

Stable™ Investment Software

Data Assistant

Version 1.02 - March 1993

Help Index

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Introduction

Stable Data Assistant is a Microsoft Windows 3.1 product providing a wide range of features specific to the management and retrieval of financial ASCII data. While Stable Data Assistant has been developed as a companion product to our *Stable Technical Graphs* program, it can also be used with other third-party products that import financial ASCII data files conforming to the Stable financial ASCII file data format.

Both daily and historical financial data are managed and processed by Stable Data Assistant.

On a daily basis, you can update your financial data either manually or automatically via CompuServe's **BASICQUOTES** data service. This service area was selected primarily to take advantage of the Basic Services membership plan.

Additionally, you have the ability to retrieve historical financial data for a multitude of financial items available on CompuServe. Historical data retrieval is performed through the MicroQuote area using the **MQINT 200** interface.

For costs associated with the retrieval of financial data from CompuServe - check your membership information or contact CompuServe Customer Support.

Here are some of the features found in Stable Data Assistant:

Manual Data Update is supported through dialog box prompting. This alleviates the need to write special programs that update your ASCII data files - or to manually edit your files using a text editor. After establishing the financial symbols and associated data files you want to maintain, Data Assistant prompts you for the daily figures and automatically updates your ASCII data files.

Automated Data Update is performed using the CompuServe data service. By far the most important feature of Data Assistant, automated data update saves you time and money every day. Data Assistant will establish communications with CompuServe, retrieve your financial data, logoff from CompuServe, and update your ASCII financial data - all automatically and conveniently.

Data File Maintenance provides you with a wide variety of data maintenance functions for managing your historical ASCII data files. With this capability, you can:

1. Create new ASCII data files.
2. Modify the contents and format of your existing ASCII data files.
3. Merge several ASCII data files together into one file.
4. Perform data verification on your ASCII data files.
5. Adjust your ASCII data files for splits and dividends.

Script File Processing for automating communication sessions with remote systems via the modem is also available through a communications terminal. This feature is how Stable Data Assistant performs automated retrieval. You too can take advantage of this processing feature by writing your own communication scripts for almost any personal need or requirement.

Main Window

The Main Window of Stable Data Assistant provides access to all areas of the product. From this window, you are able to configure the product for use, maintain your historical ASCII data files, initiate automated daily and historical data retrieval, perform manual data update, and request product help.

File menu

File Maintenance...

Displays a dialog box for performing file maintenance functions specific to your historical ASCII data.

Exit

Exits the program.

Update menu

Daily...

Executes your pre-selected method for daily data retrieval; which is either the automated CompuServe BASICQUOTES access, or the execution of a selected communications script file.

Historical...

Allows you to retrieve historical quotes by executing either the automated CompuServe MQINT access process, or by executing a selected communications script file.

Manual...

Allows you to manually update your ASCII historical data based on a pre-selected list of symbols.

Configure menu

Daily Symbols...

Allows you to specify the list of financial symbols used for both the automated CompuServe daily update and manual daily update processes.

Data Access...

Allows you to select and configure the daily and historical data access methods that you will use.

Modem...

Allows you to specify modem-specific control strings used by Data Assistant for communications control.

Script Editor...

Allows you to specify the name of the program you would like to use for editing your script files.

Terminal menu

Executes the Terminal communications window.

Help menu

Index

Displays the help index for Stable Data Assistant.

Commands

Displays the first command topic for Stable Data Assistant.

Procedures

Displays the first procedure topic for Stable Data Assistant.

Registration Info

Allows you to print a product registration form to your system printer for becoming a registered user of Stable Data Assistant.

Remember, this copyrighted product is being distributed via the shareware marketing process for your evaluation only - and is not free software. You are required to purchase the product if you continue to use it past the thirty day evaluation period.

About Data Assistant

Provides product, company, and registration status information.

File Maintenance Window

The File Maintenance window allows you to perform a wide variety of data maintenance functions on your historical ASCII data files. Through this window you are able to:

- * Create new ASCII data files.
- * Modify the contents and format of existing ASCII data files.
- * Merge several ASCII files together as one.
- * Make adjustments for splits and dividends.
- * Perform data verification.

File menu

New

This selection is used to create a new ASCII data file.

Open...

Opens an existing ASCII data file for performing maintenance operations.

Save

Saves the current working file to disk.

Save As...

Saves the current working file to a different file name.

Merge...

Allows you to merge the contents of another ASCII data file into the current working file.

Exit

Exits the File Maintenance window and returns to the Main window.

Edit menu

Adjust...

Allows you to make adjustments to the current working file specific to splits and dividends.

Verify

Allows you to perform data verification on the current working file.

Terminal Window

The Terminal window provides data communications functionality for retrieving daily and historical financial data. Additionally, the Terminal window provides ASCII script file processing and data capture functionality extending its use beyond just data retrieval.

Control menu

Connect

Opens a communication connection between your computer and the modem - based on the current communications settings and port selection.

Disconnect

Breaks the communication connection between your computer and the modem.

Capture

Allows you to toggle on and off the capturing of data coming across the communications line.

Hang Up

Forces the modem to hang itself up and to break its connection with an external modem. This does not perform a full disconnect.

Exit

Exits the Terminal window and returns to the Main window.

Script menu

Load Script...

Allows you to load a selected ASCII script file for processing by the Terminal window.

Execute

Executes the current script file. This function can also be used to step through script file instructions if the automated processing of the script fails.

Cancel

Cancels and aborts execution of the current script.

Edit Script...

Allows you to edit a selected ASCII script file using your pre-selected text editor.

Configure menu

Communications...

Allows you specify the communications parameters and port for the current terminal session.

Font...

Allows you to select the font size and color for text displayed in the terminal window.

Script Editor...

Allows you to specify the name of the program you would like to use for editing your script files.

Financial ASCII File Data Format

Stable Data Assistant provides maintenance facilities and automated file update features specifically for ASCII data files conforming to the following format and description. This format (or a subset of this format) is directly supported by *Stable Technical Graphs v1.11* and above, as well as other third-party products including TechniFilter Plus v7.0 and spreadsheet applications such as Microsoft Excel and others.

Users of Stable Technical Graphs prior to version 1.11 should update to the latest release before using Data Assistant. Stable Data Assistant does not maintain the record count entry of earlier data files.

The general format of the ASCII data file definition is as follows:

```
Format_String
Data_Record_1
Data_Record_2
-
-
Data_Record_N
```

Format_String is a description of the format of each data record contained in the file. This string consists of two or more of the characters "**DVOHLCI**" (**DC** - or Date and Close - is the minimum required for any file), specifying both the sequence and type of data fields in each record.

D represents a Date field

This entry is actually one of the following; '**D**' for daily data, '**W**' for weekly data, '**Q**' for quarterly data, '**M**' for monthly data, or '**Y**' for yearly data.

Additionally, a modifier can follow the date specifier character to identify a specific date format from the list below:

- 0 mm/dd/yy [optional] (also the default if omitted)
- 1 mmddyy
- 2 yy/mm/dd
- 3 yymmdd
- 4 dd/mm/yy
- 5 ddmmyy
- 9 Serialized date format (Lotus-style)

V represents a Volume field (or short interest).

O represents an Open field.

H represents a High field.

L represents a Low field.

C represents a Close field.

I represents an Open Interest field.

Data_Record represents each ASCII record in the file. All data records must be of the same field sequence and contain identical types of fields.

Example ASCII Data Files

The following are examples of the contents of several different ASCII data files supported by

Stable Data Assistant and Stable Technical Graphs. In each example, the use of the comma to separate individual fields can be replaced by a tab (0x09) character in your actual data.

Market Index

```
DVHLC
1/2/92, 238169, 3184.7, 3119.86, 3172.41
1/3/92, 236228, 3221.38, 3156.31, 3201.48
1/6/92, 272785, 3230.32, 3166.59, 3200.13
1/7/92, 255148, 3224.73, 3165.25, 3204.83
1/8/92, 290369, 3245.53, 3164.58, 3203.94
```

The above illustrates an example of a file containing 5 data records. Each data record contains five fields identified by the "DVHLC" line. The sequence of the fields is "D"aily Date (in mm/dd/yy format), "V"olume, "H"igh, "L"ow, and "C"lose. *Note that 'D0' could have also been used to represent this date format.*

Mutual Fund

```
W1C
010389, 14.28
011089, 14.69
011789, 14.67
012489, 14.90
013189, 15.28
```

The above illustrates a file containing 5 data records. Each data record contains two fields identified by the "W1C" line. The sequence of the fields is "W"eekly Date (in mmddyy form) and "C"lose. Decimal values are used for numerics.

Stock

```
D3VHLC
900102, 3913, 52 7/8, 52 3/8, 52 3/8
900103, 3628, 53 3/8, 52 1/8, 53 3/8
900104, 5057, 54 1/4, 53 1/4, 53 7/8
900105, 4624, 53 5/8, 53 1/8, 53 3/8
900106, 5203, 53 1/4, 51 5/8, 52 3/4
```

The above illustrates a file containing 5 data records. Each data record contains five fields identified by the "D3VHLC" line. The sequence of the fields is "D"aily Date (in yymmdd form), "V"olume, "H"igh, "L"ow, and "C"lose. Volume information is represented as a decimal value, while fractional values are used for all others.

Limited Warranty

ALL WARRANTIES (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE) ARE EXPRESSLY EXCLUDED. THIS SOFTWARE AND ALL PROGRAM FILES ARE PROVIDED "AS IS" AND THE USER MUST ASSUME THE ENTIRE RISK OF USING THIS PROGRAM.

TRIAL USE (SHAREWARE EVALUATION VERSION) WARRANTY

The Shareware evaluation (trial use) version of Stable Data Assistant is provided "AS IS".

WINTERRA (tm) Software Group makes no warranties of any kind, expressed or implied, that this program is error free or that any supplied data or other program information is accurate or complete. No representation or warranties are made as to the completeness, accuracy, or precision of this program.

REGISTERED VERSION

WINTERRA (tm) Software Group warrants that physical diskette(s) and physical documentation provided with SOFTWARE to be free of defects in materials and workmanship for a period of 90 days from the date of registration. If WINTERRA Software Group receives notification within the warranty period of defects in materials or workmanship, and such notification is determined by WINTERRA Software Group to be correct, WINTERRA Software Group will replace the defective diskette(s) or documentation.

The entire and exclusive liability and remedy for breach of this Limited Warranty shall be limited to the replacement of defective diskette(s) or documentation and shall not include or extend to any claim for or right to recover any other damages, including but not limited to, loss of profits or other trading losses incurred as a result of any decision or action taken on your part based upon information provided, implied, or suggested by the SOFTWARE, loss of data, loss of use of the SOFTWARE, or any other special, incidental, or consequential damages or other similar claims, even if WINTERRA Software Group has been specifically advised of the possibility of such damages. In no event will WINTERRA Software Group's liability for any damages to you or any other person ever exceed the lower of the suggested list price or actual price paid for the license to use the software, regardless of any form of the claim. Some states do not allow limitations on the duration of the implied warranty, so the above limitation may not apply to you.

Registration Order Form

To become a licensed user of Stable Data Assistant, please print and return this registration form along with your check or postal money order *drawn on U.S. funds only*, and mail to:

WINTERRA Software Group
P.O. Box 4106
Highlands Ranch, CO 80126
Voice/Fax: (303) 470-6323

Once registered, you will receive; the *latest* version of Data Assistant, a laser-printed User's Manual, an offer for a *free* Introductory Membership to CompuServe (including a \$15 Usage Credit), future upgrade notifications, and technical product support.

Stable Data Assistant is only \$39.95 for a single user license. Site licenses are also available - see file SITELICE.DOC.
--

Name: _____
Company: _____
Address: _____
City: _____
State: _____
Zip: _____
Phone: (____) _____
Fax: (____) _____
Date: _____ CompuServe ID: _____

Format: _____ 3 1/2" 720KB _____ 5 1/4" 360KB

Quantity: _____ Stable Data Assistant @\$39.95 \$ _____

Shipping/Handling and Customs

_____ U.S. @\$ 4.00 \$ _____
_____ Canada/Mexico @\$ 6.00 \$ _____
_____ International @\$12.00 \$ _____

TOTAL \$ _____

Credit Card Customers

Please contact WINTERRA Software Group for the availability of accepting credit card orders.
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Setup and Configuration

Before you begin using Stable Data Assistant, you must first configure the program for your particular computing environment. The setup and configuration process requires you to perform the following steps (note that they can also be changed at any time):

1. Specify the financial symbols you will be maintaining on a daily basis.
2. Select and configure the data access methods you will use for both daily and historical quote retrieval.
3. Configure your modem for use with Stable Data Assistant.

Adjusting Data for Splits and Dividends

Occasional adjustments will need to be made to your financial data in order to smooth out marketplace factors such as stock splits and dividends. If raw data is not adjusted in some manner for these events, applying technical analysis against this data would reflect improper results. Stable Data Assistant provides you the means for actually adjusting your financial data whenever necessary.

Any adjustments you make to your data files become permanent once you save your file following the adjustment. If you want to maintain unadjusted prices in your data files, DO NOT PERFORM THIS FUNCTION.

Adjustment Factor

The adjustment factor is a value used to physically adjust your financial data so that all data maintains the appropriate value relationship within the file. When making adjustments, Stable Data Assistant multiplies volume data - and divides all price data - by a calculated adjustment factor.

Stock Splits

When a stock split occurs, you should adjust all data prior to the split by an adjustment factor represented by the following calculation:

For example, the adjustment factor of a 2 for 1 stock split would be represented by the value 2 (holding twice as many shares following the split or 2/1); a 3 for 1 split would be represented by an adjustment factor of 3 (3/1).

Cash Dividends and Income/Capital Gains Distributions

Some stocks offer dividends - while mutual funds typically distribute dividends from net investment income as well as distributions from realized net capital gains. The calculation used for the adjustment factor for these types of events is:

For example, assume a mutual fund distributes an annual dividend of \$.09 and a capital gain distribution of \$1.20. Yesterday's close was 24.58 (today's close has already been adjusted for the distributions). The proper adjustment factor is 1.055388579 (24.58 / (24.58 - 1.29)).

To adjust your existing data:

1. Select *File Maintenance...* from the File menu on the Main window.
2. Load the financial data you want to adjust by selecting *Open...* from the File menu.
3. Select *Adjust...* from the Edit menu or choose the *Split/Div Adjust...* button.
4. Select the adjustment type from the provided options.

If you need to make an adjustment not related to the standard adjustment types, select *Adjustment Factor Entry*. This will allow you to enter your own adjustment factor.

5. Enter the date range for the data you want to make adjustments to.

HINT: Entering a date prior to the first actual record will automatically select the first record for adjustment.

6. Enter the appropriate values for your selected adjustment type. The adjustment factor is automatically calculated and displayed for you.
7. Choose the *Adjust Data!* button to adjust the data.

Only the data in the list box is adjusted at this point. To save the adjusted data to your file, select Save from the File menu.

Configure for CompuServe Access

In order for Stable Data Assistant to properly retrieve daily and historical quotes from CompuServe, information must be available for connecting to, and controlling, the communication session. In addition to the financial symbols you will be tracking, Data Assistant requires the following additional information:

1. The phone number you use to access CompuServe.
2. Your CompuServe user id.
3. Your CompuServe password.
4. The communication parameters for accessing CompuServe.

To configure your system for daily and/or historical CompuServe access:

1. Select *Data Access...* from the Configure menu on the main window and choose either the *CompuServe BASICQUOTES* or the *CompuServe MQINT 200* buttons.
2. Enter your CompuServe network access phone number for your area and modem baud rate.
3. Enter your CompuServe user id.
4. Enter your CompuServe password.
5. Select the appropriate communication port, baud rate, data bits, parity, and stop bits for communication. Local echo should be off.
6. Enter the full path and name of the file that will be used to store the captured CompuServe session information.
7. Select "Confirm Data Update?" if you would like to confirm each symbol's update. **It is highly suggested that you select this option.** If an error occurs during the transmission, you can avoid updating your data with invalid data if you confirm each daily update.
8. Select "Save Session Files?" if you would like Data Assistant to make a copy of each captured session's information.

File copies of each session are given unique names based on the time of the capture. Each file is named "YYMMDDHH.MMx" where; YY is the year, MM the month, DD the day, HH the hour, and MM the minute. "x" is either a 'D' for a daily capture, or an 'H' for historical.

9. Choose the *OK* button to store your entered information.

Creating New Data Files

New ASCII data files can be created using Stable Data Assistant through use of the File Maintenance dialog or the Daily/History Symbol dialogs.

To create a new ASCII data file using the File Maintenance dialog:

1. Select *File Maintenance...* from the File menu, or choose the *Maintenance* button on the main window.
2. Select *New* from the File menu of the File Maintenance dialog. This clears the contents of the maintenance window and sets the default values for the new file.
3. Enter new data into the file using the data edit fields above the data list box.
4. Select *Save As...* from the File menu to save your new data file.

To create new data files in the Daily or History Symbols dialogs:

- * You can enter a file name that does not exist when inserting new symbols into either the Daily or History Symbol dialog. When you choose the *Insert* button, Data Assistant will notify you that the file must first be created - and allow you to create it yourself later, or it can automatically be created at that time.

Historical Data Retrieval

Stable Data Assistant supports both an automated and manual method for gathering historical financial data. Automated data retrieval is performed by retrieving historical quotes using the MQINT facilities on CompuServe for accessing the MicroQuote, Quick Quote, and Commodity databases.

You have three choices for retrieving or updating existing financial data with historical information:

Manual

Data Assistant provides a prompted method for you to update your symbols through use of the [File Maintenance](#) facilities.

Script File

If you have a source other than CompuServe for retrieving financial data, you can make use of the script processing capabilities found in Data Assistant. The script file processing language allows you to dial, connect, capture, and execute a specific set of instructions for automating the interaction between you and the remote site.

While allowing you to automate the retrieval process using scripts, Data Assistant does not automatically process the retrieved information to update your data files.

Fully Automated (using CompuServe)

The fully automated process allows you to dial up, connect, download, and update your daily financial files automatically from CompuServe. Only symbols contained in your Historical Symbol list are retrieved for update.

For costs associated with the retrieval of financial data from CompuServe - check your membership information or contact CompuServe Customer Support.

To select your method of historical retrieval and update:

- * Select *Data Access...* from the Configure menu on the main window and choose from one of the provided access methods for historical retrieval and update.

To perform automated or scripted historical update:

1. Select *Historical Data Retrieval...* from the Data menu, or choose the *Historical* button on the main window.
2. Enter complete information for each symbol you want to retrieve historical data for in the History Symbols dialog box (See [Maintaining Your Daily Financial Symbols](#) for a description on entering new symbol names into Data Assistant).
3. Identify the data frequency and indicate the data selection range for retrieval in the Historical Data Retrieval dialog box.
4. Choose the *Retrieve Quotes!* button in the Historical Data Retrieval dialog box.

To perform manual historical update:

1. Select *File Maintenance...* from the File menu, or choose the *Maintenance* button on the main window.
2. Select the file you want to update by selecting Open... from the File menu of the [File Maintenance](#) dialog box.

Maintaining Your Daily Financial Symbols

Regardless of whether you are using Stable Data Assistant for automated daily quote retrieval from CompuServe, or for manually updating your data, you must indicate the "stable" of financial symbols you want to track.

On the Configure menu located on the Main window, select *Daily Symbols...* to display the Daily Symbol list dialog box. From this dialog you can perform such actions as:

- * Adding new symbols to your daily symbol list.
- * Modifying existing symbol information.
- * Deleting symbols from your daily symbol list.

The information you enter for each symbol you are maintaining is key to the successful operation of Stable Data Assistant.

Symbol

This **must be** the actual symbol name used by the CompuServe BASICQUOTES database. If you are maintaining your data through the manual update feature, this symbol can be any name - though you are encouraged to use common naming conventions.

CompuServe sells a Financial Services manual containing many of the symbols found in their databases - including symbols for stocks, mutual funds, market indexes, and options.

Description

This is a descriptive name for the symbol. It can be any text you want for describing the symbol. This description is displayed for informational purposes at various points within the program.

File Name

The actual file name on disk for storing the data. This name should include the full file specification - including the qualified drive and directory information:

Example:

C:\STABLE\DATA\HRB.CSV

To add (insert) a new symbol into your list:

1. Select the point within your list of symbols where you want to add or insert the new symbol (the "-new-" entry represents the end of the list). If you selected an existing symbol as the point for inserting the new symbol, the selected symbol's information is displayed in the edit fields above the list box.
2. Enter the Symbol, Description, and File Name for the new symbol in the edit fields - overwriting any existing information. *If the file name does not exist, you are asked if you want the file automatically created for you.*
3. Choose the *Insert* button to add your new symbol to the list.
4. Choose the *OK* button to update your changes to the list.

To change information on an existing symbol in your list:

1. Select the symbol you want to change from the list of symbols displayed in the list box. The selected symbol's information is displayed in the edit fields above the list box.
2. Make the desired changes to the information in the edit fields.

3. Choose the *Change* button to change the data in the list.
4. Choose the *OK* button to update your changes to the list.

To delete a symbol from your list:

1. Select the symbol you want to delete from the list of symbols displayed in the list box.
The selected symbol's information is displayed in the edit fields above the list box.
2. Choose the *Delete* button to remove the symbol from your list.
3. Choose the *OK* button to update your changes to the list.

Maintaining Your Financial Data Files

The File Maintenance window allows you to perform a wide variety of data maintenance functions on your historical ASCII data files. Through this window you are able to:

- * Create new ASCII data files.
- * Modify the contents and format of existing ASCII data files.
- * Merge several ASCII files together as one.
- * Perform data verification.
- * Make adjustments for splits and dividends.

To access the ASCII file maintenance functions of Stable Data Assistant, select *File Maintenance...* from the File menu, or choose the *Maintenance* button on the main window.

To create a new ASCII data file:

1. Select *New* from the File menu of the File Maintenance dialog. This clears the contents of the maintenance window and sets the default values for the new file.
2. Enter new data into the file using the data edit fields above the data list box.
3. Select *Save As...* from the File menu to save your new data file.

To modify the contents of an existing ASCII data file:

1. Select *Open...* from the File menu of the File Maintenance dialog and select the file you want to edit from the Open dialog box.
2. Make any desired changes, additions, or deletions from the file using the functionality available in the maintenance window.
3. Select *Save* from the File menu to save your modified data file.

To modify the format of an existing ASCII data file:

1. Select *Open...* from the File menu of the File Maintenance dialog and select the file you want to edit from the Open dialog box.
2. Make any changes to the date format, data frequency, or data sequence of the ASCII data file.

*If a change to any of these items is made, Data Assistant enables the **Apply Changes!** button.*

3. Choose the *Apply Changes!* button to modify the structure of the data file.
4. Select *Save* or *Save As...* from the File menu to save the modified ASCII data file.

To merge the contents of one ASCII data file into another:

1. Select *Open...* from the File menu of the File Maintenance dialog and select the file you want to load from the Open dialog box.
2. Select *Merge...* from the File menu or choose the *Merge...* button and select the file you want to merge from the Merge dialog box.

The maintenance window now contains the sorted data contents of both ASCII files, formatted against the first data file.

3. Select *Save* or *Save As...* from the File menu to save the merged ASCII data contents.

To verify the contents of an ASCII data file:

1. Select *Open...* from the File menu of the File Maintenance dialog and select the file you want to load from the Open dialog box.
2. Select *Verify* from the Edit menu or choose the *Verify* button to begin the data verification process.

If an error is found in your data, Data Assistant will describe the error and allow you to make the necessary changes through the edit fields. Repeat step 2 until the verification completes without errors.

3. Select *Save* from the File menu to save your verified data file.

To make split/dividend adjustments to an ASCII data file:

1. Select *Open...* from the File menu of the File Maintenance dialog and select the file you want to load from the Open dialog box.
2. Select *Adjust...* from the Edit menu or choose the *Split/Div Adjust...* button.
3. Enter the date range and adjustment factor for the data that is to be modified. Choose the *Adjust Data!* button to update the data in the list box.
4. Select *Save* from the File menu to save your adjusted data file.

Adjusting Data For Splits and Dividends

Selecting Your Data Retrieval Method

Stable Data Assistant supports both an automated and manual method for updating your daily or historical financial data. Automated daily data retrieval is performed by retrieving daily quote information from the BASICQUOTES (Quick Quote) database on CompuServe, or for historical data retrieval, using the MQINT facilities on CompuServe for accessing the MicroQuote, Quick Quote, and Commodity databases.

You have three choices for updating your financial data using Stable Data Assistant:

Manual (Daily Retrieval)

Data Assistant provides a prompted method for you to update your symbols. You are prompted for the daily information for each symbol contained in your daily symbol list.

Manual (Historical Retrieval)

Data Assistant provides a prompted method for you to update your symbols through use of the File Maintenance facilities.

Script File

If you have a source other than CompuServe for retrieving financial data, you can make use of the script processing capabilities found in Data Assistant. The script file processing language allows you to dial, connect, capture, and execute a specific set of instructions for automating the interaction between you and the remote site.

While allowing you to automate the retrieval process using scripts, Data Assistant does not automatically process the retrieved information to update your data files.

Fully Automated (through CompuServe)

The fully automated process allows you to dial up, connect, download, and update your daily financial files automatically from CompuServe. Only symbols contained in your Daily Symbol list (or History symbol list) are retrieved for update.

[For costs associated with the retrieval of financial data from CompuServe - check your membership information or contact CompuServe Customer Support.](#)

To select your method of daily retrieval and update:

- * Select *Data Access...* from the Configure menu on the main window and choose from one of the provided access methods.

Updating Your Financial Data

Stable Data Assistant supports both an automated and manual method for updating your daily financial data. Automated data retrieval is performed by retrieving daily quote information from the BASICQUOTES (Quick Quote) database on CompuServe ([historical data retrieval](#) is performed using the MQINT facilities on CompuServe).

You have three choices for updating your financial data on a daily basis:

Manual

Data Assistant provides a prompted method for you to update your symbols. You are prompted for the daily information for each symbol contained in your daily symbol list.

Script File

If you have a source other than CompuServe for retrieving financial data, you can make use of the script processing capabilities found in Data Assistant. The script file processing language allows you to dial, connect, capture, and execute a specific set of instructions for automating the interaction between you and the remote site.

While allowing you to automate the retrieval process using scripts, Data Assistant does not automatically process the retrieved information to update your data files.

Fully Automated (using CompuServe)

The fully automated process allows you to dial up, connect, download, and update your daily financial files automatically from CompuServe. Only symbols contained in your Daily Symbol list are retrieved for update.

For costs associated with the retrieval of financial data from CompuServe - check your membership information or contact CompuServe Customer Support.

To select your method of daily retrieval and update:

- * Select *Data Access...* from the Configure menu on the main window and choose from one of the provided access methods.

To perform automated or scripted daily update:

- * Select *Daily Update!* from the Data menu, or choose the *Daily Update* button on the main window.

NOTE: If you specified a daily access method of "None", selecting the Daily Update menu or button will execute the manual daily update process automatically for you.

To perform manual daily update:

- * Select *Manual Daily Update...* from the Data menu, or choose the *Manual* button on the main window.

NOTE: If you specified a daily access method of "None", selecting the Daily Update menu or button will execute the manual daily update process automatically for you.

About Script Files

Script files are ASCII command files specifically used for controlling interactive communications processes with remote computer systems. The contents of a script file are coded command instructions which are processed sequentially by Stable Data Assistant in order to carry out a particular communication session.

Stable Data Assistant supports most of the instructions defined in the TAPCIS Access Program produced by Support Group, Inc. - along with a few additional commands specific to Data Assistant. As a result, most script files that run using TAPCIS can also be processed successfully by Data Assistant.

Stable Data Assistant uses script files for all of its communications - including automated daily and historical quote retrieval and update via CompuServe. You are also free to take advantage of the script file processing features of Data Assistant for any other personal use by using the Terminal window provided by the program.

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Creating and Editing Script Files

Stable Data Assistant does not directly provide the functionality for creating and editing script files. Normally, you will create your script files using an ASCII text editor such as Notepad or other favorite program.

Data Assistant does, however, allow you to execute your script file editor from within the program via a menu selection. See [Selecting Your Script File Editor](#).

Once you have identified a script file editor, you can execute the editor anytime from within either the Main window or Terminal window.

To create or edit a script file:

1. Select *Terminal!* from the Main window menu or choose the *Terminal* button to execute the Terminal window.
2. Select *Edit Script...* from the Script menu in the Terminal window.
3. Enter the name of a new script file or select an existing script file from the Edit Script dialog box and choose the *OK* button.

Your selected script file editor is executed with the name of the file you selected.

Daily/Historical Update Using Script Files

If you have chosen to use your own script file for retrieving daily or historical quotes, Data Assistant will automatically execute and process your script file for you. However, Data Assistant will not update your ASCII financial data files with any information captured through your script.

To select the script file method for daily or historical retrieval:

1. Select *Data Access...* from the Configure menu on the main window and choose the *User Script* button for daily or historical access.
2. Enter the name of an existing script file in the appropriate field.

To perform daily retrieval:

- * Select *Daily Update!* from the Data menu, or choose the *Daily Update* button on the main window.

To perform historical retrieval:

- * Select *Historical Data Retrieval...* from the Data menu, or choose the *Historical* button on the main window.

Selecting Your Data Retrieval Method

Modifying Retrieval Templates

Stable Data Assistant uses script template files for building the appropriate script files used in performing automatic daily and historical data retrieval. The daily template is named **DAILY.TPL** while the historical retrieval template is named **HISTORY.TPL**.

The templates provided with the product can be used by those users connecting to CompuServe through local access phone numbers. In the event a proper connection cannot be established using these templates, you can perform limited editing of these templates in order to coordinate with other access procedures.

See Also

[Script File Command Reference](#)

Running Your Own Script File

You can take advantage of the script processing functionality found in Stable Data Assistant by using the Terminal window.

To execute or run your own script file:

1. Select *Terminal!* from the Main window menu or choose the *Terminal* button to execute the Terminal window.
2. Turn on your modem and establish a connection by selecting *Connect* from the Control menu or choosing the *Connect* button.
3. Set the proper communications parameters for the remote site by selecting *Communications...* from the Configure menu.
4. Select *Load...* from the Script menu or choose the *Load...* button to load a script.
5. Use the Load Script dialog to select the script file you want to load for processing.
6. Select *Execute* from the Script menu or choose the *Execute!* button to begin processing the script.

If you find that the communications session is not progressing in a normal fashion, you can press the *Execute!* button to single step the script's instructions. Use the *Hang Up* button if you need a quick method for terminating a connection.

Script File Command Reference

Script files are ASCII command files specifically used for controlling interactive communications processes with remote computer systems. The contents of a script file are coded command instructions which are processed sequentially by Stable Data Assistant in order to carry out a particular communication session.

Each line of the script file contains either a comment, or an instruction which Data Assistant will process and execute during the communication session. The first item of each line identifies the command or action that Data Assistant will perform. Depending on the type of command, additional information will follow on the same line.

The following is the list of commands that Stable Data Assistant can process in your communication script files. Each command has an associated shorthand identifier '[x]' that can be used in place of the full command name.

This command set encompasses most of the instructions used by the TAPCIS Access Program produced by Support Group, Inc. - along with a few additional commands. As a result, most script files that run using TAPCIS can also be processed directly by Data Assistant.

Command	Parameter	Description
;	-none-	Comment
ECHO [E]	<i>text</i>	Echo the following text to the TTY screen (data is not sent to the port).
QUIT [Q]		Quit, or abort, processing the script file
FILE [F]	<i>filename</i>	Execute another script at this point. When the referenced script file has completed processing, resume processing this script at the next line. Up to 8 scripts can be nested in this manner.
SEND [S]	<i>text</i>	Send the text to the communications port, and wait for the port to echo the text before continuing.
OUT [U]	<i>text</i>	Send the text to the communications port without waiting for the echo. This is normally used when the remote site does not echo back the text - as in a password.
WAIT [W]	<i>text</i>	Wait for the following text to be received from the communications port before continuing.
CAPTURE [C]	<i>filename</i>	Capture and store (append) all subsequent data from the port to the file identified as <i>filename</i> .
CAPTURE [C]	Y	Turn capture on and store (append) all subsequent data from the port to the end of the last capture file during this session. If this is the first capture command in the script, the data is stored into file CAPTURE.DAT.
CAPTURE [C]	N	Turn capture off and close the capture file.
INPUT [I]		Input data from the keyboard until the F7 key has been pressed.
KILL [K]	<i>filename</i>	Kill or delete the specified filename.

PAUSE [P]	<i>seconds</i>	Pause the number of specified seconds.
PORT [R]	<i>settings</i>	Configure the current communication port to the specified values. <i>settings</i> represents the following parameter group:

baud,parity,data,stop

baud=110,300,600,1200,2400,4800,9600,19200

parity='N'(one),'E'(ven),'O'(dd),'M'(ark),'S'(pace)

data=5,6,7,8

stop=1,2

Example:

"PORT 9600,E,7,1"

Special Control Characters can be used in script files by prefixing an alphabetic character with the caret character '^'. As an example, to force a carriage return character to be sent at the end of a 'S'end command, you would use the sequence '^M'.

Special Keywords can be used within the DAILY.TPL and HISTORY.TPL script template files. These keywords make use of certain program information and allow you to tailor the script files used for automatic data update. The following are keywords and their respective values which are supported by Data Assistant:

Keyword	Description
&CIS_DAILY_PHONE&	Replace with daily access CompuServe phone number.
&CIS_DAILY_USERID&	Replace with daily access CompuServe User ID.
&CIS_DAILY_PASSWORD&	Replace with daily access CompuServe password.
&CIS_HISTORY_PHONE&	Replace with the historical access CompuServe phone number.
&CIS_HISTORY_USERID&	Replace with historical access CompuServe User ID.
&CIS_HISTORY_PASSWORD&	Replace with historical access CompuServe password.
&DAILY_CAPTURE&	Replace with the daily access capture file name.
&HISTORY_CAPTURE&	Replace with the historical access capture file name.
&HISTORY_SELECT&	Replace with the historical access selection parameters for frequency ('D'aily, 'W'eekly, 'Y'early) and the date range/count values from the "Historical Data Retrieval" dialog box.
&MODEM_INIT&	Replace with the modem initialization string.
&MODEM_CONNECT&	Replace with the modem connect recognition string.
&MODEM_NOCARRIER&	Replace with the modem "no carrier" recognition string.
&MODEM_DIAL&	Replace with the modem dial command string.
&MODEM_OK&	Replace with the modem command ok string.
&SYMBOL[nn]&	Replace with a list of one or more symbols separated by commas - where each subsequent request begins after the last symbol retrieved from a previous request. '[nn]' is an

BLOCKDAILY	optional value for the number of symbols to replace (1-20). Begin a repeating set of script instructions based on the availability of daily symbols. The block of instructions MUST contain the use of the &SYMBOL[nn]& keyword.
BLOCKHISTORY	Begin a repeating set of script instructions based on the availability of historical symbols to retrieve. The block of instructions MUST contain the use of the &SYMBOL[nn]& keyword.
ENDBLOCK	Identifies the end of a repeating block of script instructions.

Example Script File

The following are example script files illustrating full and shorthand naming conventions that can be used to log onto CompuServe.

Full Script Commands

```
ECHO *****
ECHO * CompuServe Login *
ECHO *****
;
Send ATDT 777-1234^M
Wait CONNECT
Pause 2
Out ^C
Wait ID:
Send 70000,1000^M
Wait Password:
Out SECRET:PASSWORD^M
Wait !
```

Shorthand Script Commands

```
E *****
E * CompuServe Login *
E *****
;
S ATDT 777-1234^M
W CONNECT
P 2
U ^C
W ID:
S 70000,1000^M
W Password:
U SECRET:PASSWORD^M
W !
```

Selecting Your Script File Editor

By default, Stable Data Assistant will invoke the Windows Notepad program whenever you choose to create or edit a script file. You are, however, free to use any program to edit your script files by specifying the name of the program you want Data Assistant to run.

To specify your own script file editor:

1. Select *Script Editor...* from the Configure menu on the Main window.
2. Navigate and/or specify the name of the .PIF, .BAT, or .EXE executable Windows or DOS program you would like to use for creating or editing your script files.

Creating and Editing Script Files

About the Communications Terminal

The Communications Terminal window is used for all external communications between Data Assistant and a remote database or BBS. For example, when Data Assistant is performing automatic update and retrieval, the Terminal window is activated for establishing a session with CompuServe.

Among the characteristics of the Terminal window are:

1. Script file processing (Data Assistant or user-written scripts).
2. ASCII communications only. Binary transfer protocols such as Kermit, XModem, etc... are not supported.
3. User-selectable fonts for displaying the communication session.
4. Selectable communication parameters.
5. Resizable terminal window.
6. Single button press functionality for connecting, disconnecting, hanging up, capturing ASCII session information, as well as script file loading and execution.

Commonly used functions have been made available through single button press operation. Along the top of the Terminal window are the following buttons:

Connect/Disconnect

Allows you to establish, or terminate, a connection between your computer and the modem by issuing the *Disconnect* command string found in the modem settings. The button describes the action *that will be taken* when selected. A disconnect has the side effect of closing an opened capture file.

Hang Up

This button allows you to hang up the modem connection with a remote site. A hang up has the side effect of closing an opened capture file.

Capture OFF/Capturing

This button provides you the ability to capture your communications session to a disk file. The button's text describes the current state of the capture process.

When you capture a communications session manually by pressing this button, all communicated data is appended to a file named CAPTURE.DAT in the directory containing your Data Assistant program files.

To turn of data capture, click on the Capturing button. Note that a disconnect or hang up action will automatically close an opened capture file.

Load...

Allows you to load a selected ASCII script file for processing by the Terminal window.

Execute

Executes the current script file. This function can also be used to step through script file instructions if the automated processing of the script fails.

Cancel

Cancels and aborts execution of the current script.

Configuring Your Modem

To properly connect to remote data systems such as CompuServe or BBS's, certain modem-specific information strings must be provided for Stable Data Assistant's use. Not only is this information used to directly control the modem, but some data is actually used in building the script files necessary for data retrieval.

Stable Data Assistant supports, and is distributed with, a default set of Hayes-compatible modem control strings. If your modem conforms to this definition, no changes are normally necessary. However, different environments sometimes require changes to these control strings. Consult your modem's operational manual for specific information about your hardware.

The default Hayes-compatible modem strings provided with Stable Data Assistant are as follows (the tilde character '~' can be used to represent approximately a 1 second delay):

Command	Modem String
Init	ATQ0V1E1S0=0
Dial	ATDT
Connect	CONNECT
Disconnect	+++~~~AT&FZH
OK	OK
Error	ERROR
No Carrier	CARRIER
Busy	BUSY
No DialTone	DIALTONE

To view or change the modem control information:

1. Select *Modem...* from the Configure menu.
2. Change as necessary any information in the provided fields.
3. Choose the *OK* button to save your changes, or *Cancel* to ignore any changes you have made.

