a dollar amount ($DOLCSH). It also allows users to restrict accounts from holding more than a certain percentage of an issue type ($PCTISS), SIC code ($PCTSIC) or security ($PCTSEC)

- Maintains a 5% level of cash

```
RESTRC: $PCTCSH LTE 5
```

- Maintains a $10,000 level of cash

```
RESTRC: $DOLCSH LTE 10000
```

- Restricts from owning more than 20% in any particular issue type

```
RESTRC: $PCTISS GTE 20
```

Used in a compound restriction, specify issue types, securities, and SIC codes to be restricted.

- Restricts from owning more than 20% in government securities

```
RESTRC: $PCTISS GTE 20*ISSTY EQ 44
```

- Restricts from owning more than 4% in IBM

```
RESTRC: $PCTSEC GTE 4*TICK EQ IBM
```

- Restricts from owning more than 15% in securities coded with an SIC of 1000

```
RESTRC: $PCTSIC GTE 15*SIC EQ 1000
```

Other Restriction Scenarios

- To restrict an account from trading muni bonds rated less than AA:

```
RESTRC: ISSTY EQ 50*MRATNG LT AA or
RESTRC: ISSTY EQ 50*SNPRAT LT AA
```

- To restrict an account from trading any security rated less than AA:

```
RESTRC: MRATNG LT AA
```

- To restrict an account from buying or selling IBM:

```
RESTRC: TICK EQ IBM or
RESTRC: CUSIP EQ 459200101
```

> **Note:** It is best to list tickers separately if listing more than one security. However, users can multiple tickers on one line. The limit is six tickers per line

- To restrict an account from trading a zero coupon bond:

```
RESTRC: ISSTY EQ 75*CPNRT EQ 0
```

- To restrict an account from trading any mortgage backed securities:

```
RESTRC: ISSTY EQ 444
```

- To restrict an account from trading a security with a maturity date greater than 10 years from today enter the future date the restriction should begin on. For example, to prevent a trade for a security with a maturity date greater than 20140601, the restriction should be coded as

```
RESTRC: MATDT GT 20140531
```

- This example restricts an account from purchasing securities with a market cap greater than $3 billion. When using this restriction, the actual market cap is divided by 10,000,000:

```
RESTRC: $ZMKCAP GTE 300
```

- To restrict an account from owning more than 10% of the outstanding shares of any company:

```
RESTRC: $PCTSHR GT 10
```

- This example restricts trading a security for a given period of time

For example, in order to avoid violating the Wash Sale rule, clients may not wish to purchase a security for 30 days. To use this restriction, you use the 'TODAY' variable as part of a compound restriction:

```
RESTRC: TICK EQ IBM*BUYS*TODAY LTE 06/30/97
```

- To restrict an account from holding less than 5% in any given industry code:

```
RESTRC: $PCTSIC LT 5
```

- To pick a specific industry code use the following compound restriction:

```
RESTRC: $PCTSIC LT 5*SIC EQ 100
```

- To restrict an account from owning more than 5% of any one security:

```
RESTRC: $PCTSEC GTE 5
```

- To pick the specific security use the following compound restriction:

```
RESTRC: $PCTSEC GTE 5*TICK EQ IBM
```

- To restrict an account from trading with a particular broker, such as Merrill Lynch:

```
BRKRST: ML
```

- To be warned of restriction violations when creating a trade scenario, but still be able to create the trade:

```
RESTRC: $DOLCSH LT 5000*FLAG
```

- In addition, users can use the "FLAG" restriction as a single restriction to warn when any trade is being done for a specific account. To use this restriction as a single restriction, code EDMEMO as follows:

```
RESTRC: FLAG
```

3.5 Applying and Maintaining Restrictions

In addition to defining restrictions, there are other functions that are used to apply and maintain restrictions.

Coding Restrictions Across all Accounts

Coding restrictions that affect all accounts in a firm (global restrictions) use the same syntax as regular account-level restrictions. However, instead of using EDMEMO, they are entered using the function EDGLOBALMEMO. This function enables users to create and edit entries in the memo file for all accounts.

> **Important:** Because this function impacts all accounts, be extremely careful in using it. More information on the EDGLOBALMEMO function can be found in the Portfolio Administration (EXPERT) System User Guide.

To apply global restrictions, use the following steps:

1. From the menu, select the Edit Global Memo File function. (Or, from Expert at the WHICH FUNCTION:? prompt, type EDGLOBALMEMO, and press ENTER.) The following prompt will appear:

```
EDIT OR PRIN
```

2. Type E to edit or P to print

c. Select E, the global memo file is displayed

- Enter the coding to be used, using the same syntax as EDMEMO, and press ENTER
- After entering all of the codes, type [Q and press ENTER to save data and exit the function

d. Select P, the following prompt will appear:

```
SCAN FOR SPECIFIC FIELDS (E.G. RESTRC OR <RET> FOR ALL):
```

- Type RESTRC, and press ENTER. The following prompt will appear:

```
SHOW ACCOUNTS CONTAINING OR MISSING THE FOLLOWING FIELDS: RESTRC?
```

- Type C or Containing to show accounts that contain memo entries with the RESTRC code
- Type M or Missing to show accounts that are missing or do not contain the RESTRC code. Press ENTER. A print file is created containing the information requested. The print file is called EDMEMO.LRP

> **Note:** This file, which is stored in the print queue, can be viewed using the BROWSE command. Print this file using the QUE command. Refer to the Portfolio Administration (EXPERT) System for more information.

Adding Restrictions to a Selected Group of Accounts

Restrictions can be set up for a large group of selected accounts using the function ADDRESTRC.

1. Type ADDRESTRC, and press ENTER. The following will appear:

```
SEARCH FOR WHAT?
```

2. Type in the account identifier for the account, and press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP)
```

3. Type additional commands to narrow, broaden or sort the search results and press ENTER, or simply press ENTER to continue. The following will appear:

```
Enter Restriction (e.g.: TICK EQ XYZ) :
```

4. Type in the restriction to be applied to the selected accounts, and press ENTER. The following will appear:

```
Are You Sure You Want to Add the Following Restriction to the Selected
Accounts XXX

(Please Answer Yes or No )?

where XXX is the restriction.
```

5. Type Y and press ENTER to add the restriction. Type N and press ENTER to not add the restriction

If Yes was entered, a message will appear: Adding New Restriction to the Selected Accounts. The prompt is displayed when the function is complete. The restriction then appear in EDMEMO for the selected accounts.

If No was entered, nothing is done, and the system returns to the prompt.

Removing Restrictions from Selected Accounts

Remove restrictions from selected accounts using the function RMRESTRC. These restrictions are defined in the accounts' memo file, which can be edited using the function EDMEMO.

> **Note:** The restrictions specified must match the restrictions coded in the accounts exactly. Otherwise, the RMRESTRC function cannot remove them.

1. Type RMRESTRC, and press ENTER. The following will appear:

```
SEARCH FOR WHAT?
```

2. Type in the account identifier for the account from which to remove the restriction, and press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

3. Type additional commands to narrow, broaden or sort search results, and press ENTER; or simply press ENTER if you're done. The following will appear:

The Restriction to be Removed Must Exist on its Own Restriction Line

```
Enter Restriction to Remove (e.g.: TICK EQ XYZ) :
```

4. Type the restriction to be removed, as it will appear in EDMEMO, and press ENTER. The following will appear:

```
Are You Sure You Want to Remove the Following Restriction from the Selected
Account XXX

Please Answer Yes or No ?

XXX is the restriction you entered.
```

5. To remove the restriction, type Y and press ENTER . To keep the restriction, type N and press ENTER

If Yes was entered, a message will appear, Removing Restriction from the Selected Accounts, and the system returns to the prompt. The restriction then no longer will appear in EDMEMO.

If No was entered, nothing is done, and the system returns to the prompt.

Searching for Accounts with Specific Restrictions

You can search for accounts that have specific restrictions using the RST database manager command at any SEARCH FOR WHAT? prompt.

The following example uses the EDAC function (for editing account profile information in multiple accounts) to illustrate how the RST database manager command works.

1. Type EDAC, and press ENTER. The following will appear:

```
SEARCH FOR WHAT?
```

2. Type in the account identifier for the account to search, and press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

3. Type AND, and press ENTER. The following will appear:

```
AND WHAT?
```

4. Type RST, and press ENTER. The following will appear:

```
ENTER RESTRICTION (e.g. RESTRC HAS A), ´ALL´, OR RET TO QUIT:
```

5. Type in the restriction syntax if searching for a particular restriction, or type ALL to see all the restrictions, and press ENTER. The following will appear:

```
CHOOSE OR EXCLUDE XX ACCOUNTS?
```

XX represents the number of accounts, from those entered at the SEARCH FOR WHAT? prompt, that have restrictions.

6. To look at the accounts that have restrictions, type C, and press ENTER. To look at accounts that do not have restrictions, type E, and press ENTER. The following will appear:

```
46 ACCOUNTS INCLUDED ENTER RESTRICTION (e.g. RESTRC HAS A), ´ALL´, OR RET TO
QUIT:
```

7. Press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

8. Type the additional commands to narrow, broaden, or sort search results, and press ENTER; or simply press ENTER if you're done. The following will appear:

```
EDIT WHICH FIELDS: (? TO LIST FIELDS, RET TO QUIT):
```

9. Type the Account Master database fields to edit, and press ENTER. Then proceed as normal when using the EDAC function

Searching for Securities that have Restrictions

Securities on trading restriction lists (for example, no tobacco stocks) are placed on a list by putting a letter identifying the restriction in the RESTRC field in the security master file. However, that letter may appear in any position in the field, so it can be difficult to get a complete list of the securities with a given restriction.

The HAS operator solves this problem. While searching in EDFEND or SELECTSEC, you can find all securities with a specific restriction code. Below is an example of how this works, using the function EDFEND as an example.

1. Type EDFEND, and press ENTER. The following will appear:

```
SEARCH WHICH FILE(BLANK FOR HELP, ´ALL´ FOR ALL FILES): ?
```

2. Type the security database to search, either XXXHOT or XXXSEC, where XXX is your client identifier, and press ENTER. The following will appear:

```
YYY SECURITIES CURRENTLY ON XXXSEC XXXHOT FILE(S)

SEARCH FOR WHAT?
```

3. Type the restriction code in the proper syntax, and press ENTER. For example, to find all securities that have a restriction with the code T, type RESTRC HAS T. The following will appear:

```
X RECORDS FOUND NEXT OPERATION (RETURN WHEN DONE, OR HELP):
```

4. Type the additional commands To narrow, broaden or sort the search results and press ENTER; or simply press ENTER if you're done. The following will appear:

```
EDIT WHICH FIELDS: (? TO LIST FIELDS, RETURN TO QUIT):
```

5. Type RESTRC, and press ENTER. A list of the securities that met the criteria will appear on screen

3.6 Updating Restriction Codes Intraday

Normally, restrictions take effect the following day. To have changes take place immediately, use:

- UPDRESTRC updates all restrictions immediately
- UPDRESTRCACTS updates restrictions for selected accounts. These are described in the following sections:

Updating Restrictions on All Accounts

To update restrictions on all accounts, use UPDRESTRC.

> **Important:** Updating all restrictions during the trading day may degrade performance of the system. To update restrictions for a definable range of accounts, use the function UPDRESTRCACTS described in the following section.

- Type UPDRESTRC, and press ENTER. The following message will appear:

```
UPDATING RESTRICTION FAST REFERENCE FILE
```

Once the function is complete, the system displays the prompt.

Updating Restrictions on Selected Accounts

If restrictions were entered for a definable range of accounts, use the function UPDRESTRCACTS. By limiting the account range, users can reduce the possibility of performance degradation during intraday processing.

Use the following steps:

1. Type UPDRESTRCACTS and press ENTER. The following message will appear:

```
UPDRESTRCACTS (PUBLIC)
1449 ACCOUNTS CURRENTLY ON FILE
SEARCH FOR WHAT?
```

2. Type a search criteria, and press ENTER. A series of prompts are displayed, describing the processing taking place

3.7 Reports for Tracking Restrictions

There are a few reports you can run that help you manage or audit restrictions:

SHOWRESTRC	Displays the restrictions that are in the EDRESTRC table and the accounts with their individual restrictions.
SHOWNORESTRC	Displays the restrictions that are in the EDRESTRC table and the accounts that do not have restrictions coded.
AUDITRESTRC	Displays accounts that hold positions in conflict with restrictions set up for that account. This report also displays any invalid restrictions coded in the selected group of accounts.

3.8 Applying and Maintaining Restrictions

In addition to defining restrictions, there are other functions that are used to apply and maintain restrictions.

Coding Restrictions Across all Accounts

Coding restrictions that affect all accounts in a firm (global restrictions) use the same syntax as regular account-level restrictions. However, instead of using EDMEMO, they are entered using the function EDGLOBALMEMO. This function enables users to create and edit entries in the memo file for all accounts.

> **Important:** Because this function impacts all accounts, be extremely careful in using it. More information on the EDGLOBALMEMO function can be found in the Portfolio Administration (EXPERT) System User Guide.

To apply global restrictions, use the following steps:

1. From the menu, select the Edit Global Memo File function. (Or, from Expert at the WHICH FUNCTION:? prompt, type EDGLOBALMEMO, and press ENTER.) The following prompt will appear:

```
EDIT OR PRIN
```

2. Type E to edit or P to print

c. Select E, the global memo file is displayed

- Enter the coding to be used, using the same syntax as EDMEMO, and press ENTER
- After entering all of the codes, type [Q and press ENTER to save data and exit the function

d. Select P, the following prompt will appear:

```
SCAN FOR SPECIFIC FIELDS (E.G. RESTRC OR <RET> FOR ALL):
```

- Type RESTRC, and press ENTER. The following prompt will appear:

```
SHOW ACCOUNTS CONTAINING OR MISSING THE FOLLOWING FIELDS: RESTRC?
```

- Type C or Containing to show accounts that contain memo entries with the RESTRC code
- Type M or Missing to show accounts that are missing or do not contain the RESTRC code. Press ENTER. A print file is created containing the information requested. The print file is called EDMEMO.LRP

> **Note:** This file, which is stored in the print queue, can be viewed using the BROWSE command. Print this file using the QUE command. Refer to the Portfolio Administration (EXPERT) System for more information.

Adding Restrictions to a Selected Group of Accounts

Restrictions can be set up for a large group of selected accounts using the function ADDRESTRC.

1. Type ADDRESTRC, and press ENTER. The following will appear:

```
SEARCH FOR WHAT?
```

2. Type in the account identifier for the account, and press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP)
```

3. Type additional commands to narrow, broaden or sort the search results and press ENTER, or simply press ENTER to continue. The following will appear:

```
Enter Restriction (e.g.: TICK EQ XYZ) :
```

4. Type in the restriction to be applied to the selected accounts, and press ENTER. The following will appear:

```
Are You Sure You Want to Add the Following Restriction to the Selected
Accounts XXX

(Please Answer Yes or No )?

where XXX is the restriction.
```

5. Type Y and press ENTER to add the restriction. Type N and press ENTER to not add the restriction

If Yes was entered, a message will appear: Adding New Restriction to the Selected Accounts. The prompt is displayed when the function is complete. The restriction then appear in EDMEMO for the selected accounts.

If No was entered, nothing is done, and the system returns to the prompt.

Removing Restrictions from Selected Accounts

Remove restrictions from selected accounts using the function RMRESTRC. These restrictions are defined in the accounts' memo file, which can be edited using the function EDMEMO.

> **Note:** The restrictions specified must match the restrictions coded in the accounts exactly. Otherwise, the RMRESTRC function cannot remove them.

1. Type RMRESTRC, and press ENTER. The following will appear:

```
SEARCH FOR WHAT?
```

2. Type in the account identifier for the account from which to remove the restriction, and press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

3. Type additional commands to narrow, broaden or sort search results, and press ENTER; or simply press ENTER if you're done. The following will appear:

The Restriction to be Removed Must Exist on its Own Restriction Line

```
Enter Restriction to Remove (e.g.: TICK EQ XYZ) :
```

4. Type the restriction to be removed, as it will appear in EDMEMO, and press ENTER. The following will appear:

```
Are You Sure You Want to Remove the Following Restriction from the Selected
Account XXX

Please Answer Yes or No ?

XXX is the restriction you entered.
```

5. To remove the restriction, type Y and press ENTER . To keep the restriction, type N and press ENTER

If Yes was entered, a message will appear, Removing Restriction from the Selected Accounts, and the system returns to the prompt. The restriction then no longer will appear in EDMEMO.

If No was entered, nothing is done, and the system returns to the prompt.

Searching for Accounts with Specific Restrictions

You can search for accounts that have specific restrictions using the RST database manager command at any SEARCH FOR WHAT? prompt.

The following example uses the EDAC function (for editing account profile information in multiple accounts) to illustrate how the RST database manager command works.

1. Type EDAC, and press ENTER. The following will appear:

```
SEARCH FOR WHAT?
```

2. Type in the account identifier for the account to search, and press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

3. Type AND, and press ENTER. The following will appear:

```
AND WHAT?
```

4. Type RST, and press ENTER. The following will appear:

```
ENTER RESTRICTION (e.g. RESTRC HAS A), ´ALL´, OR RET TO QUIT:
```

5. Type in the restriction syntax if searching for a particular restriction, or type ALL to see all the restrictions, and press ENTER. The following will appear:

```
CHOOSE OR EXCLUDE XX ACCOUNTS?
```

XX represents the number of accounts, from those entered at the SEARCH FOR WHAT? prompt, that have restrictions.

6. To look at the accounts that have restrictions, type C, and press ENTER. To look at accounts that do not have restrictions, type E, and press ENTER. The following will appear:

```
46 ACCOUNTS INCLUDED ENTER RESTRICTION (e.g. RESTRC HAS A), ´ALL´, OR RET TO
QUIT:
```

7. Press ENTER. The following will appear:

```
NEXT OPERATION (HIT RETURN WHEN DONE, OR TYPE HELP):
```

8. Type the additional commands to narrow, broaden, or sort search results, and press ENTER; or simply press ENTER if you're done. The following will appear:

```
EDIT WHICH FIELDS: (? TO LIST FIELDS, RET TO QUIT):
```

9. Type the Account Master database fields to edit, and press ENTER. Then proceed as normal when using the EDAC function

Searching for Securities that have Restrictions

Securities on trading restriction lists (for example, no tobacco stocks) are placed on a list by putting a letter identifying the restriction in the RESTRC field in the security master file. However, that letter may appear in any position in the field, so it can be difficult to get a complete list of the securities with a given restriction.

The HAS operator solves this problem. While searching in EDFEND or SELECTSEC, you can find all securities with a specific restriction code. Below is an example of how this works, using the function EDFEND as an example.

1. Type EDFEND, and press ENTER. The following will appear:

```
SEARCH WHICH FILE(BLANK FOR HELP, ´ALL´ FOR ALL FILES): ?
```

2. Type the security database to search, either XXXHOT or XXXSEC, where XXX is your client identifier, and press ENTER. The following will appear:

```
YYY SECURITIES CURRENTLY ON XXXSEC XXXHOT FILE(S)
SEARCH FOR WHAT?
```

3. Type the restriction code in the proper syntax, and press ENTER. For example, to find all securities that have a restriction with the code T, type RESTRC HAS T. The following will appear:

```
X RECORDS FOUND NEXT OPERATION (RETURN WHEN DONE, OR HELP):
```

4. Type the additional commands To narrow, broaden or sort the search results and press ENTER; or simply press ENTER if you're done. The following will appear:

```
EDIT WHICH FIELDS: (? TO LIST FIELDS, RETURN TO QUIT):
```

5. Type RESTRC, and press ENTER. A list of the securities that met the criteria will appear on screen

3.9 Updating Restriction Codes Intraday

Normally, restrictions take effect the following day. To have changes take place immediately, use:

- UPDRESTRC updates all restrictions immediately
- UPDRESTRCACTS updates restrictions for selected accounts. These are described in the following sections:

Updating Restrictions on All Accounts

To update restrictions on all accounts, use UPDRESTRC.

> **Important:** Updating all restrictions during the trading day may degrade performance of the system. To update restrictions for a definable range of accounts, use the function UPDRESTRCACTS described in the following section.

- Type UPDRESTRC, and press ENTER. The following message will appear:

```
UPDATING RESTRICTION FAST REFERENCE FILE
```

Once the function is complete, the system displays the prompt.

Updating Restrictions on Selected Accounts

If restrictions were entered for a definable range of accounts, use the function UPDRESTRCACTS. By limiting the account range, users can reduce the possibility of performance degradation during intraday processing.

Use the following steps:

1. Type UPDRESTRCACTS and press ENTER. The following message will appear:

```
UPDRESTRCACTS (PUBLIC)

1449 ACCOUNTS CURRENTLY ON FILE
```

```
SEARCH FOR WHAT?
```

2. Type a search criteria, and press ENTER. A series of prompts are displayed, describing the processing taking place

3.10 Reports for Tracking Restrictions

There are a few reports you can run that help you manage or audit restrictions:

SHOWRESTRC	Displays the restrictions that are in the EDRESTRC table and the accounts with their individual restrictions.
SHOWNORESTRC	Displays the restrictions that are in the EDRESTRC table and the accounts that do not have restrictions coded.
AUDITRESTRC	Displays accounts that hold positions in conflict with restrictions set up for that account. This report also displays any invalid restrictions coded in the selected group of accounts.

Chapter 4: Account Selection Utilities

Once inside the APL Trading System, accounts and securities can be selected using account selection utilities. These are:

- Pseudo fields: These are named fields that are specified like regular Account Master database fields, but are calculated and not stored
- Account selection variables: These are special variables that are used at account selection prompts to specify a range of data

4.1 Pseudo fields

Pseudo fields are used in the same way as Account Master database fields in functions and reports. However, these fields are calculated on- the-fly from data in other fields, rather than being stored in the database.

Pseudo fields are identified by the dollar sign ($) that is the first character of the field name. Because they are calculated fields, pseudo fields cannot be edited.

Field	Description
$DIFEQT	Calculates the difference between the desired percent (DESPCT) in equity and the actual percent in equity. For example, if the desired percentage is 20% and the actual percentage is 17.87%, the value of $DIFEQT is 2.13. For example, to purchase GM only in accounts which are a certain percentage away from the target amount. In the search box, you enter $DIFEQT GTE 5%. GM is only purchased in accounts where the actual equity held is 5% or more away from your desired percent of equity (DESPCT).
$DIFFIX	Calculates the difference between the desired percent in fixed income (DESFIX) and actual percent in fixed income. For example, if the desired percentage is 50% and the actual percentage is 42.55%, $DIFFIX is 7.45.
$DOLCSH	Maintain a set cash level to maintain the target minimum or maximum. For example, to maintain a minimum cash level of $10,000 in an account, the restriction is entered as: RESTRC: $DOLCSH LTE 10000.
$DOLEQT	Defines the dollar amount an account has to invest to reach the equity target. $DOLEQT is calculated by subtracting the actual market value in equities from the theoretical dollar target (DESPCT x WTOTAL).

Field	Description
	For example, $DOLEQT GT 50000 selects accounts that have at least $50,000 left to invest in equities. If an account has exceeded its asset allocation target, $DOLEQT becomes negative, indicating how much the user must sell to meet the target.
$DOLFIX	Defines the dollar amount an account has to invest to reach the fixed income target. $DOLFIX is calculated by subtracting the actual market value in fixed income from the theoretical dollar target (DESFIX x WTOTAL). For example, $DOLFIX GT 35000 selects accounts that have at least $35,000 left to invest in fixed income. If an account has exceeded its asset allocation target, $DOLFIX becomes negative, indicating how much the user must sell to meet the target.
$FIXAVG	Calculates the account's modified duration or yield to maturity. This pseudo field requires setup by your account manager. For example, to select all accounts with a duration of less than 6 years, enter $FIXAVG LT 6. When the system prompts for duration or yield, enter duration and all accounts with a duration of less than 6 years are selected.
$GAIN	Calculates the net realized gain for current year-to- date or net unrealized gain as of last night's close. The $GAIN field is available only in APL Windows and is not affected by committed trades. After you request accounts with a particular dollar gain (for example, $GAIN GT 100000 to select accounts with a gain greater than $100,000), the system asks whether you are measuring realized or unrealized gains. Use negative numbers to select by losses: $GAIN LT –100000 finds accounts that have losses of more than $100,000.
$PCTAVC	Calculates the actual percent of the portfolio held in cash (SACUS 13321).
$PCTCSH	Calculates the actual percent of the portfolio held in cash and cash equivalents.
$PCTDIF	This field is populated by the cash reconciliation used by the client. It is the difference between the custodian balance and WCASH divided by WTOTAL.
$PCTEQT	Calculates the actual percentage of the portfolio held in equities.
$PCTFIX	Calculates the actual percentage of the portfolio held in fixed income.
$PCTISS	Calculates the actual percentage of the portfolio held in a particular issue type. Use this field to select accounts that hold more than 20% corporate bonds. Select a specific issue type percentage, and the system asks users to select a specific issue type.

Field	Description
$PCTSEC	Calculates the percentage of holdings in a given security. Use this pseudo field to purchase additional shares of a security in accounts where less than a certain percentage of that security is owned. For example, $PCTSEC LT 1.5 and the security ticker will select all accounts with holdings of less than 1.5% in that security are selected. Choose to base the calculation on the Total, Equity or Fixed Income portion of the portfolio. The system default is to the actual holdings of equity or fixed income in the portfolio. Tegra118 can also configure the system to enable users to select whether the equity or fixed income percentage is based on the target percentages that you have coded in the DESPCT and DESFIX fields.
$PCTSHR	Calculates the percentage of outstanding shares.
$PCTSIC	Calculates the percent of the portfolio in an industry group of your choice. For example, you could use this field to select accounts that hold less than 5% consumer non-durables. This field uses the industry codes set up in EDINDNM and requires coding of the SIC field in the security master database.
$ZMKCAP	Prevents the purchase of securities with greater than a specified dollar market cap.
$ZPCTOS	Calculates the percent of outstanding shares that are held by accounts in all window universes. Each account is included in this calculation only once. Therefore, if an account falls into more than one APL Windows universe, it is not counted more than once. This field spans all universes; and it is not restricted to any given universe.

Keep in mind that pseudo fields can be used like any other named Account Master database field. For example, enter a pseudo field at the APL Expert SEARCH FOR WHAT? prompt.

> **Note:** Certain pseudo fields can only be accessed from within APL Windows: $PCTISS, $PCTSEC, and $PCTSIC.

4.2 Account selection variables

To specify a range of accounts, use an account selection variable. Enter the name of the variable, and the APL system prompts users for additional information as required (a date range, security ticker code, etc.)

These commands can be used at any account selection prompt in APL's Expert or Window system. Many clients find them particularly useful for generating new trades in the trading system.

The following is a list of commonly-used account selection variables.

Variable	Description
\WHOTRADED	Finds accounts that traded between selected trade dates.

Variable	Description
\WHONOTRADED	Selects accounts that did not trade at all during the specified period.
\WHOTRADEDSEC	Finds accounts that bought and/or sold a chosen security between selected trade dates.
\WHONOTRADEDSEC	Finds accounts that did NOT buy and/or sell a chosen security between selected trade dates.
\WHONOTRADEDISS	Finds accounts that did not buy and/or sell a specific security issue type between selected dates.
\WHOTRADEDBLT	Finds accounts that had trade entries made between selected dates. This is like \WHOTRADED, except that it focuses on posting date instead of trade date.
\WHOTRADEDGLBLT	Finds accounts that had a general ledger (GL) entry posted on a particular day.
WHO COST	Finds accounts where a specified security was purchased in a particular price range.
WHO OWNS xxxx	Selects only accounts that own a stock, where xxxx is the ticker symbol.
WHONOWNS xxxx	Selects only accounts that do not own a stock, where xxxx is the ticker symbol.
\WHOWNS	Selects accounts that own a specific security as of a certain date. This can also be run as a report by typing WHOWNS (no backslash) at the prompt.
\WHONOWNS	Selects accounts that don’t own a specific security. Can also be generated as a report by typing WHONOWNS (no backslash) at the prompt.
\WHOWNSEC	Selects accounts that own a specific security as of a certain date. This can also be run as a report by typing WHOWNSEC (no backslash) at the prompt.
\WHONOWNSEC	Selects accounts that do not own a specific security as of a certain date. This can also be run as a report by typing WHONOWNS (no backslash) at the prompt.

Chapter 5: Trade Creation Tools

There are a number of tools or functions that enable users to create trades on the APL Trading System. These are summarized in the following sections.

Trade one security across a group of accounts

Tool	Description
What-if	Creates trades that adjust portfolios to hold the percentage set for any security, based on total, equity or fixed percentages and target percentages.
Trade Allocator	Allocates a block trade based on target or actual percentages. In this function, users know the total number of shares traded and need to determine allocations.

Trade multiple securities in a single account or across a group of accounts

Tool	Description
Multiple What-if	Creates trades for multiple securities, across all or selected accounts, based on total, equity, fixed and target percentages.
Generic What-if	Creates trades for a pool of securities with the same characteristics, and treats them as one security.

Modeling accounts

Tool	Description
Account Rebalancer	Aligns equity, fixed or all positions to a model.
Cash Rebalancer	Purchases securities based on uninvested cash.
Account Adjuster (optional model selection)	Interactively changes percentages and shares of existing positions. This is usually used to spend or raise cash and can also be used in conjunction with modeling.

Swapping trades

Tool	Description
Quick Swap	Takes an existing block of trades as the basis for the creation of another block for the same dollar amount or the same ratio of shares..

TBA allocation

Tool	Description
TBA Allocation	Allocates the newly-issued mortgage-backed securities to the accounts which hold the to-be-announced mortgage-backed securities.

Manual creation

Tool	Description
Quick Tick / Quick Block	Enables you to enter trades manually to the trading system. You can use the option Quick Tick or Quick Block to easily enter trades of one security into many accounts or enter trades of many securities into one account.
Trade Order Entry	Enables you to enter trades manually using the allocation option to easily enter trades of one security into many accounts.

Trades created on non-APL systems

If trades are created on another trading system such as Merrill, Tegra118 can work with users to create an interface with that system.

5.1 Single security trading

The functions in this section describe how to trade a single security across one or more accounts.

Single Security What-if tool

The Single Security What-if tool enables you to trade one security across multiple accounts.

1. From the APL Trading System menu, select SINGLE SECURITY WHAT-IF. The following will appear:

```
+--------------------------------------+
|ENTER SECURITY (CUSIP, TICKER OR SACUS)|
|--------------------------------------|
||
+--------------------------------------+
```

2. Enter the security identifier for the security to create a trade scenario for, and press ENTER. The What-If Input screen will appear:

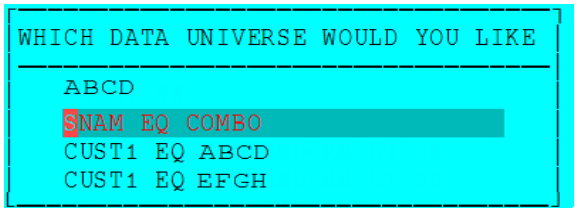
1. In the Select option main menu, select Edit Account Minimum and Rounding settings and press Enter. The window to select one account opens

2. To display a list of accounts, press F7. Select the account and press Enter. The ACCOUNT MINIMUM AND ROUNDING SETTINGS TABLE opens to the Rounding options
3. Enter the rounding and minimum values in the same manner as the client/default table

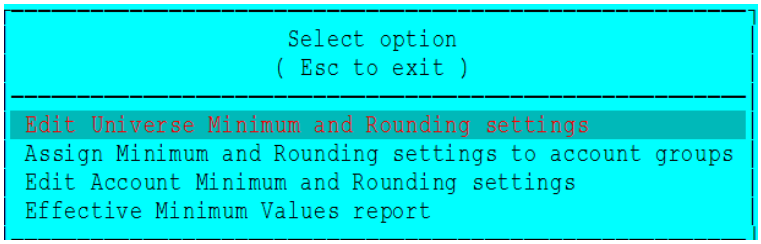
Accessing and Setting values: Universe table

Accessing the universe table depends on universe configuration at the client site.

- If one universe is available, the universe opens
- If more than one universe is available, the window to select a universe opens



1. Select the universe and press Enter. The following menu will open
2. In the Select option menu, select Edit Universe Minimum and Rounding settings and press Enter. The MINIMUM AND ROUNDING SETTINGS TABLE opens to the Rounding options for the selected universe
3. Enter the rounding and minimum values in the same manner as the client/default table



Displaying Effective Minimum Values Report

The Effective Minimum Values report shows minimum and rounding values effective for each selected account.

- To display a report showing effective rounding and minimum parameters for selected accounts, select Effective Minimum Values report on the main menu and press Enter

Trade Allocator tool

The Trade Allocator tool is typically used to allocate blocks of fixed income securities to selected accounts. Use the following steps to access the Trade Allocator function:

1. Select TRADE ALLOCATOR. The trade allocation input screen will appear

If F8 is pressed within the Multiple What-If screen, the following will appear:

```
+-------------------------------------------------------------------------------
-+
|Security Selection Screen|
|-------------------------|
|Search Which Files : Private SMF Number of Securities Found :|
||
|Select Securities that are : Either Owned or Unowned|
|Issue Type : All Securities|
|Industry :|
|Model:|
||
| Common Range Selections:LowHigh|
|Yield0.000%0.000%|
|Duration0.000.00|
|Moody's Rating|
|S & P Rating|
|Coupon0.0000.000|
|Maturity (Dates)00|
|Maturity (Years)00|
||
| Additional Search Criteria (eg: AND ISSTY EQ 34 50)|
||
||
|-------------------------------------------------------------------------------
|
| F-3 to Exit   F-6 to Refresh F-7 to Search F-10 to View or Use Securities
```

1. Using the TAB key to move from field to field, enter the requested data

Field	Description
Search Which Files	Which security master file should the securities be selected from. Press F1 to display the following options: • All SMF (xxxHOT, xxxSEC, BW:SECSA, BW:SECOPT, BW:SEMISC)

Field	Description
	• Private SMF (xxxHOT, xxxSEC) • Public SMF (BW:SECSA, BW:SECOPT, BW:SEMISC)
Select Securities that are	Press F1 to display the following options: • Owned: Includes only securities in the selected SMF which are currently held in the client's accounts • Unowned: Includes only securities in the selected SMF which are not currently held in the client's accounts • Either Owned or Unowned: Includes all securities within SMF chosen above
Issue Type	Press F1 to display the following options: • Equities: Includes only equity securities (according to the ISSTY field) in the search • Fixed Income Securities: Includes only fixed income securities (according to the ISSTY field) in the search • All Securities: Includes all types of securities within the search of the selected SMF
Industry:	Select the industry classification for the selected securities, or leave blank. Press F1 to display a list of industry classifications.
Model:	Selects a previously stored model portfolio. Press F1 to display a list of model portfolios.
Common Range Selections:	Select highs and lows for security fields. Press F1 to display the following options: • Yield • Duration • Moody's Rating • S & P Rating • Coupon • Maturity (Dates): Select a maturity range using dates, e.g., 12/31/05 to 12/31/10 • Maturity (Years): Select a maturity range using the number of years until maturity from today
Additional Search Criteria	Narrow or broaden security selection. To narrow your search down by security issue type, for example, common stock, you would type AND ISSTY EQ 28. To broaden the search, simply replace AND with OR.

2. After entering the requested data, press F10. A window will appear prompting for additional security fields to be displayed. The SACUS, CUSIP, and ticker symbol are displayed automatically

```
+-------------------------------------------------------------------------
-+
```


Security Selection Screen
Search+---+ 1
	Sacus, Cusip, Tick, and Description Will Be Displayed.	
Select	What Additional Fields Should be Displayed?	

	EQUITY	
	FIXED	
	MBS	
Yield	BETA	
Durati| BOOK
Moody'	CLSEP	
S & P	CPNRT	
Coupon	DELAY	
Maturi	DELCOD	
Maturi| DEPR
DIVCUR	
Additional| DIV1
Common Ran|OPTION|
Yield |BETA|
Durati|BOOK
Moody'|CLSEP|
S & P |CPNRT|
Coupon|DELAY|
Maturi|DELCOD|
Maturi|DEPR
|DIVCUR|
Additional|DIV1

```
|+----------+-------------------------------------------------------------+---------+
|
||Esc-Exit   F1-Help F4-Search SF5-Select ALL   SF6-Clear ALL| |
||F7-Refresh Search F8-Options F10-Go   Return-Select/Un-Select| |
|+-------------------------------------------------------------------------------+
|
```

3. Select additional fields by using the down arrow key or TAB key to move to that field, and press ENTER on the field name. If no additional fields are desired or after all additional fields have selected the fields, press F10 to go. The Security Viewing screen will appear

```
Security Viewing ScreenScreen 1 of 2
-----------------------
SACUSCUSIP TICKDESCRIPTION
---------- ---------------
*6273  459200101 IBMI B M
*958  039483102 ADMARCHER DANIELS MIDLAND
*3237  222795106 CUZCOUSINS PPTYS INC
*949    038213104 APMP-Z  APPLIED MAGNETICS CORP
*1662  097023105 BABOEING CO
*2625  191216100 KOCOCA COLA CO
*3702  260003108 DOVDOVER CORP
*5239  375766102 GGILLETTE CO
*7540  589331107 MRKMERCK & CO INC
*10305  806605101 SGPSCHERING PLOUGH CORP
*36246  037833100 AAPLAPPLE COMPUTERS INC
*62479  125509109 CICIGNA CORP
*  188360    670006105 NOVLNOVELL INC
*212594    718154107 MOPHILIP MORRIS COS INS
*5190  373298108 GPGEORGIA PAC CORP
Any Character Before the SACUS Will Select the Security
<F-9> and <SHIFT F-9> To View Additional Fields
<F-3> To Exit  <F-8> For Options  <F-10> To Use Selection
```

4. To use the all of the securities selected, press F10 to go. To broaden or narrow the selection, press F8. To view the other fields, use the F9 key to toggle between screens

If F8 is pressed, the following screen will appear:

```
+-----------------------------------------------+
|Please Select an Option|
|-----------------------------------------------|
|Include All Securities|
|Exclude All Securities|
|Include All Securities Matching a String Pattern|
|Exclude All Securities Matching a String Pattern|
|Sort By Field|
+-----------------------------------------------+
```

> **Note:** Using these options adds or deletes the asterisk from the far left of the security in the previous screen. This indicates whether a security has been selected.

The options are explained below:

Option	Description
Include All Securities	Select all securities. This is the default.
Exclude All Securities	Deselect all of the securities. This removes the asterisks (*) from the first column.
Include All Securities Matching a String Pattern	Enter the string. This enables users to include all securities that match this string in addition to the other selected securities.
Exclude All Securities Matching a String Pattern	Enter the string. All securities that include the string are excluded from the security selection.
Sort By Field	Sort by the default fields and the fields you selected.

5. Select an option, and press ENTER

Press F10 to use the selected securities. A window will appear listing the number of securities selected and prompts for the usage of the selected securities.

```
+---------------------------------+
|3634 Securities Selected|
```

```
|Do You Want to Use this Selection?|
|----------------------------------|
NO
YES
+----------------------------------+
```

6. Select YES, and press ENTER to use the securities. Select NO, and press ENTER to abandon the security selection, and return to the Security Viewing screen to either narrow or broaden a search. If Yes is selected, the Security List of the Multiple What-If screen is filled in with all of the selected securities
7. Use the TAB key to move from column to column and make changes
8. Press F10 to continue

Generic What-if tool

The GENERIC WHAT-IF function enables users to create a what-if scenario for a group of securities by defining a desired percentage for the group of selected securities. This is particularly helpful for portfolio managers who wish to trade within a group of mortgage-backed securities which are alike but belong to different pools. The user is able to select a group of securities by typing in certain characteristics, such as coupon, duration, years to maturity, etc. The system then searches the Security Master database to find securities which fit the criteria. Since this function is a trading tool, the user must be within the WINDOWS system.

To use the GENERIC WHAT-IF tool:

1. Select GENERIC WHAT-IF. The Generic Security What-If screen will appear:

```
+-------------------------------------------------------------------------------
-+
|Generic Security What-If|
|------------------------|
| Block Name:|
| Block Title:|
| Target Percentage :    0.00Trading Instructions : BUY AND SELL|
|-------------------------------------------------------------------------------
-|
| Purchasing Criteria|
| Security Symbol  :|
| Description:|
|-------------------------------------------------------------------------------
-|
```

```
| Selling Criteria|
|  Sell Order: Cost Basis - Highest to Lowest (High Cost)|
|-------------------------------------------------------------------------------
-|
| Miscellaneous Settings|
|  Override Price    :|
|   (If left 0, price of underlying securities will be used)|
| Cash to Hold:   0.00%|
|  Lot Size:0Rounding Method  : NEAREST|
| Minimum Trade:0Settlement Date  : 0(for accruals)|
|-------------------------------------------------------------------------------
-|
| The Next Screen Will Allow You to Define Which Securities Will be Considered
|
|Esc/F3 - to ExitF10 - Go|
+-------------------------------------------------------------------------------
-
```

2. Using the TAB key, move to each field and input the required data

Field	Description
Block Name	Block name
Block Title	Description for the block
Target Percentage	The target percent for the block of trades
Trading Instructions	The trading method: • BUY AND SELL: the tool will generate buys and sells as needed to meet the target as closely as possible • BUY ONLY: the tool will generate only buy transactions if the portfolio is below the selected target percentage. If the portfolio meets or exceeds the target, no transactions will be generated • SELL ONLY: The tool will generate only sell transactions if the portfolio is above the selected target percentage. If the portfolio meets or falls below the target, no transactions will be generated

Field	Description
	Note: Pressing F1 will display the menu of options.
Security Symbol	The single security that is to be purchased in accounts below the target percentage. This security can be an actual security or a generic security that is swapped out at another time.
Description	The description of the security.
Sell Order	The order in which sells should be created / posted in accounts that exceed the target percentage: • PURCHASE DATE - First In First Out (FIFO) • PURCHASE DATE - Last In First Out (LIFO) • COST BASIS - LOWEST TO HIGHEST • COST BASIS - HIGHEST TO LOWEST (High Cost) Since this function looks at more than one security, a method for determining which securities to be sold must be defined. **Note:** Pressing F1 will display the menu of options.
Override Price	The price to use or leave blank to use the price of the underlying securities.
Cash To Hold	The minimum cash percent to hold in the accounts. This will not override any minimum cash percentage restrictions that are placed individually on an account.
Lot Size	The size of the lots to be used. Default lot sizes are 100 for equities and 1000 for bonds.
Rounding Method	The rounding method: • NEAREST • UP • DOWN **Note:** Pressing F1 will display the menu of options.
Minimum Trade	The minimum trade amount. This is to prevent very small trades from being created. The default minimum trades are 100 units for equities and 1000 units for bonds.
Settlement Date	The settlement date to be used for the calculation of accruals. The settlement date will be automatically calculated based on the trade date (today's date) following standard conventions, i.e., T+2 and T+1. The user may edit this field if a special settlement date is needed.

3. After entering all of the required data, press F10 to go. The DESCRIPTION and the OVERRIDE PRICE fields are filled in
4. Press F10 to go. The following will appear:

```
+-----------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|--------------------+--------------------------------------------|
|FUNCTION: AND|SEARCH:|
|--------------------+--------------------------------------------|
|40 RECORDS FOUND|
||
||
||
||
||
||
||
||
||
||
|-----------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+-----------------------------------------------------------------+
```

5. Enter the accounts for which the group what-if should be applied, and press F10. The following will appear:

```
+-------------------------------------------------------------------------
-+
|Generic Security What-If|
|------------------------|
| Block Name: TESTBLAPPEND TO BLOCK|
| Block Title:TEST BLOCK|
| Target Percentage :   22.00Trading Instructions : BUY AND SELL|
```

```
|-------------------------------------------------------------------------------
-|
| Purc+--------------------- HIT ESCAPE TO EXIT ----------------------+|
|  Sec|||
|  Des| The Next Screen Will Allow You to Select All Securities to Be ||
|-----|  Considered. These Securities Will Be Treated As if They    |--------|
| Sell|Were the Same Security.||
|  Sel|||
|-----+-----------------------------------------------------------+-------
-|
| Miscellaneous Settings|
| Override Price    : 100|
| (If left 0, price of underlying securities will be used)|
| Cash to Hold:   2.00%|
|  Lot Size:  100Rounding Method  : NEAREST|
| Minimum Trade:    100Settlement Date  : 10/30/01 (for accruals)|
|-------------------------------------------------------------------------------
-|
| The Next Screen Will Allow You to Define Which Securities Will be Considered
|
|Esc/F3 - to ExitF10 - Go|
+-------------------------------------------------------------------------------
-
```

6. After reading this message, press ESC to continue. The Security Selection screen will appear
7. Enter the requested data, and press F10 to go

After all data has been entered, a block is created. The following message will appear:

```
+-----------------------------------+
|Summary Report Stored in GENWHATIF.LSU|
|Detail Report Stored in GENWHATIF.LDT |
|Please Select an Option|
|-----------------------------------|
|RETURN TO MAIN MENU|
```

```
|VIEW SUMMARY REPORT|
|VIEW DETAIL REPORT|
|PRINT SUMMARY REPORT|
|PRINT DETAIL REPORT|
+-------------------------------------+
```

8. Select an option, and press ENTER. The reports shown on the following page are generated

```
10/30/01 2:56 P.M.Generic What-If Summary ReportPAGE 1
-----------------------------
********** BEFORE ********** **** CHANGE ***** ********** AFTER **********
Market%Market%Market%
AccountAccount NameCashValue TotalValue TotalCashValue Total
---------- -------------------------------- ---------- ---------- ----- ----
------ ----- ---------- ---------- -----
B70780PEBBLE KNIGHT REV INTERV TRUST3,0473,943   4.70 0.03,0473,943 4.7
GTLADGREAT LAKES TEST ACCOUNT1,7700   0.00 0.01,7700 0.0
WINCPWINDHAM TEST ACCOUNT3,9050   0.00 0.03,9050   0.0
B70592ROYAL STUART LLC6,6740 0.00 0.06,6740   0.0
B70710JAMES A. HURD IRA2,9240 0.00 0.02,9240   0.0
MANIRURUTH MANIA715,3460 0.0100,502  10.1614,844100,502 10.1
AMYCAMY SWEENEY COPY ACCT18,0260   0.00 0.018,0260   0.0
```

AMYS	AMY SWEENEY VACT	15,061	0	0.0	0	0.0	15,061	0 0.0
AMYFX	AMY SWEENEY FX	18,582	0	0.0	0	0.0	18,582	0 0.0
AMYSWE	AMY SWEENEY	24,516	0	0.0	0	0.0	24,516	0 0.0
CALVET	TOM CALVELLI	152,8410	0.0		0		0.0152,8410	0.0

AMYS	AMY SWEENEY VACT	15,061	0	0.0	0	0.0	15,061	0	0.0		
CLAIRC	CLAIRE TEST IV	72,3890	0.0	9,726		9.562,6639,726	9.5				
CARCMC	CMC CASH TEST ACCT	640,816		0	0.0	108,607	9.9532,209108,607	9.9			
CLAIR3	CLAIRE'S FIXED ACCOUNT	3,157,996		0	0.0	557,624	10.0	2,600,372557,624	10.0		
JOEL	JOEL'S LEARNING ACCOUNT	1,439,403		0	0.0	309,611	10.0	1,129,792309,611	10.0		

10/30/01 2:56 P.M.Generic What-If Detail ReportPAGE 1

******** BEFORE ******** ***** CHANGE ***** ******** AFTER ********* Market%MarketMarket%

Tick CusipSecurity DescriptionUnitsValue Total UnitsValue UnitsValue Total

------ --------- ---------------------------- -------- ----- -------- -------- -------- -------- -----

Account : GUTKAT- KATRINA P. GUTMAN

==========

F345370860 FORD MTR CO DELCOM PAR $0.0100 0.0 5,300 85,913 5,300 85,913 10.1

Account : GUPDEE- DEEPAK GUPTA

==========

F345370860 FORD MTR CO DELCOM PAR $0.0100 0.00000 0.0

Account : MICKYF- ANNE BALANCED ACCT

==========

F345370860 FORD MTR CO DELCOM PAR $0.0100 0.0 171,900 2,786,499 171,900 2,786,499 10.0

Account : SULRIC- RICHARD H. SULLIVAN

```
==========================================
```

5.2 Trading against model accounts

The APL Trading System uses investment models created either from user input, or based on an existing account. Portfolios are compared to these models when rebalancing accounts using the account rebalancer, cash rebalancer, or account adjuster functions.

Models can be modified once created for further fine-tuning. Any number of models can be created, supporting many managers and various investment objectives.

Selecting an existing model

1. Select Model Maintenance from the main APL Trading screen. The account selection screen will appear

```
+-------------------------------------------------------------------------+
|MODEL PORTFOLIO RETRIEVAL|
|-------------------------|
|MODEL NAME:TITLE:|
|-------------------------------------------------------------------------|
||
||
||
||
||
||
||
|-------------------------------------------------------------------------|
|SELECT MODEL AND HIGHLIGHT YOUR CHOICE|
|-------------------------------------------------------------------------|
|F1-Help F3-Quit F7-List Models F10/Return-Go|
+-------------------------------------------------------------------------+
```

2. Press F7 to list the models available. A screen similar to the following will appear:

```
+-------------------------------------------------------------------------+
```

```
|MODEL PORTFOLIO RETRIEVAL|
|-------------------------|
|MODEL NAME:TITLE:|
|-------------------------------------------------------------------------|
|SYSTEM AMODELPICK AN ACCOUNT AS A MODEL BASE|
|GENERC APL00:00 GENERIC MODEL PORTFOLIO|
|SHARON APL 03/05/02 10:17 GRAHAM SCREEN MODEL|
|TIME28 APL 02/20/02 12:41 TEST OF TIME 1|
||
||
|-------------------------------------------------------------------------|
|SELECT MODEL AND HIGHLIGHT YOUR CHOICE|
|-------------------------------------------------------------------------|
|F1-Help F3-Quit F7-List Models F10/Return-Go|
+-------------------------------------------------------------------------+
```

From this screen select a portfolio to edit, view, or delete. The user ID of the last user to update the model will appear, along with the date of the last update.

> **Notes:**
> There are two special models in the list:
>
> - SYSTEM AMODEL enables you to create a model based on an existing portfolio
> - GENERIC template creates an empty model

3. Select a model, and press F10. A screen similar to the following will appear, showing the desired percentages of cash and assets. (Select GENERIC, and no values appear.)

```
CALVET  BASED ON CALVET ACCOUNT
SECURITY  PCTG|SECURITY  PCTG|SECURITY  PCTG|
---------- ------- -|---------- ------- -|---------- ------- -|
AMAT13.924 0 AMD6.523    0 AOL-ZZ5.573  0
APMP-Z0.003  0 BHOC0Z2.286  0 BRK--A9.650  0
BSX4.545  0 CASH-115.235   0 CPQ2.803  0
EDS4.065  0 EK1.611  0 FNM0060.136    0
```

```
GNGPY31.407  0 GNMA090.009  0 HON3.709  0
IBM-3.416  0 MSFT0.322    0 NOVL1.314    0
ORCL12.975  0 USTT1Z0.731   0 VOD--Z16.5950
F1-Help F3-Main Menu  F6-Insert    SF6-Delete  F7-Recalculate  F10-Save
```

The columns that appear on this screen include:

Field	Description
Security	Ticker of the security
PCT	The percentage of the model to be held in that security
G	Group numbers next the securities. The securities with the same number are grouped in the same block

4. After editing the portfolio allocations, press F10 to go. If the percentages do not add up to 100 percent, the following prompt will appear:

```
+-------------------------------------------------------------+
|PLEASE RECALCULATE, PERCENTAGES DO NOT ADD UP TO 100|
+-------------------------------------------------------------+
Then the following selections are displayed:
+-----------------------------------------+
|4.556 PERCENT LEFT OVER, WHERE DOES IT GO|
|-----------------------------------------|
| PRO-RATE OVER SECURITIES|
| DISTRIBUTE OVER SECURITIES|
| SELECT SECURITIES TO APPLY LEFTOVER |
| RETURN TO MODEL|
+-----------------------------------------+
Choose SELECT SECURITIES TO APPLY LEFTOVER, the following prompt is displayed:
+-----------------------------------------+
|APPLY EXCESS PERCENTAGE TO WHICH SECURITIES|
|-----------------------------------------|
|C10.556 0|
```

```
|CASH-150|
|DIS10.556   0|
|HD60|
|INVN10.556 0|
|IP10.556 0|
|MMM10.555 0|
|MOT10.555 0|
|OSIS10.555 0|
|VSNX10.555 0|
+--------------+-------------------------------------------+---------------+
|Esc-Exit F1-Help   F4-Search   SF5-Select ALL SF6-Clear ALL|
|F7-Refresh Search F8-Options F10-Go   Return-Select/Un-Select|
+-------------------------------------------------------------------------+
```

5. Press ENTER to select the securities to receive the excess distribution
6. Press F10 to save the new model

> **Note:** If more than one security has been selected, the system prompts users to choose whether the excess should be prorated or distributed evenly. Select the method, and press ENTER.

The following will appear:

```
+-------------------------------------------------------------------------
+
|ENTER MODEL NAME (RET FOR SAME)|
+-------------------------------------------------------------------------
+
```

7. Enter the name of the new model, and press ENTER. The following will appear:

```
+-------------------------------------------------------------------------
+
|ENTER MODEL TITLE (RET FOR SAME)|
+-------------------------------------------------------------------------
+
```

8. Enter the description of the model, and press ENTER. The new model is saved and return to the Model Portfolio Retrieval screen
9. Press F3 to exit the screen and return to the Trading Menu

Mapping a portfolio model to track an account

A model can be set up to be adjusted daily as the securities' market prices change. In order to do this, a model must be linked to a real account by using the function ACTMODELMAP. Once the model and account are linked, the model reflects the securities and percentages held in the real account. The model is then updated nightly to reflect changes in the real account.

For example, if the actual account WHIPPL is the model for all equity accounts, type WHIPPL and EQUITY into the ACTMODELMAP screen. The model and the account must already exist. ACTMODELMAP can be used to maintain one or several account-to-model links. Static (non- updating) and dynamic models can exist at the same time.

1. Select ACTMODELMAP. The Account-Model Mapping screen appear

```
10/25/01 3:01 P.M.Account-Model MappingF-3 To Quit
----------------------F-10 to Save
SNAMModel
------------ MESSMALARGE-
JACKMOTRAIN
F-6 To Insert; Shift F-6 To Delete
```

2. Using the TAB key, move to each column and type the requested data
3. Press F10 to save the mapping and exit the function

> **Note:** Contact an account manager at Tegra118 Information Services to set up a nightly run of AUTOUPDATEMODELS after prices come in.

Creating a model based on an existing portfolio

A new model can be created based on an existing portfolio. Use the following steps:

1. Select Model Maintenance from the main APL Trading screen. The account selection screen will appear

```
+-------------------------------------------------------------------------+
|MODEL PORTFOLIO RETRIEVAL|
|-------------------------|
|MODEL NAME:TITLE:|
|-------------------------------------------------------------------------|
```

```
||
||
||
||
||
||
||
|-------------------------------------------------------------------------|
|SELECT MODEL AND HIGHLIGHT YOUR CHOICE|
|-------------------------------------------------------------------------|
|F1-Help F3-Quit F7-List Models F10/Return-Go|
+-------------------------------------------------------------------------+
```

2. Press F7 to list the models available. A screen similar to the following will appear:

```
+-------------------------------------------------------------------------+
|MODEL PORTFOLIO RETRIEVAL|
|-------------------------|
|MODEL NAME:TITLE:|
|-------------------------------------------------------------------------|
|SYSTEM AMODELPICK AN ACCOUNT AS A MODEL BASE|
|GENERC APL00:00 GENERIC MODEL PORTFOLIO|
|SHARON APL 03/05/02 10:17 GRAHAM SCREEN MODEL|
|TIME28 APL 02/20/02 12:41 TEST OF TIME 1|
||
||
|-------------------------------------------------------------------------|
|SELECT MODEL AND HIGHLIGHT YOUR CHOICE|
|-------------------------------------------------------------------------|
|F1-Help F3-Quit F7-List Models F10/Return-Go|
+-------------------------------------------------------------------------+
```

3. Select SYSTEM AMODEL. The following screen will appear:

```
+-----------------------------------------------------------+
| SHORT NAME:ACCOUNT NUMBER:|
|DESCRIPTION:|
|-----------------------------------------------------------|
||
||
||
||
||
|-----------------------------------------------------------|
|SELECT ACCOUNTS AND HIGHLIGHT YOUR CHOICE|
|-----------------------------------------------------------|
|  F1-Help F3-Quit F7-List Accounts F10/Return-Go     |
+-----------------------------------------------------------+
```

Note: Only one account can be selected.

4. Select the account to copy. The securities, along with their percent proportions, are copied into a new model

5.3 Account Rebalancer tool

The Account Rebalancer tool is used to make all of the positions in selected accounts match a model as closely as possible. It can generate sales of securities not in the model, as well as purchases of securities not in the account.

1. Select ACCOUNT REBALANCER. The Account Rebalancer screen will appear

```
+-------------------------------------------------------------------------
-+
|ACCOUNT REBALANCER|
||
|Accounts: SELECT ACCOUNTS|
||
|Model Name: RLT -SYSTEM TRAINING MODEL99|
||
```

```
|Block Name:CREATE NEW BLOCK|
|Block Title:|
||
| Portfolio (Total, Equity, Fixed, 2 Pass E/F): TOTAL|
|Use Account Desired % if found? : YES|
|Desired % of Portfolio For Equity :    0.000|
|Desired % of Portfolio For Fixed :    0.000|
|Can Cash go Negative?: NO|
|Rounding Method: UP TIL $$ GONE|
|Buy/Sell Mode: SELL+BUY|
|  Round off lots by:0.01Minimum lot:1  |
|  Round off Bond lots by :0.01Minimum bond lot :5000    |
|  Minimum percent change :0.00 Minimum percent of : TARGET VALUE|
||
|-------------------------------------------------------------------------------
-|
|F1 - Help  F3 - Abort    F9 - Cycle  F10 - Go|
+-------------------------------------------------------------------------------
-+
```

2. Using the TAB key, move to each column and enter the requested data

Field	Description
Accounts	Rebalance all accounts or selected accounts.
Model Name	Choose a model to rebalance against.
Block Name	Block name. This is a six character short name to identify the block. The block name must start with an alpha character.
Block Title	Block description.
Portfolio	Choose to rebalance the total account, the equity portion, the fixed portion or two-pass. (The two-pass option rebalances the equity and fixed portions of an account, excluding the cash). Options are: • Total

Field	Description
	• Equity • Fixed Income • 2 Pass E/F
Use Account Desired % if found?	This field is only used when Total is selected in the Portfolio field (above). • Yes – Rebalance based on the percentages entered in the DESPCT and DESFIX fields • No – The calculations are based on the actual equity or fixed income held in the account, or on the percentages you enter in the desired percentage of fixed and desired percent of equity fields on the screen
Desired % of Portfolio For Equity	Rebalance based on a percentage other than the percent specified in DESPCT.
Desired % of Portfolio For Fixed	Rebalance based on percentages other than the percent defined in DESFIX.
Can Cash Go Negative?	Respond Yes or No.
Rounding Method (dollars)	Options are Up till $ Gone, Down, or Nearest.
Buy/Sell Mode	Choose to sell and buy or buy only.
Round off lots by	The number by which to round off equity lots.
Minimum lot	Enter the minimum number of shares to be held in each tax lot
Round off Bond lots by	Enter the number by which to round off bond lots.
Minimum bond lot	Enter the minimum number of bonds to be held in each tax lot.

Field	Description
Minimum percent change	Specifies the minimum percent change in an equity before a trade is generated.
Minimum percent of	Specifies whether the previous field is a percentage of: • TARGET VALUE • TOTAL MARKET VALUE **Note:** For a discussion of the difference between "rounding lots" and "minimum lots," see "Rounding lots vs. minimum lots".

3. Press F10 to begin rebalancing. If SELECT ACCOUNTS was chosen, the following screen will appear

```
+-------------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|--------------------+----------------------------------------------|
|FUNCTION: AND|SEARCH:|
|--------------------+----------------------------------------------|
|40 RECORDS FOUND|
||
||
||
||
||
||
||
||
||
||
|-------------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+-------------------------------------------------------------------+
```

4. Type the accounts to be rebalanced, and press F10. A block is created that includes the trades for all chosen accounts. Summary data also will appear on the screen

```
Account Rebalance Program

Accounts were rebalanced to Model: BALANC    BALANCED FND

REBALANCED TOTAL PORTFOLIO TO MODEL

EQUITY ROUND LOT SIZE: 0.01, BOND LOT SIZE: 0.01, MIN BOND LOT: 5000

--------------------------------------------------------------------------------
--

ACCOUNT SELECTION USED:

REBALANCE COMPLETED WITHOUT EXCEPTIONS

USED 1 AS FACTOR FOR THE FOLLOWING SECURITIES : NT4CE3650094CE3 | MSA-
0Z585072AB7    |

THE FOLLOWING REPORTS WERE CREATED: HEATHE.LBL

--------------------------------------------------------------------------------
--

PRESS <ESC> TO EXIT <F1> FOR HELP <F3> MAIN MENUTegra118 APL
```

If there were any problems, a message indicates the problem and which accounts were effected. In addition, an Account Rebalance Program Report is created for each account.

10/30/01 4:01 P.M.R E B A L A N C I N G R E P O R TBLOCK: NEWBLK

PORTFOLIO: 047-962287 PEBBLE KNIGHT REV INTERV TRUST - B70780

BEFORE%TARGET%AFTER%

TOTAL ACCOUNT:83,336.6783,336.6783,336.67

EQUITY VALUE:80,289.87 (96.34)58,335.67 (70.00)58,335.67 (70.00)

FIXED INCOME VALUE:20,834.17 (25.00)20,834.17 (25.00)

CASH/CASH EQUIV:3,046.80 (3.66)4,166.83 (5.00)4,153.83 (4.98)

PORTFOLIO MODEL USED: BALANC - BALANCED FND

---

of % of TODAY'S MODELTARGETNEW(COST)/

TICKER COMPANYSECTORSHARES TOTALPRICE%POSITION%ORDERPROCEEDS

BRE BRE PPTYS INC195.00 6.72 28.700SELL195.005,596.50

CAT CATERPILLAR INC150078.00 4.28 45.700SELL78.003,564.60

CAG CONAGRA INC175.00 4.82 22.970SELL175.004,019.75

CSX CSX CORP105.00 4.17 33.110SELL105.003,476.55

DPH DELPHI AUTOMOTIVE SYS CORP41.94 0.59 11.750SELL41.00492.75

2000	**65.00 2.33 29.870**			**SELL**		
	75.00 4.51 50.150			SELL		

DDDU PONT E I DE NEMOURS CO70.00 3.43 40.810SELL70.002,856.70

EKEASTMAN KODAK EMR EMERSON ELEC CO

65.001,941.55

75.003,761.25

FBF FLEETBOSTON FINANCIAL CORPOR	**120.00 4.90**	**34.030**		**SELL**	**120.00**	**4,083.60**
FFORD MTR CO DEL85.00	1.65 16.210		SELL	85.00	1,377.85	

account both before and after rebalancing. A sample report is created,

[SNAM].LBL, that displays before and after scenarios.

New Account Rebalancer/Cash Rebalancer tool

The new account/cash rebalancer spends cash to buy securities listed in a model. It does not sell securities in order to raise cash, but it enables you to edit the cash value to be used for rebalancing. Editing the cash value is useful when generating trades for accounts where cash is expected but not yet received. The cash rebalancer ignores all non-cash holdings.
FTU--Z FIRST UN CORP94.00 3.88 34.420SELL94.003,235.48

HNZ	**HEINZ, H J COMPANY**	**95.00 4.79 42.000**				
LNC	LINCOLN NATL CORP	100.00	5.13	42.760		

GMGENERAL MTRS CORP200060.00 3.08 42.760SELL60.002,565.60

SELL95.003,990.00

SELL100.004,276.00

PHA	**PHARMACIA CORP**	**113.05 5.44 40.090SELL113.004,532**				
MO	PHILIP MORRIS COS INS	2500125.00 7.45 49.680SELL125.006				
PNC	PNC BK CORP	90.00	6.09	56.390	SELL	90.00	5,075.10
PPG	PPG INDS INC	75.00	4.49	49.850	SELL	75.00	3,738.75

MMM MINNESOTA MNG & MFG CO55.00 7.03 106.530SELL55.005,859.15

.17

,210.00

ADTK	ADEPT TECHNOLOGY INC	3.450 5.00%
AWR	AMERICAN STS WTR CO	33.900 10.00%

VZVERIZON COMMUNICATIONS85.00 5.12 50.190SELL85.004,266.15

1,207.78 5.00% BUY1,207.78-4,166.84

245.83 10.00% BUY245.83-8,333.64

CKFR Tegra118 CORP NEW500014.000 10.00%595.26 10.00% BUY595.26-8,333.64

DIGL DIGITAL LIGHTWAVE INC6.700 5.00%621.92 5.00% BUY621.92-4,166.86

XOM EXXON MOBILE CORPORATION132.02 6.44 40.680 10.00%204.86 10.00% BUY72.85-2,963.54

FNMA38 FEDL NATL MTG ASDTD 08/06/98 800103.935 10.00% 8,118.36 10.00% BUY8,118.36-8,333.67

LULUCENT TECHNOLOGIES INC45006.650 5.00%626.59 5.00% BUY626.59-4,166.82

MSFT MICROSOFT CORP450059.640 10.00%139.73 10.00% BUY139.73-8,333.50

NT4CE3 NEW YORK TEL CO DTD 02/28/94 2100120.203 15.00% 10,399.48 15.00% BUY 10,399.48 -12,500.50

SGMO SANGAMO BIOSCIENCES INC7.650 5.00%544.68 5.00% BUY544.69-4,166.88

WMT--Z WAL MART STORES INC200051.900 10.00%160.57 10.00% BUY160.57-8,333.58

==========

96.34%95.00%95.00%1,120.03

========== TOTAL UNITS SOLD:1,901.00 TOTAL UNITS BOUGHT:22,733.06

1. Select NEW ACCOUNT REBALANCER. The New Account (Cash) Rebalancer screen will appear

```
+-------------------------------------------------------------------------
-+
|CASH REBALANCER|
||
|Accounts: SELECT ACCOUNTS|
||
|Model Name: RLT -SYSTEM TRAINING MODEL99|
||
|Block Name:CREATE NEW BLOCK|
|Block Title:|
||
|  Total, Equity, Fixed Income, or 2 Pass E/F : TOTAL|
```

```
|Use Account Desired % if found? : YES|
|Desired % of Portfolio For Equity :    0.000|
|Desired % of Portfolio For Fixed :    0.000|
||
|Rounding Method: UP TIL $$ GONE|
||
|  Round off lots by:0.01Minimum lot:1  |
|  Round off Bond lots by :0.01Minimum bond lot :5000    |
||
||
|-------------------------------------------------------------------------
-|
|F1 - Help  F3 - Abort    F9 - Cycle  F10 - Go|
+-------------------------------------------------------------------------
-+
```

2. Using the TAB key, move to each field and enter the requested data. All of the fields on the cash rebalancer work just like the account rebalancer. Account restrictions are checked and restricted securities are honored and not purchased for accounts with restrictions against them

Field	Description
Accounts	Rebalance ALL ACCOUNTS or SELECT ACCOUNTS.
Model Name	Choose a model to rebalance against.
Block Name	Block name. This is a six-character short name that identifies the block. The block name must start with an alpha character.
Block Title	Block description.
Portfolio	Options are Total, Equity, Fixed Income, or 2 Pass E/F. Choose to rebalance the total account, the equity portion, the fixed portion, or two-pass. (The two-pass option rebalances the equity and fixed portions of an account, excluding the cash).
Use Account Desired % if found?	• Yes - Rebalance based on the percentages entered in the DESPCT and DESFIX fields

Field	Description
	• No – The calculations are based on the actual equity or fixed income held in the account, or on the percentages you enter in the Desired % of Portfolio For Fixed and Desired % of Portfolio For Equity fields on the screen
Desired % of Portfolio For Equity	Use this only if you want to rebalance based on a percentage other than the percent specified in DESPCT.
Desired % of Portfolio For Fixed	Use this only if you want to rebalance based on percentages other than the percent defined in DESFIX.
Can Cash Go Negative?	Respond Yes or No.
Rounding Method (dollars)	Options are Up till $ Gone, Down, Nearest.
Buy/Sell Mode	Choose to sell and buy, or buy only.
Round off lots by	Enter the number by which to round off equity lots.
Minimum lot	Enter the minimum number of shares to be held in each tax lot.
Round off Bond lots by	Enter the number by which to round off bond lots.
Minimum bond lot	Enter the minimum number of bonds to be held in each tax lot.
Minimum percent change	This enables you to only produce trades in accounts where the percent change is significant.
Minimum percent of	Round based on the minimum percent change of the target value of the account or total market value of an account.

Rounding lots vs. minimum lots

Many users get confused on how "rounding lots" differs from "minimum lots". When rounding, define the next whole number to round to. For example, the following are examples of what you would actually receive based on the rounding selection:

Round off lots by	Share that are purchased
(no rounding)	455.5
1	456
10	460
100	500

Bonds are rounded in groups of 1000. If the results of rebalancing entitled you to 1500 units of a bond, the actual units of the bond that are purchased is based on what you select for rounding. If rounding by 1000, the units would round up to 2000.

The minimum number of shares or units you want to hold is determined by what you enter in the minimum fields. Enter a minimum (equity) lot of 500 and a minimum bond lot of 5000, and users will not have (be allowed to purchase) any lots with less than 500 for equities and 5000 for bonds. The minimum percent change only produces trades where the percent change is greater than what was entered in the Minimum percent change field. Rounding based on the Minimum percent of the target value, or the total market value, means "round by the percent entered for minimum percent change, based on the target equity portion of the account, or the total market value of the account." Do not enter a percentage in the Minimum percent change field, and the Minimum percent does not work.

> **Note:** Define the rounding using the WHATIFTABLE function. If a lot size of 0 is defined while running the account rebalancer, this table is automatically accessed.

3. Press F10 to begin rebalancing. If SELECT ACCOUNTS was chosen, the following screen will appear

```
+-----------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|--------------------+--------------------------------------------|
|FUNCTION: AND|SEARCH:|
|--------------------+--------------------------------------------|
|40 RECORDS FOUND|
||
||
||
||
||
||
```

```
||
|-------------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+-------------------------------------------------------------------+
```

4. Enter the accounts to be rebalanced, and press F10. A screen will appear summarizing the amount of cash held in the selected accounts

```
F10-GO ON   ESC-QUIT
CURRENT ACCOUNTCASH
--------- ----------
GUTKAT104228
GUPDEE146596
MICKYF1901248
SULRIC237682
RUEBNB22879868
IBAFEL126086
CLAIRE368447
FELROB127188
HEATH5867
HEATHE12763
KATTEE1001207
HEATH5100
ROBCOB56
JEFFFF224
TERRYF-266
COSTGN89695
CLAIR2737122
ESC-ABORT   F1-HELP  F7-RECALCULATE   F10-SAVE
```

5. Using the TAB key, move to the CURRENT CASH column and edit the cash amount
6. Press F10 to save and continue. A block is created containing the trades for the chosen accounts. The following screen will appear

```
+----------------------------+
|DO YOU WANT TOTALS BY BROKER?|
|----------------------------|
No
YES
+----------------------------+
```

7. Select YES for a summary by broker, along with detail information

Select NO for a summary information by security, followed by an account detail, as shown below.

```
BLOCK NAME: MEGA00
BLOCK TITLE: MEGA EXAMPLE BLOCK
DATE: 10/31/01 9:38 A.M.
O ACCOUNTUNITS SECURITY DATEPRICEDONE DESBRK
- --------- ---------- -------- -------- --------- ----------- ------
**********************************************************************-
***
O TOTAL5,695.93 ADTK10/31/01  3.42000 ALL1
O TOTAL16,213.66 ADTK10/31/01  3.42000 ALPHA3
O TOTAL********** ADTK10/31/01    3.42000 BLANK4
O TOTAL38,086.18 ADTK10/31/01  3.42000 DW2
O TOTAL16,695.95 ADTK10/31/01  3.42000 MER7
O TOTAL19,885.07 ADTK10/31/01    3.42000 MMM2
O TOTAL144,978.27 ADTK10/31/01    3.42000 PERSH7
O TOTAL20,861.20 ADTK10/31/01  3.42000 SBS7
O TOTAL1,142.53 AWR10/31/01   34.10000 ALL1
O TOTAL3,252.24 AWR10/31/01   34.10000 ALPHA3
O TOTAL********** AWR10/31/01 34.10000 BLANK4
O TOTAL7,639.57 AWR10/31/01   34.10000 DW2
O TOTAL3,348.97 AWR10/31/01   34.10000 MER7
O TOTAL3,988.68 AWR10/31/01 34.10000 MMM2
O TOTAL29,080.68 AWR10/31/01   34.10000 PERSH7
```

```
------------------------------------------------------------------------ More -
->
PRESS <ESC> TO EXIT <F1> FOR HELP <F3> MAIN MENUTegra118 APL
```

Field	Description
O	O - open C - closed
ACCOUNT	Short name (SNAM) of the account
UNITS	How many units opened or closed
SECURITY	Ticker symbol of the security
DATE	Date the block was created
PRICE	Closing price of the security
DONE	Amount of the transaction that was completed
DESBRK	Designated broker for the account
(untitled column)	The number of accounts that make up the trade for that particular broker.

Use the right arrow, to view the second part of the Cash Rebalancer Summary screen:

```
BLOCK NAME: MEGA00
BLOCK TITLE: MEGA EXAMPLE BLOCK
DATE: 10/31/01 9:38 A.M.
B/SQUANTITY TICK CUSIPDESCRIPTION
------------ ------ -------- --------------------
BUY5,696 ADTK 006854103 ADEPT TECHNOLOGY INC COM
BUY16,214 ADTK 006854103 ADEPT TECHNOLOGY INC COM
```

```
BUY   116,737,058 ADTK 006854103 ADEPT TECHNOLOGY INC COM BUY38,086 ADTK
006854103 ADEPT TECHNOLOGY INC COM BUY16,696 ADTK 006854103 ADEPT TECHNOLOGY
INC COM BUY19,885 ADTK 006854103 ADEPT TECHNOLOGY INC COM BUY144,978 ADTK
006854103 ADEPT TECHNOLOGY INC COM BUY20,861 ADTK 006854103 ADEPT TECHNOLOGY
INC COM BUY1,143 AWR  029899101 AMERICAN STS WTR CO COM BUY3,252 AWR
029899101 AMERICAN STS WTR CO COM BUY  23,415,879 AWR    029899101 AMERICAN
STS WTR CO COM BUY7,640 AWR  029899101 AMERICAN STS WTR CO COM BUY3,349 AWR
029899101 AMERICAN STS WTR CO COM BUY3,989 AWR  029899101 AMERICAN STS WTR CO
COM BUY29,081 AWR  029899101 AMERICAN STS WTR CO COM

<-- More ----------------------------------------------------------------
--

PRESS <ESC> TO EXIT <F1> FOR HELP <F3> MAIN MENUTegra118 APL
```

Field	Description
B/S	Buy or Sell
QUANTITY	Total number of shares of the security
TICK	The ticker symbol of the security
CUSIP	CUSIP number of the security
DESCRIPTION	Description of the security

When the Account Rebalancer is run, a new Account Recommended Stock Purchases report is created for each account. Each report name

Tegra118

begins with the short name (SNAM) of the account and has a .LBL

extension.

Account Adjuster tool

The Account Adjustment screen enables you to change the cash level of a portfolio by a percentage or by an absolute dollar value. Additionally, the screen enables changing of the investment proportions of existing holdings.
SAMPLE ASSET MANAGEMENTBLOCK: MEGA01 NEW ACCOUNT RECOMMEND STOCK PURCHASES

SNAM: GILLVI

ACCOUNT NUMBER: -000120

DTC NO. : 21UI5[CLANKVINCE GILL PORTFOLIO MODEL USED: BALANC - BALANCED FND RUN DATE: 10/31/01 10:03 A.M.

TICKER LATESTMARKET ACTUAL TARGET

SHARES DESCRIPTIONSYMBOLPRICEVALUE % TOTAL % TOTAL

------- ---------- ---------- -------- -------

80153 ADEPT TECHNOLOGY INCCOMADTK3.4200 274,123.845.05.0

16078 AMERICAN STS WTR COCOMAWR34.1000 548,247.8710.010.0

39873 Tegra118 CORP NEWCOMCKFR13.7500 548,247.7010.010.0

44718 DIGITAL LIGHTWAVE INCCOMDIGL6.1300 274,123.855.05.0

531678 FEDL NATL MTG ASDTD 08/06/98 6.210 08/06/38 FNMA38 104.4055 548,247.7010.010.0

42173 LUCENT TECHNOLOGIES INCCOMLU6.5000 274,123.855.05.0

9311 MICROSOFT CORPMSFT58.8800 548,247.5810.010.0

679308 NEW YORK TEL CO DTD 02/28/94 6.250% 02/15/04 NT4CE3 121.0603 822,371.5515.015.0

34180 SANGAMO BIOSCIENCES INCCOMSGMO8.0200 274,123.845.05.0

10835 WAL MART STORES INCCOMWMT50.6000 548,247.4610.010.0

13894 EXXON MOBILE CORPORATIONXOM39.4600 548,247.7710.010.0

--------- ------ ------

TOTAL5,208,35395.095.0

ESTIMATED ACCOUNT VALUE5,482,477

1. Select ACCOUNT ADJUSTER. The rounding screen for the Account Adjuster will appear

```
+------------------------------------------------------------------------+
|ROUNDING FOR ACCOUNT ADJUSTMENT|
|------------------------------------------------------------------------|
|ROUND LOTS BY:100.00MINIMUM LOT:100.00 |
||
|ROUND BOND LOTS BY:1000.00 MINIMUM BOND LOT:5000.00 |
||
|MODE: SINGLE ACCOUNT ADJUSTMENTS  FREEZE OPTION: RESTRC+TRADES ONLY |
||
| WHEN RAISING CASH: PRO-RATE ACROSS HOLDINGS|
|
|OPTIONAL MODEL SELECTION FOR ACCOUNT ADJUSTER|
||
|MODEL NAME:|
```

```
||
|F10- GOESC - QUIT|
+-------------------------------------------------------------------------+
```

2. Using the TAB key, move to each field and enter the requested data

Field	Description
ROUND LOTS BY	Desired rounding for equities.
MINIMUM LOT	Minimum number of equity shares in the lot.
ROUND BOND LOTS BY	Number of units by which to round bonds.
MINIMUM BOND LOT	Minimum number of bonds to be held per lot.
ROUNDING METHOD	Method by which to round (UP, DOWN, TO THE NEAREST)
TAX LOT TRADING	Trade by tax lot. If YES is selected for tax lots, the Single Account Adjustment screen displays purchase date and gain or loss on each security.
MODE	SINGLE ACCOUNT ADJUSTMENT – A screen will appear, displaying the current holdings in the account. The cash is displayed on the top of the screen. Data in columns for target shares, percent and price can be changed. MULTI-ACCOUNT RAISE CASH MULTI-ACCOUNT LOWER CASH MULTI-ACCOUNT ADJUST CASH A search prompt will appear which enables users to enter a group of accounts for which you would like to raise, lower, or adjust cash. The work screen for this option shows the account number, current cash, and the new cash value you want.
FREEZE OPTIONS	• Freezing enables users to choose to keep certain securities as they are so that they won't be traded. Securities that have been frozen are indicated with an F, an R for restricted securities or a T for committed trades • RESTRC + TRADES ONLY – Freezes restricted securities and those for which there are committed trades • EQUITY + RESTRC + TRADES – Freezes all equities as well as restricted securities and committed trades • FIXED + RESTRC + TRADES – Freezes all fixed income securities as well as restricted and committed securities

Field	Description
	• UNFREEZE ALL – Removes the freeze on any security
WHEN RAISING CASH	Choose whether or not to trade a proportional amount of each security in the account, trade as few securities as possible, or divide equally across holdings. • Use PRO-RATE ACROSS HOLDINGS if you want the account to hold the same percent weightings of each security. After trading, the account has the same structure, but each position is smaller. The system sells holdings proportionately, based on the percent held • Use MINIMIZE THE NUMBER OF TRADES If you want to raise cash with the fewest trades -- a quicker way of raising the cash, and one that usually minimizes transaction costs. The system sells the largest position first, then the next largest, and so on until the required amount of cash is generated. If you're working with a model, the system sells the largest mismatch with the model, then the next largest, etc • Use DIVIDE EQUALLY ACROSS HOLDINGS to distribute cash equally, without regard to the weighting of each security
ASSET CLASS	Choose what portion of the portfolio to adjust (TOTAL, EQUITY, FIXED INCOME).
MODEL NAME	Name of the model. This field is optional. If a model is chosen, the account adjuster displays what the ideal holdings would be for this model.

3. After entering all data, press F10 to continue. If SINGLE ACCOUNT ADJUSTMENTS was chosen, the following screen will appear:

```
+-----------------------------------------------------------+
| SHORT NAME:ACCOUNT NUMBER:|
|DESCRIPTION:|
|-----------------------------------------------------------|
||
||
||
||
||
||
||
||
```

```
|-----------------------------------------------------------|
|SELECT ACCOUNTS AND HIGHLIGHT YOUR CHOICE|
|-----------------------------------------------------------|
|  F1-Help F3-Quit F7-List Accounts F10/Return-Go    |
+-----------------------------------------------------------+
```

4. Enter the account short name, and press F10 to go. The Account Adjustment screen will appear

```
ACCOUNT: GUPDEEACCOUNT ADJUSTMENT
SNAM: GUPDEE
TARGETFREEZESTARTING
DESCRIPTIONSHARES PCT F PRICE SECURITY   SHARES
CASH146596.30 11.95 100.00000 CASH-1146596
0.00 0.00   0.000000 BLANK0
ABBOTT LABS2400.00 10.61   54.240000 ABT2400
ABBOTT LABS DEB7.6 26000.00   0.03   0.000000 002824AB6   26000
AMGEN INC0.00 0.00 57.080000 AMGN0
AMAZON COM INCCOM0.00   0.00 7.640000 AMZN0
AVAYA INCCOM21.61   0.02   10.600000 AV22
BOEING CO600.00 1.67   34.240000 BA600
BLACK & DECKER CORPCOM0.00 0.00   33.620000 BDK0
CIGNA CORP400.00 2.53 77.490000 CI400
Tegra118 CORPCOM1300.00   6.62   62.500000 CKFR-Z1300
3 COM CORPCOM0.00   0.00   6.590000 COMS-Z0
CIRRUS LOGIC INCCOM0.00 0.00 9.930000 CRUS0
DAIMLERCHRYSLER AGORD0.00 0.00 36.800000 DCX0
WALT DISNEY PRODTNS0.00 0.00 18.440000 DIS0
DOVER CORP1200.00 3.38   34.580000 DOV1200
FORD MTR CO DELCOM0.00   0.00 16.060000 F0
FLEXTRONICS INTL LTDORD193.20 0.37 23.380000 FLEX193
FEDL NATL MTG ASDTD 08/06/98 6.20.00   0.00 101.42200 31359MEB50
F1-HELP F3-EXIT   F6-ADD   F7-RECALC   F8-OPTIONS F9-GAIN/LOSS   F10-SAVE
```

The cash is displayed as the first holding. The columns are defined below:

Field	Description
DESCRIPTION	Description of the holdings in the account.
TARGET SHARES	The default value shows the number of shares currently held. It can be edited to reflect the number of shares desired.
PCT	The percent of the portfolio that should be in this holding.
FREEZE	Enter F tonot want this particular position adjusted. R will appear in this column if the security is restricted. T will appear in this column if there has been a committed trade involving the security.
PRICE	The closing price of the security.
SECURITY	The ticker symbol for the security.
STARTING NUMBER OF SHARES	The number of shares actually in the account.

> **Note:** Only data in columns for target shares, percent and price can be changed.

6. After making adjustments, press F10

Additional functions, single account adjustment screen

Function	Description
F6	Add a security not already displayed
F7	Recalculates after adjustments have been made
F8	Other options available within the account adjuster screen

```
+---------------------------------+
|CHOOSE AN OPTION|
|---------------------------------|
|OOPS-NEVER MIND|
```

```
|OOPS-UNDO WHAT I JUST DID|
|FREEZE OPTIONS|
|REPRICE OPTIONS|
|UNFREEZE OPTIONS|
|RESTORE ORIGINAL POSITION|
|CHANGE ROUNDING|
|ACCOUNT ANALYSIS|
|SORT SCREEN|
|TOGGLE BETWEEN SHARES AND DOLLARS|
|CALC WITH MODEL PERCENTS|
+--------------------------------+
```

Function	Description
OOPS - Never Mind	Return to the screen to make additional changes.
OOPS - Undo What I Just Did	Reverse changes just made. Choose to change the entry made after the last calculation or the last calculation and the entry before it.
Freeze Options	Freeze certain groups of securities. Freeze all equity assets, fixed income assets or all restricted assets for the account.
Reprice Options	Reprice some or all of the securities.
Unfreeze Options	Unfreeze all equity, fixed income or restricted assets that were previously frozen.
Restore Original Positions:	Restore positions to the way the originally appeared. There are several options for restoring the positions: • Equity • Fixed • Unfrozen • Frozen • Restricted • Traded • Everything

Function	Description
Change Rounding	Change the original rounding options chosen for equity and/or fixed income securities.
Account Analysis	On-line report showing breakdown by asset class, issue type and industry code, both before and after trading.
Sort Screen	Sort positions on the screen by: • TICK • DESCRIPTION • YIELD • DURATION • INDUSTRY • PERCENTAGE
CALC With Model Percents	This will appear only if a model account is selected during initial input. Change target shares to match the shares in the model account entered on the first screen. Make sure positions that should not be changed are tagged with F.
F9	Shows the gain and loss for the securities. The screen below shows gain and loss on the tax lot level

```
Year-to-Date Gain/Loss Report for DEEPAK GUPTA

As of October 25, 2001

Realized Gain   Unrealized Gain

--------------- ---------------

S/T00

M/T00

L/T0654,405

Total0654,405

--------------------------------------------------------------------------------
--

PRESS <ESC> TO EXIT <F1> FOR HELP <F3> MAIN MENUTegra118 APL
```

If YES is selected for tax lots, the Single Account Adjustment screen displays purchase date and gain or loss on each security.

Examples:

- If cash was lowered, F7 was pressed and nothing is purchased, the rounding is probably too high. It is also possible that the change made to cash is too small so that nothing can be purchased with it. If there are a lot of frozen or restricted positions in the account, there may be nothing left that the adjuster can do given reasonable rounding conditions and cash change
- To raise $100,000.00 by selling given securities in the account, the number of shares for these securities would be adjusted and F7 would recalculate. The amount of cash realized by changing the shares held is automatically added to the cash line. Continue to lower the share amounts until enough cash has been raised
- To raise $100,000.00 but don't want to manually change individual securities, add $100,000 to the cash line, and press F7. The security positions are proportionally reduced until the cash target is attained. The rounding requirements entered previously are preserved
- If the account has cash that needs to be invested, lower the cash line by the excess amount, and press F7
- To liquidate all of the positions in an account, zero out all the security positions and press F7

1. If MULTI ACCOUNT RAISE CASH was chosen, the following screen will appear

```
+-----------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|--------------------+--------------------------------------------|
|FUNCTION: AND|SEARCH:|
|--------------------+--------------------------------------------|
|40 RECORDS FOUND|
||
||
||
||
||
||
||
||
||
||
|-----------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+-----------------------------------------------------------------+
```

2. Enter the account identifier for the accounts in which cash should be raised. The following screen will appear:

```
ACCOUNT ADJUSTMENT: MULTIPLE ACCOUNTS RAISE CASH
ENTER 'MAX' TO RAISE AS MUCH AS POSSIBLE F8 WILL 'MAX' ALL ACCOUNTS
ACCOUNTTOTAL VALUE  CURRENT CASH CASH TO RAISEERRORS
AMY1971198.861519050.130.00
AMYC1528151.69274367.900.00
AMYFX1739553.62116340.110.00
AMYS1325116.1973232.800.00
AMYSWE2216421.31639001.550.00
ANNEC608316.74430315.750.00
ANNHAB1981650.160.000.00
B70592378052.0314398.430.00
B70710247451.0413785.600.00
B7078083583.213046.840.00
BRIA111525.0194824.560.00
CALVET15253391.412323790.620.00
CARCMC1093305.27955077.900.00
CLAIR21721226.10727121.850.00
CLAIR35577540.714773516.050.00
CLAIR4738584.37583901.050.00
Esc/F3 - Return to Main ScreenF8 - Options    F-10 - Go
```

3. Using the TAB key to move to each column, type the amount of cash to raise for each account
4. After making changes, press F10 to save changes and exit the function

Multi-account Raise Cash tool

The options shown when you press F8 also enable you to raise maximum cash or cash to given percent across all accounts.

Function	Description
Raise Cash by an Additional Percentage	An option box will appear with the basis for which to select the cash percentage. The choices are: • TOTAL VALUE • EQUITY VALUE • FIXED INCOME VALUE • TARGET EQUITY VALUE • TARGET FIXED INCOME VALUE System then prompts for the cash percentage.
Raise Cash to Given Percent	Select the value on which to base the percent (Total, Equity, Fixed, Target Equity, and Target Fixed) and enter the percent. The results are posted to the CASH TO RAISE column.
Raise Maximum Cash	Raise the maximum amount of cash. The results are posted to the CASH TO RAISE column, preceded by the word MAX.

1. Press F10 to create the block. The following screen will appear:

```
+-------------------------------------------------------------------------------
+
|ENTER BLOCK NAME (6 CHRS, RET TO ABORT):|
+-------------------------------------------------------------------------------
+
```

2. Enter a six-character block name to identify the block, and press ENTER. A report is created for each account. This report shows the before and after scenarios of adjusted positions. The report file name is SNAM.LAA

5.4 Swapping trades

The following functions enable users to replace blocks of trades with other trades.

Quick Swap tool

Quick swap enables users to create a new block based on an existing block. The equivalent dollar value of the old block, or a proportionate number of shares can be used as a basis for creating the new block. There are three types of swaps that quick swap can generate; dollar preserving swaps, multiple share swaps, and duration.

The following procedure shows how quick swap works.

1. If it does not already exist, create an initial block of trades. This block can include buys and/or sells of one or many securities
2. Select BLOCK STATUS. A list of all existing blocks will appear
3. Select the block from which to create a new block, and press ENTER. An option box will appear listing choices of action

```
BLOCK STATUS AS OF 10/29/01 10:00 A.M.
* = COMMITTED G = GOOD-TILL-CANCELLED ORDER  $ = COMMITTED G-T-C ORDER
NAME  DATE TIME BLOCK TITLEB/STOTALDONE
------------------+-----------------------------------+-----------------
MEGA  10/29 10:00|  Select Trades to Preserve Dollars |    N/A0
IBMTS1 10/29 09:56|  <ESC> To Swap for Multiple Shares  |131,2000
3RDQTR 07/08 22:51|or Duration Neutral Swaps|  N/A0
BALANC 08/25 16:08||  N/A0
FIXED3 09/09 16:23| OPE/Trade|246,0000
CASH11  09/01 14:30| CLOTick CusipDate|0.028MM0
CASH  09/01 14:28|-----------------------------------|0.136MM0
SALES1  08/05 10:42| CLOIBM  459200101    10/29/01|  1,2000
GNMA  05/24 11:17| OPEF345370860  10/29/01|8.453MM0
PRESEL  05/24 11:12| OPEHD437076102  10/29/01|    N/A0
IBM212 02/11 12:31| OPEIBM    459200101    10/29/01| 28,8000
TEST1 12/22 15:53| OPEF345370860    10/29/01|  4,6000
TRS001  12/11 15:38| OPEHD437076102  10/29/01|    1000
TEST    12/11 15:33| OPEIBM  459200101  10/29/01|  N/A0
+-----------------+-----------------------------------+-----------------+
|Esc-Exit F1-Help   F4-Search   SF5-Select ALL SF6-Clear ALL|
|F7-Refresh Search F8-Options F10-Go   Return-Select/Un-Select|
+-------------------------------------------------------------------------+
```

Dollar-preserving Swap tool

In a dollar-preserving swap, the system attempts to maintain the same dollar value on both sides of the swap.

Use the following steps to access the Dollar-preserving Swap tool:

1. From the BLOCK STATUS screen, select the trades where you want to maintain the dollar value on both sides of the swap, and press F10. The Dollar Preserving Swap screen will appear

```
SAMPLE ASSET MANAGEMENTScreen 1 of 2

Dollar Preserving Swap Screen

----------------------------

**************Old Security************* **********New Security********** B/S
Tick  CusipDatePrice B/S SecurityDatePrice

--- ----   ------------- --- -----------------

S  IBM   459200101   10/29 111.160000 B10/29  0.000000

BF345370860    10/29 16.660000 S10/29   0.000000

BHD437076102   10/29  40.290000 S10/29   0.000000

BIBM   459200101   10/29 111.160000 S10/29  0.000000

A Blank Price Will Imply CLSEP

Use <F9> and <SHIFT-F9> To Access Additional Screens
```

2. Using the TAB key to move to each column, type the transaction type for the trade to be swapped (buy or sell), the security (ticker symbol, CUSIP or SACUS), and the price of the security

If a price is not entered, the system defaults to last night's closing price (CLSEP).

F9 enables users to select options for rounding. The choices are round up, rounding down, or rounding to the nearest increment. The round lot size can also be changed.

SHIFT+F9 enables the user to toggle between the new security screen and the rounding screen, as shown below.

```
SAMPLE ASSET MANAGEMENTScreen 1 of 2

Dollar Preserving Swap Screen

----------------------------

**************Old Security************* **********New Security********** B/S
Tick CusipDatePrice B/S SecurityDatePrice

--- ----   ------------- --- -----------------

S IBM  459200101  10/29 111.160000 B MSFT10/29 0.000000

B F345370860    10/29 16.660000 S GM10/29   0.000000

B HD437076102  10/29 40.290000 S LOW10/29   0.000000

B IBM  459200101  10/29 111.160000 S MSFT10/29 0.000000

A Blank Price Will Imply CLSEP
```

```
Use <F9> and <SHIFT-F9> To Access Additional Screens

SAMPLE ASSET MANAGEMENTScreen 2 of 2

Dollar Preserving Swap Screen

----------------------------

**************Old Security************** ****Rounding*** B/S Tick
CusipDatePrice U/D/NLot

--- ----   ------------- --------

SIBM    459200101   10/29 111.160000  N100

100

BF345370860   10/29 16.660000   N

BHD437076102   10/29 40.290000  N100

BIBM    459200101   10/29 111.160000  N100

A Blank Price Will Imply CLSEP

Use <F9> and <SHIFT-F9> To Access Additional Screens
```

Examples of dollar reservation scenarios:

- Create a block of sells for a given security, and then purchase an equivalent dollar amount of another security. For example, you would do this if you are selling IBM, and want to purchase the same dollar amount of MSFT. Anaccount that is selling $5,000 IBM, will purchase $5,000 (or as close to $5,000 as possible) of MSFT
- Create a block of buys for a security, and use Quick Swap to create another block of buys in the same dollar amount for another security. In an account where you are buying $25,000 of a to-be-announced (TBA) security, you may want to buy approximately 25,000 of a Treasury bill

3. Press F10 to save new blocks. The following screen will appear:

```
+-------------------------------------------------------------------------
+

|Enter New Block Title :|

+-------------------------------------------------------------------------
+
```

4. Enter the description of the block, and press ENTER. The following screen will appear

```
+-------------------------------------------------------------------------
+

|ENTER BLOCK NAME(6 CHARS OR RET TO ABORT)|
```

```
+-------------------------------------------------------------------------
+
```

5. Enter a six-character block name, and press ENTER. The block is loaded to the Trading system

Multiple Share Swap tool

In a multiple share swap, the number of shares swapped is equivalent. Specify a share-for-share swap, or specify a share-to- share ratio (for example, one share of ABC for three shares of DEF).

This type of trade is performed without regard to the value of the blocks being traded.

To perform a multiple share swap, follow these steps:

1. From the Block Status screen, press ESC. The following screen will appear

```
BLOCK STATUS AS OF 10/29/01 10:34 A.M.
* = COMMITTED G = GOOD-TILL-CANCELLED ORDER  $ = COMMITTED G-T-C ORDER NAME
DATE TIME BLOCK TITLEB/STOTALDONE
----------------+----------------------------------------+---------------
MEGA  10/29 10:|Select Trades to Swap For Multiple Shares| N/A0
IBMTS1  10/29 09:|  <ESC> for Duration Neutral Swaps|1,2000
3RDQTR 07/08 22:||  N/A0
BALANC  08/25 16:| OPE/Trade    |  N/A0
FIXED3 09/09 16:| CLOTick   CusipDate  |6,0000
CASH11  09/01 14:|--------------------------------------|028MM0
CASH   09/01 14:|   CLOIBM45920010110/29/01 |136MM0
SALES1  08/05 10:|  OPEF34537086010/29/01 |1,2000
GNMA   05/24 11:|  OPEHD43707610210/29/01  |453MM0
PRESEL  05/24 11:| OPEIBM    459200101    10/29/01  | N/A0
IBM212  02/11 12:| OPEF345370860  10/29/01 |8,8000
TEST1 12/22 15:|   OPEHD437076102    10/29/01 |4,6000
TRS001  12/11 15:| OPEIBM    459200101  10/29/01 | 1000
+---------------+----------------------------------------+----------------+
|Esc-Exit F1-Help   F4-Search   SF5-Select ALL SF6-Clear ALL|
|F7-Refresh Search F8-Options F10-Go   Return-Select/Un-Select|
+-------------------------------------------------------------------------+
```

2. Select the trades to swap, and press F10 for the Multiple Shares Swap screen

```
SAMPLE ASSET MANAGEMENTScreen 1 of 2
Multiple Share Swap Screen
-------------------------
**************Old Security************** **********New Security***********
B/S Tick CusipDatePrice B/S SecurityDatePrice
--- ----   ------------- --- -----------------
SIBM   459200101   10/29 111.160000 B10/29  0.000000
BF345370860    10/29 16.660000 S  GM10/29   0.000000
Use <F9> and <SHIFT-F9> To Access Additional Screens
```

3. Using the TAB key to move to each column, type the transaction type for the trade to be swapped (Buy or Sell), the security (ticker symbol, CUSIP or SACUS), and the price of the security. The default value is the opposite of the original security type.If a price is not entered, the system defaults to last night's closing price (CLSEP)

Pressing F9 displays a second screen. Enter the number of shares to buy or sell for each number of shares you are trading in the original block.

```
SAMPLE ASSET MANAGEMENTScreen 2 of 2
Multiple Share Swap Screen
-------------------------
**************Old Security**************
B/S Tick CusipDatePrice Multiple Shares
--- ----   ------------- ---------------
S IBM    459200101  10/29 111.1600001.00
B F345370860    10/29 16.6600001.00
Use <F9> and <SHIFT-F9> To Access Additional Screens
```

SHIFT+F9 toggles between the new security screen and the multiple shares screen

4. To trade share for share, leave the number at 1. For other multiples, type the number to be multiplied for the shares. For example, type 3 to trade three times as many shares of one security as being traded for the original security

Examples of multiple share swap scenarios:

- Create a block of sells for a given security and then replace that security with a proportionately similar number of shares of another security. For example, a user may be selling C across a group of accounts, and wants to buy three times as many shares of F to replace it. Under the Multiple Shares column, enter 3. An account that is selling 200 shares of C will purchase 600 shares of F
- Create a block of buys for a given security and create another block of buys with the same number of shares, by leaving the Multiple Share column at 1, or a proportionately similar share amount for another security. In an account where a user is buying 30,000 of a GNMA, they may also want to buy 30,000 of another GNMA

5. Press F10 to save new blocks. The following screen will appear

```
+-------------------------------------------------------------------------------
+
|Enter New Block Title :|
+-------------------------------------------------------------------------------
+
```

6. Enter the description of the block, and press ENTER. The following screen will appear

```
+-------------------------------------------------------------------------------
+
|ENTER BLOCK NAME(6 CHARS OR RET TO ABORT)|
+-------------------------------------------------------------------------------
+
```

7. Enter a six-character block name, and press ENTER. The block is loaded to the Trading System

Duration-neutral Swap tool

This function evaluates the security in the original block, along with the account's effective duration before trades and calculates the number of shares needed to buy/sell to maintain that duration. If the duration cannot be reached with the swapped security the system gets as close as possible. If no duration is found, the system displays a warning, and returns to the input screen.

> **Note:** Duration-neutral swaps are only possible with fixed-income securities.

1. From the block status screen, press ESC. The following screen will appear

```
BLOCK STATUS AS OF 10/29/01 4:02 P.M.
* = COMMITTED G = GOOD-TILL-CANCELLED ORDER  $ = COMMITTED G-T-C ORDER
NAME  DATE TIME BLOCK TITLEB/STOTALDONE
-------------------------------------------------------------------------
```

```
BOND1A 10/29 16:02 FIXED INCOME EXAMPLEB/SN/A0
MEGA18  10/29 15:49 MEGA BLOCK FOR EXAMPLEB/SN/A0
DFDFDF 10/29 13:3+--------------------------------------+ N/A0
TIME5   10/29 13:3|Select Trades for Duration Neutral Swaps|  N/A0
NIHAR6 10/29 13:3|| N/A0
DEBBY 10/29 13:2| OPE/Trade   |1,0000
TIME4   10/29 12:5| CLOTick CusipDate | N/A0
NIHAR5 *10/29 12:5|--------------------------------------|  N/A0
DE10/29 12:4| CLOBHOB0Z 0010/29/01  | N/A0
ANNIE4  10/29 12:4| OPEA00061 694308EZ6  10/29/01 | N/A0
ANNIE3  10/29 12:3| OPEUSTN27 912810EZ7  10/29/01  |  N/A0
+----------------+--------------------------------------+----------------+
|Esc-Exit F1-Help   F4-Search   SF5-Select ALL SF6-Clear ALL|
|F7-Refresh Search F8-Options F10-Go   Return-Select/Un-Select|
+-------------------------------------------------------------------------+
BARBAR *10/29 11:43 WHAT-IF: 10/29/2001 12:09 PM BUY  203,1000
NIHAR2 *10/29 11:42 WHAT-IF: 10/29/2001 12:09 PM   BUY12,7750
DEB  *10/29 11:41 WHAT-IF: 10/29/2001 12:04 PM   BUY38,4050
ANNIE 10/29 11:05 NEW BLOCK: 10/29/2001 11:55 AM BUY2000
```

2. Select the trades to swap, and press F10 for the Duration Neutral Swaps screen. A screen similar to the following will appear:

```
SAMPLE ASSET MANAGEMENTScreen 1 of 2
Duration Neutral Swap Screen
---------------------------
**************Old Security************** **********New Security********** B/S
Tick CusipDatePrice B/S SecurityDatePrice
--- ----   ------------- --- -----------------
S BHOB0Z 0010/29 101.656000 B A0006110/29 0.000000
S  BHOB0Z 0010/29 101.656000 B  A0006110/29  0.000000
BA00061 694308EZ6   10/29 101.750000 S   BHOBOZ10/29   0.000000
BUSTN27 912810EZ7   10/29 117.781000 S   TN73X810/29  0.000000
```

```
A Blank Price Will Imply CLSEP

Use <F9> and <SHIFT-F9> To Access Additional Screens
```

3. Using the TAB key to move to each column, type the transaction type for the trade to be swapped (Buy or Sell), the security (ticker symbol, CUSIP or SACUS), and the price of the security. The default value is the opposite of the original security type.If a price is not entered, the system defaults to last night's closing price (CLSEP)

F9 enables you to enter rounding options. The choices are round up, down or to the nearest.

The round lot size can also be changed. SHIFT+F9 enables the user to toggle between the new security screen and the rounding screen.

4. Press F10 to save new blocks. The following screen will appear:

```
+------------------------------------------------------------------------------
+
|Enter New Block Title :|
+------------------------------------------------------------------------------
+
```

5. Enter the description of the block, and press ENTER. The following screen will appear

```
+------------------------------------------------------------------------------
+
|ENTER BLOCK NAME(6 CHARS OR RET TO ABORT)|
+------------------------------------------------------------------------------
+
```

6. Enter a six-character block name, and press ENTER. The block is loaded to the Trading System

TBA Pool Allocation tool

TBA pool allocations are transactions where a mortgage-backed security to be announced is replaced by a real bond backed by a pool of collected mortgages. The transaction starts 45 days before actual bonds are issued. This happens when TBA (To Be Announced) positions are purchased as regular bonds. These TBA positions are swapped, by purchase date, for the real bonds.

- Swap single bond issues for multiple dates, or multiple issues for single purchase dates
- Get up to 1% more or less face value, than when purchased as TBAs. The swap is done by selling the TBA position at cost and then buying the delivered bond. The trade is back- dated to the date the TBA was bought

1. Select TBA POOL ALLOCATION. The TBA Pool Allocation screen will appear:

```
F-8 FOR OPTIONSQUASI ACCOUNT EXECUTION SCREENScreen 1 of 4
Z B C
BCREDIT EXECTOTAL  SHARES  SHARESN SETTLE
S SNAM SECURITY BROKER PRICESHARES   DONETO DOCOMM T DATE
- ------ -------- ------ -------- -------- -------- -------- ---- - --------
S CLAIR2 FAGE  0.000900.0000 0.0000    900.0000  0  C 00/00/00
B CLAIR2 HDAGE   0.0004900.00000.00004900.0000 0C 00/00/00
B CLAIR2 VIAAGE   0.0003800.00000.00003800.0000 0C 00/00/00
B CLAIRE HDALL   0.0004600.00000.00004600.0000 0C 00/00/00
B CLAIRE IBMALL   0.0001500.00000.00001500.0000 0C 00/00/00
B CLAIRE VIAALL   0.000100.0000 0.0000100.0000  0C 00/00/00
B B70592 HDBLANK 0.000200.0000 0.0000200.0000  0C 00/00/00
B GTLAD  HDBLANK  0.000100.0000 0.0000100.0000  0C 00/00/00
B WINCP HDBLANK  0.000200.0000 0.0000200.0000  0C 00/00/00
B B70710 IBMBLANK 0.000100.0000 0.0000100.0000  0C 00/00/00
B GTLAD  IBMBLANK  0.000100.0000 0.0000100.0000  0C 00/00/00
B WINCP IBMBLANK  0.000100.0000 0.0000100.0000  0C 00/00/00
B GTLAD  VIABLANK 0.000100.0000 0.0000100.0000 0C 00/00/00
B MANIRU HDDW0.0002800.00000.00002800.0000 0C 00/00/00
<F8> For Additional Options
Use <F9> and <SHIFT-F9> To Access Additional Screens
```

4. Using the TAB key to move to each column and enter the required information. Pressing the F9 key several times toggles between the four input screens

- The first time F9 is pressed, the last column is the trade date
- The second time F9 is pressed, the last column is the description of the security
- The third time F9 is pressed, the last three columns are the executing broker, versus purchase date and the execution time
- Pressing F9 a final time displays the beginning Quasi Execution screen

Field	Description
BUY/SELL	Defaults to the type of transaction entered when the block was created.

Field	Description
SNAM	Short name of the account.
SECURITY	Defaults to the ticker symbol when the block was created.
CREDIT BROKER	Enter the code for the broker who gets credit for the trade. If you type an invalid broker code, the screen displays a warning: WARNING! BROKER NOT FOUND IN EDRRNM.TRADES IGNORED - HOW TO FIX THIS?
EXECUTION PRICE	The purchase or sale price of the security
TOTAL SHARES	Total number of shares in the block.
SHARES DONE	The number of shares actually bought or sold for a partial execution. To accept the default of all shares in the block, press ENTER.
SHARES LEFT	Number of shares left to be executed.
COMMISSION	Enter the commission the broker receives. A per-share commission or total commission can be entered.
COMM TYPE	Enter the type of commission. There are five types: • Z – True zero commission • B – Net per bond • C – Cents per share • N – Net per share • T – Total dollar amount The default is C. The APL Trading System uses the values in the COMMISSION and COMM TYPE fields to determine the commission due.
SETTLEMENT DATE	Enter the settlement date in the SETTLEMENT DATE field. For regular settlements, you may leave this field blank. The settlement date defaults to the one customary for this type of trade. For example, regular settlement for US Treasury Bonds is the next business day, while it is two business days for stocks or corporate bonds. For a delayed settlement or special settlement, enter the appropriate date. The accrued interest calculated on a bond trade is adjusted according to the settlement date.
TRADE DATE	The system automatically fills the TRADE

Field	Description
	DATE with today's date. Change the date in this field if necessary.
DESCRIPTION	Defaults to the description of the security.
EX BROKER	Broker who executed the trades.
VP DATE	Versus purchase date.
EX TIME	The time of the execution.

5. Repeat steps 1-4 for each account. If the information for several trades is the same, you may find it quicker to enter certain information using the additional options available by pressing F8

Field	Description
Change Field Based on Tick/ Account	Enables users to change a field, such as the broker, based on the ticker symbol of the security being traded or the account in which the trades are being made. This is helpful where a block containing trades for various securities and one particular security is being traded with a particular broker that is not the default broker for that account.
Sort Screen	Enables users to change the sort of the screen. The sort option enables for trades to be sorted by account, ticker, price, total shares, broker, or commission.
Split Allocation	Enables users to split the allocation for a single account. For example, you are trading 800 shares in account XYZ, but 1/2 of the allocation is being filled by ML and the other 1/2 is being filled by SBS. The allocation can be split into two separate lots so that the brokers credited with each trade can be entered.
Partial Executions	Enables users to execute a portion of the block.

6. Once all of the execution information has been entered, press F10 to complete the execution

5.5 Communicating allocations to brokers

After entering allocation information, communicate the information to the brokers. Below are some ways to accomplish this.

Use block status reports to fax/call orders. The following reports are useful:

- EXECUTION REPORT creates a page for each trade and lists allocations by account
- EXECUTION DETAIL and SHOW DETAIL are similar to Execution Report
- TRADEBLOTTER shows trades executed through the APL Trading
- System, sorted by account or security

Send an allocation file from the APL Trading System to the broker. If the purchase of OASYS was made from Thompson Financial Services, Tegra118 can provide an interface to send allocations to OASYS.

OASYS provides a link between money managers and executing brokers which is used to verify the accuracy of trades on trade date. OASYS enables verification of many trade characteristics, including number of shares, allocation of the shares, and execution price.

If linked to OASYS and execute a trade, the following prompt will appear after execution: Do you want to send these trades to OASYS? Answer yes, and after answering the subsequent questions, the trades are automatically sent to Thompson over our direct line. OASYS then routes the trades to the appropriate brokers. When the brokers respond to Thompson, Thompson sends the information back to the manger for their review on the OASYS status screen. If the broker recognizes and accepts the trade, no further action is needed. However, if the broker rejects the trade, users have the opportunity to correct the error promptly.

Customized EOD allocation file. The APL Trading System can create a file of allocations to send to the broker's back office at the end of the day. This eliminates the need to manually re-enter allocations on another system, thereby streamlining the allocation process.

5.6 Communicating trades to custodians

If there are trades that require a transmittal letter, one can be created on APL Trading System from the Manager screen, or in APL Expert. Below are some of the commonly used transmittal letters.

- TRANLETBLOT is the standard transmittal letter. It is created from the BLOTTER file so the trades must be posted to the system. This is usually run by clients that post their trades through TRADESNEW, or send transmittal letters on T+1
- TICKETBLT is a transmittal letter programmed in Postscript. This can run off the blotter files, the execution files, or both. Separate reports can be created based on individual trade, account (SNAM), or a combination of all tickets in one report
- TRANLETTRD is created from the execution files in the trading system. Using TRANLETTRD, you can send trades to custodians on trade date

5.7 Automating ticket charges and commissions

Tegra118 offers several ways to help users automate the input of ticket charges and commissions. Below are some details on how this is done.

Ticket charges – Ticket charges can be coded on the account level or on the broker level. This functionality is available in TRADESNEW and in the APL Trading System.

Account level – For accounts that have a fixed ticket charge, the COMPOS field can be coded with the fixed charge and is automatically included in the purchase or sale amount upon posting each trade. For example, for an account with a fixed ticket charge of $2.50, T2.50 would be entered in the COMPOS field. Requires special setup by your account manager.

Broker level – If a ticket charge is per broker instead of per account, the EDRRNM table can be coded with a ticket charge per broker. Each time a trade is done with that broker, the ticket charge is included in the purchase or sale amount.

Fixed commission per share – In the APL Trading System, users can code a fixed commission amount per share in the BRKPCT field. For example, if an account has a fixed commission amount of six cents per share, C.06 would be coded in the BRKPCT field. Enter 0 for the commission amount when executing the trade. When trades are posted overnight, the commission is calculated and posted to EDPORT and to the blotter files. This functionality is available only for trades posted through the APL Trading System, and requires special setup by an account manager.

Commissions based on MAYDAY schedule – For accounts whose commissions are based on a discount from the MAYDAY schedule, the BRKPCT field can be coded with the discount and the system calculates the commission. For an account that pays a commission that is a 40% discount from the MAYDAY schedule, the BRKPCT field would be coded with D40. When entering the trade, enter 0 for the commission amount and the system would calculate the commission based on that discount. This functionality is available only for trades posted through the APL Trading System and requires special setup by your account manager.

Minimum commission amounts – Some accounts may be subject to a minimum commission charge. In order to handle these, code the CUST4 field with the minimum commission dollar amount. If the commission amount calculated by the system is less than the minimum, the CUST4 amount overrides the calculated amount. This functionality is available for trades posted through TRADESNEW or the APL Trading System and requires special setup by your account manager.

Zero commission – When accounts that are set up for automated commission posting have a trade done with a commission that is really zero, use the commission code Z. This identifies true zero commissions. The commission could be entered as Z or as Z0.00

DTCUPDATE-COMM – DTCUPDATECOMM can be helpful in handling trades in which the commission amount is not known until the DTC confirm is received. DTCUPDATECOMM pulls in the commission and net amount from the DTC confirm file and post it to EDPORT and to the blotter file. This enables users to enter the trades without having to wait for the information from DTC. Further details on this functionality can be obtained from your account manager.

Chapter 6: Trading Utilities

6.1 On-Demand Request to Add Securities

Unknown securities can be added automatically to the client private security master by making On-Demand Requests to a Tegra118-selected security descriptive data vendor. If successful, the information received back from the vendor is used to create a new security.

> **Note:** This feature requires Tegra118 setup configuration. Contact your local administrator for details.

On-demand requests can be made within the following functions.

- When an unknown security is encountered in these single block actions in Block Status during block error checking:
  - Edit Block
  - Create New Block
- When adding an unknown security in portfolio administration:
  - ONDEMANDREQUEST: Function for sending requests for new securities and if successful, adding them to the client private database
  - EDITSEC: Option in workflow to make a request when an unknown security is found by in error checks

> **Note:** Refer the APL Portfolio Administration (Expert) User Guide for more information about On-Demand Requests using ONDEMANDREQUEST and EDITSEC.

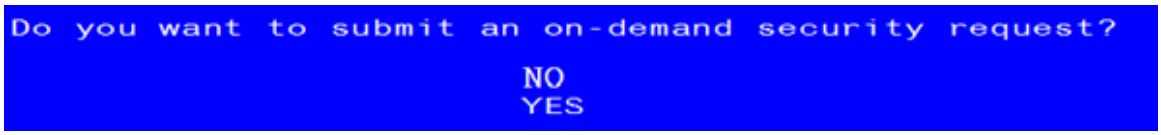
On-Demand Requests During Error Checks

If an unknown security is encountered during block error checking in Edit Block or Create New Block it can be added automatically from a Tegra118-selected security descriptive data vendor by making an On-Demand Request.

> **Note:** Refer the APL Portfolio Administration (Expert) User Guide for information about the On-Demand Request Status screen ONDEMANDSTATUS where information about submitted requests can be viewed

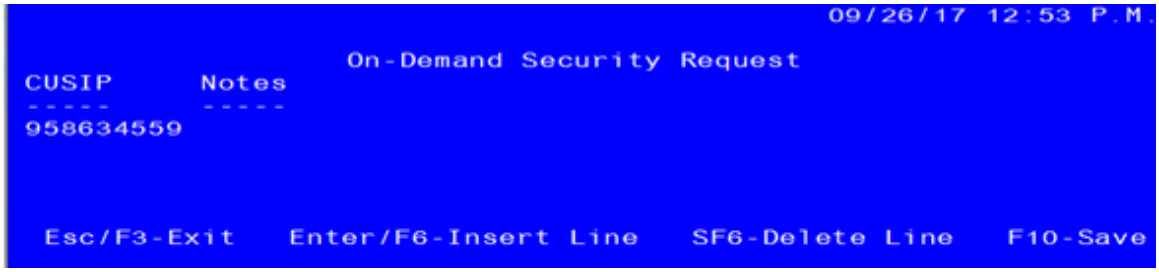
This feature requires Tegra118 setup configuration. Contact your local administrator for details.

1. If enabled, a prompt will be displayed when an unknown security is encountered during block error checking



- Select NO to continue without making a request
- Select YES to send a request for security information to the security vender and automatically load it to the client private security database

2. If YES is selected, the On-Demand Security Request screen is displayed with the unknown security in the CUSIP column



3. Additional securities may be added by entering their CUSIPs in new lines (F6- Insert Line) in the request screen
4. Select F10-Save to have the CUSIPs validated

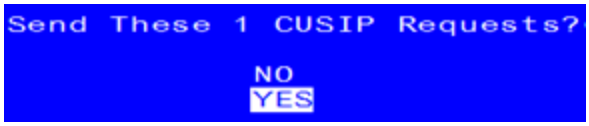
> **Note:** A CUSIP is valid if it is a 9 character alpha-numeric security identifier with a proper check digit. (If an 8 character alpha-numeric security identifier is entered, the check digit will be derived and appended).

5. The request screen is updated with the validation results in the **Notes** column. The results can be one of the following:
   - OK to send
   - Not sent. Invalid CUSIP
   - Not sent. Security in private security master:
   - Not sent. Security in public security master:

   Invalid CUSIPs can be corrected or removed. Requests for invalid securities will not be sent to the vendor however they do not need to be removed from the list.

   The security request will be sent for securities with a **Note** of **OK to send.**

6. Select **F-10 Save** again to send the request. A confirmation message is displayed



   - Select NO: The request is not sent or saved
   - Select YES: The request is made to the vendor

   The request can be viewed in the Request Status screen, ONDEMANDSTATUS.

7. If successful, security information is received back from the vendor, and if the securities still do not exist they are added to the client private security master. For securities that now exist, their fields will be updated

   The following security fields are populated based on information received.

   - CUSIP
   - EXCH: Exchange code. If a code cannot be determined it will be populated with 525
   - TICK: Ticker of the security on a US exchange or, if not on a US exchange, the ticker on a Canadian exchange. For all others a random ticker is generated
   - Security Description
   - Issue Type
   - CPNRT: Coupon rate, if applicable to the issue type
   - MATDT: Maturity date, if applicable to the issue type
   - DTD: Dated date, if applicable to the issue type
   - ADATE: Date the security was added

> **Important:** Prices are not received from the vendor. CLSEP is populated with 0.00

6.2 Pending Mutual Fund Orders

The Pending Mutual Fund Order feature addresses the business challenges which arise due to late communication and posting of mutual fund order executions to Tegra118 portfolio accounting.

This feature maintains pending mutual fund orders (orders with late execution confirmations) in the trading system so that the affected accounts appear whole for continued trading. The goal of this feature is to avoid positions/actions being unwound based on false drift violations.

Set Up Considerations

This is a configurable feature that must be set by Tegra118 staff.

This feature is available in APL Legacy, OneView, and IMS. This feature can be utilized by firms that trade mutual funds through the Tegra118 SMA, MFA, and UMA platforms.

It is assumed firms utilizing this feature trade mutual funds, send trades systematically to participating custodians for execution and receive execution confirmation back from custodian which are systematically matched and posted to Portfolio Accounting system.

- Clients and client users must be configured for access to the feature tools
- Participating custodians must be enabled and parameters for tolerances and pending days defined
- Changes to existing control jobs and additional nightly batch processes are required

Mutual Fund Order Characteristics

The Pending Mutual Fund Order feature takes under consideration mutual fund orders with the following characteristics.

- Mutual Fund securities with designated mutual fund issue types (ISSTY)
- Mutual Fund orders that have been committed in a subscribed universe and routed to a participating custodian for execution
- Client is set-up to use the proper mutual fund trading process file (MFBLSEOD)

Orders that are excluded are ones where the Mutual Fund Auto Post process is turned on for the related account/DESBRK.

Nightly Processing

This section describes the sequence of events or steps that comprise the Pending Mutual Fund Order process. These steps are integrated in sequence within each client's nightly batch process.

- Identify eligible Pending Orders by evaluating mutual fund orders sent for execution to custodians to ensure that they meet required criteria such as originating from a subscribed universe and sent to a participating custodian
- Match New Pending Orders and Match Existing Pending Orders. After mutual fund orders have been evaluated, eligible candidates are compared with the APL trade batch created as a result of processing the incoming custodian execution file
  - Eligible orders where a match is found in the trade batch are stored and updated to a matched status. Eligible orders where a match is not found in the trade batch are assumed to be late confirming (pending) and stored and updated to a pending status
  - Orders previously marked as pending are also compared to the applicable trade batch. If a match is found the order's status is changed to matched. If the order is not matched then no changes are made
- Age Pending Orders. Pending orders are evaluated to determine how long they have been pending and if they should be expired
  - The age of a pending order is the determined by a specified number of business days past the order's commit date, expiration date. The number of business days (pending days) is configurable
  - If an order is not matched or scrubbed by its expiration date it is considered aged and its status automatically changed to "expired"

> **Note:** For UMA and MFA clients using the Tegra118 Liquidate Specific Funds feature, the days defined in the PENDING DAYS setting should be the same as the value specified in Liquidate Specific Funds Pending/Delay days setting

- The Liquidate Specific Funds delay days logic provides the option to configure the number of days to look for a block when the nightly rebalance is in the process of performing Day 2 liquidation check to purchase securities from the proceeds that were received
- Scrub Pending Orders. An optional process can run removing pending orders that are deemed true rejects based on a client provided file.

- Activate Pending Orders. If configured, a limited-state committed pending order block is created in each subscribed universe with pending orders. Orders contained in the block are not processed further for regular mutual fund trading. They are not included in the mutual fund end of day process or sent out to the mutual fund end of day allocation process again.
- Report EDPORT Matches. A validation report that compares activated pending mutual fund orders in limited-state committed blocks to posted executions is generated. The report, sectioned by universe, indicates any pending orders where matching posted executions are found. The pending orders reported as matching can be reviewed as candidates for scrubbing.
- MFPEND Field is updated. The Infodex field MFPEND is added for clients subscribed to this feature. MFPEND is systematically updated to reflect if an account has currently has pending orders. The field can be used as a filter in account selections

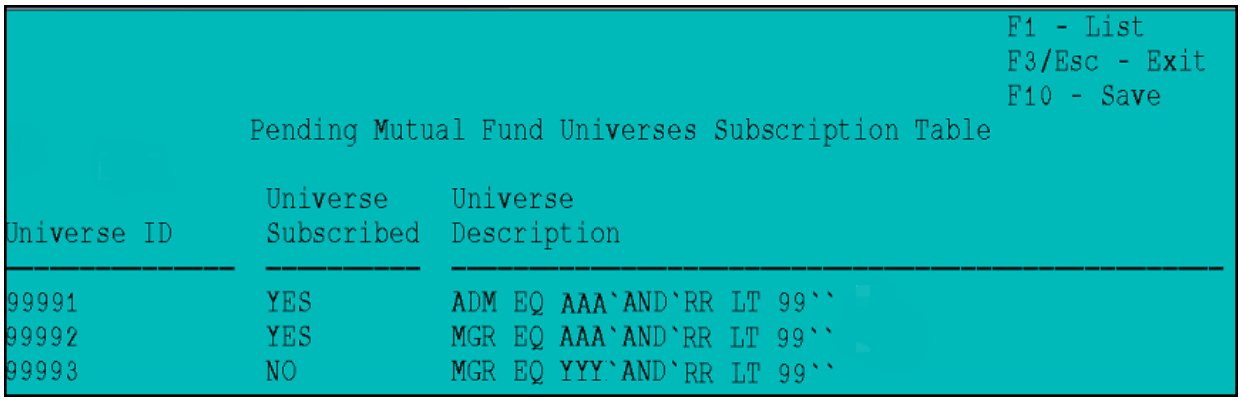
Universe Subscription Table

This feature searches for and identifies pending mutual fund orders only in subscribed universes.

Providing that a client is configured for editing universe subscriptions, this option gives authorized users the ability to define which trading universes are included by editing the universe subscription table.

To edit the universe subscription table:

1. From the Which Function? prompt enter MFPENDING, select Configuration option
2. A table listing all trading universes is displayed. The table contains three columns:
   - Universe ID (view only)
   - Universe Subscribed (editable, YES/NO)
   - Universe Description (view only)



3. Edit the Universe Subscribed column for specific universes by tabbing to and toggling field value to change the subscription status

All universes are initially unsubscribed (NO). This includes any new universes added.

4. Once editing is complete hit F10 to save the changes and return to the MFPENDING menu

Processing Tools

The following tools are available to authorized users in order to manage pending mutual fund orders. The pending orders can be activated using Activate Pending Orders in the trading environment or scrubbed using Scrub Pending Orders.

Activate Pending Orders

Activate Pending Orders is the process whereby a limited-state committed block for each subscribed universe with pending mutual fund orders is generated. The block contains trade orders that correspond to the eligible pending mutual fund orders.

Eligible orders include unexpired pending mutual fund orders. Expired, matched and scrubbed mutual fund orders are excluded.

Limited-state Committed Block

Each pending order block generated is committed in a “limited-state” defined as follows:

- Trading system account cash and positions are impacted
- The block is not evaluated for restriction violations (although they can be identified via reporting)
- No error checks are performed
- Orders in the block are not processed further for regular mutual fund trading. They are not included in the mutual fund end of day process or sent out to the mutual fund end of day allocation process again
- Orders in other committed blocks are ignored
- Block Title is PENDING MUTUAL FUND ORDERS
- Block Name is systematically derived based on the standard block naming conventions
- In Block Order Status, an indicator of “P” is displayed to the right of the block name and “P = ACTIVATED COMMITTED PENDING ORDERS” is displayed in the description area
- The following options are available in Block Order Status for pending order blocks containing activated orders:
  - Show Detail
  - Effects of this Block
  - Sort Blocks
  - Delete (available for users with supervisory access)
- All pending order blocks are uncommitted and deleted at the end of each trading day as part of the end-of-day batch process
- Orders can be removed from the pending order block by using the MFPENDING / Scrub Pending Order option. See Using Scrub Pending Orders for details

Results Report

The output report, MFPENDINGACTIVATE.L## is generated each time the function runs. It contains the following sections.

- Block information for activated orders
- Pending orders that have been excluded for accounts that are no longer in the universe

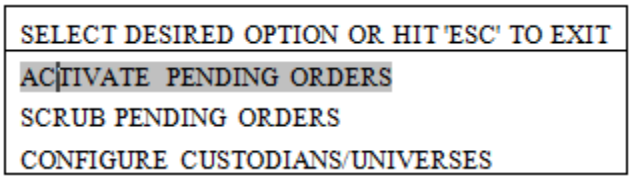
Activate Pending Orders can be invoked automatically through a system (batch) process or manually by authorized users.

The Activate Pending Orders option within the MFPENDING menu enables authorized users to manually activate pending orders. This allows for review and approval of the pending orders before they are loaded to the trading system in a pending order block.

Using Activate Pending Orders

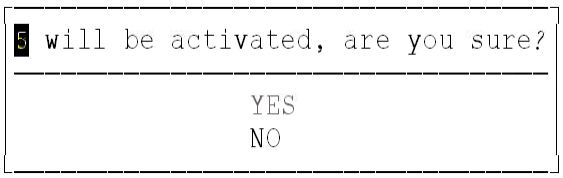
To manually activate eligible pending mutual fund orders:

1. From the Which Function? prompt enter MFPENDING. The MFPENDING option menu is displayed



2. Select Activate Pending Orders from the menu
3. The system searches for eligible pending order in the stored file (i.e. orders that are not expired, scrubbed, or matched)

a. If there are no eligible pending orders a message is displayed stating, “There are no pending orders to activate”. The process returns to the MFPENDING option menu
b. If there are eligible orders a confirmation prompt is displayed, “<#> will be activated, are you sure?”. <#> is the number of eligible orders



1) Select YES to proceed to the next step.

2) Select NO to end the process and return to the MFPENDING option menu.

4. A block is created for each subscribed universe if eligible orders are found and there is no existing Pending Mutual Fund Order block currently in the universe
5. A report, MFPENDINGACTIVATE.Lnn, is generated containing a list of blocks with block names and the

universe each was created in

6. The user ID, time and date are stored for auditing purposes

Report EDPORT Matches

This validation and reporting process compares activated pending mutual fund orders in limited-state committed blocks to posted executions. A report, sectioned by universe, is generated indicating pending orders where matching posted executions are found. The report also indicates if no matches are found.

The pending orders reported as matching can be reviewed as candidates for scrubbing.

- Matching criteria is account ID, side, security, share/amount, MSP tag (if present), and the committed date
- Dividend reinvestments are considered. Receives for buys and delivers for sells are not considered

Match Tolerance

A Match Tolerance percent, based on dollars or shares depending on what is reported to the custodian through the End of Day process, can be defined per custodian. Orders within the match tolerance percent are reported along with exact matches. Optionally, matches that fall outside the tolerance can be reported as potential matches.

A Match Tolerance percent of “0” means that only exact matches are reported.

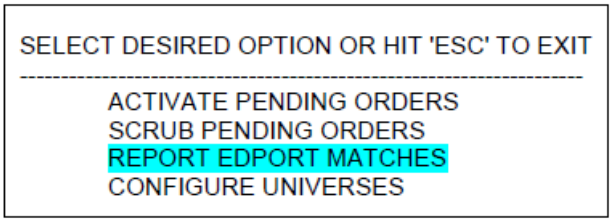
Contact your Tegra118 representative in order to configure a Match Tolerance % per custodian and have matches that fall outside the tolerance reported.

Using Report EDPORT Matches

This process automatically runs as part of the start of day (SOD) activities for PMFO clients. It can also be run interactively from the MFPENDING menu.

To Run Report EDPORT Matches follow these steps:

1. From the Which Function? prompt enter MFPENDING
2. The MFPENDING option menu is displayed. Select the REPORT EDPORT MATCHES option



3. The report, MFPENDINGMATCH.Lnn, is generated

Scrub Pending Orders

Scrub Pending Orders enables authorized users to remove eligible, unexpired pending mutual fund orders (change their status to “scrubbed”) and, if present, delete from them from pending order blocks containing activated mutual fund orders.

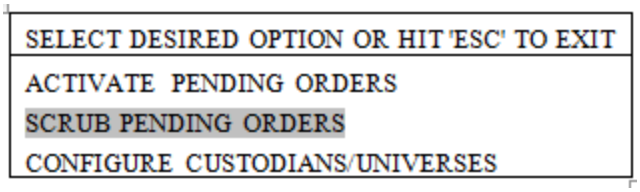
Orders can be scrubbed manually or scrubbed based on an input file through the MFPENDING / SCRUB PENDING ORDERS option. Orders can also be scrubbed automatically though nightly batch processes using an input file.

Scrubbing gives users a way to manipulate the current pending orders so that legitimate order rejects can be marked as “scrubbed” before or after the pending mutual fund trades are activated in pending order blocks.

> **Note:** Ad-hoc trade generation should NOT be performed when pending mutual fund orders are scrubbed for rejects is in progress because if trades are proposed while the pending orders blocks are deactivated, the trades will not be accurate.

Using Scrub Pending Orders

1. From the Which Function? prompt enter MFPENDING. The MFPENDING option menu is displayed. Select the Scrub Pending Orders option



2. A prompt is displayed, PROCESS FROM SCRUB PENDING ORDER FILE? Y/N
3. Select Y or N (N is the default)

a. Choose N (no) to manually select pending orders to scrub (i.e. change their status to scrubbed)

Follow these steps to manually scrub pending mutual fund orders.

1) The Account Selection Screen is displayed. Accounts with orders that are pending are available for selection.

Select accounts that contain the orders to be scrubbed. Hit F10.

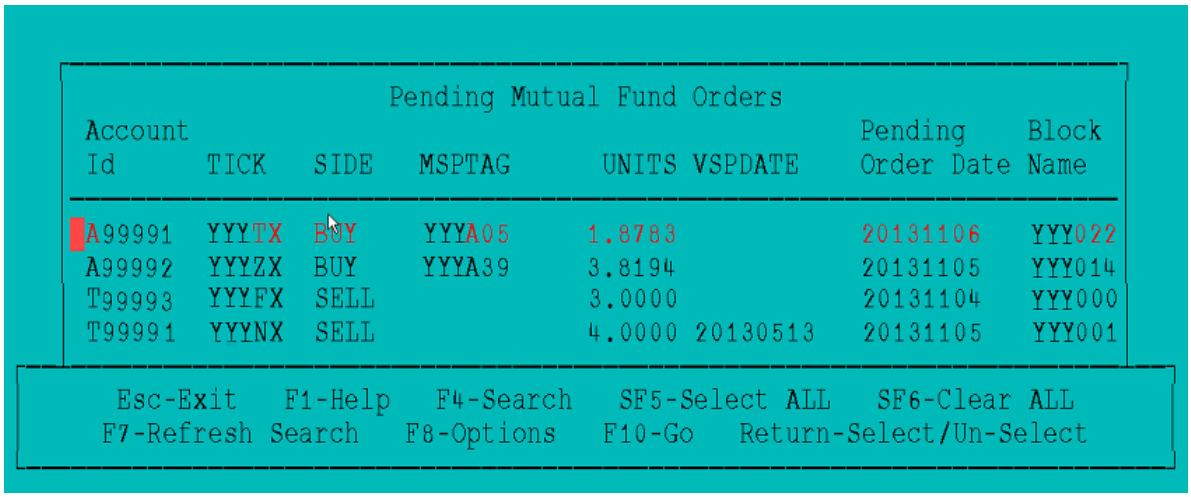
2) The Security Selection Screen is displayed, Which Securities.

Enter security IDs of securities contained in orders to be scrubbed.

3) A table listing all unexpired pending orders that meet the account and security selections is displayed.

The table is sorted by Account ID, TICK, SIDE, MSPTAG, VSPDATE (.vs purchase date), Committed Date, and then by Block Name.

4) Mark the orders to scrub by highlighting them and hitting <enter>. An asterisk is displayed next to each entry to scrub or Shift +F5 to select all. When selection is done hit F10 to save and proceed.



b. Select Y (yes) to scrub orders based on an input file. See Scrub File Format Requirements

Follow these steps to scrub pending mutual fund orders.

5) A prompt is displayed, ENTER SCRUB PENDING ORDER FILE.

Enter a file name and hit enter. for example: mutualfundscrub.asc

6) The scrub file is checked for errors which include the following:

Scrub Error Message	Description
“File Doesn't exist”	Displayed if a file of the entered name doesn’t exist.
“mutualfundscrub.asc has no header or trailer”	Displayed if either the header record OR the trailer record is missing or incorrect in the file.
“mutualfundscrub.asc has wrong date”	Displayed when the date in the header record is not the previous business day.
“mutualfundscrub.asc has wrong number of records”	If the number of records indicated in the trailer line doesn’t match the number of records in the file, this error message is displayed.
“No Records to scrub”	If the file entered is empty, this error message is displayed. Occurs in all scrubbing activities (by file or manually);

7) If no errors exist, the orders in the scrub file are matched on Committed Date, Account Identifier, TICK, SIDE and MSPTAG to unexpired pending orders.

4. The marked orders are given the status of “scrubbed”
5. When a pending mutual fund order is scrubbed for an account and the account’s universe contain activated pending orders (IE. pending orders block), then the following is automatically performed:

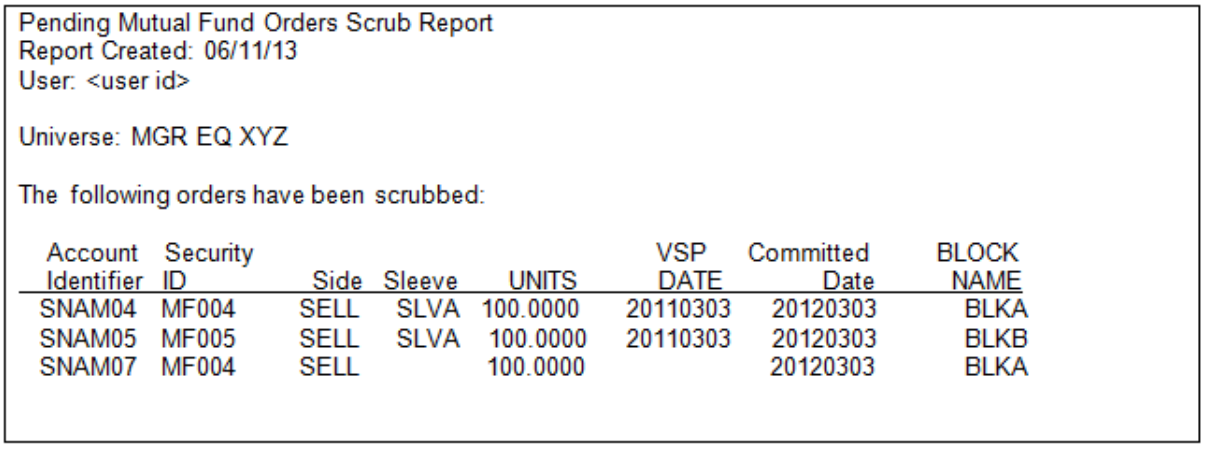
c. The selected pending mutual fund orders are marked as “scrubbed”
d. The pending orders block is deleted
e. A new pending orders block is created containing all activated (eligible) pending orders. A new block name is assigned while the block title remains the same

6. A results report is generated, MFPENDINGSCRUB.Lnn
7. The user ID, date and time are stored for auditing purposes
8. If all pending orders for an account are no longer eligible (status of matched, expired, or scrubbed) that account’s Infodex MFPEND field value is set to “blank”

Note: Scrubbed pending mutual fund orders are permanently deleted ten business days from the time they are marked as “scrubbed” (committed date +days in PENDING status + 10 business days).

Scrub Results Report MFPENIDNGSCRUB.Lnn

The scrubbed orders are reported per Universe.



Pending Mutual Fund Orders Scrub Report
Report Created: 06/11/13
User: <user id>

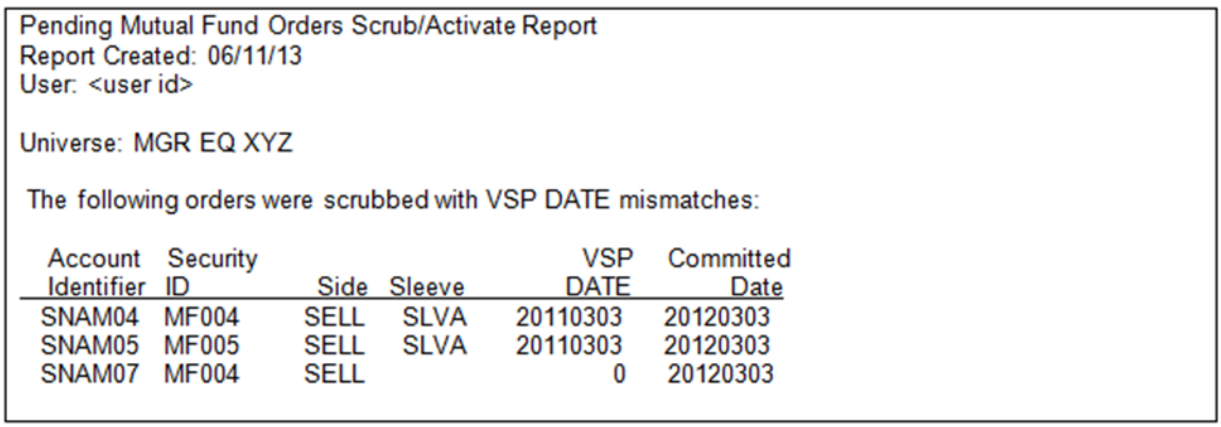
Universe: MGR EQ XYZ

The following orders have been scrubbed:

Account Identifier	Security ID	Side	Sleeve	UNITS	VSP DATE	Committed Date	BLOCK NAME
SNAM04	MF004	SELL	SLVA	100.0000	20110303	20120303	BLKA
SNAM05	MF005	SELL	SLVA	100.0000	20110303	20120303	BLKB
SNAM07	MF004	SELL		100.0000		20120303	BLKA

If orders are scrubbed based on a file the report contains:

- A list of scrubbed orders per universe that have VSP Date mismatches



Pending Mutual Fund Orders Scrub/Activate Report
Report Created: 06/11/13
User: <user id>

Universe: MGR EQ XYZ

The following orders were scrubbed with VSP DATE mismatches:

Account Identifier	Security ID	Side	Sleeve	VSP DATE	Committed Date
SNAM04	MF004	SELL	SLVA	20110303	20120303
SNAM05	MF005	SELL	SLVA	20110303	20120303
SNAM07	MF004	SELL		0	20120303

- A list of orders that are contained in the input file of scrubbed orders but do not exist as eligible pending orders

Pending Mutual Fund Orders Scrub/Activate Report
Report Created: 06/11/13
User: <user id>

Universe: MGR EQ XYZ

The following orders in the scrubbed file were not found:

Account Identifier	Security ID	Side	Sleeve	VSP DATE	Committed Date
SNAM04	MF004	SELL	SLVA	20110303	20120303
SNAM05	MF005	SELL	SLVA	20110303	20120303
SNAM07	MF004	SELL			20120303

Scrub File Format Requirements

- Comma delimited file format
- Header Record (H) contains:
  - Date and timestamp – Date must be for the previous business day
- Detail Record contains:
  - Committed Date
  - Account Identifier
  - TICK
  - SIDE (BUY or SELL)
  - MSPTAG (sleeve/ submodel short name for UMA orders)
  - VSPDATE
- Trailer record (T) contains:
  - Number of records in the file (record count) including header and trailer records

For example:

```
H,20120724,12:25:16
20110303,SNAM01,MF001,SELL,SLVA,20120303
20110303,SNAM02,MF001,SELL,SLVA,20120303
T,4
```

- Detail Record Field Definition

Field	Format	Description
COMMITTED DATE	YYYYMMDD	Date the original order was sent.
ACCOUNT IDENTIFIER	N	Account ID. Searched in the following order: SNAM, DTCNO and BWNUM.
TICK	N	Security ID.
SIDE	C	Transaction type indicator, either BUY or SELL.
MSPTAG	N	UMA submodel short name for UMA orders.
VSPDATE	YYYYMMDD	Tax lot (.vs) purchase date for sales of specific tax lots.

MFPEND Field

The Infodex field MFPEND is added for clients subscribed to the Pending Mutual Fund Order feature.

The MFPEND field is updated to reflect if an account currently has pending orders.

MFPEND is reset to blank when there are no pending orders for an account. This happens when all existing pending orders are matched, scrubbed or expired.

The field value is either BLANK/0, which is the default, or YES.

- The value BLANK/0 indicates that the account does not currently have pending mutual fund orders
- The value YES indicates that there are pending mutual fund orders in the account

In the nightly batch process, MFPEND is updated after the matching process has completed.

Unsubscribed Universe or Custodian

- When a universe and/or custodian is unsubscribed any unexpired pending mutual fund orders for that custodian or universe are changed to a status of Unsubscribed. The MFPEND field value is reset to 0 for the affected accounts

Using the MFPEND Field

The MFPEND field can be used to identify accounts that currently have pending orders.

The MFPEND field is primarily used by clients who do not activate pending orders automatically in batch and instead, manually activate pending orders during the business day after review and approval.

The following scenario illustrates this use:

Accounts with pending orders can be rebalanced during the nightly process. If pending orders have not been activated (in a pending order block) the data used for the rebalance does not reflect those pending orders.

1. Client chooses to activate pending orders manually
2. An account contains a pending mutual fund order but it has not been activated to a pending order block via the Activate function
3. The nightly rebalancing process is run for account
4. Account is rebalanced with incorrect trades because the trades proposed from the nightly rebalance do not reflect pending orders

To avoid this scenario, accounts with pending orders can be excluded from the nightly rebalancing process using the MFPEND field as part of the account selection.

An authorized user can manually activate pending orders then create AD HOC rebalancing trades for accounts with pending trades using the MFPEND field as part of the account selection.

Exception Reports

All activity generated by this feature is captured in reports as follows:

MFPENDING.Lnn

- Generated when the main identification and matching nightly process is run
- It can contain multiple sections, sub-sectioned per universe for each universe with data to report.
- The same order can be reported in multiple sections if it meets the reporting criteria for more than one section type
- The report is not generated when there are no exceptions. Report sections that have no data are not included
- Report Sections include the following:
    - VSP Date Mismatches
    - Aged orders that were dropped once the aging variable is violated
    - Matched orders that exceed the share or dollar tolerance variable

Matched orders that exceed the tolerance variable section reports matched orders that exceed the tolerance level configured for the custodian. It notes tolerance violations when the difference between the proposed orders and the executed order exceeds the tolerance level.

Depending on mutual fund client configuration, buy and/or sell units can be represented in dollars, in which case Dollar Tolerance is used. When units are represented in shares the Share Tolerance is used.

Dollar/Share tolerance exception reporting is at the order level (allocations are summed).The sum of the outgoing mutual fund allocations is compared with the incoming mutual fund executions.

The sum of the allocations matching criteria is Account Identifier, TICK, SIDE, MSPTAG (if present), and the committed date.

This section is sorted by Account Identifier/Committed Date/DESBRK/MSP TAG/TICK/SIDE.

Full Liquidations – If a given mutual fund End of Day interface employs a Full Liquidation Indicator, the Amount/Units sent is arbitrary. Given that, plus the nature of NAV pricing, it will be rare when there is an exact match of these executions. Therefore, if the change in NAV causes a tolerance violation, these orders will be matched, but will be appear on the report.

Multi-Sleeve Funds – when a fund is traded across multiple sleeves, most custodians cannot track Tegra118 sleeve tags. When theses executions come back from the custodian, they will be matched, but quite often they may appear on the output report as tolerance violations.

MFPENDINGACTIVATE.Lnn

- Generated each time pending order blocks are activated

MFPENDINGSCRUB.Lnn

- Generated each time the scrubbing process is invoked. Orders that were scrubbed are reported per universe

Chapter 7: Intraday Cash Adjuster

7.1 About the Intraday Cash Adjuster

The Intraday Cash Adjuster is an administrative tool that posts ad-hoc cash flows (both contributions and withdrawals), allowing for cash to be immediately available for trading.

Users can utilize this tool to default a withdrawal as a Pending Deliver (TICK = PNDDLV) so that cash can be raised immediately. This tool can also be used by the trading system to carry over and post transactions overnight to the General Ledger (EDGL).

Optionally, new cash flows can be entered and automatically traded with the immediate launching of a drift-based trade generation process. See the Trade Cash Flows section below for instructions. Contact your Tegra118 Representative for information on enabling this feature.

- If the trading option is selected, new cash flows can be entered and traded. No existing cash flows are displayed
- One cash flow per account can be entered and traded

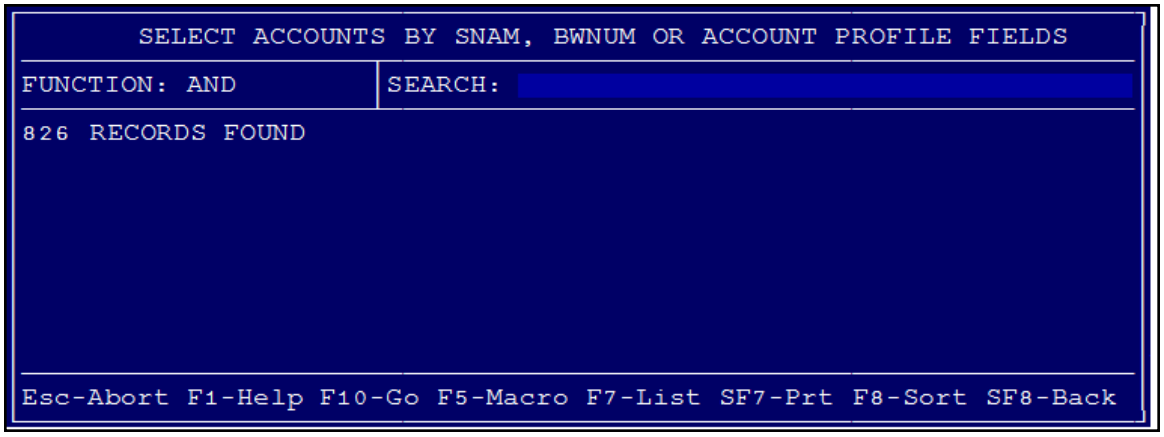
The Intraday Cash Adjuster supports concurrency, allowing multiple users to use the tool at the same time. That means multiple users can add, edit, delete, and upload, and filter cash transactions in the tool at the same time without the tool locking.

7.2 Using the Intraday Cash Adjuster

The standard Intraday Cash Adjuster trading tool includes an account selection requirement. Existing transactions display only for selected accounts.

To access the screen for new entries, only one valid account is required. The account selection supports more effective access to accounts when the need is to delete or edit existing entries.

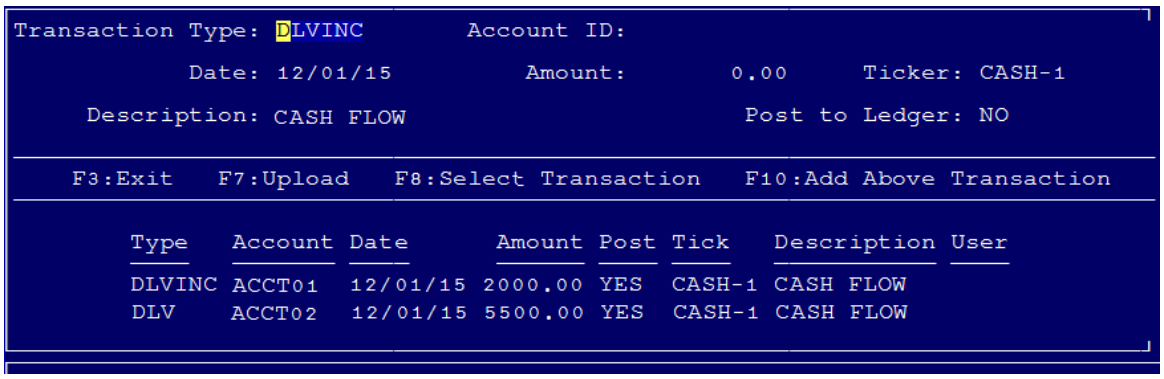
Below is the account selection prompt:



Add Cash Adjustments

To add a cash adjustment using the Intraday Cash Adjuster tool:

1. Navigate to the appropriate trading menu and select the Intraday Cash Adjuster (sometimes called “Adjust Cash”)
2. The account selection window displays. Select at least one account
3. The Intraday Cash Adjuster entry screen is displayed with existing cash adjustments for selected accounts on the bottom portion of the screen. The top portion is for adding new transactions



4. To add a transaction, select an option or enter the following parameters in the top portion of the screen:

Duplicate entries where Type, Sleeve and Amount are identical are not allowed.

Column Name	Description
Type	Transaction Type Enter the Transaction type or press F1 to select a transaction type from the list. Transaction types include: • DLV – Deliver • DLVINC – Deliver Income • RCV – Receive • RCVINC – Receive Income • FEEADV – Advisory Fee
Account	Account ID Enter the account ID. Acceptable options include: • SNAM • DTCNO • BWNUM
Date	Defaulted to today’s date. Can be edited.

Column Name	Description
	Can be either today's date or prior business day.
Amount	Enter the adjustment dollar amount.
Post	Specify whether to post the transaction overnight to EDGL. • YES to post transactions to EDGL during the end-of-day posting process. Cash adjustments are posted with the current date • NO to delete adjustment as part of the end-of-day process
Tick	Ticker. Enter the Ticker. Valid options are: • CASH-1 • PNDDLV For pending withdrawals, the transaction type must be DLV or DLVINC.
Description	Modify the default description as needed.
User	Displayed as column in table section only. User ID of the person who last modified the adjustment.

Functional Keys for Add Cash Adjustment

Key	Description
F1	List value options.
F3	Exit the screen without saving changes.
F7	Upload .csv file. See the Upload Cash Adjustments section below for details.
F9	Scroll through value options
F8	Select Transaction
F10	Add the transaction. If valid, the transaction is added and is displayed in the transactions table.

5. Select F10: Add Above Transaction to post the transaction

6. A summary message, “Are you sure you want to add this transaction?” displays.
    a. Select YES to add the transaction. A summary message is displayed. Press Esc.to return to the entry screen. The new transaction is displayed in the transactions table on the bottom section of the screen
    b. Select NO to return to the entry screen without adding the transaction
7. Once all transactions have been added, select F3: Exit to close the function

Upload Cash Adjustments

New cash adjustment transactions can be uploaded from a “.csv” formatted file, provided those accounts exist within the trading universe. The file must exist in the user directory and have a .csv format.

File Upload Layout

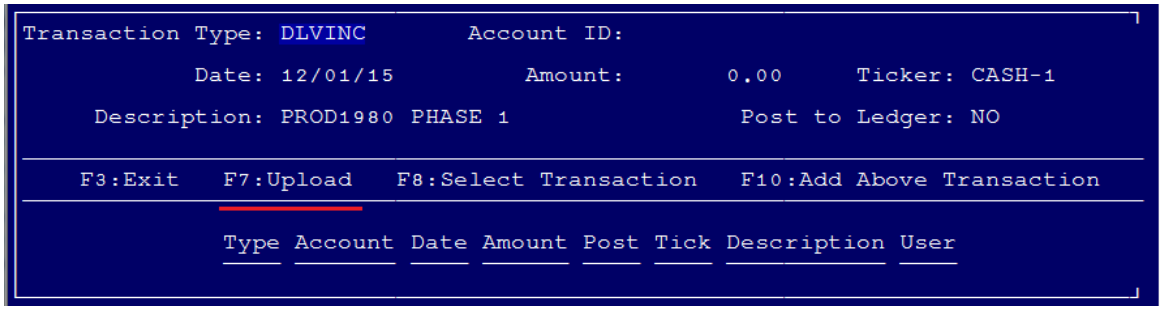
The easiest way to create the file would be to create it in Excel and then save it as a .csv file.

The .csv file should have the following format:

- No header. Data must begin on the second row
- One transaction per row
- .csv format is as follows:
    - Transaction Type (e.g. RCV, RCVINC, DLV, DLVINC, FEEADV)
    - Account ID (SNAM, BWNUM, DTCNO1/2)
    - Ticker (CASH-1 or PNDDLV; PNDDLV only for DLV or DLVINC)
    - Amount in dollars and cents
    - Post To Ledger (y/n)
    - Description

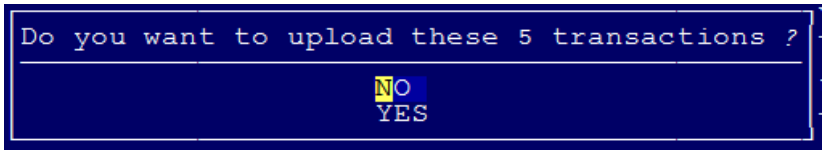
To upload cash adjustments using the Intraday Cash Adjuster tool:

1. Navigate to the Intraday Cash Adjuster window



2. Select F7: Upload to upload new entries from a saved .csv formatted file
3. Select the file from the list presented. The file must be an Excel file or in .csv format

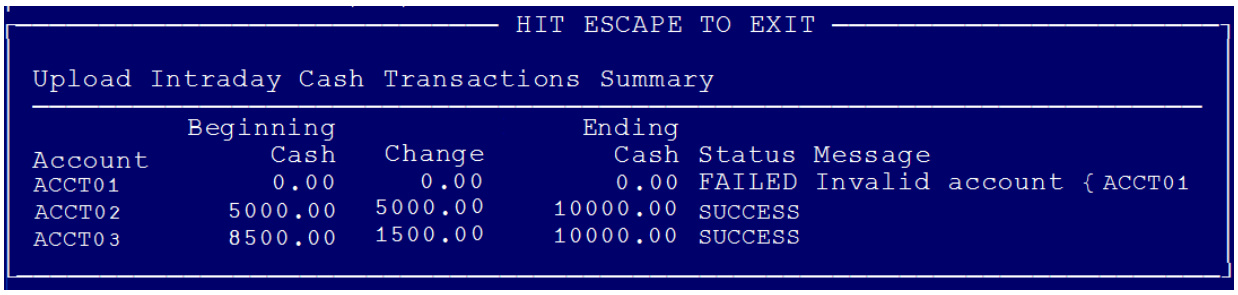
4. A confirmation message displays



5. Select YES to upload the transactions

Selecting NO results in a "No transactions were uploaded" message being displayed.

6. The Upload Intraday Cash Transactions Summary is displayed showing successful and failed transactions. Press Esc to return to the Cash Adjuster where the successfully uploaded transactions are displayed



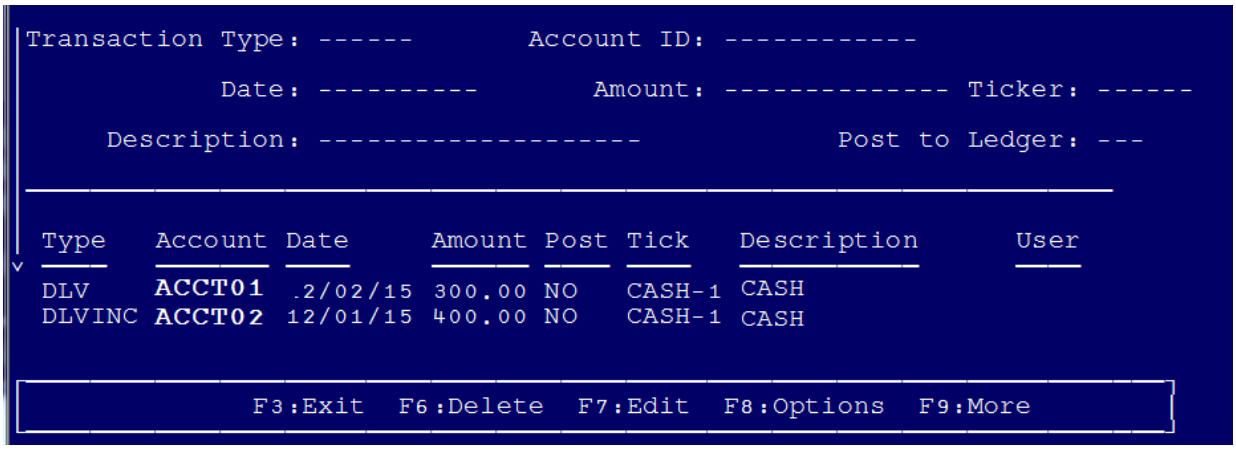
Notes:

- If a non .csv file is selected, an error is displayed
- If any transactions in the file have invalid data, the transactions return as “failed” and are not added

Edit and Delete Cash Adjustments

To edit, delete or sort existing cash adjustments follow these steps:

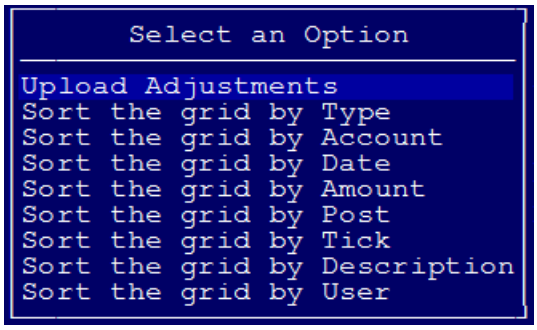
1. Navigate to the Intraday Cash Adjuster entry screen for the desired accounts
2. Select F8: Select Transaction to display the edit screen



3. Select one of the following actions

SORT

a. To sort cash transactions in order to better find a transaction to edit or delete, select F8: Options and choose a sort option from the list presented



b. The transactions are sorted, within the edit screen by the option selected

EDIT

a. To edit a cash transaction, arrow down to the transaction to be edited and mark it by typing any letter into the left-most column
b. Select F7: Edit. An edit screen displays with the selected transaction parameters
c. Edit any editable parameter values then select F10: Save Above Transaction
d. A view of the old and new parameters displays. Select YES to save the edits or NO to return to the edit screen without saving
e. If YES is selected, the old transaction is deleted and new one is added. A message displays the reversal of the old transaction and the addition of the new one. Press Esc to return to the modification screen

DELETE

a. To delete cash transactions, arrow down to the transactions to be deleted and mark each by typing any letter into the left-most column

b. Select F6: Delete
c. A confirmation message is displayed. If one transaction was selected a summary of it displays. If multiple transactions were selected a general message displays without the summary

Select YES to delete or NO to abort the process and return to the modification screen.

d. If YES, the selected transactions are deleted and a summary message is displayed. Press Esc to return to the modification screen

4. Once all modifications are complete select F3: Exit to return to the Intraday Cash Adjuster entry screen

Trade Cash Adjustments

This feature is available upon request.

The following workflow illustrates entering cash flows and immediately trading those flows using the assigned model. One transaction per account can be entered.

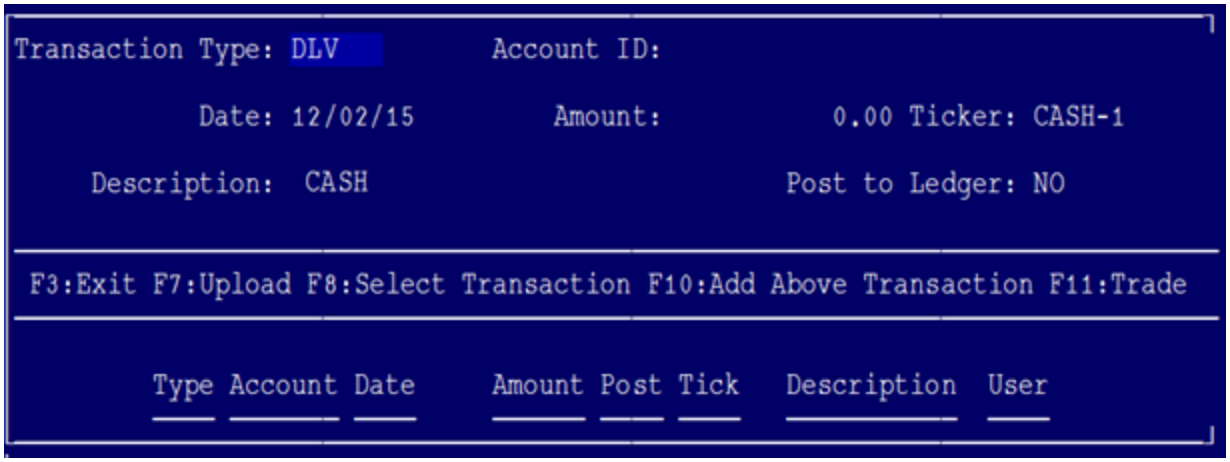
> **Note:** As an alternative, upload a .csv file containing flows, one per account, by selecting the F7: Upload screen option and follow the standard workflow described earlier in this chapter.

1. Select Intraday Cash Adjuster (sometimes called “Adjust Cash”) from the trading menu
2. A prompt is displayed. Choose to either:

a. Enter and edit cash adjustments without trading them using the standard workflow described above
b. Enter adjustments and initiate the drift-based trade generation process

```
Do you want to trade cash flows?
```

3. Select YES to enter and automatically trade the cash flows
4. The Intraday Cash Adjuster window is displayed. No existing transactions are displayed



5. Create cash adjustments (one per account) by entering or selecting the following information:

- Transaction Type - Choose RCV or DLV
- Account ID - Enter a valid account ID (SNAM, BWNUM, or DTC1/2)
- Date - Date defaults to today's date and is not editable
- Amount - Enter the dollar amount of the cash adjustment
- Ticker - Choose CASH-1 or PNDDLV (pending deliveries are DLV transactions only)
- Post to Ledger- Choose YES to post to the General Ledger or NO
- Description – Displays an editable default description

6. Select F10: Add Above Transaction to post the transaction
7. A summary message, “Are you sure you want to add this transaction?” displays

- Select YES to add the transaction. A summary message is displayed. Press Esc.to return to the entry screen
- Select NO, to return to the entry screen without adding the transaction

> **Note:** To exit the function, select F3: Exit. If no transactions have been entered the function closes and focus returns to the Trading menu. If there are transactions, a warning message is displayed.

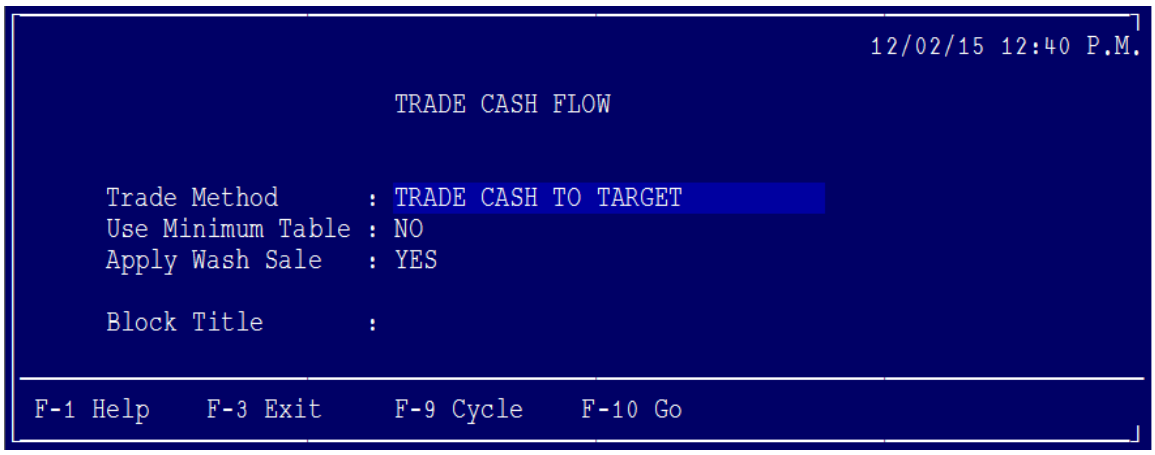
Are you sure you want to exit? Transactions have been saved but will not be traded, No/Yes

To exit select YES. Select NO to have the function remain open.

- To edit or delete transactions, select F8: Select Transaction and follow the standard workflow

Trade Entered Cash Adjustments

1. To define trade options and initiate trading, select F11: Trade. The Trade Cash Flow screen will open



2. Edit the trade options if needed:

- Trade Method

- TRADE TOTAL DOLLAR to trade the total amount of the cash flow regardless of current cash available
- TRADE CASH TO TARGET to trade the flow while keeping cash to target. The total cash flow may not be traded if cash in the account is above or below the target

- Use Minimum Table

- Select YES to apply rules from the Minimum and Rounding Table (MRT)

This requires that Minimum and Rounding Table (MRT) be enabled. The system defaults are used if not enabled.

- Select NO to use the system defaults

Trades are rounded to whole units. Units defined as follows:

- Equity – 1 share
- BONDS – 1000 of original face
- Mutual Funds – 0.0001 share for unit trades and $1 for dollar trades

- Apply Wash Sale - Choose YES or NO
- Block Title - Enter a title for the trade block. If one is not entered the default title is used

> **Note:** Select F3 Exit to return to the Intraday Cash Adjuster window.

3. Select F10 Go to initiate trading. A confirmation message is displayed. Select YES to confirm the action
4. The entered flows are processed

- If trades are generated a block is loaded to Block Order Status
- An output report, CASHFLOWTRADING.LXX, is generated showing current, target and drift values in dollars and percent
- If exceptions occur, an exceptions report, CASHFLOWPROBS.LXX, is generated showing differences between the requested scenario and actual results

Trade Cash Flows Reports

Output Report

This report, CASHFLOWTRADING.LXXX, shows changes in the account holdings structure due to the trading process. Before and after market value, target, and, drift information demonstrate the effects of proposed trades on each account.

```
                              Cash Flow Trade Report          12/02/15  2:59 P.M.
                                  Investment Management
                        TRADE ENTIRE ACCOUNT; TRADE CASH TO TARGET
                                  Block Name: TRADE CASH

      Model: MODEL1                                    Number of Accounts: 1 of 1
ACCT01                                                        Withdrawal: -5,000.00

                                              Target          Drift      Drift
        Current      Withdrawal             $ After         $ After    % After
             MV  Allocation, $      Withdrawal      Withdrawal Withdrawal
-------------------------------------------------------------------------------
        358,381          -5,000         353,381           5,000       1.40

          Starting    Starting Security Security      Trade    Trade      New      New      New
Security     Units      Amount  Drift %  Drift $      Units   Amount    Units        %   Amount
-------------------------------------------------------------------------------------------------
CASH-1      19,132      19,132    -0.89    -3,152          0        0   22,285     6.31   22,285
XYZ             10         992     0.28       992          0        0       10     0.28      992
DEF             56       4,469     1.26     4,469          0        0       56     1.26    4,469
ABCD             0           0    -1.11    -3,915          0        0        0     0.00        0
-------------------------------------------------------------------------------------------------
                        353,381                                  3,153                  353,381

Cash Available After Trades: $22,285.06    6.31%
```

Exception Report

The Cash Flow Trading Exceptions Report, CASHFLOWPROBS.LXXX, is divided into sections; each detailing different types of exceptions encountered.

```
Cash Flow Trading Exceptions Report
Report Created: 12/02/15 12:34 P.M.

Adjusted Cash Flow Amount reflects adjustments due to starting negative cash, cash restriction,
or available cash.

Example reasons why the cash flow amount was NOT met: Rounding and Minimum Lots, Wash
Sale Violations, Restrictions

The following accounts did not trade the full cash flow amount:

                                                                  Adjusted
Account         Account         Transaction          Cash Flow   Cash Flow        Trade
Number          Name            Type                    Amount      Amount       Amount     Difference
--------        --------        ------------      ------------  ------------  ------------  ------------
ACCT01          ACCT01Name      Contribution         5,000.00      5,000.00      5,021.68        -21.68
ACCT02          ACCT02Name      Contribution        10,000.00     10,000.00     10,018.05        -18.05


Cash Flow Trading Exceptions Report
Report Created: 12/02/15 12:34 P.M.


Accounts were not traded because they do not have a linked model:

NO EXCEPTIONS
```

Chapter 8: DTC Functions

The Depository Trust Company, referred to in this user guide as “DTC,” is a user-owned security depository that accepts deposits of eligible securities for custody, executes book-entry deliveries and records book-entry pledges of securities in its custody, and provides for withdrawals of securities from its custody.

On a nightly basis, the APL system can receive a file of a client's DTC confirms. The user must request that DTC send these confirmations to the APL system in the nightly file. Several functions can be run using this file to verify that the information posted on APL matches the information on DTC. These functions are run before the start of day, so that users may easily decide on the morning of T+1 to affirm your trades.

8.1 DTC process summary

The following is a description of the role that the APL system plays in conveying information to and from DTC as part of the custodial process.

The following terms and concepts are important to understand:

Concept	Description
Money Manager	The client of Tegra118.
Broker	The institution that acts as an intermediary between buyer and seller in securities transactions.
Custodian	Bank or other institution where securities are kept in custody. (This can sometimes be the broker.)
DTC	The Depository Trust Company, a clearinghouse for communication and settlement of securities transactions.
APL system	A range of services offered to the money manager by Tegra118 to help in the settlement process.
DTC Eligible	Trades may be ineligible for DTC settlement because they do not need to settle through ID (e.g. when the executing broker custodies the account) or because they cannot settle through ID (e.g. certain types of securities).

Important: The following data fields are essential to communication with DTC:

Field	Description
Institutional ID#	Identifies the money manager.
DTC#	Identifies the broker.
Agent ID#	Identifies the custodian bank (DTCBRK).
Agent Internal A/ C#	Identifies client's custody account at the custodian bank. This field is sometimes blank if in custody with a broker (DTCNO1/2).
B/D Internal A/C#	Identifies client's custody account at the broker dealer. This is often the same as the agent internal account number if in custody with the broker. (Agent Int A/C # blank then equal to DTCNO1/2)
DTC Control #	Also referred to as the affirmation number, or confirm number. This number, which is unique to each confirm, is sent to DTC when affirming.

Settlement process

The following describes the step-by-step process in settling trades using the APL System and the DTC interface.

Trade date (T+0)

1. Money manager sends allocations to broker
2. Broker allocates trades to accounts and sends execution information to DTC. This is the source of DTC's confirmations
3. DTC makes confirms available to money managers

T+1

1. APL picks up confirmations starting around 2:00 a.m
2. Money managers retrieve confirms, either through APL, or by dialing into DTC using EZTYME software
3. Money manager checks confirms and affirm correct confirms, using DTCAFFIRM or EZTYME
4. Money manager contacts brokers about incorrect trades
5. Brokers cancel incorrect trades and rebill, sending canceled and corrected confirms to DTC
6. Affirmed DTC confirms are reviewed by the broker and the custodian
7. Broker and custodian prepare to settle affirmed trades over DTC on T+2
8. Money manager retrieves cancelled and corrected confirms, and also confirms entered late by the broker
9. Money manager affirms late confirms and corrected confirms if OK

1. Money manager retrieves remaining confirms
2. Money manager affirms remaining confirms

1. Brokers and custodians prepare to settle on T+2
2. Any unaffirmed trades are set up manually by the broker and custodian to settle on T+2
3. Settlement occurs if possible
4. Trades that cannot settle are DK'd (Don't Know). DK's are usually due to bad account numbers

Money Manager's Responsibilities

A money manager's role in the foregoing process is to:

1. Retrieve confirmations
2. Check confirmations
3. Affirm confirmations

8.2 DTC functions and reports

There are a number of APL Trading functions and associated reports that relate to DTC transactions. These are described in the following sections.

Main DTC processing run: RUNDTC

This is APL's main function for processing your DTC confirmations. This is run on a daily basis. It enables users to create printed confirmations, match confirmations to trades on the system, or to create a batch of trades.

RUNDTC offers the following options:

- PRINT/ALTPRINT–A print image file is created of all the confirms received from DTC. Two versions of the confirm file are available
- PRMATCH / NOMATCHPRINT–A separate file of print images of confirms that matched or did not match is also available

Trade matching report (pre-posting): MATCH

This is an exception report showing all the trades that matched, mismatched, or not found. It gives a one line summary of the DTC confirm compared to the trade on APL, making it is easy to spot problems. On mis-matched trades, there is a row of asterisks (****) placed above the column of incorrect data. In a typical work flow, managers review the MATCH report and take action on all of these exceptions.

Common fields to match on are Trade Date, Settlement Date, Account Number, CUSIP, Buy/Sell, Units, Interest, Net Amount, Principal Amount, and Commission Amount. Some managers also match on interested party information, broker dealer information, or ticket charges.

Match to posted transactions: PORTNOMATCH

This report shows the trades that have been posted on APL, but have never been matched to a DTC trade. This enables users to double check, before the affirmation date passes, that all trades have been matched.

Post trades from DTC data: TRADES

If unable to enter trades in the APL system before T+1, the TRADES function enables users to use the DTC confirm data to post trades. It is preferable not to use the this feature, however, since almost any other source of trade information is more accurate and timely than the DTC feed. However, when there is no other choice, a trades batch can be created and posted from DTC.

> **Note:** If using the data to post, users may not use APL for the matching and affirmation process.

Broker-dealer match reports

Clients may also match trades on APL to information that comes over on a nightly trades file from a broker dealer. These reports are very similar to the DTC match report and are used to verify that both sides agree with the trade. Contact your account manager about match reports for broker dealers such as Merrill Lynch, Prudential and Pershing.

Post commissions from DTC report: DTCUPDATECOMM

DTCUPDATECOMM is useful when the commission not known until the DTC confirm is received. The APL system can post the commission from the DTC confirm to EDPORT if all other items match, and if the commission posted on the APL system is zero.

In order to run DTCUPDATECOM, users must be set up to run a blotter. In addition, user must run the new DTC match report and must have extended EDPORT. This is the fourth level of EDPORT that includes a field called STRANS that DTCUPDATECOM references.

The match portion of RUNDTC must run first. If all fields match except for Net Amount and Commission, and if the commission on the blotter file is zero and the trade is not a net trade, APL regards the match as DTCUPDATECOMM-eligible. For eligible trades, APL updates the net amount and commission in EDPORT and on the blotter file.

Affirming DTC transactions: DTCAFFIRM

Users can affirm DTC trades through the APL system. This functionality is similar to DTC's EZTYME software. Contact your account manager in order to be set up to affirm trades through APL's DTCAFFIRM function.

The following shows how DTCAFFIRM works:

1. Select DTCAFFIRM. The affirmation screen will appear

```
+-------------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|--------------------+----------------------------------------------|
|FUNCTION: AND|SEARCH:|
```

```
|--------------------+-------------------------------------------------|
|1385 RECORDS FOUND|
||
||
||
||
||
||
||
||
||
|-------------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+-------------------------------------------------------------------+
+-------------------------------------------------------------------------------
-+
|Tag Trades You Do NOT Wish to Affirm|
||
|128 Trades Eligible for Affirmation|
+-------------------------------------------------------------------------------
-+
| 354976799 CLO 2,000 SHARES OF FDC  ON 11/07/97 WITH JMO  FOR 055000201 |
| 354977309 CLO 1,000 SHARES OF FDC  ON 11/07/97 WITH DSFOR 055003131  |
| 354977310 CLO 1,800 SHARES OF FDC  ON 11/07/97 WITH DSFOR F0556100 |
| 355002939 OPE 6,000 SHARES OF FDC  ON 11/11/97 WITH ALPH FOR IWHF50423 |
| 379973778 CLO 2,300 SHARES OF FDC  ON 11/07/97 WITH BUR  FOR F0601300   |
| 379987746 OPE 3,400 SHARES OF SCZ-B ON 11/10/97 WITH JPM  FOR F0673100 |
| 405440090 CLO 1,900 SHARES OF FDC  ON 11/07/97 WITH DSFOR F0556300 |
| 405441367 CLO  300 SHARES OF FDC  ON 11/07/97 WITH DUL  FOR OMK-00970  |
| 405453804 OPE 3,600 SHARES OF SCZ-B ON 11/10/97 WITH JPM  FOR F0581402 |
| 405453820 OPE 3,000 SHARES OF SCZ-B ON 11/10/97 WITH JPM  FOR 1181401  |
| 429913576 CLO 1,400 SHARES OF FDC  ON 11/07/97 WITH DSFOR F5746000 |
```

```
| 429913577 CLO 1,200 SHARES OF FDC  ON 11/07/97 WITH DSFOR F0556800 |
| 429913579 CLO 2,500 SHARES OF FDC  ON 11/07/97 WITH DSFOR F0556000 |
+-------------------------------------------------------------------------
-+
|Esc-Exit   F1-Help F4-Search   SF5-Select ALL   SF6-Clear ALL|
|Return-Select/Un-Select f8-Options   F10-Go|
+-------------------------------------------------------------------------
-+
```

The first DTCAFFIRM screen displays the affirmation number, trade type, units, tick, trade date, broker and account number for all the trades that were exact matches on your DTC match report. Any unaffirmed, matched trades continue to be displayed until T+2.

2. Tag the trades that should not be affirmed by highlighting each trade and pressing ENTER
3. After tagging the trades that should not be affirmed, press F10 to affirm the chosen trades. A batch file is created

Users can start DTCAFFIRM to affirm trades at any time during the day for any number of trades. These affirmations are appended to the batch file.

If there are no unaffirmed exact matches found, a prompt will appear, giving you the option of posting the affirmations manually.

```
+-----------------------------------------------------+
|Do You Want to Add Additional Affirmations Manually?|
|-----------------------------------------------------|
NO
YES
+-----------------------------------------------------+
```

4. Select NO to not manually enter affirmations and return to the APL Trading menu. Select YES to manually enter affirmations. If YES is selected, the Manual Affirmation Screen will appear

```
SAMPLE ASSET MANAGEMENTF-3 to Quit
10/31/01 1:49 P.M.Manual Affirmation ScreenF-10 to Save
-------------------------
Affirm NoTypeUnitsNet
------------ -----------   -------------
D00.00
```

```
Units and Net Need Not Be Filled in at this Time

Security Type Must be either D (Domestic) or I (International)
```

5. Using the (TAB) key move to each field, entering the requested data:

Field	Description
AFFIRM NO	The affirmation number
TYPE	The type of trade/security. D = domestic I = international
UNITS	Type the number of units in the trade
NET	The net dollar amount of the trade.

6. After entering the information, press F10 to save. The following screen will appear:

```
+-------------------------------------------------+
|Are You Sure You Want to Affirm These Trades Now ?|
|-------------------------------------------------|
NO
YES
+-------------------------------------------------+
```

7. Select YES and press ENTER to affirm the trades. Select NO and press ENTER to not affirm the trades

If YES is selected, the trades are appended to the DTC affirm file for transmission to DTC. A file is also created (DTCAFFIRM.LRP) that summarizes the affirmed transactions.

```
DTC Affirmation Report as of 10/31/01

The following affirmations have been queued to DTC :

------------------------------------------------- 332242145

Affirmations from APL trade blotter file : 0 Affirmations added manually1

Total affirmations1

------------------------------------------------------------------------ More -
->

PRESS <ESC> TO EXIT <F1> FOR HELP <F3> MAIN MENUTegra118 APL
```

Tegra118 has two affirmation transmissions each day. Mail is sent after the file is transmitted to DTC to confirm the file transmission, and indicate if any problems occurred. Tegra118 operations, as well as the person affirming the trades, receives copies of this E-mail so any difficulties can be dealt with accordingly.

Some of the other features of the DTCAFFIRM screen include:

- All matched trades are automatically displayed
- Allows users to affirm "all but"
- F8 option allows you to include or exclude all exact matches
- When run as part of an overnight job, all exact matches are affirmed automatically
- Each time DTCAFFIRM is run a DTCAFFIRM.LRP file is generated showing the affirmation numbers that are queued to send to DTC
- CONFBLT can be run to see the status of all matched trades
- Shows trade match date and affirmation date
- Affirming a trade in error is not reversible. A special calculation is done when the file is created and recalculating after the removal of an affirmation is not possible

Force trade matching: FORCEDTC

If the trade didn't match (as indicated on the match report), it does not appear in the list of affirmable trades. After making corrections, either affirm the trades manually, or force the match by running FORCEDTC.

1. Select FORCEDTC. The following screen will appear

```
+-------------------------------------------------------------------------
+
|BEGINNING DATE (MM/DD/YY) - HIT ENTER FOR 09/11/17 :|
+-------------------------------------------------------------------------
+
```

2. Type the beginning date, and press ENTER. The following screen will appear

```
+-------------------------------------------------------------------------
+
|ENDING DATE (MM/DD/YY) - HIT ENTER FOR 09/11/17 :|
+-------------------------------------------------------------------------
+
```

3. Type the ending date, and press ENTER. The following screen will appear

```
+-----------------------------------------------------------------+
|SELECT ACCOUNTS BY SNAM, BWNUM OR ACCOUNT PROFILE FIELDS  |
|--------------------+--------------------------------------------|
```

```
|FUNCTION: AND|SEARCH:|
|---------------------+-----------------------------------------------|
|1385 RECORDS FOUND|
||
||
||
||
||
||
||
||
||
||
|---------------------------------------------------------------------|
|Esc-Abort F1-Help F10-Go F5-Macro F7-List SF7-Prt F8-Sort SF8-Back |
+---------------------------------------------------------------------+
```

4. Type the accounts for which to force DTC affirmations and press F10. FORCEDTC tags that trade as a match on the blotter file, so that it automatically will appear in the DTCAFFIRM screen to be affirmed

FORCEDTC pulls all unmatched trades from the blotter file. Add the affirmation number to "tag" it as if it were a match on the blotter file. The trade then will appear in the DTCAFFIRM screen as an exact match. Remember, DTCAFFIRM has to be run after forcing matches in order to send your affirmations to DTC.

If there were no accounts with unmatched trades in the account selection, a message displays and then the APL Trading prompt will appear.

To affirm a trade that has been corrected but has not been matched, users may affirm trades manually. After quitting out of the first DTCAFFIRM screen, the prompt: Do You Want To Add Additional Affirmations Manually? Appears. Type the affirmation number, and then proceed through the affirmation process.

Retrieve afternoon confirms: MIDDAYCONFIRMS

MIDDAYCONFIRMS allows clients to retrieve an additional confirm file each afternoon. The most important confirms found in this file are cancellations and rebills from the prior day's trading.

In order to run MIDDAYCONFIRMS users must "archive" confirms; that is, saving confirmations that did not match when they first came through, and trying to match them again on the next run. If a confirmation is not matched by settlement date, it is deleted. Users receive e-mail when the file is pulled.

1. Select MIDDAYCONFIRMS.The following prompt will appear:

```
IS THIS INST NUMBER xxxx?
```

2. Type YES if the institutional number that will appear is the correct number. If the number that will appear is not correct, report this to an account manager immediately

MIDDAYCONFIRMS briefly describes whether the confirmations are new trades, old trades, or cancellations. A job can be submitted that processes the new confirmations, and rerun the match report.

Creating omnibus accounts: OMNIBLOT

Omnibus (or blotter) accounts enable the DTC account matching function to work more efficiently by enabling users to combine multiple accounts. To use this function, open an account on the system for each omnibus account, and label it with the omnibus account number.

- The SNAM for the omnibus account is coded in the BANK field of the sub-accounts
- The DTCNO1 and DTCNO2 fields for the omnibus account should be coded with the AGENT INTERNAL ACCOUNT ID
- The RR code should be greater than 99, in order to avoid the account being included in the APL Windows build

Use the following steps:

1. Select OMNIBLOT. The following screen will appear:

```
+------------------------------------------------------------------------------
+
|BEGINNING DATE (MM/DD/YY) - HIT ENTER FOR 09/11/17 :|
+------------------------------------------------------------------------------
+
```

2. Type the beginning date, and press ENTER. The following screen will appear:

```
+------------------------------------------------------------------------------
+
|ENDING DATE (MM/DD/YY) - HIT ENTER FOR 09/11/17 :|
+------------------------------------------------------------------------------
+
```

3. Type the ending date, and press ENTER. The following prompt will appear:

Enter Source Accounts to Combining Data on the Blotter File

4. Type the account identifiers for the individual accounts, and press ENTER. The following prompt will appear

Enter Target Account for Combining Data on the Blotter File

5. Type the account identifier for the account to which the data from the individual accounts is to be combined. All of the data is combined into the individual account

> **Note:** The DTC match function runs against the omnibus account, and not the individual account.

Chapter 9: Galaxy Wrap

For clients participating in a wrap program where the administrator is also an APL client, Galaxy Wrap Send and Receive will transfer trade blocks between the user's universe and the administrator's.

In a typical workflow scenario, a wrap manager creates blocks of trades, then send the trades electronically to the wrap administrator. The wrap manager then logs on to the wrap administrator's environment and receive blocks sent to that administrator. The Galaxy Wrap program applies its own custom error checks before accepting or committing the block.

Wrap account data is maintained in both the manager and administrator universes, enabling the manager to view these accounts along with all other accounts the manager maintains on APL. This also enables the generation of reports that are exclusive to the manager, and that may not be available in the wrap administrator's directory.

> **Note:** Please contact your account manager if interested in Galaxy Wrap.

9.1 Using Galaxy Wrap

The following describes a typical step-by-step procedure for using Galaxy Wrap:

1. Create a block using the one of the following methods: (What-If, Account Rebalancer, Cash Rebalancer, Account Adjuster, etc.)
2. Commit the block
3. Select GALAXY WRAP SEND. The following prompt is displayed:

```
Send Block XYZ to WRAP Program?
```

The system creates a file, and sends it to the designated wrap administrator.

PHONEGALAXY function

This function allows users to log onto the wrap administrator's system without having to log off and then back on to another machine.

1. Type PHONEGALAXY at the WHICH FUNCTION? prompt in the APL Expert menu; or select it from a APL Windows menu. The following prompt is displayed:

```
RECEIVING AT THE WRAP ADMINISTRATOR
```

Once you have logged on to the administrator's machine, the Block Status function is called.

2. Select RECEIVE GALAXY WRAP BLOCKS. The program moves all received files into a directory and saves the blocks. Once received, the blocks are committed on the wrap administrator's system

3. Be sure to execute the trades on your own system as well, so that they post through the overnight batch process

Galaxy Trade Flow Process for Full Execution

When the Manager is on their own directory:

1. Create a trade order block for the sponsor program
2. Select BLOCK ORDER STATUS and press ENTER on the block
3. Press ENTER on the block and select COMMIT to commit the trade order
4. Press ENTER on the block again and select GALAXY WRAP SEND to send the committed block to the sponsor's directory
5. Select PHONEGALAXY to access the sponsor's directory
6. Log into the sponsor's directory using the password assigned by the sponsor

When the Manager is on the Sponsor's directory:

1. Select BLOCK ORDER STATUS and press ENTER on the block
2. Select RECEIVE GALAXY WRAP BLOCK
3. Commit the block on the sponsor's directory
4. Inform the sponsor that a committed block is ready for execution

For the Sponsor:

1. Enter execution prices on the block

For APL:

1. Move execution prices for fully executed blocks from the Sponsor's directory to the Manager's directory

For the Manager:

1. Verify full executions are updated in BLOCK ORDER STATUS

Galaxy Trade Flow Process for Partial Executions

When the Manager is on their directory:

1. Create a trade order block for the sponsor program
2. Select BLOCK ORDER STATUS and press ENTER on the block
3. Press ENTER on the block and select COMMIT to commit the trade order
4. Press ENTER on the block again and select GALAXY WRAP SEND to send the committed block to the sponsor's directory
5. Select PHONEGALAXY to access the sponsor's directory
6. Log into the sponsor's directory using the password assigned by the sponsor

When the Manager is on the Sponsor's directory:

1. Select BLOCK ORDER STATUS and press ENTER on the block
2. Select RECEIVE GALAXY WRAP BLOCK

3. Commit the block on the sponsor's directory
4. Inform the sponsor that a committed block is ready for execution

For the Sponsor:

1. Enter execution prices on the block

When the Manager is on the Sponsor's directory:

1. Select BLOCK ORDER STATUS and press ENTER on the block
2. Verify that the block has been executed
3. Select RECEIVE EXECUTION PRICES
4. Log off of the sponsor's directory

When the Manager is on their own directory:

1. Select BLOCK ORDER STATUS and press ENTER on the block
2. Select RECEIVE EXECUTION PRICES
3. Trades are updated on the account level via APL's end of day process

The Manager can review Galaxy Reconciliation Reports the next day by:

1. Type FLIST
2. Press F5 to select the directory
3. Press F6 to select pattern *.PR*
4. Browse recon reports - XXXBOD.PRT

Chapter 10: Reports

There are a number of reports that can be run within the APL Windows Trading System to view transactions that have been made during a specified time period.

> **Note:** Contact your account manager for information on other reports to suit your needs.

Activity reports

The following reports summarize account activity.

Name	Description
ACTBRK	Shows trades sorted by broker.
ACTCOM	Shows trades and commissions by account.
ACTCOMCPS	Like ACTCOM, but also shows a cents- per-share commission amount.
ACTIVISS	Shows all trades for a chosen issue type.
ACTIVITY	Shows all trades sorted by account.
ACTIVMGR	Enables users to see the activity for a manager during a specific time period.
ACTIVSEC	Shows all trades for a chosen security.
ACTIVSECSUM	Shows summarized activity for a particular security during a specified time frame.
ACTIVUNSUPR	Shows trades sorted by account for unsupervised assets only.
ACTTRD	A compliant activity report that lists security, broker and commission information. Very similar to ACTWDS.
ACTWDS	Shows firm-wide activity sorted by security.

10.1 Commission reports

The following reports summarize commission activity.

Name	Description
COMMBRK	Shows commissions sorted by account, for current month, last 3 months, last 6 months and the last 12 months; totals for CY & PY.
COMMCAT	Takes advantage of some of the extra fields found in EDRRNM and sorts by category. Managers may categorize a broker by such things as Research, Soft dollars, etc. (equity and fixed income).
COMMGRF	Shows commissions sorted by broker for listed OTC securities and bonds.
COMMHAR	Same as COMMBRK but it is sorted by broker, includes net trades, and allows user to summarize across selected accounts.
COMMNET	Lists comparative commission information for brokers during specified periods, one report on all equity trades and one on all fixed income trades.
COMMRANK	Shows commissions ranked by broker for both listed and OTC; compares two periods.
COMMRANKACT	Shows commission report duplicate to COMMRANK except it reports individually.
COMMRANKEX	Allows users to compare commission information for two periods.
COMMSUMM	Shows total commissions for all brokers for specified accounts and an "as of" date.
COMMSUMMALL	Gives you the option of itemizing for each account or summarizing for all accounts.
COMMSUMMSNAM	A commission summary report that displays commissions for a particular broker per account.

10.2 Transaction reports

The following reports summarize transaction activity.

Name	Description
TRANALL	Lists security purchases, receives, delivers, sells, and maturations; as well as stock splits, dividends and reorgs that have been processed and receipts and disbursements.

Name	Description
TRANBRD	Mixes buys and sells, sorted by description.
TRANBRK	Groups by broker; includes gross and net.
TRANBRKCPS	Shows estimated cents per share paid in commission on trades booked with a specific broker; grouped by broker.
TRANCON	Similar to TRANPEN but includes unit cost/proceeds.
TRANDIFF	Compares cost/proceeds to current value.
TRANGCC	A basic transaction report that does not show gain/loss.
TRANGRF	Produces two reports, one for buys and one for sells.
TRANJCE	Shows purchases, sales, receives, and delivers.
TRANLET	Shows purchases and sells and includes trade and settlement date info.
TRANLETBLOT	The standard transmittal letter running off the trade blotter file.
TRANLETTRD	A custodian notification letter running off executions from the trading system.
TRANPEN	The standard TRAN report that shows purchases, sales, contributions, and withdrawals.
TRANSEC	A version of TRANPEN but for a single security.
TRANSGLDES	Displays general ledger transactions based on selected columns.
TRANWDS	Does not show transaction dates but does show average price over period.
TRANWID	Displays sold, purchased, received, and delivered positions.
TRANWIM	Mixes buys and sells; sorted by transaction date.

10.3 Blotter/block reports

The following reports summarize blotter and block transactions.

Name	Description
BLOCKDETAIL	Displays the transactions in a block of trades.
BLOTTERAPL	Produces separate reports of purchases, sales, and deleted transactions for equity and fixed income trades.
BLOTTERDATES	Produces separate reports of purchases, sales and deleted transactions for equity and fixed income trades and allows you to select beginning and ending dates.
BLOTTERGLAPL	Summarizes general ledger information.
BLOTTERGLDATES	Lists general ledger information for a specific time frame against selected accounts. This report can be run on a Trade Date or Post Date basis.
BLOTTERTRD	Displays information for trades posted on a selected account for a selected time frame.
CAPAW	Displays all positions that have been received into an account and/or delivered out of an account.
PENDINGTRADES	Lists unsettled transactions for a specific account.
TICKETBLT	A transmittal letter programmed in Postscript. This can run of the blotter files, the execution files or both. Separate reports can be created by individual trade, account or can be combined into one report.

Chapter 11: Utilities

Note: Some of these menu items execute functions accessible through APL Expert. Refer to the *APL Portfolio Administration (EXPERT) System* for more complete descriptions.

When you select Trading System Utilities, a screen similar to the following is displayed.

```
PORTVUE - PRIVATE MENU8.6.0PRICES AS OF: 10/22/01
SAMPLE ASSET MANAGEMENTSUB-SELECT: MGR EQ NJ`AND`RR LT 95
TRADING SYSTEM UTILITIES
-----------------------
1.PRINT MANAGER
A. LOG OFF SYSTEM
2. BROWSE REPORTS
  3. SUBMITTING REPORTS
  4. ELECTRONIC MAIL (INCL. PNEWS)
  5. CHANGE WINDOWS UNIVERSE
  6. SET PRICES TO HYPERFEED
  7. QUOTES (15 MIN DELAYED)
  8. TERMINAL SECURITY
```

Selection	Description
PRINT MANAGER	Runs the APL Expert function QUE. This displays the print queue and enables you to start or delete queued jobs.
BROWSE REPORTS	Runs the APL Expert function BROWSE. This displays the last generated report file. You can also specify any other report file by name.
SUBMITTING REPORTS	Runs the APL Expert function SUBMIT. This enables you to submit report runs for overnight processing and printing.
ELECTRONIC MAIL	Activates the APL E-mail system. This system enables users to communicate with Tegra118 staff regarding the services you receive.

Selection	Description
CHANGE APL WINDOWS UNIVERSE	This changes the group of accounts (or “universe”) that can be accessed. APL Windows universes are typically associated with a specific manager.
SET PRICES TO HYPERFEED	Selecting this item displays the prompt: ENABLE DTN 15 MINUTE DELAYED PRICES ? APL Trading System references the previous day’s closing prices in its functions. Entering Y (for Yes) changes the price references to 15-minute delayed quotes.
DELAYED QUOTES	Starts the HyperFeed Quotes system, described in “Securities quotes” on page 134.
TERMINAL SECURITY	Temporarily locks the terminal, using a password that the user selects. See “Terminal security” on page 141 for more information.

11.1 Print manager

The Print Manager runs the function QUE. Each report has an extension so that you can identify it. If you rerun the same report for a client, you automatically delete and write over the previous report.

1. Select PRINT MANAGER. The following will appear:

```
+-------------------------+
|WHICH PRINT MANAGER OPTION|
|WOULD YOU LIKE|
|  >>>ESC TO EXIT<<<|
|-------------------------|
|  CHOOSE FILES TO PRINT |
|  SET PRINTER SETTING|
|  SET FORM SETTING|
+-------------------------+
+-----------------------------+
| Current: 11/02/01  3:20 P.M. |
| Printer: SYSCH5|
|  Form: hp.14.1|
+-----------------------------+
```

2. Using the TAB or DOWN ARROW, move to and highlight the option, and press ENTER

Select CHOOSE FILES TO PRINT: The system displays the prompt:

```
INCLUDE PRT FILES?
```

The .PRT files are from overnight batch processing.

- To see these, type YES to include the file names or NO if not. The following information will appear:

```
WHICH OPTION WOULD YOU LIKE : (FIRST THREE CHARACTERS)? WIN INCLUDE PRT,HST
FILES ? Y

ERASE ASTERISK (*) BY REPORT NAME, PRESS ENTER AND TYPE (Q TO PRINT.

(0) NAMEEXT  DSK DEL COP PRINTER FORMDATETIME

(1)   -------  --- --- --- ------- ------------

(84) *DTCBADLDT    A Y   1 SYSCH5  HP.14.L  10/31/01 12:44

(85) *DTCAC2LRP  A   Y 1   SYSCH5  HP.14.L    10/31/01 12:44

(86) *DTCAFFIRM  LRP  A Y   1 SYSCH5 HP.14.L  10/31/01 13:52

(87) *EDMEMOLRP  A Y 1   SYSCH5 HP.14.L  11/01/01 14:50

(88) *RECONAUDIT  HST  B Y 1 SYSCH5  HP.14.L    11/02/01 14:21

(89)
```

The NAME and EXT fields show the name and extensions of each report. The DISK field specifies your disk drive.

- To mark reports for printing, delete the asterisk (*) that will appear before the name of the report, and press ENTER
- The DEL column defaults to Y. The system automatically
- Deletes the report file after it has been printed. To keep the report on file, type N in the DEL field, and press ENTER
- At the COP column, type the number of copies of each report, and press ENTER
- The PRINTER column shows the name of your printer. To temporarily change where you print, type the name of the printer, and press ENTER
- The FORM column shows how the font and direction in which the report is printed
- The DATE column shows the date and TIME column shows the time the report was created. The data in these columns cannot be edited
- To quit PRINT MANAGER/QUE, type [Q, and press ENTER. The reports are printed automatically to the specified printer

Select SET PRINTER SETTING, a screen listing accessable printers will appear:

```
+-----------------------------+
```

```
|ENTER NEW DEFAULT PRINT QUEUE?|
|------------------------------|
|EWR001|
|EWR002|
|EWR003|
|EWR004|
|EWR005|
|EWR006|
|EWR007|
|EWR008|
|EWR009|
|EWR010|
|EWR011|
|EWR012|
|EWR013|
|EWR014|
|HOLD|
|PRTSNF|
|PRTTTY|
|PRT327|
|PRT517|
|PS_ANL|
+------------------------------+
```

Using the TAB or DOWN ARROW, move to and highlight the printer, and press ENTER. Reports are now sent to that printer.

Select SET FORM SETTING, the form setting options screen will appear:

```
+----------------------------+
|ENTER NEW DEFAULT PRINT FORM?|
|----------------------------|
|CA.15.L|
```

```
|CA.NOSETUP|
|DP.DEFAULT|
|DP.DUPLEX|
|DP.PS|
|DP.QUADPLX|
|DS.ASC.L|
|DS.ASC.P|
|EP.10.P|
|EP.12.P|
|EP.16.P|
|EP.NOSETUP|
|FTP.LOG|
|HP.10.L|
|HP.10.L.2|
|HP.10.L.3|
|HP.10.L.4|
|HP.10.P|
|HP.10.PF|
|HP.12.L|
+----------------------------+
```

The form determines how the reports is printed, landscape or portrait, and the font size.

- Using the TAB or DOWN ARROW, move to and highlight the form, and press ENTER. Reports print in this form until it is changed

11.2 Browsing reports

After creating a report, view the report on the screen prior to actually printing the report. The function that allows users to do this is BROWSE. Selecting this function displays the following prompt:

```
HIT RETURN FOR : (last report created)
BROWSE WHICH FILE:
```

If the default report is the one to browse, press ENTER. If it is not, type in the name and extension of the report, and press ENTER.

The report will appear on screen. Press P to print the report while browsing.

11.3 Submitting reports

Clients can request reports to be run and printed overnight by using the SUBMIT function.

> **Note:** Requests for report processing must be initiated before 4pm CST.

Use the following steps:

1. Select SUBMIT

```
WHICH FUNCTION: ? SUBMIT SUBMIT (PUBLIC)

--------------------------------------------------------------------------------
-
Which Submit option would you like

--------------------------------------------------------------------------------
-
1). Submit jobs to process tonight

2). Change, Cancel or View Submitted jobs

3). Authorize, Add, Edit or Delete client Submits 4). Exit

Enter your desired option (Enter number):

*

TRAINING 1830   20000   01/20/99  WEEKLY MGR RPTS FOR MAN01

*TYK1830   20000  01/20/99  MAN ASSET MANAGEMENT- ATTN JOHN SMITH

*TZVI1830   20000   01/20/99  MAN ASSET MANAGEMENT- ATTN JOHN SMITH (121)
*UINDEX   1830   20000  01/20/99

*VAP1830   20000  01/20/99  SKEDOLD REPORT _ ATTN> SUSAN KERNS

*VAP11830   20000  01/20/99  SKEDOLD REPORT _ ATTN> SUSAN KERNS (124) *WDSBOK
1830   20000   01/20/99

(125) *WMCKIN  1830    20000   01/20/99  MAN ASSET MANAGEMENT - ATTN JOHN
SMITH (126) *XREF1830   20000  01/20/99  CLIENT

(127) *YREND   1830   20000  01/20/99  MAN YEAR END SKEDOLD/DIVHAW REPORTS
(128)
```

2. Using the arrow keys, move to the line that contains the report job to submit, delete the asterisk (*), and press ENTER
3. Type [Q and press ENTER to exit the editor and continue. The following screen will appear:

```
Welcome to the Tegra118 Quality Assurance Program.

In an effort to assure Quality Assurance to our clients,

please take a moment to verify the information contained

in this job you are submitting.

-------------------------------------------------------------------

CONTINUE QA

BACK TO SUBMIT
```

4. To continue, select CONTINUE QA, and press ENTER. To return to the SUBMIT editor, select BACK TO SUBMIT, and press ENTER

Select BACK TO SUBMIT, and the editor screen will appear. Submit additional jobs. Select CONTINUE QA to continue and exit the function.

Select CONTINUE QA, the following screen will appear:

```
--------------------------------------------------------------------------------
--

YREND:MAN YEAR END SKEDOLD/DIVHAM REPORTS

--------------------------------------------------------------------------------
--

Function:SKEDOLD

Date: 01/01/98

Date:12/31/98

Acct Sel: SNAM LTE B

Function:DIVHAW

Date:01/01/98

Date:12/31/98

Acct Sel: SNAM LTE B

--------------------------------------------------------------------------------
--

PRESS <ESC> TO EXIT <F1> FOR HELP <F3> MAIN MENUTegra118
```

5. Press ESC or F10 to exit this screen. The following will appear:

```
If you have any questions or concerns about the

selected control jobs, please contact your Account Manager.
```

```
--------------------------------------------------------------------------------
--

CHANGE/CANCEL

CONTINUE SUBMISSION
```

- To make any changes to the submitted job or add jobs to be submitted, select CHANGE/CANCEL, and press ENTER
- If satisfied with the criteria, select CONTINUE SUBMISSION, and press ENTER

The job is submitted. Mail is sent to the Tegra118 operations staff. Users can also print a copy of the submission form which is named *LST.L#, where * is your client short name and # is the number of jobs submitted. This number increases every time you submit a job during one APL Trading session.

11.4 Electronic mail (including PNEWS)

The electronic mail feature enables users to exchange messages with Tegra118 staff. It also enables you to access APL's Bulletin Board, also known as PNEWS. PNEWS provides news about updates to the APL Expert system.

Accessing the electronic mail feature

1. At the WHICH FUNCTION:? prompt, type MAILBOX, and press ENTER. The following screen will appear:

```
+---------------------------------+
| WHICH MAIL OPTION (ESC TO EXIT) |
|---------------------------------|
|READ MAIL|
|SEND MAIL|
|DELETE MAIL|
|LIST MAIL|
|PRINT MAIL|
|GROUP MAIL QUERY|
|NEWS RETRIEVAL|
+---------------------------------+
```

2. Using the arrow keys, move the option you want, and press ENTER

Reading mail

1. Select READ MAIL from the Mail Option menu, and press ENTER. The following screen will appear:

```
+---------------------+
| WHICH MAIL MESSAGES |
|---------------------|
|NEW|
|OLD|
|FUTURE|
+---------------------+
```

- New mail is the mail not yet read yet
- Old mail is mail read and saved
- Future mail is messages you have created and marked for delivery at a date in the future. Future mail is helpful for sending you or others reminders about upcoming events

2. Select the mail you want to read (NEW, OLD, or FUTURE), and press ENTER. A screen will appear with your messages:

```
READ WHICH MAIL MESSAGES
TO SELECT HIT RETURN ON MESSAGE NUMBER OR ON FIRST LINE FOR ALL
------------------------------------------------------------------------
--> HIT RETURN TO READ ALL MAIL MESSAGES
1 DTOWNE@Tegra118.COMTHU SEP 17 16:21 "RE: LOOKING FOR A MUNI REPORT
2 TERRY@Tegra118.COM THU SEP 17 16:21 "RE: LOOKING FOR A REPORT..."
3 MOSAIC@Tegra118.COMTHU SEP 17 16:21 "REPORTED BUG: HIGH - BRK - MA
```

3. If you want to read all messages, select HIT RETURN TO READ ALL MAIL MESSAGES, and press ENTER

To select a message, use the arrow keys to move to highlight the line, and press ENTER. After selecting the messages you want to read, press ESC to begin reading messages.

4. After reading the message, press ESC to move to the next message. The following screen will appear:

```
+---------------------+
|WHICH READ MAIL OPTION|
| >> ESC TO DELETE << |
```

```
|----------------------|
|  SAVE|
|  FORWARD|
|    RESPOND|
|  PRINT|
+----------------------+
```

5. Use the arrow keys to select the option you want, and press ENTER. Select FORWARD or RESPOND, the following screen will appear:

```
+---------------------------------+
|Include Original Message in Reply?|
|Default is YES|
|                YES              |
 |                NO               |
|---------------------------------|
YES
NO
+---------------------------------+
```

6. Use the TAB or arrow keys to select YES to include the original message or NO to include the original message. The MAILBOX editor will appear

```
To: _
Cc:
Bcc:
Future date:
(Preface TOPIC with --- if urgent)
Topic: Re: Rebalancing Report???
--------------------------- Message ---------------------------------------
can anyone think of any rebalancing/effects report that would not only  show
what % each security represents in an account and what the target % is, but
also contains the word "BUY" or "SELL" based on the differences between target
and actual??  I can think of several that show neg. or pos.
```

```
shares amounts, but can't find anything that actually indicates a BUY or
SELL...???

----

Doesn't the report that is generated by the Account Rebalancer contain the

words BUY and SELL?

*******************************************************************************

F1-Help F3-Abort Mail Message  F9-Browse roster F10-Send Mail Message
```

7. Chose FORWARD, type the e-mail addresses of those persons you are forwarding the message to

Chose RESPOND, and all parties listed on the original e-mail message are included in the response. Use the TAB key to move from field to field.

8. Press F10 when ready to send the message. To abort the message, press F3. Return to the menu or go to the next mail message

Sending mail

1. From the Mail Option Window, highlight SEND MAIL, and press ENTER. The Mailbox Subject options appear

```
+-----------------------------------+

| Security APL, Inc Mailbox System |

|-----------------------------------|

|1 PERFORMANCE QUESTION|

|2 BENCHMARK QUESTION|

|3 TRADING QUESTION|

|4 INTERFACE/RECON QUESTION|

|5 DTC QUESTION|

|6 INFODEX QUESTION|

|7 PRICING/SECURITIES QUESTION|

|8 BILLING SYSTEM QUESTION|

|9  GENERAL CUSTOMER SERVICE QUESTION|

|10 IS THERE A REPORT THAT...|

|11 IS THERE A BETTER WAY TO... .|

|12 CAPITAL CHANGES/REORGS|

|13 SUBMIT/BATCH REQUEST OR INQUIRY |
```

```
|14 SYSTEM RESPONSE QUESTIONS|

|15 GENERAL MAIL MESSAGE|

|16 REPORT A PROBLEM|

|17 SUGGESTION/COMMENTS|

|18 THANK YOU|

|19 COMPLAINT BOX|

|20 FORMAL CSR REQUEST|

+-----------------------------------+
```

2. Use the TAB or arrow keys to move to the topic, and press ENTER. The mail editor will appear:

```
+-------------------------------------------------------------------------------
-+

| To: CDJ MOE|

| Cc:|

| Bcc:|

| Future date:|

|(Preface TOPIC with --- if urgent)|

| Topic: MAN-TRADING QUESTION|

| ------------------------------ Message ------------------------------------
|

||

||

||

||

||

||

||

||

||

||

||

||
```

```
||
|-------------------------------------------------------------------------
-|
|   F1-Help F3-Abort Mail Message  F9-Browse Roster F10-Send Mail Message    |
+-------------------------------------------------------------------------
-
```

3. Use the TAB key to move from field to field and enter the appropriate data
4. After you have typed the message, press F10 to send. Return to the Send Mail option box

To leave the function without sending the mail message, press F3.

> **Note:** To send mail to a person that is not in the APL Windows list, a warning message will appear and users are given an opportunity to make corrections.

Retrieving news with PNEWS

The News Retrieval option enables users to read about enhancements to the APL system.

1. From the Mail Option screen, select NEWS RETRIEVAL, and press ENTER. An option box will appear:

```
+----------------------------+
| WHICH OPTION WOULD YOU LIKE |
| >>> ESC TO EXIT TRN <<< |
|----------------------------|
|  READ ARTICLES|
|  REVIEW OLD ARTICLES|
+----------------------------+
```

- READ ARTICLES enables users to scroll through the new articles
- REVIEW OLD ARTICLES enables users to review articles already read

2. Use the TAB or arrow keys to select an option, and press ENTER

```
+-----------------------------------------+
| WHICH TOPIC WOULD YOU LIKE TO SEE MORE ON |
|  HIT RETURN TO SELECT / ESC TO EXIT|
|-----------------------------------------|
|17 SECAPL.HELP|
```

```
|354 SECAPL.GENERAL|
|48 SECAPL.PERFORMANCE|
|27 SECAPL.FIXEDINCOME|
|4 SECAPL.POSTSCRIPT|
|29 SECAPL.COMMUNICATIONS|
|18 SECAPL.THOUGHTS|
|72 SECAPL.TEST|
|25 SECAPL.INTERN.PROG|
|54 SECAPL.INTERN.CS|
|4 SECAPL.INTERN.ADMIN|
|27 SECAPL.INFODEX|
|15 SECAPL.BENCHMARKS|
|7 SECAPL.EDUCATION|
+------------------------------------------------------------------------------
-+
|Esc-Exit F1-Help   F4-Search   SF5-Select ALL SF6-Clear ALL|
|F7-Refresh Search F8-Options F10-Go   Return-Select/Un-Select|
+------------------------------------------------------------------------------
-+
```

The number to the left of each item is the number of articles in the system about that topic.

3. Highlight the topic, and press ENTER. A screen will appear listing the articles for the selected topic

```
.....................................................................
Type "R"-READ or "D"-DELETE or "P"-PRINT·
ShiftF4-Read all ShiftF5-Delete all ShiftF7-Print all·
To unselect an article hit RETURN or ShiftF6-Unselect all·
57 ARTICLES FOR SECAPL PERFORMANCE·
.....................................................................
· (00256) ENHANCEMENT TO15 MAR 1999 16:42:28·
(00257) ENHANCEMENT TO AIMRMEMO15 MAR 1999 16:44:55·
(00253) AUDITING AIMR CODES IN EDMEMO4 MAR 1999 14:02:32·
(00212) ENHANCEMENT TO PMSECTAI28 OCT 1998 09:55:35·
```

```
(00212) ENHANCEMENT TO PMSECTAI28 OCT 1998 09:55:35·
(00169) ENHANCEMENTS TO THE AIMRMEMO REPORT 25 MAR 1998 12:34:04·
(00169) ENHANCEMENTS TO THE AIMRMEMO REPORT 25 MAR 1998 12:34:04·
(00158) COMPARE CALCULATED MARKET VALUES TO 12 FEB 1998 08:20:01·
(00158) COMPARE CALCULATED MARKET VALUES TO 12 FEB 1998 08:20:01·
(00155) INTRODUCING PMFIRMAUDIT10 FEB 1998 13:05:06·
(00155) INTRODUCING PMFIRMAUDIT10 FEB 1998 13:05:06·
TESTING PERFORMANCE GROUPWED, 16 JUL 1997 15:36:35·
TESTING PERFORMANCE GROUPWED, 16 JUL 1997 15:36:35·
(00062) AN ENHANCEMENT TO VERIFYIND9 DEC 1996 15:51:16·
(00061) DAILY INDICES FROM MULLER9 DEC 1996 15:42:58·
.....................................................................
Esc-Exit F3-Exit to Main Menu   F10-Execute·
.....................................................................
```

4. Type R next to the articles you want to read, and D next to the articles you want to delete

- Press SHIFT+F4 to read all of the articles
- Press SHIFT+F5 to delete all of the articles
- Press SHIFT+F6 to cancel your choices and start over

5. When you have marked the articles you want to read or delete, press F10. The first article will appear

Reading PNEWS articles works much the same way as reading regular mail. Help keys and instructions are provided on each screen.

Listing mail

1. The LIST MAIL option enables users to display all pending messages. Select this option, and a screen will appear, listing the message number, who the message is from, the date and time the message was sent, and the topic of the message
2. Press F3 or ESC to return to the Mail Option screen

Printing and deleting mail

1. To print or delete messages, select PRINT MAIL or DELETE MAIL from the Mail Option screen. The screen that will appear for these two options is similar. It simply lists the messages, who they are from and the date and time they were sent
2. To delete or print all of the messages, press ENTER on the first line, or select the messages by high-lighting each one and pressing ENTER

3. Press ESC after selecting all the messages
4. Press F3 or ESC to return to the Mail Option screen

11.5 Securities quotes

The HyperFeed Quotes feature allows users to receive security quotes during the day. Tegra118 receives the quotes from HyperFeed Technologies Inc. and loads them into APL Windows to see prices that are more current than last night's closing price. HyperFeed quotes are 15 minutes behind the market.

With HyperFeed, you can:

- Retrieve a quote for any stock by entering its ticker symbol
- HyperFeed provides the current price, daily high, daily low, volume, and percent change for every security
- View client portfolios with HyperFeed prices, for a current valuation
- Set up permanent "watch lists" of groups of stocks that to monitor closely. View the HyperFeed prices for them whenever you want
- Use the "Market Watch" list to see information on New York Stock Exchange advances, declines, and volume for the day, or the Dow Jones and the Standard and Poor's indexes

```
Contact your account manager if interested in HyperFeed. Entering the Hyper-
Feed Quotes Option
```

1. From the Menu, select SET PRICES TO HYPERFEED. A prompt will appear:

```
Enable Hyperfeed 15 Minute Delayed Prices
```

2. Enter Yes or No, and press ENTER
3. From the Menu, select QUOTES (15 MIN DELAYED). The first page of the Quotes option will appear

```
LIST: 1   SAMPLE TICKERSHYPERFEEDLast Update: 0:30
+-------------------------------------------------------------------------
+
|INDEXLOWHIGHLAST CHANGE  PCT TIME|
| Dow Jones Industrials9392.00 9437.00   9413.00 -28.00 -0.3 13:57|
||
|SYMBOLLOWHIGHLAST CHANGE PCT    VOL #TRDSPE  TIME|
| IBM109.00 110.95  110.920.95 +0.9 27388   2694   24.0 13:57|
| BMY53.00  56.4655.712.44 +4.6  57063   2048 20.9 13:57|
| PEP47.75  48.5047.94    -0.67  -1.4  26291 1369 29.4 13:56|
| VO|
```

```
| SB|
| ENQ|
| AW10.0510.3410.14-0.06  -0.6  9469392  92.2 13:56|
| AXP29.8330.3529.94-0.43  -1.4  211981638   23.4 13:57|
| HTHR19.2519.4019.350.00  +0.0338   9.7NOV 5|
| MO48.3548.7848.460.16  +0.3  317181328  12.7 13:57|
+-------------------------------------------------------------------------
+
|TICK:|
||
||
+-------------------------------------------------------------------------
+
|F1-Help F2-Snam F3-Exit F4-Sel F5-Edit F6-Ref F7-Pg/LnUp F8-Pg/LnDn F9-Prt |
+-------------------------------------------------------------------------
+
```

4. The quotes are arranged as pages to scroll through. Press F8 to page down and F7 to page up
5. To see a price for a security that is not listed, type the ticker symbol in the TICK field, and press ENTER. The values for this security appear within the TICK box

```
LIST: 1   SAMPLE TICKERSHYPERFEEDLast Update: 0:30
+-------------------------------------------------------------------------
+
|INDEXLOWHIGHLAST CHANGE  PCT TIME|
| Dow Jones Industrials9392.00 9437.00   9413.00 -28.00 -0.3 13:57|
||
|SYMBOLLOWHIGHLAST CHANGE PCT    VOL #TRDSPE  TIME|
| IBM109.00 110.95  110.920.95 +0.9 27388   2694   24.0 13:57|
| BMY53.00  56.4655.722.45 +4.6  57082   2049 20.9 13:57|
| PEP47.75  48.5047.94    -0.67  -1.4  26291 1369 29.4 13:56|
| VO|
| SB|
| ENQ|
```

```
| AW10.0510.3410.14-0.06  -0.6  9469392  92.2 13:56|
| AXP29.8330.3529.94-0.43  -1.4  211981638   23.4 13:57|
| HTHR19.2519.4019.350.00  +0.0338   9.7NOV 5|
| MO48.3548.7848.460.16  +0.3  317181328  12.7 13:57|
+-------------------------------------------------------------------------
+
|TICK:DCXDAIMLERCHRYSLER AG ORD/NYSE|
|Last:    35.79  -0.16 -0.4% 13:55 V: 2154 #T:  234  L/H:  35.51    35.90|
|EPS:-4.22 PE:-8.5  DIV:YLD:FRAC:10052W:  27.60    52.72|
+-------------------------------------------------------------------------
+
|F1-Help F2-Snam F3-Exit F4-Sel F5-Edit F6-Ref F7-Pg/LnUp F8-Pg/LnDn F9-Prt |
+-------------------------------------------------------------------------
+
```

6. Press F1 to see a list of the functions available in HyperFeed

```
+---------------------------------------------+
|HYPERFEED HELP SCREEN|
|ESC - Quit Hyperfeed quote system|
|F1  - This help message|
|F2 - Display securities owned by an account   |
|F3  - Quit Hyperfeed quote system|
|F4 - Select a new watch list|
|F5 - Edit or delete a watch list of securities|
|F6 - Refresh display with latest quotes|
|F7 - Move display up one page|
|F8 - Move display down one page|
|F9 - Print current watch list|
|<shift>F4 - Toggle Hi/Low - Bid/Ask|
|<shift>F5 - Toggle Show Stocks in fractions    |
|<shift>F7 - Scroll display up one line|
|<shift>F8 - Scroll display down one line|
```

```
||
|ENTER TICKER OR HIT A FUNCTION KEY|
|TO GET ALL SECURITIES, HIT F2 FOLLOWED BY ESC |
||
```

Each of these functions is described in detail in the pages to follow.

Monitoring the securities in a portfolio

This function allows users to dynamically view the prices on all the stocks a particular portfolio owns. Start at the Sample Quotes page.

1. Press F2 for the Account Selection window
2. Select the account. Type the name or account number, and press ENTER. To display a list of all of the available accounts, press F7. A screen will appear, displaying the account data

```
PEBBLE KNIGHT REV INTERV TRUSTHYPERFEED QUOTES Last Update: 0:30
+-------------------------------------------------------------------------
+
|SYMBOLLOWHIGHLAST CHANGE PCT    VOL #TRDSPE  TIME|
| BRE28.4228.9928.990.33  +1.2   42380  18.8 14:14|
| CAG24.0724.4924.430.10 +0.4   6120547   18.1 14:17|
| CAT45.7446.9446.530.43  +0.9  11542989  17.8 14:17|
| CSX33.9934.6934.12-0.35 -1.0   3685332  10.9 14:15|
| DD41.7542.2042.01-0.01  +0.0  9699985  67.8 14:17|
| DPH11.9512.0812.000.01  +0.1   8030429 -171.4 14:16|
| EK25.2525.9625.67-0.36 -1.4  195081124  15.7 14:17|
| EMR51.5053.5052.49-0.23 -0.4  122091231  16.0 14:17|
| F16.00  16.2016.01  -0.17 -1.1 22017 1727 12.9 14:17|
| FBF34.71  35.9535.360.56  +1.6  23203   1144   15.7 14:15|
| FTU--Z|
| GM42.8043.7142.87-0.91  -2.1  1152888723.6 14:16|
| HNZ42.8743.1742.94-0.19 -0.4   403849730.7 14:16|
| LNC44.4345.4144.83-0.05 -0.1   388644915.2 14:16|
+-------------------------------------------------------------------------
+
```

```
|TICK:|
||
||
+-------------------------------------------------------------------------
+
|F1-Help F2-Snam F3-Exit F4-Sel F5-Edit F6-Ref F7-Pg/LnUp F8-Pg/LnDn F9-Prt |
+-------------------------------------------------------------------------
+
```

The account name will appear in the upper left corner.

The function keys that can be used with this screen are described below:

Key	Description
F2	Select a new portfolio
F3	Exit Quote System
F4	Display a watch list. See “Viewing security pages”
F5	Edit a watch list. See “Editing or deleting a quotes page”
F6	Update the prices to the most recent prices available. The time of the prices will appear in the upper right corner of the screen
F7	Page up
F8	Page down
F9	Print a report

Viewing security pages

This function allows user to see a list of pages that have been created, and view any one of them.

1. From the Quote Screen, press F4. The HyperFeed Page Retrieval Window will appear

```
+-----------------------------------------------------+
|DTN PAGE RETRIEVAL|
|--------------------|
|PAGE #:PAGE TITLE:|
```

```
|-----------------------------------------------------------|
||
||
||
||
||
||
||
|-----------------------------------------------------------|
|SELECT PAGES AND HIGHLIGHT YOUR CHOICE|
+-----------------------------------------------------------+
```

2. Type a page number and press ENTER to retrieve a page. Press F7 to see a list of available pages

```
+-----------------------------------------------------------+
|DTN PAGE RETRIEVAL|
|--------------------|
|PAGE #:PAGE TITLE:|
|-----------------------------------------------------------|
|  1 SAMPLE TICKERS|
|  2 SAMPLE TICKERS|
|  3 WATCH LIST-WWW|
|  4 MARKET WATCH|
|  5 OPEN|
|  6 OPEN|
|  7 SCRATCH PAGE|
|-----------------------------------------------------------|
|SELECT PAGES AND HIGHLIGHT YOUR CHOICE|
+-----------------------------------------------------------+
Page 4, the Market Watch, provides details on NYSE advances, declines, and
volume, as well as recent information on the Dow Jones and Standard and Poor's
Indexes.
LIST: 4   MARKET WATCHHYPERFEED QUOTESLast Update: 0:31
```

```
+-------------------------------------------------------------------------------
+
|INDICATORLAST|
| NYSE Tick|
| NYSE TrinNot available from HYPERFEED
||
|INDEXLOWHIGHLAST CHANGE  PCT TIME|
| Dow Jones Industrials9387.00 9485.00   9460.00  19.00   +0.2  14:56|
| Dow Jones Transportation 2257.70 2286.90 2273.20   -11.50   -0.5  14:56|
| Dow Jones Utilities293.39 297.20  295.73    -1.68 -0.6  14:56|
| Dow Jones Composite2691.80 2716.50   2711.00  -2.90   -0.1  14:56|
| S&P 100563.10 569.20    567.901.20 +0.2  14:56|
| S&P 5001095.30 1106.50 1104.201.40   +0.1  14:56|
||
|SYMBOLLOWHIGHLAST CHANGE PCT    VOL #TRDSPE  TIME|
| +STOX|
| -STOX|
+-------------------------------------------------------------------------------
+
|TICK:|
||
||
+-------------------------------------------------------------------------------
+
|F1-Help F2-Snam F3-Exit F4-Sel F5-Edit F6-Ref F7-Pg/LnUp F8-Pg/LnDn F9-Prt |
+-------------------------------------------------------------------------------
+
```

3. Press F7 and F8 to scroll through the list
4. Press F9 to print the list
5. To return to the Main menu, press F3 or ESC

Editing or deleting a quotes page

This option allows you to add or remove the securities that appear on a particular page.

1. From the Quote Sample Screen, press F5. The Hyperfeed Page Retrieval window will appear

```
+-----------------------------------------------------------+
|HYPERFEED PAGE RETRIEVAL|
|------------------------|
|PAGE #:PAGE TITLE:|
|-----------------------------------------------------------|
||
||
||
||
||
||
||
|-----------------------------------------------------------|
|SELECT PAGES AND HIGHLIGHT YOUR CHOICE|
+-----------------------------------------------------------+
```

2. Press F7 to display a list of available pages

```
+-----------------------------------------------------------+
|HYPERFEED PAGE RETRIEVAL|
|------------------------|
|PAGE #:PAGE TITLE:|
|-----------------------------------------------------------|
|  1 SAMPLE TICKERS|
|  2 SAMPLE TICKERS|
|  3 WATCH LIST-WWW|
|  4 MARKET WATCH|
|  5 OPEN|
|  6 OPEN|
|  7 SCRATCH PAGE|
|-----------------------------------------------------------|
```

```
|SELECT PAGES AND HIGHLIGHT YOUR CHOICE|
```

3. Select the page to edit. A window will appear, asking what to do with the page

```
+----------------------+
|DO WHAT WITH THIS PAGE|
|----------------------|
|EDIT|
|DELETE|
+----------------------+
```

4. To delete the entire page, highlight DELETE, and press ENTER. To edit the page, highlight EDIT, and press ENTER.If you chose EDIT, the Edit Quotes window will appear

```
+-------------------------------------------------------------+
|PAGE  4 MARKET WATCH|
|-------------------------------------------------------------|
|ENTER TICKERS TO INCLUDE|
|----------------------------|
|INDU TRAN UTIL COMP OEX INX|
|TICK TRIN +STOX -STOX *UNCH +VOL -VOL *VOL|
||
||
||
||
||
||
||
||
|-------------------------------------------------------------|
| F3 - Exit   F10 - Save Esc - Abort Edit|
+-------------------------------------------------------------+
```

5. Add or remove items from the Edit Screen. Press F10 to save any changes. To exit without saving your changes, press ESC

11.6 Fundamental data services (quotes and vendor security databases)

With APL Windows, you can access the data provided by Zacks Data or Ford Data Service. These research databases contain a variety of research statistics on over 2000 securities. If you are interested in this option, contact your account manager. To use either data service, follow the steps outlined over the next pages.

1. From the Menu, select the Ford Data Services or Zacks Data option. A window will appear, prompting users for ticker symbols

```
UP TO 3 TICKER SYMBOLS
```

2. Type the ticker symbols for securities you want to display. Enter from one to three symbols. Leave a space between each one. Press ENTER. The Information screen will appear

```
Zacks Data
03/04/98 11:20ZACKS DATA BASE
KOIBMCKFR
--------- --------- ---------
05. 05A: CURRENT PRICE 68.63104.4421.50
06. 06A: MONTHLY CLOSING PRICE (1)68.63   104.4421.50
06. 06B: MONTHLY CLOSING PRICE (2)64.7598.7524.75
07. 07A: YEARLY CLOSING PRICE (1)66.69   104.7327.00
07. 07B: YEARLY CLOSING PRICE (2)52.6375.7517.13
08. 08A: 52-WEEK HIGH CLOSE71.88  112.1830.19
09. 09A: 52-WEEK LOW CLOSE53.5664.639.63
10. 10A: 52-WEEK H/L PRICE RANGE82.2582.5157.75
11. 11A: % PRICE CHANGE LST 4-WKS5.985.76    -13.13
12. 12A: 4-WK % PRICE CHANGE-0.99-1.20    -18.85
13. 13A: % PRICE CHANGE LST 12 WKS3.88-6.97  -26.18
14. 14A: 12-WK % PRICE CHANGE-2.61  -12.77  -30.79
15. 15A: % PRICE CHANGE LST 24-WKS20.266.8413.91
16. 16A: 24-WK % PRICE CHANGE5.89-5.930.29
```

```
17A: % PRICE CHANGE IN CAL YTD2.89-0.18  -20.37

18A. % PRICE CHANGE IN CAL YTD-4.83-7.69  -26.36

19A: T.R. VOLATILITY (60 MTH)0.961.34NMF

20A: SHARES OUTSTANDING (MM)247397256

21. 21A: MARKET VALUE ($MM)169725  1015311190

--------------------------------------------------------------------------------

PRESS <ESC> TO EXIT  <F1> FOR HELP <F3> MAIN MENUTegra118

Ford Data Services

03.04.98 11:25 FORD DATA BASE

FORDSPIBMCKFRKO

--------- --------- --------- ---------

2. TKR: TICKER SYMBOLFORDSPIBMCKFRKO

3. PRI: PRICE35.00  104.4421.5068.63

QTY: QUALITY RATING5471

GRP: GROWTH PERSISTENCE RATING-12

6. CNE: CURRENT/NORMAL EARNINGS R1.001.00-9.991.00

7. GRO: GROWTH RATE ESTIMATE1172515

8. PEC: CURRENT P/E RATIO15.0007.00   999.9041.10

9. PER: NORMAL P/E RATIO15.00   178.00   107.5041.10

10. PEH: NORMAL P/E RATIO / 5 YR A0.951.409.991.28

11. PEG: NORMAL P/E RATIO / GROWTH1.372.434.302.74

12. PCF: PRICE/CASH FLOW RATIO9.9010.2099.9042.90

13. PBK: PRICE/BOOK VALUE2.484.707.1719.92

14. PSS: PRICE / SALES/SHRE1.041.346.699.15

15. ROI: INTERNAL RATE OR RETURN9.806.606.106.60

16. PVA: PRICE/VALUE RATIO0.911.562.501.15

17. PVH: PRICE/VALUE RATIO / 5YR P0.781.199.991.12

18. PVR: PRICE/VALUE RELATIVE TO M0.741.282.040.94

19. SED: EARNINGS TREND-13-24-3541

20. SDR: RELATIVE EARNINGS TREND-0.41-0.21-0.950.15

--------------------------------------------------------------------------------
```

```
PRESS <ESC> TO EXIT  <F1> FOR HELP <F3> MAIN MENUTegra118
```

The data screens work basically the same.

The left column on the Information Screen shows the data categories. On the Ford screen, the next column, FORDSP, shows the S&P 500 averages. The remaining columns on either screen show the data for each ticker symbol selected.

The first three securities you chose appear as the first three columns.

3. To exit the screen, press ESC
4. To get help, press F1

From this screen you have two options:

- For general help, type S, and press ENTER
- To get a description of a data item, type the number for that item, and press ENTER

5. For either screen press ESC or F3 to return to the Menu

11.7 Terminal security

This feature allows users to temporarily lock your terminal. After a terminal is locked, it cannot be used unless the person using it knows the right password. This allows users to safely leave your terminal unattended.

1. Select TERMINAL SECURITY. The following message will appear:

```
ENTER LOCK KEY
```

2. Type a password, and press ENTER. The system prompts users to type the password again. Type the password a second time

> **Note:** Users can use any combination of words, letters, or numbers. It is suggested to limit the password to six characters.

3. The terminal is now secure. When ready to access a feature, press any key. A message will appear:

```
TERMINAL LOCKED PLEASE ENTER KEY:
```

4. Type your password, and press ENTER

Appendix A: Interfacing with APL Trading

An interface is a means by which two separate and independent systems exchange data with each other. In APL systems, interfaces are designed to read data from an external system, deliver formatted data to an external system, or match data items (such as transactions) that reside on two systems.

> **Note:** The APL systems generally fall into the following four categories: bookkeeping, trading, position reconciliation, and cash reconciliation. The APL Trading System User Guide concerns itself with the trading interfaces only.

Trading interfaces process transaction information for positions purchased and sold. Positions that were received into an account or delivered out of an account are also processed. These positions can be posted directly to accounts on the APL system.

> **Important:** If the APL Trading System is used to create and post trades, do not post the trade files supplied by the interfaced custodians. Doing so causes duplication of transactions and positions.

The following is a list of the ready-made interfaces available for use on the APL system as of November, 2001. Contact your account manager for up-to-date information about interfaces to meet your requirements.

In the following table, the codes under the Frequency heading are as follows:

- D= daily
- W= weekly
- M= monthly
- Q= quarterly

Institution	Type	Frequency	
(SEI) IBT Investors Bank & Trust Co	position	D	W
(SEI) State Street Bank (formerly Compass)	bookkeeping	D	
ADP	book	D	
	cash position	D	
	position	D	W
	trade	D	

Institution	Type	Frequency		
ADP - IJL	account master	D		
	cash	D		
	cost upload	D		
	position	D		
	price			M
	trade	D		
Advest Bank	cash position	D		
	pricing			M
A. G. Edwards	bookkeeping	D		
	position	D	W	M
American Skandia	position	D		
	price	D		
	trade	D		
APM -AIM Private Investment Mgmt	DTC confirms	D		
Bank of New York	bookkeeping	D		
	position	D		M
Bank One	bookkeeping	D		
Bear Stearns - BSC	bookkeeping	D		
	position	D		M
	trade	D		
Beta	bookkeeping	D		
	cash	D		

Institution	Type	Frequency		
	position	D		
	trade	D		
Brown Brothers Harriman & Co.	account master		W	
	bookkeeping	D		
	position	D		
	trade	D		
CharlesSchwab/Ustrust Branch	trade	D		
D.A. Davidson & Co.	position	D		
	transaction	D		
Dain Rauscher	account master	D		
	bookkeeping	D		
	position	D		
	security master	D		
Dean Witter	cash		W	
	position		W	
	trade	D		
Deutsche Banc Alex Brown	bookkeeping	D		
	cash			M
	position		W	M
	pricing		W	M
Dreyfus	bookkeeping			M
DST	bookkeeping			M

Institution	Type	Frequency		
	position	D		
	pricing	D		
	trade	D		
DST-Alliance	bookkeeping			M
	cash	D		
	position			M
DTC	intraday			
Fahnestock	bookkeeping	D		
	position			M
	trade	D		
Fidelity Investments	account master	D		
	bookkeeping	D		
	cash	D		
	position	D		
	security master	D		
Fiduciary Trust Company International	bookkeeping	D		
	bookkeeping		W	
	position	D		M
FII	security master	D		
First Union (Formerly Corestates)	bookkeeping	D		
	position		W	
First Union Securities	account master	D		

Institution	Type	Frequency		
	bookkeeping	D		
	cash	D		
	position	D		
	pricing			M
	trade	D		
Tegra118	bookkeeping	D		
Fleet	bookkeeping	D		
	position	D		
Ford Investors Services	security master		W	
Frost Bank	bookkeeping	D		
	position	D		
Investors Bank & Trust Co	bookkeeping	D		
	position	D	W	M
Janney Montgomery Scott, Inc.	security master			M
FT/JJ Kenney	pricing		W	M
JPMorgan/Chase	bookkeeping	D		
	position			M
	trade	D		
LaSalle	bookkeeping	D		
	cash			M
	position			M
Lehman Brothers	bookkeeping	D		

Institution	Type	Frequency		
	cash	D		
	position	D		
	pricing trade	D		
Lewco Securities Corporation	Account master	D		
	bookkeeping	D		
	cash	D		
	position	D		M
	security master	D		
	trade	D		
Manhattan Bank (formerly Chemical Bank)	bookkeeping	D		
McGregor Group	cash	D		
	positions			
	trade	D		
Mellon - PMC	bookkeeping	D		
	cash	D		
	position	D		
Mellon Bank	bookkeeping	D		
	cash	D		M
	position	D		M
Mellon Bank (MPAM SYSTEM)	bookkeeping	D		
	position		W	M
	trade	D		

Institution	Type	Frequency			
Merrill Lynch	account master	D			
	billing	D			
	bookkeeping	D			
	broker data	D		M	
	cash	D	W	M	
	fee	D			Q
	position	D	W	M	
	pricing	D		M	
	proxy	D			
	security master	D			
	trade	D			
	voting	D			Q
	security master	D		M	
Micromax	account master	D			
	position				
	security master				
Muller	pricing			M	
	security master	D	W	M	
Nathan & Lewis	download			M	
National Financial	account master	D			
	bookkeeping	D			
	position	D	W		

Institution	Type	Frequency		
	security master	D		
	trade	D		
Nationsbank / Banc of America	bookkeeping	D		
	position			M
NCC - National City Bank	bookkeeping	D		
	cash	D		
	position	D		
NCS -Sungard (Phase 7)	trade	D		
Neuberger & Berman, LLC	Account master	D		
	bookkeeping	D		
	position	D	W	
	trade	D		
Northern Bank and Trust Company	bookkeeping	D		
	cash	D	W	M
	position	D	W	M
Northern Bank and Trust Company - NBC	bookkeeping	D		
	cash	D		
	position	D		
	trade	D		
	account master			M
	position			M
	security master			M

Institution	Type	Frequency		
	trade			M
OASYS	intraday	D		
Paine Webber	trade			
Paine Webber - CSC Program	account master	D		
	bookkeeping	D		
	cash	D	W	
	position		W	
	trade	D		
Pershing	account master	D		
	bookkeeping	D		
	cash	D		
	position	D		M
	trade	D		
Phase III	balance	D		
	name / address	D		
	price	D		
	stock	D		
	trade	D		
Provident	bookkeeping	D		
	position	D		
Prudential Securities Incorporated	account master	D		M
	bookkeeping	D		

Institution	Type	Frequency		
	cash	D	W	
	position	D	W	M
	pricing			M
	trade	D		
Resource Trust Company (RTC)	intraday			
Russell	benchmarks	D		M
Schwab & Company Inc.	account master		W	M
	cash		W	M
	position		W	M
	pricing			M
	security master	D		
	trade	D		
Schwablink	bookkeeping	D		
	position	D		
	security master	D		
	trade	D		
SEI Corp.	cash	D		
	position	D		
	pricing	D		M
	trade	D		
	bookkeeping	D		
SIS	cash	D		

Institution	Type	Frequency		
	position	D		
	trade	D		
Smith Barney	account master		W	
	bookkeeping	D		
	cash	D	W	M
	position	D	W	M
	trade	D		
Southwest Securities, Inc.	bookkeeping	D		
	cash	D		
	position	D		
	trade	D		
State Street Bank (formerly Compas)	bookkeeping	D		
	position	D		
Stephens	position	D		
	trade	D		
Sungard Trust Systems	bookkeeping	D		
	position	D		
SWBSTP	intraday trading	D		
Union Bank of California	position	D		
	trade	D		
Vanguard	cash	D		
VMF Capital, LLC	trade	D		

Institution	Type	Frequency
Zacks	security master	M

Note: ADP, BETA systems, Phase 3, SIS, SSC and TSSG are back office systems. The specific broker/dealer firms using these back office automation systems are not detailed on this list.

Appendix B: Financial Information eXchange (FIX)

The Financial Information eXchange (FIX) effort began in 1992 when a group of institutions and brokers attempted to improve the efficiency of their trading practices. “The Financial Information eXchange (FIX) Protocol is a ‘language’ which defines specific kinds of electronic messages for communicating securities transactions between two parties. FIX defines only the format of the messages and the session- level interaction between two applications -- it is not a software application in its own right “(www.fixprotocol.org). A steering committee comprised of fund managers, brokers and other various industry participants maintain and improve the FIX protocol.

Tegra118 currently supports FIX version 4.1, 4.2, and 4.4. FIX has emerged as the industry standard and is currently supported by many of Tegra118’ clients’ counterparties.

> **Note:** Implementation of the FIX protocol is an important step towards achieving straight through processing (STP) and for the eventual conversion to t+1 settlement. Additional information regarding FIX as well as a listing of the current committee members can be found on the Internet at www.fixtradingcommunity.org.

Tegra118 supports the following FIX messaging:

> **Note:** Requires Tegra118 configuration and setup.

- Outgoing Orders
- Incoming Executions
- Outgoing Cancelation Requests
- Incoming Cancel Reject Messages
- Outgoing Intraday Allocations for Fixed Income
- Outgoing EOD Allocations
- Administrative FIX session messages

> **Note:** To participate in FIX messaging, implementation and configuration is required. Contact your Tegra118 representative to discuss how your firm can employ FIX messaging.

B.1 FIX Trading Partner Destinations

Tegra118 establishes and maintains each client’s FIX trading partner destination (back office) criteria and configures the FIX processes to adhere to each client’s requirements.

FIX processes such as block separation and routing refer to this FIX destination criteria and configuration in determining how blocks are separated and, if eligible, sent.

Any FIX order violating eligibility checks (Maximum Shares/Bonds or % Average Daily Volume) will be routed to pre-defined alternate destination. If the alternative destination not defined, then order will be marked as ineligible. Contact Tegra118 representative for more details.

The orders sent to a particular destination can be defined at the account level (one destination per account) or if configured, multiple destinations per account.

- If configured, the Tegra118 FIX program supports multiple FIX routing destinations for an account based on a combination of defined destinations, account selections, and asset types.
- Standard Asset Types supported are All, Equity, Options, and Bonds: defined by issue type. In addition, if configured, custom asset types can be defined based on issue types

A block can be separated by:

- Non-FIX Eligible orders
- FIX destinations based on client configuration

Block will not be split if there are primary and alternate FIX destinations in same block.

> **Note:** Further splitting of the blocks based on non-FIX related processes is possible based on client configuration.

B.2 FIX Trade Order Workflow

The steps below describe the standard workflow for creating trades, sending eligible trades via FIX messages, and receiving and matching FIX execution messages.

> **Note:** Customized workflow steps and processing logic may be in place for some clients and or destinations (back offices). Contact your Tegra118 Representative to find out if your particular FIX messaging process has customized steps and processes.

Send FIX Orders

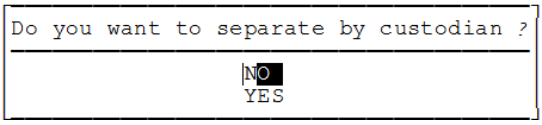
1. Create a Block of Trades

   Trade blocks can be created using any trade creation tool. Any processes currently in place regarding block creation are not affected by FIX installation. Blocks can contain a mix of orders, eligible or not eligible for FIX.

2. Commit the Block

   From Block Status, commit the block containing FIX orders using one of the commit options.

3. If the block contains a mix of orders, i.e. orders for one or more FIX destinations and non-FIX orders, a prompt is displayed, “Do you want to separate by custodian?”



   - Select YES to proceed with the FIX block separation and commit processes
   - Select NO to proceed with the commit process only

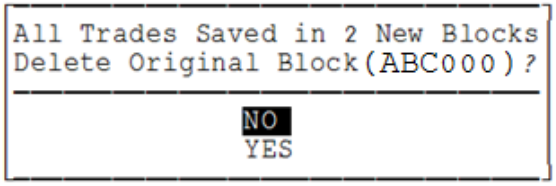
   > **Note:** This prompt is not displayed if the block contains all FIX eligible orders for one destination or if there are primary and alternate FIX destinations in same block.

4. Separate Blocks Process

   If YES is selected to separate by custodian, the original block is separated into two or more blocks:

   - A block containing non-FIX orders, if any, is created
   - One or more blocks per FIX destination based on previously configured routing rules are created
   - If block separation occurs the original block remains in an uncommitted state

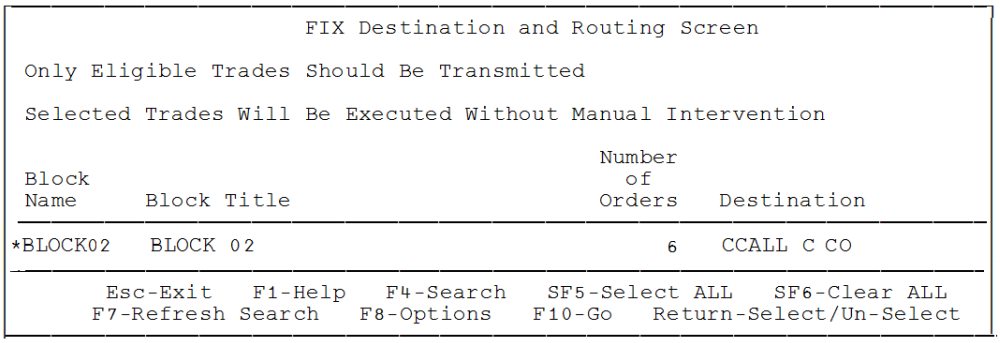
   A prompt is displayed asking if the original block should be deleted.



   > **Note:** After the initial split of the block, additional split routines could be applied if routines have previously been configured for a client.

   Tegra118 provides the configurable option to prevent subsequent split routines from being applied to the FIX blocks.

5. Route FIX Blocks
    a. A prompt is displayed for each FIX block asking, “Do you want to send these trades to XXXXXX now?” where the XXXXXX is populated with the name of the destination. Select Yes to send or No to not send for each
        - Alternatively, if configured for the Multi Destination feature, the FIX Destination and Routing Screen is displayed listing the FIX eligible blocks. Select the blocks to be sent by pressing Enter on each one. An asterisk is displayed next to the block name. Select F10-GO to proceed



    Blocks NOT selected to be sent are left as committed only in Block Status (designated with an asterisk before the date). A block can be routed later by un-committing and re-committing it and following the FIX routing procedure

> **Note:** If the orders should be treated as Step Out trades, then the block should not be routed.

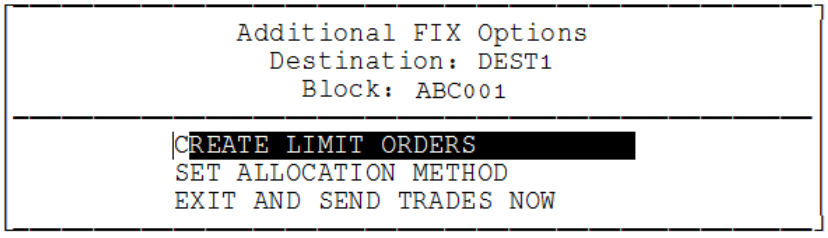
    b. After the FIX blocks to be sent are identified, all of the blocks (both FIX and non-FIX) are checked for errors by the Commit routine. Each block is evaluated, one at a time, within the Commit loop

    If commit errors are encountered for a block, they are displayed.

    Choose to fix the errors and continue committing the block or abort the commit process.

    If the commit process for a block is aborted, it remains in the uncommitted state.

    c. If there are multiple blocks, the next block will be evaluated in the “commit loop.”
6. The Additional FIX Options screen is displayed for each FIX block, subject to FIX configuration



For the blocks containing both primary and alternate FIX destinations, this prompt will display for both primary and/or alternate FIX destinations.

Additional FIX Options Menu

The Additional FIX Options menu can list multiple options. There may be more or less options listed then the three default options described below depending on configuration.

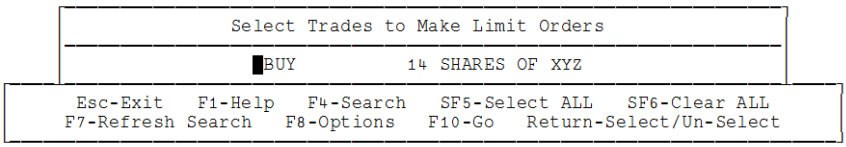
Note there is no option to abort the route action.

- Create Limit Orders
- Set Allocation Method and Exit
- Send Trades Now

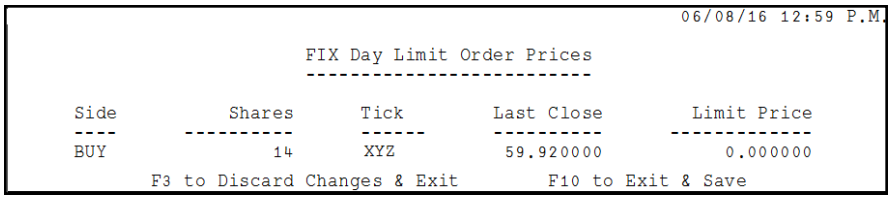
Create Limit Orders

Create Limit Orders is used to enter limit prices on selected orders.

a. If Create limit Orders is selected a list of orders contained in the block is displayed
b. To assign limit prices to orders, select them from the list by pressing Enter on each one. An asterisk is displayed next to the side (BUY or SELL) of the selected orders



c. After selecting the orders press F10 - GO to go to the FIX Day Limit Order Prices screen



d. Enter the limit price in the Limit Price field for each order. The limit price is initially defaulted to 0 (zero) indicating that it is a market order

   The Last Close column is the previous night's closing price and can be used as a guide.

e. Press F10 to Exit & Save to save the limit prices and return to the Additional FIX Options menu
f. If the entered limit order price differs by more than 20% from the previous closing price, a pop up box is displayed

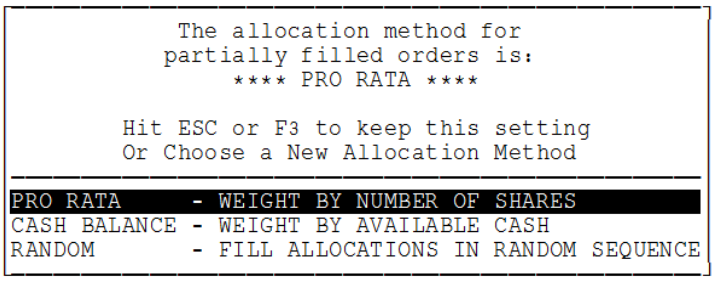
```
Choose Create Limit Orders again to make revisions.

Changing the limit price to 0 (zero) returns the order to a market order.
```

Set Allocation Method

If an order is partially executed, the executed shares are automatically allocated among the accounts in the order during the allocation process.

Use Set Allocation Method to define an allocation method to apply to any partially executed orders in the block.

a. If Set Allocation Method is selected, a menu of allocation methods is displayed



b. The default allocation method is PRO RATA. A different allocation method can be specified for the selected block by highlighting the method and pressing Enter or F10. Select F3 or ESC to exit without choosing a new method

> **Note:** An allocation method can only be defined per block, not per order. Orders within the same block may not have different allocation methods. To accomplish this, divide the orders into different blocks and commit them separately.
> The default allocation method can be defined by Tegra118 during setup of the FIX connection.

Set Execution Options

This feature requires Tegra118 configuration in order to enable it. Contact your local administrator for details.

If enabled and selected, the option 1. NOT HELD is available in the Choose Execution Options sub-menu. By selecting it all orders in block will be processed as NOT HELD (NOT HELD indicator is included in the FIX file).

Additional instructions can be added to the FIX file if enabled.

a. If the additional instructions feature is not enabled, the NOT HELD processing occurs. User returns to the Additional Fix Option screen.
b. If the additional instructions feature is enabled, the Select Trades for the Additional Not Held Instructions screen is displayed listing orders sorted by Security, Side and Units.
   Netted trades are included in the orders, not the originals.
   Columns include Side, Units, and Security ID (tick).
   Each row represent an order.
c. Select orders to apply additional instructions to by hitting Enter on the applicable rows. An asterisk (*) is displayed next to the Side column. Select F10-Go.
d. The Select Not Held Additional Instructions screen is displayed with a list of options. Select an option to include for the selected orders. Select F-10 Go.

   Some options are client-defined and are can be managed in the EDITFIXEXEINST table by authorized users. Contact your local administrator for details.

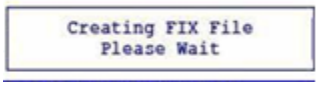
   - If the NO ADDITIONAL INSTRUCTIONS option was selected no additional instructions will be included for those orders but the NOT HELD processing still occurs
   - If the ADD TEXT option is enabled and selected then the Add Text for Additional Not Held Instructions screen is displayed where text can be entered for the selected orders. Up to 40 alphanumeric and special characters can be entered

e. If any other option is selected, those instructions will be included for the selected orders.
f. User returns to the Additional Fix Option screen.

Exit and Send Trades Now

To continue sending the block of orders, select Exit And Send Trades Now.

a. When this option is selected chosen, the orders within the block are sent through FIX to the designated back-office destination
b. The screen displays a process message, “Creating FIX file, please wait.”



c. Confirm Sent Blocks

Once the blocks have been sent, the Block Status screen is displayed.

The blocks sent through FIX are marked with an “F” next to the date, in place of the normal asterisk “*”, to indicate that they been sent through FIX.

```
                    BLOCK STATUS AS OF 10/25/16  2:13 P.M.
F = TRADES SENT TO FIX     TOTAL    M = MUTUAL FUND TRADE INCLUDED ON EOD
* = COMMITTED  G = GOOD-TILL-CANCELLED ORDER    $ = COMMITTED G-T-C ORDER
NAME    DATE  TIME  BLOCK TITLE                        B/S      TOTAL      DONE
-------------------------------------------------------------------------------
XYZ081 *10/07 11:51 ACCOUNT ADJUSTMENT XYZ001         SELL     1,000          0
XYZ034 F10/03 08:56 SPLIT FROM XYZ025: DEST1 FI       B/S        N/A          0
XYZ035 F06/08 19:37 SPLIT FROM XYZ025: DEST2          B/S        N/A          0
XYZ036 *06/08 19:45 SPLIT FROM XYZ025: NON FIX        B/S        N/A          0
```

Block Titles

The newly created block titles reflect the orders contained within, that is whether the block contains orders designated as FIX or those that are non-FIX accounts/orders.

The blocks containing FIX orders have titles comprised of:

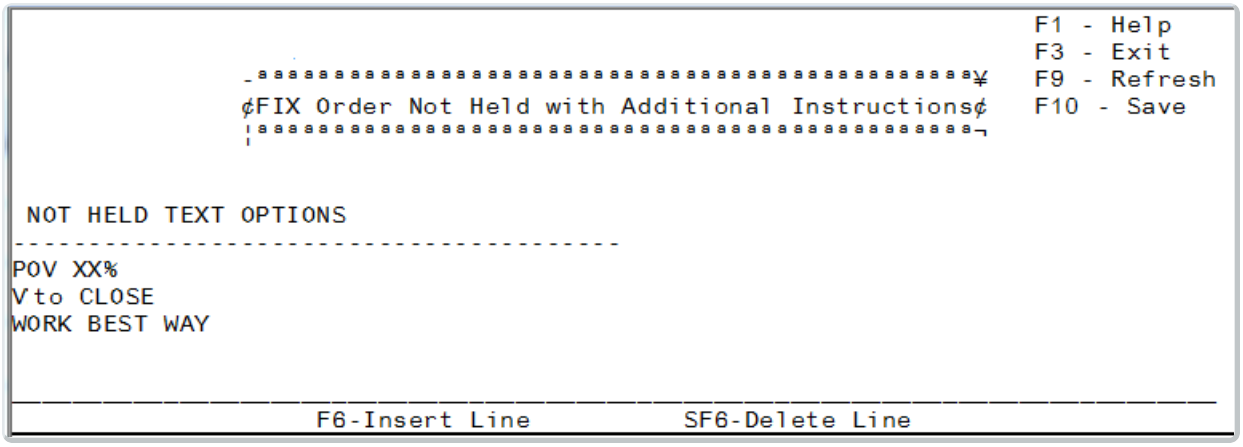
- Original block title
- FIX destination code
- Asset Types, if configured for multiple destinations and configured to identify blocks based on destination + asset type

Not Held Additional Instructions Table

This table, **EDITFIXEXECINST**, is used in conjunction with the Set Executions Options (Not Held) feature within the Additional Fix Options menu displayed during the commit process.

This table is used to manage client specified Not Held Additional Instruction options displayed in the Select Not Held Additional Instructions screen.

Internal Tegra118 staff or authorized client can add, edit, delete, and view the options. The text options can be up to 40 alphanumeric and special characters long. It can be accessed from the Which Function or the What Next prompt by authorized users.



Receiving FIX Executions

FIX execution messages are automatically processed once they are received from the respective trading partner destinations. The execution is automatically applied to the order and the order is executed within the Tegra118 trading system.

A FIX order message must be sent in order to receive and process a matching FIX execution message. Tegra118 cannot accept an unsolicited execution message.

For example, if an order is phoned into the back-office and no FIX order message is sent, the back-office could execute the phone order and send a FIX message to Tegra118. This execution message will not be accepted because it cannot be matched to an outgoing order message.

If an execution message is received that does not match the outgoing order message, an error message is generated and sent to a group of internal Tegra118 employees for investigation

For example, if a change to an order sent through FIX is phoned into the back-office the execution message will not be processed by the Tegra118 system because the details of the execution message do not match the details of the outgoing order message.

> **Note:** Refer to Fixed Income Orders section below for information on configurable bond execution and allocation processing.

Partial Executions

The Block Status screen does not reflect partial executions and no execution detail reports for the partially filled orders are available until 4:30PM CST.

All orders remain “open” in case other partial executions for the orders are received, filling the orders completely. If orders with partial executions are not completely filled during trading hours, they are automatically executed at 4:30PM CST.

Partially filled orders do not need to be manually executed and should not be manually executed to avoid the possibility of the execution being duplicated when the system attempts to process the partial execution at 4:30PM CST.

The partially filled orders are allocated according to the method selected in the Additional FIX Options screen or according to the default method if an allocation method was not specified.

Maximum Dollar Limit

The Maximum Dollar Limit feature offers the ability to define a maximum dollar value permissible for orders, when routing blocks for execution through FIX.

This feature must be enabled by Tegra118 customer support. Contact your Tegra118 Client Account Manager for more information.

When a block is selected for routing through FIX, a check is performed for each order in the block. If the dollar value of an order is equal to or exceeds the predefined limit, it is not routed.

Maximum Dollar Limits can be set separately for equities and fixed income securities. One or both limits can be defined and applied.

Order Value Calculation

The dollar value of an order is calculated as Units X Price. Price is based on:

- Delayed quote, if enabled, or CLSEP if not enabled
- If the Delayed Quote price is zero, then CLSEP
- If both Delayed Quote and CLSEP are zero, the committed price in the block

Limit Violations

Orders that have dollar values that are equal to or exceed the Maximum Dollar Limit are not routed and are kept in the original block. All other validated orders, if any, are routed as expected.

An error notification is displayed when one or more orders exceed the dollar limit:

Example 1: Equity orders that violate the equity Maximum Dollar Limit of $10,000.00:

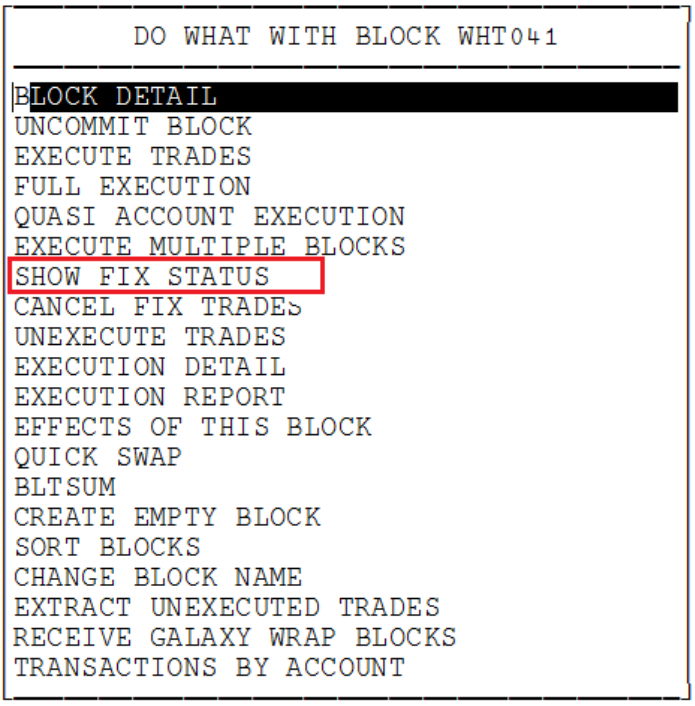
Example 2: Fixed Income orders that violate the fixed income Maximum Dollar Limit of $20,000.00:

B.3 Viewing FIX Order Status

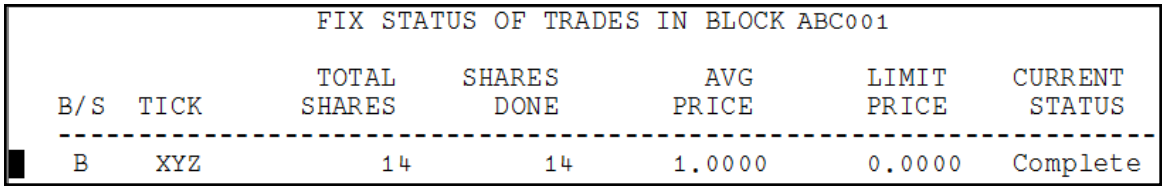
The Show FIX Status screen is used to view the status of orders that have been sent through FIX. It displays content from the most recent FIX message for the routed order.

To access the status screen follow these steps:

1. From the Block Status screen, highlight the block to view and press Enter
2. Select Show FIX Status from the submenu that is displayed



3. The FIX Status screen is displayed. This screen contains order details for each order within the selected block and their current FIX status. Past statuses are not viewable



FIX STATUS OF TRADES IN BLOCK ABC001

B/S	TICK	TOTAL SHARES	SHARES DONE	AVG PRICE	LIMIT PRICE	CURRENT STATUS
B	XYZ	14	14	1.0000	0.0000	Complete

   - Press **F8** to sort the data. You can sort the data using one of the following fields: BUY/SELL, TICKER, TOTAL SHARES, AVG PRICE, LIMIT PRICE, STATUS.
   - Press **F9 - Show Detail** to view the sequence details of FIX messages received for a routed order

Current Status	Description
New	The order has been sent by Tegra118 but has not yet been acknowledged by the back-office. If the order remains at “New” for some time after the order has been sent, this is an indication that their might be a problem with the order.
Received	The order has been acknowledged by the back-office but has not yet been executed.
Partial	The order has been partially filled by the back-office.
Complete	The order has been completely filled by the back- office.
Cancel Pending	A cancel request message for the order has been sent but the cancel message has not been accepted or rejected by the back-office
Canceled	A cancel request message has been sent by Tegra118 and processed by the back-office. The order has been cancelled and may be extracted into a new block for further trade activity. Partially Executed Orders: If an order was partially executed prior to the cancel, Tegra118 automatically allocates the executed shares at the end of the day. The status changes to “Cancelled” but the Shares Done and Avg Price columns have information related to the executions. In this case, the order should not be unexecuted, un-committed, or deleted. If the user wishes to trade the remaining unexecuted shares, the user must manually execute the partial fill and extract the remaining unexecuted shares into a new block. If the unexecuted shares are not extracted into a new block, there is the possibility that the partial execution may be duplicated at the end of the day.

Current Status	Description
Cancel Rejected	A cancel request message has been sent by Tegra118 and that cancel message has been rejected by the back- office. A “(0)” following “Cancel Rejected” field means that the cancel request for that order has been rejected because the cancel request had not reached the back-office in time. The “(0)” represents “Too Late to Cancel.” The order already been executed either partially or fully. If the status of a trade states “Cancel Rejected (0)” (the cancel request has been rejected with a reason of “Too Late to Cancel”) and the user views the screen later, the screen would reflect the executions received, not the “Cancel Rejected” message.
Done for Day	The back-office is done trading for the day. This is only a notification by the back office. Executions are occasionally received after this message.
Stopped	The exchange to which the security has been routed has stopped trading for that security for the day.
Suspended	The order has been suspended by the back-office.
Expired	The order has expired and is no longer a “live” order.
Replaced	A partial fill has been replaced. Tegra118 will not allow a complete fill to be revised or replaced automatically.
Rejected	The back-office has rejected the order. An email is sent to the user that had sent the trade through FIX notifying the user.

B.4 Cancel FIX Orders

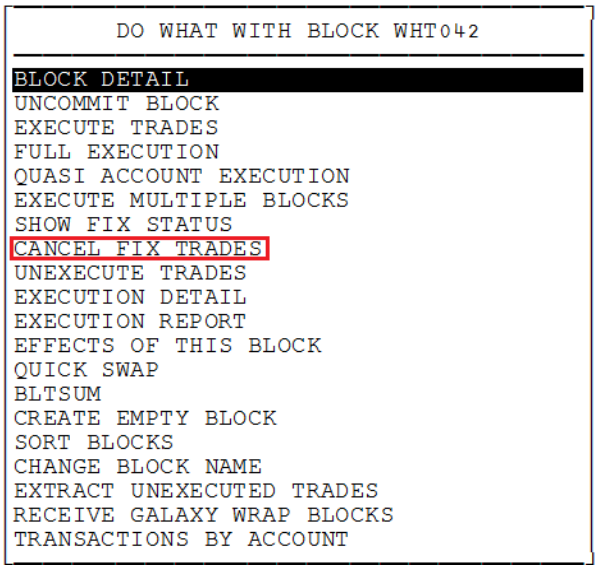
A cancel message can be sent for any order sent through FIX that has not been rejected or executed, partially or fully.

A FIX cancel request message must be sent to have an order canceled. A cancel request cannot be called in to the back-office directly. If this is done, the cancel message received from the back-office will be rejected by Tegra118 because it is an unsolicited message and cannot be matched with an outgoing cancel request message.

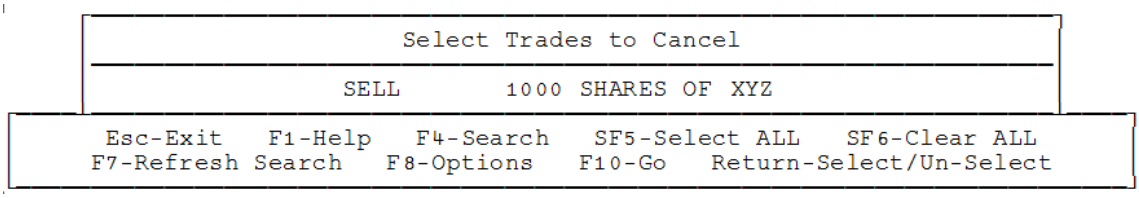
A cancel message cannot be sent twice.

To cancel open FIX orders, follow these steps:

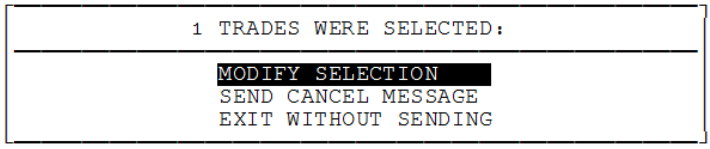
1. From the Block Status screen, highlight the block to work with and press Enter
2. Select Cancel FIX Trades from the submenu that is displayed



3. A selection list of orders contained within the chosen block is displayed
4. Select the orders to cancel by scrolling to them and pressing Enter. An asterisk is displayed to the left of the selected orders
5. Once all orders to be cancelled are selected, press F10-Go to continue



6. The cancel options menu is displayed. It notes the number of orders chosen



7. Select an option from the list
   a. Modify Selection

      Return to the order selection list to choose additional orders to cancel, or change the orders previously selected.

   b. Send Cancel Message

      A cancel request is sent for the orders specified. The order status is updated to Cancel Pending in the FIX status screen.

   c. Exit Without Sending

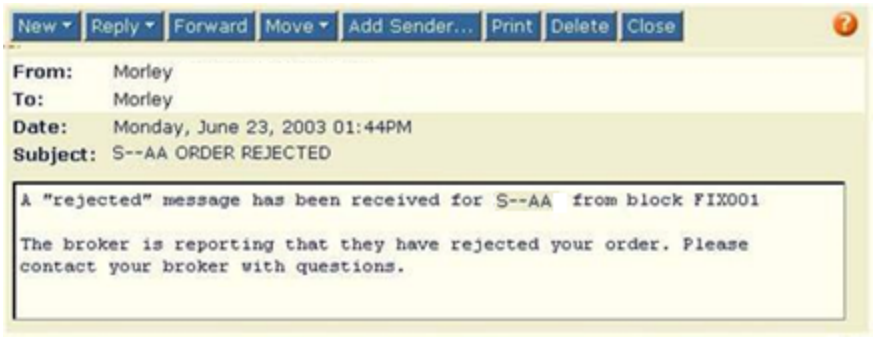
      Return to the Block Status screen without sending a cancel request message.

B.5 Email Notification

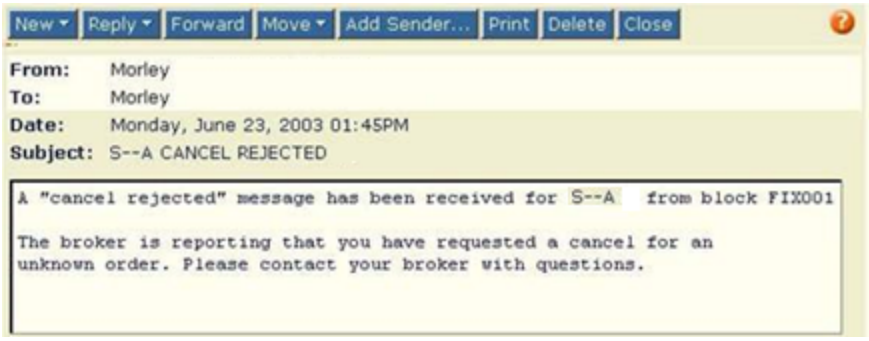
Rejection messages received from the back-office are converted to an email and sent to the user that committed and sent the trade through the FIX protocol.

The order's status in the FIX Status Screen is updated to reflect the rejection.

Contact the back-office for any questions regarding the rejected order.



Note: Tegra118 can configure the FIX connection to send the rejection email messages to other users as well. These users can be defined to receive all "Rejection" emails and if any cancel requests are rejected, the users will receive mail regarding "Cancel Rejected" orders.



B.6 Fixed Income Orders and FIX

Features described in this section require Tegra118 configuration and setup.

Fixed Income orders can be routed through FIX if the following conditions are met:

- Your firm has been enabled for routing orders to multiple trading destinations based on a combination of account groups and asset types
- Eligible fixed Income destinations exist and are defined via setup and configuration
- Securities have issue types included in the Tegra118 bond variable

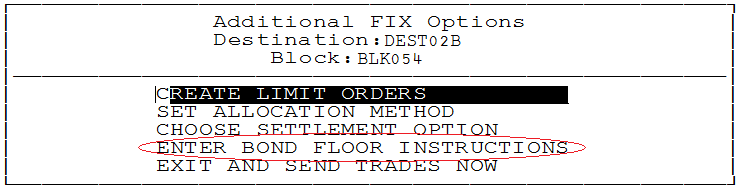
Optional FIX Bond Features

Maximum Bond Order

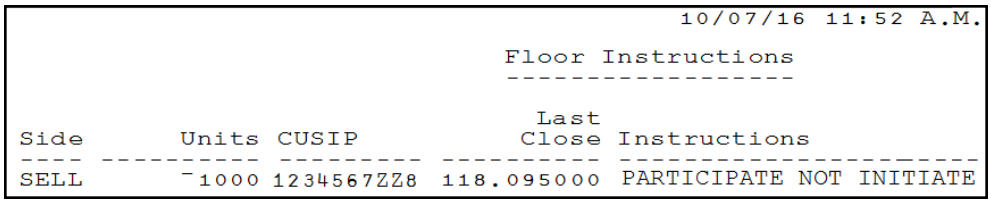
The size of fixed income orders that are delivered through FIX can be configured to be limited by quantity. The maximum bonds value configured ensures that any order size that is equal to or higher are excluded.

Bond Floor Instructions

Within the Additional Fix Options menu, the option Enter Bond Floor Instructions, can be made available through configuration to support special instructions to be directed to the trader.



If selected, the Floor Instructions screen is displayed where up to forty alphanumeric characters can be entered in the Instructions column and routed with the order.



Intraday Allocations

FIX Executions

If configured, after full or partial FIX executions are processed on bond orders during the day, allocation messages are sent back to the trading partner intraday.

The first partial execution received is processed and allocated. Any further FIX partial executions on the same order are not processed.

If configured to send bond order allocations intraday, all bond order allocations are suppressed from being included on the End of Day allocation file.

Manual Executions

It is possible to generate intraday allocations messages by manually executing bond orders, subject to configuration settings.

Tegra118 also offers the ability to send Trace Reporting indicators in the intraday allocation for manually executed bond orders, subject to configuration settings.

B.7 Important Notes

- FIX messages cannot be sent for short sales or short covers
- If the user chooses not to send an order via FIX now, the message can be sent later by un-committing and re-committing the block and then follow the routing workflow
- A FIX message will be sent regardless of the data in the order. For example, if an ineligible order is sent via FIX, the user would not receive an error message. However, the back office may process the order incorrectly or not at all
- A block should not be un-committed once it has been sent through FIX

Un-committing the block will not cancel the order message sent through the FIX protocol. The order would still be considered a live order by the back-office and will be treated as such. Any executions received for the uncommitted order will not be processed.

- When an order sent through the FIX protocol is rejected by the back-office, the user should contact the back-office with any questions regarding why the order had been rejected. Tegra118 can review the out-going order to make sure that it was properly formatted; however, if the order was properly formatted and still rejected, the user should contact the back-office
- One user can only trade under one trading account number at a back-office. Currently, it is not possible for a user to trade using two (or more) trading account numbers at one back-office
- Partial executions received during the trading day for equity orders are not processed until 4:30PM CST

All equity orders remain “open” in case other partial executions for the orders are received. This way, the average price can be applied across all accounts, fully executing the order. If orders are not completely filled during trading hours, they are automatically executed at 4:30PM CST.

When a partial execution message is received, the FIX status screen will update to “Partial”; however, the Block Status screen will not reflect the partial execution and an execution detail report will be unavailable until 4:30PM CST.

> **Note:** An exception to this is if the client is configured to send intraday bond allocations, then the partial executions are processed intraday.