

SEG ANNUAL MEETING EXPANDED ABSTRACTS

WordKeeper™ for Macintosh®

User's Manual

Society of Exploration Geophysicists
Tulsa Oklahoma

SEG ANNUAL MEETING EXPANDED ABSTRACTS FOR MACINTOSH®

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INTRODUCTION

Welcome to the SEG Annual Meeting Expanded Abstracts on CD-ROM with WordKeeper™ search-retrieve software for the Macintosh® platform. The Annual Meeting Expanded Abstracts are published by the Society of Exploration Geophysicists and are a condensed form of technical presentations from SEG's International Expositions and Annual Meetings. WordKeeper™ menu driven software, with its search and browse functions, gives you fast access to the ASCII text of the abstract summary, monochrome page images of the entire abstract, and gray scale images of selected figures.

The text is organized as a fielded database. Each abstract is considered a record in the database. The fields are the typical elements of an abstract: subject area, title, author, summary, etc. Every text word is indexed, allowing you to perform searches on all words or phrases in the database. A search will deliver all of the abstracts that contain your search criteria.

You may also display and print images of the abstract pages allowing you to view tables, figures, equations, and other graphical information just as they appeared in the abstract book. When gray scale figures appear in an abstract, a separate gray image of the graphic is available.

The SEG Annual Meeting Expanded Abstracts are available in two series. The Current Series, on one CD, contains the 1993, 1994, and 1995 Expanded Abstracts with searchable ASCII text from the title, author/affiliation and summary areas, plus page and gray scale images. In addition, a composite ASCII database contains the previously mentioned textual areas for the years 1981 through 1995. An optional Historical Series, on three CD's, contains the textual information, monochrome page and gray scale images of the Expanded Abstracts for the years 1981 through 1994.

In the text format, non-ASCII characters have been mapped to an ASCII character set based on the emerging international standard, SGML. The code map is available in Appendix A.

User Support

For assistance we suggest that you first consult the User's Manual.

If after reviewing this User Manual you still require assistance, contact the WordKeeper Help Desk. A toll-free number has been established for our U.S. and Canadian users which is:

800 767-7785

Our international users may contact the Help Desk by dialing:

804 261-3151

In the event your call is not directly connected to a Help Desk representative, a phone message system will record the question. A prompt response will be forthcoming.

To assist you quickly and accurately, we request that you be ready to

provide a clear description of the specific problem you are encountering with WordKeeper and the type of hardware on which you are running this application.

The Help Desk hours of operation are 8:30 a.m. to 5:00 p.m. Eastern time, Monday through Friday. The Help Desk is not in operation during normal USA holidays. For information regarding these specific dates, please contact a Help Desk representative.

If written correspondence or further documentation is required, you may fax, e-mail or mail your communications to the Help Desk. The fax number is 804 262-0467.

E-mail Address: cdhelp@cadmus.com
Mailing Address: WordKeeper Help Desk
Cadmus Digital Solutions
2905 Byrdhill Road
Richmond, VA 23228 U.S.A.

NOTE: If a defective CD-ROM disc or installation software is suspected, the Help Desk will assist in its replacement. You must contact the Help Desk before returning a defective CD-ROM disc.

Directing Non-technical Support Questions

Users may also have questions related to non-technical issues such as publications, comments about the product or non-receipt of discs; in this event, please direct calls, or correspondence, to the Society of Exploration Geophysicists.

Phone: (918) 497-5500 **Facsimile:** (918) 497-5557
Mailing Address: Society of Exploration Geophysicists
P.O. Box 702740
Tulsa, OK 74170-2740

Copyright Information

The WordKeeper™ and CD-Answer® retrieval software is Copyrighted© 1994 by Cadmus Digital Solutions and 1987, 1994 by Dataware Technologies, Inc.

INSTALLATION AND STARTUP

Hardware and Software Requirements

- Computer:** Requires an Apple Macintosh under MAC OS 6.07 operating system or greater. A minimum of 2 MB disk space, 6 MB recommended. 2 MB minimum memory, 4 MB recommended.
- CD-ROM drive:** A CD-ROM drive with maximum average access time of 400 MS or less and is recommended.
- Other:** Any monitor and laser printer supported by the above Macintosh operating systems are supported by WordKeeper.

Installation Procedure

WordKeeper and the supporting files are shipped with the Current Series disc. If you purchased the Current Series separately, or the Current Series and Historical Series together, or the Historical Series separately later, you will have to access the Current Series disc to install the software and supporting files. Follow the instructions provided in the Current Series package.

To start WordKeeper:

- 1) Double-click on the folder where you installed the software.
- 2) Double-click on the WordKeeper application icon.
- 3) You will see the logo screen
- 4) If you have access to both the Current and the Historical Series, you will get a menu of database applications available to you. Double-click on the database you want to use.
- 5) You will see a copyright screen, then the search entry screen for the database you selected will display. You may enter a search at this point.

APPLICATION OVERVIEW

General Description of WordKeeper

As you enter the application to access abstracts, the sequence of screens you will see is as follows:

- Application List Screen—To choose the database and language
- Copyright Screen—A screen notifying you of copyright information
- Search/Browse Screen—A primary screen for entering and executing your search
- Short List Screen—A primary screen for viewing a listing and brief description of the abstracts that meet your search criteria
- Full Display Screen—A primary screen for viewing the summary text and images of an abstract

The items in the Menu Bar will activate various pull-down menus, as well as an on-line, context-dependent Help Screen.

Some of the options from both the Menu Bar and the pull-down menus appear for all Primary Screens, and some are limited by the screen function you are accessing. When a particular menu choice is grayed out it is not available to the user from that screen. Options may be selected either by moving the cursor and clicking or by “accelerator keys” which provide quick access to functions without moving through menus.

NOTE: To access a different database, you must select the File option and the Open Application option from the Menu Bar and load the new disc into your CD-ROM drive. Then select the database from the menu and initiate your search.

Search/Browse Screen

WordKeeper is started by selecting the **File** option and the **Open Application** option from the Menu Bar. Select the database you want and then select **OK** to open the selected database and move to the **Search/Browse Screen**.

The **Search/Browse Screen** is the screen through which you access the database. From this screen you may enter search information in one or a combination of search fields. Selecting the **Data** option from the Search/Browse Menu Bar will enable you to evaluate the search and then access the Short List and Full Article display screens.

The **Search/Browse Screen** consists of the following screen components: an Action Line at the top of the screen noting navigation icons/buttons for that screen; and the search fields.

When the **Search/Browse Screen** is entered, the cursor will be located at the beginning of the first search field. Enter your word or phrase into one or more of the search fields, thus creating your search strategy.

You can move between search fields in the Search/Browse screen by clicking on a field or by using the ↑ ↓ keys.

A valid search request contains one or more search words or entries, where a search can be a word or a string. Multiple search requests may be separated by **logical operators**, **proximity operators**, or blanks. A search request may also contain **truncation symbols**, parentheses, or quotation marks to further define the search strategy.

An unlimited number of search field entries can be employed. The more defined the search strategy, the smaller the number of “hits” for your review.

Search Fields

Listed below are the search fields for the Annual Meeting Expanded Abstracts contained in the Search/Browse Screen. When you key a word to a search field, the operator you enter for that field will apply. When you select words or entries from the Index Windows, the default operator will apply.

- **Year**—For searches on the specific year(s) of the abstract. Use “OR” or the . . expression for searching on multiple years or a range of years, respectively.
- **City**—For searches on a specific city where an abstract was presented. When multiple words are entered without a specified connector, the default connector is AND.
- **Subject Area**—For searches on a subject area where the abstract was placed. When multiple words are entered without a specified connector, the default connector is AND.
- **Title**—For searches on the abstract title. Abstract title indexes are available by word or entry. The entry index will display the entire abstract title. When multiple words are entered without a specified connector, the default connector for this field is ADJ1. For example, an entry of “big black dogs” will find all the abstracts with this phrase in the title.
- **Paper Number**—For searches on a specific abstract number (e.g. BG1.6).
- **Author(s)/Affiliation**—For searches on the abstract author name or affiliation. Indexes are available by word. When an entry is made without a specified connector, the default connector for this field is AND. For example, an entry of “John Doe” will find all articles with both words in the author field.
- **Summary Text**—For searches on the text within only the Summary portion of the abstract. Indexes are available by word. When an entry is made without a specified connector, the default connector for this field is ADJ1.
- **Combined Text**—For searches on the title, author(s)/affiliation, and summary text of expanded abstracts. The combined text search field is indexed by word. When an entry is made without a specified connector, the default connector for this field is ADJ1.
- **Biography/Name**—For searches on names only in the Biography section of the Expanded Abstracts. The references field is indexed by word. When an

entry is made without a specified connector, the default connector for this field is ADJ1.

The **Connection** field at the bottom of the search screen displays connection criteria (i.e. connections between search fields) in either Simple or Editable mode. The Connection field is enabled by setting the Connection Type to "Editable." Once the connection field is set, you may display the abstracts which meet the connection search criteria. More information on the connection field is available later in this manual.

When entries are made to multiple search fields, WordKeeper will display a number in the Total field at the bottom right corner of the screen. The Total field displays the total number of "hits" or abstracts available based on the combined search criteria entered to the Search/Browse Screen.

Performing Searches

A search is initiated by entering a word or combination of words in one or more of the search fields in the Search/Browse Screen; you may use the Index option to access an index list of words or entries. To precisely define a search, search criteria may be entered into multiple fields.

Operators are symbols that have a special function inside a field. A logical operator (such as **AND**) between two words or phrases results in a logical connection between the terms. A search request may also contain truncation symbols, parentheses, or quotation marks. Each of these search elements is described in the sections below.

Performing Searches—Logical Operators

The use of logical operators enables you to search for abstracts in the database on the basis of more than one word.

For example, if you enter the search expression "dog or cat" you are instructing WordKeeper to search for all abstracts containing the word "dog" or the word "cat" or both words.

You can also search for abstracts that do not contain a certain word. For example, you might want to search for all abstracts except those that contain the word "dog" in the Full Text field. In this case, you would put a **NOT** operator in front of "dog" in this search field.

You can use the operator, such as **AND**, or the symbol for the operator, such as +. Upper case is not required for operators. The operators are shown below with their corresponding symbols in parentheses:

- | | |
|----------------|--|
| AND (+) | The search words must both occur in an abstract. |
| OR (,) | Either one or the other or both of the search words must occur in the abstract. |
| NOT (#) | NOT can be used alone in a search field; for example, "NOT cat" to locate all abstracts that do not contain the search word, or it can be used as a connector. For example, "Boston AND NOT Brookline" or "Boston OR NOT New York." |

WITHOUT Same as **AND NOT**.

.. For a search on a range of volume years.

You can use double quotes with a search word “word” to disable recognition of a logical operators. For example, “AND” searches for the word “and”.

Some examples of search requests using logical operators are:

**Jones OR
Smith Jones,
Smith** Both entries to the search field will find all abstracts with the words Jones OR Smith or both. The comma represents OR.

“OR” WordKeeper searches for the word OR instead of interpreting the OR as a logical operator because it is surrounded by double quotation marks.

**TIN OR NOT
STEEL** This entry to the search field will find all abstracts that have the word “tin” or anything else except the word “steel.”

**TIN AND NOT
STEEL** This entry will find all abstracts that have the word “tin” and do not have the word “steel.”

WordKeeper interprets the logical operators from left to right. To change the default search order, you can use parentheses to force WordKeeper to perform one logical operation before the next. For example:

**TIN AND
(STEEL OR
MAGNESIUM** Will find all abstracts that have the word “tin” and the word “steel” or the word “tin” and the word “magnesium.” WordKeeper performs the operation in the parentheses first to find all abstracts with the word “steel” or the word “magnesium”, and then uses the AND operator to find only abstracts with the words “tin AND steel” or “tin AND magnesium.”

Performing Searches—Proximity Operators

Proximity operators enable you to search for abstracts on the basis of the proximity of one word to another.

Proximity operators are:

ADJ<x> The search words or phrases must appear within x words of one another in the search field, where x is a number. The order in which the words appear is important. If x is omitted, the default is 1.

ADJ1 is the default operator in all search fields in the Search/Browse Screen except search fields City, Subject Area, and Author(s)/Affiliation.

NEAR<x> The search words must appear within x words of one another in the search field. If x is omitted, it defaults to 1. For example, “peace**NEAR10** march” will find all abstracts that have the words “peace” and “march” within 10 words of each other in the title field. The order in which the words appear does not matter.

Performing Searches —Truncation Symbols

You can use truncation symbols to search for words based on partial words or entries. For example, you can search for all names beginning with “Harris,” such as “Harrison,” “Harrisburg,” and so on. You can also use truncation at the beginning of a word, so that you can search for all names ending in “son,” such as “Johnson,” “Hanson,” and so on. Truncation searches are also useful when you are searching for abbreviations.

Valid truncation symbols are:

- * (asterisk)** Replaces any number of characters in the search word. It can come at the beginning, middle or end of a search word. No more than two occurrences per word are permitted.

For example: *able* will find all words that have “able” anywhere in the word, such as “disabled,” “enable,” and so on. The entry of coro* will find all words that have “coro” at the beginning of the word, such as “corona,” “coronary,” etc.

- ? (question mark)** Replaces one character in the search word. It can be repeated and can be placed anywhere in the search word.

WordKeeper FOR MACINTOSH MENU BARS

The Search/Browse Menu Bar

When you open a database application, WordKeeper automatically displays the Search/Browse screen, where you enter your search information. The Search/Browse screen is split into two child windows: a window containing the search screen format; and a window used for entering connection information. The Search/Browse Menu Bar displays the following options:

File	Open and close database applications, perform print and export operations, load and save queries, and quit the program.
Edit	Cut, paste and copy operations, and connection operations.
Options	Change search, display or image options, or change languages. Only the Search and Mask Language options are available.
Index	Browse index words and phrases.
Data	Evaluates a search using the current search strategy, and creates and activates a Display screen. Use this option to perform the search and to display the abstracts from a search.
Window	Perform window operations.
Help	Context-sensitive on-line help. For general help about WordKeeper Menu Bar options and search operators select Help . For specific help about an option first select the option about which you desire information, then press Help .

The menu bar options are described more fully in the sections below.

File	When you select the File option from the Menu Bar, WordKeeper displays a pull-down menu with several choices:
Open Application	Open a database application.
Close Application	Close the active database application and all its associated windows.
Print	Print items from a display or image screen. Enabled only when in a display or image screen.
Print One	Print a single abstract or a single image from a display or image screen. Enabled only when in a display or image screen.
Export	Export only items from a display screen. Enabled only when in a display screen.
Save Query	Save the current search criteria to the current file. Enabled only when in a Search/Browse Screen.
Save Query As	Save the current search criteria to the current file. Enabled only when in a Search/Browse screen.

Load Query	Load the search criteria in the specified file. Enabled only in a Search/Browse screen.
Clear Query	Clear the current search criteria. Enabled only when in a Search/ Browse screen.
Load Settings	Load a set of previously saved print and export settings. Enabled only when in a Display screen.
Save Settings	Save the current set of print and export settings to a file. Enabled only when in a Display screen.
Quit	Close all applications and exit WordKeeper.
<p>The options available in the Search Menu Bar are described below. For options available in the Display and Image screens, see the corresponding headings.</p>	
Open Application	When you select Open Application , WordKeeper displays a dialogue box for you to select the database application to open. The dialogue box contains the following choices:
Application	Displays the name of the current database application.
Application List	A pop-up window containing the list of database applications available in the current folder. Use this action to select the database application to “open”.
Language	If the selected database application is available in more than one language, this option will be enabled; select the language you want.
<p>Select OK to open the selected database application. Select CANCEL to cancel the operation. When you open a database application, WordKeeper moves to the Search/Browse Screen.</p>	
Close Application	To close a database application and all of its associated screens, select Close Application . If you have another database application open, this will become the active application. If you have no other applications open, WordKeeper will display the Menu Bar. You can open another database application by selecting it from the Open Application dialogue box.
Load, Save and Clear Query	You can use these options to load, save and clear search criteria. For example, if you have a search strategy that you want to use often but is time-consuming to recreate each time, you can use Save Query to save the search strategy and then use Load Query to load the strategy when you want to use it again. These File options are as follows:
Save Query	Stores the current search strategy under the current file name.
Save Query As	Stores the current search strategy under a specified file name.
Load Query	Loads a previously stored search strategy into the Search/Browse screen.
Clear Query	Clears the current search strategy.
Quit	Use Quit to exit WordKeeper.

Edit	When you select Edit , WordKeeper displays a pull-down menu with the following choices:
Cut	Deletes the currently marked item and places it on the Clipboard. To mark an area of text to cut, click the mouse at the beginning of the area and drag the mouse to highlight all the text you want to cut. Then select Cut to cut the text.
Paste	Places the current contents of the clipboard into the area marked by the cursor. To paste the text currently on the clipboard, click the mouse where you want to paste the text and select Paste.
Copy	Places a copy of the currently marked item on the Clipboard. To mark an area of text to copy, click the mouse at the beginning of the area and drag the mouse to highlight all the text you want to copy. Select Copy to copy the text.
Connection	Use Connection to select and edit connections to use between search fields in your search strategy.
Cross-Reference Searching	<p>These choices are described more below. You can use the Cut, Paste and Copy commands to perform cross-reference searches within and between database applications.</p> <p>To perform the cross-reference search, first select the word or phrase you want to use for cross-reference searching (using either Cut or Copy). Move to the Search/Browse Screen of the application or another database application and use Paste to copy the search word or phrase into the search field. Use Data/Evaluate/Display to perform the search.</p>
Connection	<p>Use Connection to select an operator other than the default to connect one or more search fields. The type of connector selected determines the search behavior for multiple field entries. This is not the same as the connector used between search terms in the same field.</p> <p>Operators AND, OR, and WITHOUT can be used to connect individual search fields. The default connector between fields is AND.</p> <p>You can use Connection in either “Simple” or “Editable” mode. To set this option use the Options/Search pull-down menu. The sections below describe how Connection works in each mode.</p>
Simple Mode	<p>The current logical connector will be displayed at the left of each search field that contains an entry, and each search field entry will be surrounded by parentheses. To change the logical connection between search fields, move the cursor to a search field containing a search term and press the right mouse button or press the spacebar. Continue to press the right mouse button or spacebar to cycle through the choices. Select the connector.</p> <p>If the default logical connector AND is valid for all search fields, no connection operator or connection name will be shown in the Connection line.</p>
Editable Mode	<p>WordKeeper enables you to edit the connection line when in this mode. Enter the connection information using the following syntax:</p> <p style="text-align: center;">[<field name>] <operator> [<field name>]</p> <p>Use the following keys when editing the connection line:</p> <p>Command R—Brings the field name of the current search field into the connection line.</p>

Delete key—Deletes single characters.

Options	When you select Options , WordKeeper displays a menu with the following options:
Search	Set search screen options.
Display	Set Display screen options. Enable only when in a display screen.
Image	Set image screen options. Enabled only when in an image screen.
Menu	
Language	Change the language of the menu interface.
Mask	
Language	Change the language of the application screens.
	When you are in the Search/Browse Screen, the only active items on the Options menu are Search and Mask Language . The Search option is described in the following section:
Search	When you select the Search option, a pull-down menu displays the following settings:
Search Format	The Search/Browse Screen is the default for all search requests. No other option is available.
Search Mode	This option can be set to Exact or Extended . Exact search mode causes WordKeeper to search for only the exact search word as entered. Extended search will conduct an extended search that locates all components of the search word, including acronyms and hyphenated words.
Connection Type	You may select either “Simple” or “Editable” mode. These modes are described in the Connection discussion earlier in this document.
Search only after <Enter>	The default action in WordKeeper for Macintosh is to perform a search after you enter a search request and then press the key or exit the search field. This option allows you to search only when the key is pressed.

Index The **Index** option enables you to look at the list of index words available for a search field. If a search field has both a word and entry index, WordKeeper will display a menu with the following choices:

Words—Individual words from a word index.

Entries—Complete entries from a entry index (e.g. an abstract title).

When you are viewing an index list, you can copy any word from the list into a search field. To copy an index word into a search field, position the cursor on the index word and click the mouse or press “.” (**Dot**). The word is then copied into the search field. You can also type an index word directly into the search field.

You may navigate in an index by using your arrow keys. You may also search a specific word or entry by typing the alpha/numeric in the first position

of the index field. You will move to the location in the Index that is “alphabetically closest” to the character(s) you enter.

If you want to exit the index list without copying an index item, select the window’s **Cancel** box.

You can also select multiple words or entries from an index. To enter an additional index word into a search field, position the cursor in the search field one space to the right of the last search word. Select the additional word from the index and press to copy the word to the search field. The word will be connected to the previous word by an **OR** connector. You can change this default connector by deleting **OR** and typing in a new connector such as **AND**, **NOT**, or **WITHOUT**.

To simultaneously select multiple words or entries, use Shift-click to highlight each word you want. Use the **Select All** option to select every term. To deselect all words, use **Deselect All**.

The **Checkoff** Options menu enables you to choose the connector to use when you select multiple terms from the index list. The default operator is **OR**.

You also use the **Checkoff** Options to choose whether to paste the index terms to the search field. If you do not select the **Paste to Rectangle** box, WordKeeper will perform the search after you select **OK** or press “,” (**Comma**) without pasting the words.

Data

The **Data** option enables you to evaluate the current search and to view the found abstracts after a search. This option has two choices:

Evaluate Use this option to execute a search using the current search criteria. When you select **Evaluate**, WordKeeper will search the database and display the number of abstracts matching the search. You can also use the **Evaluate** icon to execute the search. To view abstracts which meet your search criteria, select **Display**.

Display When the search is executed, select **Display** to display a Short List of all found abstracts if there are multiple abstracts, or a Full Display Screen. You can also use the **Display** icon (the “computer screen” icon) to display the Short List.

Window

You can have multiple windows open while in WordKeeper. In so doing you may have several database applications open or several display screens open simultaneously. You can also use multiple windows during a cross-reference search to view all references to one index word or phrase.

Windows are arranged in a hierarchy, with parent windows and child windows. The Search/Browse Screen is a parent window, and the Display Screen resulting from that search window is a child window. When you perform a search from the Search/Browse screen and then use the Display option, the display is automatically placed in a new window. This window is a child of the parent search window. When you close the Search/Browse Screen, WordKeeper closes its child display window.

You can establish your window location (i.e. the active window) by the title bar of the window in which you are located.

You can move, size, and navigate among windows using standard Apple commands. The Windows option enables you to perform the following window operation:

Clone This option makes a copy of the currently active window. The new window will have the same attributes (contents, position, size, default screen) as the currently active window.

There is also a list of comment windows located at the bottom of the pull-down menu that enables you to move to a different window. You can move to a window by selecting it from the list.

Display Menu Bar

To view the text and page images that meet your search criteria, select the **Data** Option, then select **Display** and the found abstracts will appear on the screen. If there are multiple abstracts in the found set, WordKeeper will first display the abstracts in a Short List Screen format.

The Short List Screen displays brief bibliographic data for each abstract in the found set. The cursor will be positioned on the first abstract in the list.

If there is only one abstract in the found set, WordKeeper will automatically display the abstract as a Full Display Screen.

Use the mouse or the ↑, ↓ keys, **PgUp PgDn** keys, the **Home** key, or the **End** key to move through the list of found abstracts. To display an individual abstract from the Short List in Full Display Screen format, position the cursor on the abstract and select **Full** from the **View Menu**.

At the top of the screen window are icons for viewing the Short List or Full Display screens, returning to the search screen, and linking to a page image. The double-headed arrow icon enables you to move between List and Full Display. The eyeglasses icon returns you to the search screen. Finally, the camera icon displays images associated with the currently-selected abstract if images are available.

The **Display Menu Bar** has the following options:

Note: Some options may not be enabled depending on your screen location in WordKeeper.

- | | |
|----------------|--|
| File | Open or close an application, print or export, save print and export settings, and quit WordKeeper. |
| Edit | Copy text as described in the Search/Browse Menu Bar section of this manual. |
| Options | In the Display Menu Bar, the Display and Mask Language options are active. |
| View | Changes the display from Short List to Full Display; and enables you to sort and unsort found abstracts, to jump to another abstract, and to select abstracts. |
| Links | Enables you to view images and references associated with the current abstract. |
| Window | Cascade and tile windows, or select a different window. |
| Help | Context-sensitive on-line help. |

These options are explained in more detail below.

File When you are in a display screen, you can print and export full abstract text and page images using the **Print**, **Print One**, and **Export** options via the **File** pull-down menu. You can also save and load your print and export settings using the Save or Load Settings option. These options are described in more detail on the following pages.

Print Use Print to print all or part of the found set of abstracts to a printer. This option is active only when you are in a Display or Image Window. WordKeeper does not support printing color graphics.

The Print dialogue box has the following options:

Document

Format Select one of the following formats for text output:

Display

Short List

Full Article

The **Full Article** format is suggested for printing an abstract, and the **Short List** format for printing the Short List.

Page Eject Enables you to specify when a form feed character should be inserted into the output so that the printer advances the paper to a new page.

The following 4 choices are available from the page eject option:

After every document

Insert a form feed after every abstract.

End of page

Insert a form feed when there are no lines left on the page.

If document would be split

Insert a form feed if there are not enough lines on the page to fit the entire current abstract.

Never

Form feed will be continuous.

What Range

Enables you to select what part of the abstract text or image you want to print.

Select Range from the following 6 choices:

All Found Documents

Prints all the abstracts in the current set (found from the most recent search request).

Current Document

Prints only the current abstract.

Document Range

Prints the abstracts starting at the number in the **Start at document #** field and ending with the number in **End at document #** field.

Selected Documents

Prints the abstracts selected using View/Select Document. This is the default if there are any abstracts selected.

Current Image Page	Prints the current image page only. Set Print Graphics option to YES when using this range option.
Image Page Range	Prints the range of image pages you specify in the Start at Image Page # and End at Image Page # fields.
Print Graphics	You may select one of three choices: Yes (Images Only) to print only the page images associated with the abstract; Yes (Text and Images) to print the text and images of the abstract; No (Text Only) to print only the text of the abstract.
Start/End at Document #	The number of the abstract at which to start and end printing.
Start/End at Image Page #	The number of the image page at which to start and stop printing image pages (if you specify that you want to print images).
Page Length	Enables you to specify the number of printable lines you want to have per page.
Fields to Include	Select the fields in each found abstract to be included in the text output.
Include Search Text	Enables you to put one copy of the search criteria for the found abstracts at the front of your text output.
Include Field Names	Select this option to print field names as headings. Select Cancel to close the dialogue box without starting the print. Use Command “.” (dot) to abort the print process.
Print One	Use this option to print the current abstract text or the current image page according to the settings in the Print dialogue box described in the preceding section.
Export	Use Export to export all or part of the found set of abstract text to a selected file. WordKeeper does not support exporting color graphics.

The Export dialogue box has the following options:

Export Type	Use Export Type to choose the data format for exporting. Use the up and down arrow keys or the mouse to scroll through the Export Type options.
--------------------	--

The available export type formats are:

Formatted Text	The contents of the fields selected in Fields to Include will be exported in the format of the mask in the Document Format entry area. The character set of the output will depend on the printer type you selected during installation of your product.
WordStar Text	The contents of the fields selected in Fields to Include will be exported to a WordStar\T file. The character set for output will be the WordStar character set.
ASCII Text	The contents of the fields selected in Fields to Include will be exported in the

format of the mask in the **Document Format** entry area. This type differs from **Formatted Text** in that no control or escape sequences are used except for a carriage return/line feed after each line and a form feed at the end of each abstract. Note that the form feed depends on the **Page Eject** setting.

**Comma
Delimited**

The contents of the fields selected in **Field to Include** entry area will be exported in comma delimited format. Each field's contents are delimited from the next by a comma. Text fields are enclosed in double quotes (" "). A carriage return/line feed indicates the end of document. This format can be used by many popular mail-merge programs, including WordStar\T. The character set is the IBM PC character set (8 bit).

**Semicolon
Delimited**

The contents of the fields selected in Fields to Include will be exported in semicolon delimited format. Each field's contents are delimited from the next by a semicolon. Text fields are enclosed in double quotes (" "). A carriage return/line feed indicates the end of a record. This format can be used by many popular mail-merge programs, including Microsoft Word\T.

DBASEIII(+)

The contents of the fields selected in **Fields to Include** will be exported in DBASEIII(+) (.DBF) format. Field names are automatically included. The character set is the IBM PC character set (8 bit). Field widths can also be specified using the **Fields to Include** command.

Lotus

The contents of the fields selected in **Fields to Include** will be exported in Lotus 1-2-3\T format (.WKS). Field names will also be exported if the **Include Field Names** entry is set to "yes." The Lotus International Character Set (LICS) will be used.

DIF

The contents of the fields selected in **Fields to Include** will be exported in Data Interchange Format (DIF). The character set is the IBM PC character set (8 bit).

Fixed Field

The contents of the fields selected in **Fields to Include** will be exported in fixed field format. The default field widths can be overridden using the **Fields to Include** entry area.

**Document
Format**

Select one of the following formats for output:

Print
Short List
Display

Fields to Include

Selects some or all of the fields in each found abstract for export. Only highlighted fields will be exported. For the dBASE III(+), Lotus, DIF and Fixed Field export types, a **Field Controls** pull-down menu is available. The selections are: **Enabled, Width, Precision.**

What Range

Displays a menu for you to select what part of the abstract text or image you want to export. You will get a menu with the following choices: **All Found Documents, Current Document, Document Range, Selected Documents, Current Image Page, Image Page Range.**

Start/End at Document #

The number of the abstract at which to start and end the export.

Start/End at Image Page #

The number of the image page at which to start and end exporting images (if you specify that you want to export images).

Page Eject

Specify when a form feed character should be inserted into the output to advance to a new page.

Page Length

Specify the number of printable lines you want to have per page. Enter the number in the field.

Include Field Names

Select the box to export field names as headings, or leave the box empty to prevent field names from being exported.

Include Search Text

Select the box to put one copy of the search request text for the found abstracts at the front of your export.

File

The file to be exported to.

Command . (dot)

This can be used to abort the export process.

Options

When you are in a display screen, the only active items on the **Options** menu are **Display** and **Mask Language**. The **Mask Language** option is described earlier in this manual. The **Display** option is described below.

Long Display Format

This option allows you to select the default format for the Full Display Screen. The screen you choose will be the default screen for all full abstract displays. You can also use the icon to switch display screen formats.

Long Display Fields

This option provides you a selection of possible fields for the display screen. You can display all or some fields in your full display screen. Select the fields you want to display.

Short Display Format

This option allows you to change the default Short List Screen. The screen format you choose will be the default for all Short List displays.

View

The View options are as follows:

Full

Displays found abstracts using the Full Display Screen.

List

Displays all found abstracts in Short List display format.

Sort / Unsort

Sorts or unsorts the currently viewed items according to the search criteria.

Jump

Enables you to Jump to a specific abstract in the found set. For more detail, see the Jump subheading of this manual.

Select Document

Enables you to select the current abstract, thus limiting your display to only selected abstracts.

Delete non-selected documents

Deletes all nonselected documents (documents not selected using the Select Document option).

Delete selected documents

Deletes all documents selected with the Select Document option.

Clear selections

Clears the current set of document selections.

These options are described in more detail below.

List and Full Displays

Use the **List** or **Full** display option to toggle between the Short List Screen and the Full Display Screen for the current set of abstracts.

If the contents of an abstract extend beyond the lower boundary of the screen, a scroll bar will appear on the right edge of the screen.

To view a full display, press <RET> with the cursor on the abstract. You can also use the double-headed arrow icon at the top of the screen to move between List and Full Display Screens.

Search words will be highlighted when you view the Full Display Screen. You can move to the next highlighted word in a abstract by clicking on the icon with three vertical lines and an arrow.

Sort / Unsort

Use the Sort option to sort a found set of abstracts. When you select Sort the following menu options are:

Sort by

Select the field to sort by:

Title

Year

Subject Area

Paper Number

City

Sort order

Toggle between **Ascending** and **Descending** sort order.

Unindexed Abstracts

The setting in this entry controls whether to **Keep** or **Drop** abstracts from the sort list that do not contain occurrences of the sort field.

Duplicate Items

The setting controls the placement in the sort list of abstracts that have duplicate items in the index for the sort field. An abstract can either appear in the sort list one time, at its first occurrence in the index, or be duplicated each time it occurs in the index.

The **Unsort** action works on the set of abstracts most recently sorted.

Jump

Use **Jump** to move to a different abstract in the found set.

When you select **Jump**, a pop-up window will appear. Specify your abstract number and select OK to move to the specified abstract.

Selecting Documents

You can use the **Select Document** option to select a set of abstracts. Once selected, you can limit the display, print and export to those abstracts. For example, if you want to limit a print out to a specific set of abstracts, access this option, then select the **Print** option and **What Range** from the pull-down menu. WordKeeper will print only the range selected. You can also limit your export in the same way.

To limit your display to only selected abstracts or non-selected documents, use the **Delete non-selected documents** and **Delete selected documents** choices.

Once you have deleted abstracts from your display, you must reevaluate your search in order to retrieve the original complete set of abstracts. If you do not want to have to reevaluate your search, use **Window/Clone** to make a copy of your Short List Display Screen before deleting any abstracts from the display.

Links

The Links option displays a menu with the following choices:

Images

Enables you to display images associated with the current abstract.

Image Page

Enables you to jump to a specific image page.

Reference

Enables you to jump to a gray scale image associated with the displayed text.

Images

When you select **Images**, WordKeeper displays in the Image Window images associated with the abstract in the current display screen. The images available are compressed CCITT Group IV facsimile images of the abstracts and PCX gray images of selected gray figures. Available options are described in the Image Window Menu Bar section below.

You can also use the “camera” icon at the top of the screen to display images.

Window

Select window to get a menu with the following choices:

Cascade

Use this option to cascade your windows.

Tile

Use this option to tile your windows. You can also select a different window to move from the windows listed at the bottom of the menu.

Image Window Menu Bar

Use the **Image Window** to display images associated with the abstract on the current display screens.

To get an Image Window, select **Images** from the **Link** menu, or select the camera icon at the top of the screen. If there are no images associated with the current abstract, the option will be disabled.

The Image Window Menu Bar has the following options:

- File** The same options are available as discussed in the Display Menu Bar section of this manual.
- Options** Enables you to set the zooming scale for a page image and to move between image pages. For detail on these options see the Image Options subheading below.
- Window** The same options are available as discussed in the Search/Browse Menu Bar.
- Help** Context-sensitive on-line help.

The images displayed are compressed CCITT Group IV facsimile page images of abstract pages and PCX gray images of selected halftone figures. The display behavior for gray page images is fixed.

Image Options

The **Image Options** pull-down menu contains the following actions:

- Image Jump** This field enables you to jump to a specific image among the set of images for an abstract. Enter the number of the image to which you want to jump. You can use the book icons to move forward or backward through image pages.
- Current Zoom** Enter the percentage that you want to zoom the image. You can zoom from 10 to 1000 percent. There are also three default choices that enable you to change the size and scale of the page image currently on the screen. **Base** puts the image up in its original size. **1-D Fit** scales the image so that the smallest dimension of the image is expanded to take up the entire width or height of the screen. This does not ensure that the entire image will show on the screen. Use **Full Page** to put the entire image on one screen. Full Page scales the image to fit on the screen in its entirety.

You can also zoom a page image using the mouse by clicking once to enlarge the image and twice to reduce the image (or using the magnifying icons). The current zoom percentage is shown at the bottom of the screen.

To return to a display screen, use the display icon at the top of the screen or close the image window.

APPENDIX A

SPECIAL CHARACTER MAPPING CONVENTIONS

ASCII Characters

Map To	Character	Description
!	!	exclamation mark
\$	\$	dollar sign
&	&	ampersand
((left parenthesis
))	right parenthesis
*	*	ast / asterisk
^2ast	*	two asterisks
,	,	comma
-	-	hyphen
-	—	en dash
--	—	em dash
.	.	full stop, period
:	:	colon
;	;	semicolon
AE	Æ	capital AE diphthong (ligature)
ae	æ	small ae diphthong (ligature)
ffi	ffi	small ffi ligature
ff	ff	small ff ligature
ffl	ffl	small ffl ligature
fi	fi	small fi ligature
fj	fj	small fj ligature
fl	fl	small fl ligature
i	i	small i without dot
OE	Œ	capital OE ligature
oe	œ	small oe ligature
ss	ß	small sharp s, German (sz ligature)
\	\	backslash / reverse solidus
		vert / vertical bar
		Vert / dbl vertical bar
[[lbrack / left square bracket
]]	rbrack / right square bracket
^cent	¢	cent sign
@	@	commercial at
"	“	double quotation mark, left
'	'	single quotation mark, left
-	-	minus sign
^Oslash	Ø	capital O, slash
^oslash	ø	small o, slash
%	%	percent sign
+	+	plus sign
?	?	question mark
"	”	double quotation mark, right

ASCII Characters (continued)

Map To	Character	Description
'	'	apostrophe
'	'	single quotation mark, right
{	{	lbrace / left curly bracket
}	}	rbrace / right curly bracket
#	#	number / pound sign
<	<	less than
>	>	greater than
=	=	equals

Superscript and Subscript Characters

Map To	Character	Description
<sup/1/	¹	superscript one
<sup/2/	²	superscript two
g<sup/3<sup/s//	g ^{3s}	nested superscripts
g<sup/3<sup/s<sup/2///	g ^{3s2}	nested superscripts
g<sup/2<inf/x//	g ^{2x}	nested supers/subs
x<inf/5<sup/n//	x _{5n}	nested subs/supers
<inf/1/	₁	subscript one
<inf/2/	₂	subscript two
x<inf/5<inf/n//	x _{5n}	nested subscripts
x<inf/5<inf/n<inf/7///	x _{5n7}	nested subscripts

Accented Characters:

Any character with any accent(s) (including, but not limited to, those shown below) is to be keyed as the character alone, omitting the accent(s).

Map To	Character	Description
	´	acute accent
	°	angstrom accent / ring
	˘	breve
	ˆ	caron
	¸	cedilla
	¨	dieresis or umlaut mark
	˙	dot above
	ˆ	double acute accent
	four dots above
	`	grave accent
	ˇ	hacek
	ˆ	hook
	ˉ	macron
	˙	ogonek
	˜	tilde

Character Set for Greek

Map To	Character	Description
[^] Agr	A	capital Alpha, Greek
[^] agr	α	small alpha, Greek
[^] Bgr	B	capital Beta, Greek
[^] bgr	β	small beta, Greek
[^] bgrv	β	betavar, alternate beta
[^] Dgr	Δ	capital Delta, Greek
[^] dgr	δ	small delta, Greek
[^] dgrv	δ	deltavar / round dee / differential
[^] EEgr	H	capital Eta, Greek
[^] eegr	η	small eta, Greek
[^] Egr	E	capital Epsilon, Greek
[^] egr	ε	small epsilon, Greek
[^] epsis	ε	straight epsilon
[^] Ggr	Γ	capital Gamma, Greek
[^] ggr	γ	small gamma, Greek
[^] Igr	I	capital Iota, Greek
[^] igr	ι	small iota, Greek
[^] Kgr	K	capital Kappa, Greek
[^] kgr	κ	small kappa, Greek
[^] kgrv	κ	kappa / varkappa
[^] KHgr	X	capital Chi, Greek
[^] khgr	χ	small chi, Greek
[^] Lgr	Λ	capital Lambda, Greek
[^] lgr	λ	small lambda, Greek
[^] Mgr	M	capital Mu, Greek
[^] mgr	μ	small mu, Greek
[^] nabla	∇	nabla
[^] Ngr	N	capital Nu, Greek
[^] ngr	ν	small nu, Greek
[^] Ogr	O	capital Omicron, Greek
[^] ogr	ο	small omicron, Greek
[^] OHgr	Ω	capital Omega, Greek
[^] ohgr	ω	small omega, Greek
[^] Pgr	Π	capital Pi, Greek
[^] pgr	π	small pi, Greek
[^] pgrv	π	pivar, alternate pi
[^] PHgr	Φ	capital Phi, Greek
[^] phgr	φ	small phi, Greek
[^] phgrv	φ	varphi - curly or open phi
[^] PSgr	Ψ	capital Psi, Greek
[^] psgr	ψ	small psi, Greek
[^] Rgr	P	capital Rho, Greek
[^] rgr	ρ	small rho, Greek
[^] rgrv	ρ	alternate small rho, Greek
[^] sfgr	ς	final small sigma, Greek
[^] Sgr	Σ	capital Sigma, Greek

Character Set for Greek (continued)

Map To	Character	Description
[^] sgr	σ	small sigma, Greek
[^] Tgr	T	capital Tau, Greek
[^] tgr	τ	small tau, Greek
[^] THgr	Θ	capital Theta, Greek
[^] thgr	θ	small theta, Greek
[^] thgrv	θ	vartheta - curly or open theta
[^] Ugr	Υ	capital Upsilon, Greek
[^] ugr	υ	small upsilon, Greek
[^] Xgr	Ξ	capital Xi, Greek
[^] xgr	ξ	small xi, Greek
[^] Zgr	Z	capital Zeta, Greek
[^] zgr	ζ	small zeta, Greek

Mathematical Symbols: Operators and Relations

Map To	Character	Description
[^] amalg	⋈	amalg / amalgamation or coproduct
[^] and	∧	wedge / and / logical and
[^] ang	∠	angle - angle
[^] ang90	⊥	right (90 degree) angle
[^] angmsd	∠	measuredangle - angle-measured
[^] angsph	∠	sphericalangle - angle-spherical
[^] ap	≈	approx / approximate
[^] ape	≈	approxeq / approximate, equals
[^] asympt	≈	asympt / asymptotically equal to
[^] barwed	⌢	barwedge / logical and, bar above
[^] Barwed	⌢	doublebarwedge / log and, dbl bar
[^] bcong	≡	backcong / reverse congruent
[^] becaus	∴	because / because
[^] bepsi	∋	backepsilon / such that
[^] bowtie	⋈	bowtie
[^] bprime	′	backprime - reverse prime
[^] brvbar	⋮	broken (vertical) bar
[^] bsim	∼	backsim / reverse similar
[^] bsime	⋈	backsimeq / reverse similar, eq
[^] bump	⋈	Bumpeq / bumpy equals
[^] bumpe	⋈	bumpeq / bumpy equals, equals
[^] Cap	⋈	Cap / doublecap / dbl intersection
[^] cap	∩	cap / intersection
[^] caret	^	caret (insertion mark)
[^] colone	⋈	coloneq / colon, equals
[^] cong	≡	cong / congruent with
[^] cuepr	⋈	curlyeqprec / curly eq, precedes
[^] cuesc	⋈	curlyeqsucc / curly eq, succeeds
[^] Cup	⋈	Cup / doublecup / dbl union
[^] cup	∪	cup / union or logical sum

Mathematical Symbols: Operators and Relations (continued)

Map To	Character	Description
$\hat{\text{cupre}}$	\preccurlyeq	curlypreceq / curly precedes, eq
$\hat{\text{cuvee}}$	\curlyvee	curlyvee / curly logical or
$\hat{\text{cuwed}}$	\curlywedge	curlywedge / curly logical and
$\hat{\text{dagger}}$	\dagger	dagger / dagger
$\hat{\text{Dagger}}$	\ddagger	ddagger / double dagger
$\hat{\text{dashv}}$	\dashv	dashv / dash, vertical
$\hat{\text{divide}}$	\div	div / divide sign
$\hat{\text{divonx}}$	\divtimes	divideontimes / division on times
$\hat{\text{ecir}}$	\eqcirc	eqcirc / circle on equals sign
$\hat{\text{eDot}}$	\doteqdot	doteqdot / Doteq / eq, even dots
$\hat{\text{efDot}}$	\fallingdotseq	fallingdotseq / eq, falling dots
$\hat{\text{egs}}$	\eqslantgtr	eqslantgtr / equal-or-gtr, slanted
$\hat{\text{els}}$	\eqslantless	eqslantless / eq-or-less, slanted
$\hat{\text{eqles}}$	\lessgtr	equal-or-less
$\hat{\text{eqgr}}$	\lessgtr	equal-or-greater
$\hat{\text{equiv}}$	\equiv	equiv / identical with
$\hat{\text{erDot}}$	\risingdotseq	risingdotseq / eq, rising dots
$\hat{\text{esdot}}$	\doteq	doteq / equals, single dot above
$\hat{\text{esim}}$	\approx	equals or similar
$\hat{\text{fork}}$	\pitchfork	pitchfork / pitchfork
$\hat{\text{frown}}$	\frown	frown / down curve
$\hat{\text{gap}}$	\gtrapprox	gtrapprox / greater, approximate
$\hat{\text{ge}}$	\geq	geq / ge / greater-than-or-equal
$\hat{\text{gE}}$	\geq	geqq / greater, double equals
$\hat{\text{gel}}$	\gtrless	gtreqless / greater, equals, less
$\hat{\text{gEl}}$	\gtrless	gtreqqless / gt, dbl equals, less
$\hat{\text{ges}}$	\gtrsim	geqslant / gt-or-equal, slanted
$\hat{\text{Gg}}$	\ggg	ggg / Gg / gggtr / triple gtr-than
$\hat{\text{gl}}$	\gtrless	gtrless / greater, less
$\hat{\text{gnap}}$	\gtrapprox	gnapprox / greater, not approximate
$\hat{\text{gne}}$	\gtrneq	gneq / greater, not equals
$\hat{\text{gnE}}$	\gtrneqq	gneqq / greater, not dbl equals
$\hat{\text{gnsim}}$	\gtrsim	gnsim / greater, not similar
$\hat{\text{gsdot}}$	\gtrdot	gtrdot / greater than, single dot
$\hat{\text{gsim}}$	\gtrsim	gtrsim / greater, similar
$\hat{\text{gt}}$	$>$	greater-than sign
$\hat{\text{Gt}}$	\gg	gg / dbl greater-than sign
$\hat{\text{Gt}}$	\gg	gg / dbl greater-than sign
$\hat{\text{gvnE}}$	\gtrvertneqq	gvertneqq / gt, vert, not dbl eq
$\hat{\text{isin}}$	\in	in / set membership
$\hat{\text{lang}}$	\langle	langle / left angle bracket
$\hat{\text{lap}}$	\lessapprox	lessapprox / less, approximate
$\hat{\text{ldot}}$	\lessdot	lessdot / less than, with dot
$\hat{\text{le}}$	\leq	leq / le / less-than-or-equal

Mathematical Symbols: Operators and Relations (continued)

Map To	Character	Description
$\hat{\text{IE}}$	\leq	leqq / less, double equals
$\hat{\text{leg}}$	\lessgtr	lesseqgtr / less, eq, greater
$\hat{\text{IEg}}$	\lessgtr	lesseqqgtr / less, dbl eq, greater
$\hat{\text{les}}$	\lessgtr	leqslant / less-than-or-eq, slant
$\hat{\text{lg}}$	\lessgtr	lessgtr / less, greater
$\hat{\text{Ll}}$	\lll	Ll / lll / lless / triple less-than
$\hat{\text{lnap}}$	\gtrapprox	lnapprox / less, not approximate
$\hat{\text{lne}}$	\gtrneq	lneq / less, not equals
$\hat{\text{lnE}}$	\gtrneqq	lneqq / less, not double equals
$\hat{\text{lnsim}}$	\gtrsim	lnsim / less, not similar
$\hat{\text{lpargt}}$	$\left(>$	leftparengtr / left parenthesis, gt
$\hat{\text{lsim}}$	\lessgtr	lesssim / less, similar
$\hat{\text{lt}}$	$<$	less-than sign
$\hat{\text{Lt}}$	\ll	ll / double less-than sign
$\hat{\text{Lt}}$	\ll	ll / double less-than sign
$\hat{\text{ltimes}}$	\times	ltimes / times sign, left closed
$\hat{\text{lvnE}}$	\gtrneqq	lvertneqq / less, vert, not dbl eq
$\hat{\text{middot}}$	\cdot	centerdot / middle dot
$\hat{\text{mnplus}}$	\mp	mp / minus-or-plus sign
$\hat{\text{models}}$	\models	models
$\hat{\text{nap}}$	\napprox	napprox / not approximate
$\hat{\text{ncong}}$	\ncong	ncong / not congruent with
$\hat{\text{ndsimdes}}$	\nlessgtr	negated double similar double equals - with slanted not
$\hat{\text{ne}}$	\neq	ne / neq / not equal
$\hat{\text{nequiv}}$	\neq	nequiv / not identical with
$\hat{\text{nge}}$	\ngeq	ngeq / not greater-than-or-equal
$\hat{\text{ngE}}$	\ngeqq	ngeqq / not greater, dbl equals
$\hat{\text{nges}}$	\ngeqslant	ngeqslant / not gt-or-eq, slanted
$\hat{\text{ngt}}$	\ngtr	ngtr / not greater-than
$\hat{\text{ni}}$	\ni	ni / owns / contains
$\hat{\text{nIE}}$	\nlessgtr	nleqq / not less, dbl equals
$\hat{\text{nle}}$	\nlessgtr	nleq / not less-than-or-equal
$\hat{\text{nles}}$	\nlessgtr	nleqslant / not less-or-eq, slant
$\hat{\text{nlt}}$	$<$	nless / not less-than
$\hat{\text{nlttri}}$	\triangleleft	ntriangleleft / not left triangle
$\hat{\text{nlttrie}}$	\triangleleft	ntrianglelefteq / not l tri, eq
$\hat{\text{notin}}$	\notin	N: negated set membership
$\hat{\text{npar}}$	\parallel	nparallel / not parallel
$\hat{\text{nperp}}$	\perp	not perpendicular
$\hat{\text{npr}}$	\prec	nprec / not precedes
$\hat{\text{npre}}$	\nlessgtr	npreceq / not precedes, equals
$\hat{\text{nrttri}}$	\triangleright	ntriangleright / not rt triangle
$\hat{\text{nrttrie}}$	\triangleright	ntrianglerighteq / not r tri, eq

**Mathematical Symbols: Operators and
Relations (continued)**

Map To	Character	Description
^nsc	\nrightarrow	nsucc / not succeeds
^nsce	\nsucceq	nsucceq / not succeeds, equals
^nsim	\nrightarrow	nsim / not similar
^nsime	\nsimeq	nsimeq / not similar, equals
^nsub	\nsubseteq	nsubset / not subset
^nsube	\nsubseteq	nsubteq / not subset, equals
^nsubE	\nsubseteq	nsubteqq / not subset, dbl eq
^nsup	\nsupset	nsupset / not superset
^nsupe	\nsupseteq	nsupseteq / not superset, equals
^nsupE	\nsupseteq	nsupseteqq / not superset, dbl eq
^nsupE	\nsupseteq	nsupseteqq / not superset, dbl eq
^nVdash	\nVdash	nVdash / not dbl vertical, dash
^nvDash	\nvDash	nvDash / not vertical, dash
^nvDash	\nvDash	nvDash / not vertical, dbl dash
^nVDash	\nVDash	nVDash / not dbl vert, dbl dash
^par	\parallel	parallel / parallel
^perp	\perp	perp / perpendicular
^plummn	\pm	pm / plus-or-minus sign
^pr	\prec	prec / precedes
^prap	\preapprox	precapprox / precedes, approximate
^pre	\preceq	preceq / precedes, equals
^prnap	\preapprox	precnapprox / precedes, not approx
^prnE	\preceq	precneqq / precedes, not dbl eq
^prnsim	\nrightarrow	precnsim / precedes, not similar
^prop	\propto	propto / is proportional to
^prsim	\rightsquigarrow	precsim / precedes, similar
^rang	\rangle	rangle / right angle bracket
^rtimes	\times	rtimes / times sign, right closed
^sc	\succ	succ / succeeds
^scap	\succapprox	succapprox / succeeds, approximate
^scce	\succcurlyeq	succcurlyeq / succeeds, curly eq
^sce	\succeq	succeq / succeeds, equals
^scnap	\succapprox	succnapprox / succeeds, not approx
^scnE	\succcurlyeq	succneqq / succeeds, not dbl eq
^scnsim	\rightsquigarrow	succnsim / succeeds, not similar
^scsim	\rightsquigarrow	succsim / succeeds, similar
^sim	\sim	sim / similar
^sime	\simeq	simeq / similar, equals
^simgr	\gtrsim	similar or greater
^simls	\lesssim	similar or less
^smile	\smile	smile / up curve
^snt4par	\nparallel	negated quadruple parallel/horizontals - with slanted not
^sntsub	\nsubseteq	not subset - with slanted not

**Mathematical Symbols: Operators and
Relations (continued)**

Map To	Character	Description
^sntsuc	\nrightarrow	not succeeding equals - with single sloped equals and slanted not
^sntsup	\nsupset	not superset - with slanted not
^sqsub	\sqsubset	sqsubset / square subset
^sqsube	\sqsubseteq	sqsubseteq / square subset, equals
^sqsup	\sqsupset	sqsupset / square superset
^sqsupe	\sqsupseteq	sqsupseteq / square superset, eq
^sstarf	\star	star / small star, filled
^Sub	\subseteq	Subset / double subset
^sub	\subset	subset / subset or is implied by
^subE	\subseteq	subteqq / subset, dbl equals
^sube	\subseteq	subteq / subset, equals
^subne	\subsetneq	subsetneq / subset, not equals
^subnE	\subsetneq	subsetneqq / subset, not dbl eq
^sup	\supset	supset / superset or implies
^Sup	\supseteq	Supset / dbl superset
^supE	\supseteq	supseteqq / superset, dbl equals
^supe	\supseteq	supseteq / superset, equals
^supne	\supsetneq	supsetneq / superset, not equals
^supnE	\supsetneq	supsetneqq / superset, not dbl eq
^tckmark	\checkmark	thin checkmark
^there4	\therefore	therefore / therefore
^thksim	\sim	thicksim / thick similar / cycle sine
^times	\times	times / multiply sign
^tribar	\triangle	triangle, single bar
^trie	\triangle	triangleq / triangle, equals
^twixt	\bowtie	between / between
^uplus	\uplus	uplus / plus sign in union
^Vdash	\Vdash	Vdash / dbl vertical, dash
^vDash	\vdash	vDash / vertical, dbl dash
^vdash	\vdash	vdash / vertical, dash
^veebar	\vee	veebar / logical or, bar below
^vlne	\nless	not less than or equal to - vertical not / single equals
^vn4par	\nparallel	negated quadruple parallel/horizontals - with vertical not
^vncont	\nsubseteq	not containing - with single bar and vertical not
^vndbeg	\nless	not equal to or greater than - with double equals and vertical not
^vndbel	\nless	not equal to or less than - with double equals and vertical not
^vnimsb	\nsubseteq	not improper subset equals - with vertical not

Mathematical Symbols: Operators and Relations (continued)

Map To	Character	Description
$\hat{\supsetneq}$	$\hat{\supsetneq}$	not improper superset equals - with vertical not
$\hat{\notin}$	$\hat{\notin}$	not a member of - with vertical not
$\hat{\nprec}$	$\hat{\nprec}$	not preceding - with vertical not
$\hat{\npreceq}$	$\hat{\npreceq}$	not preceding equals - with single sloped equals and vertical not
$\hat{\nsucceq}$	$\hat{\nsucceq}$	not succeeding - with vertical not
$\hat{\nsuccesq}$	$\hat{\nsuccesq}$	not succeeding equals - with single sloped equals and vertical not
$\hat{\nsim}$	$\hat{\nsim}$	not equal similar to - with single equals and vertical not
$\hat{\nsgtr}$	$\hat{\nsgtr}$	not equal to or greater than - with single sloped equals and vertical not
$\hat{\nsgl}$	$\hat{\nsgl}$	not equal to or less than - with single sloped equals and vertical not
$\hat{\wedge}$	$\hat{\wedge}$	R: corresponds to (wedge, equals)

Symbols: Arrows

Map To	Character	Description
$\hat{\curvearrowleft}$	$\hat{\curvearrowleft}$	curvearrowleft / left curved arrow
$\hat{\curvearrowleftplus}$	$\hat{\curvearrowleftplus}$	curvearrowleftplus / left curved arrow with plus
$\hat{\curvearrowup}$	$\hat{\curvearrowup}$	arrow curve up left
$\hat{\curvearrowright}$	$\hat{\curvearrowright}$	curvearrowright / rt curved arrow
$\hat{\curvearrowrightminus}$	$\hat{\curvearrowrightminus}$	curvearrowrightminus / rt curved arrow with minus
$\hat{\curvearrowupright}$	$\hat{\curvearrowupright}$	arrow curve up right
$\hat{\downarrow}$	$\hat{\downarrow}$	downarrow / downward arrow
$\hat{\Downarrow}$	$\hat{\Downarrow}$	Downarrow / down dbl arrow
$\hat{\downdownarrows}$	$\hat{\downdownarrows}$	downdownarrows / two down arrows
$\hat{\harpoonleft}$	$\hat{\harpoonleft}$	downleftharpoon / dn harpoon-left
$\hat{\harpoonright}$	$\hat{\harpoonright}$	downrightharpoon / down harpoon-rt
$\hat{\swarrow}$	$\hat{\swarrow}$	swarrow / downward l arrow
$\hat{\searrow}$	$\hat{\searrow}$	searrow / downward rt arrow
$\hat{\leftrightarrow}$	$\hat{\leftrightarrow}$	leftrightharpoon / l&r arrow
$\hat{\Leftrightarrow}$	$\hat{\Leftrightarrow}$	Leftrightarrow / l&r dbl arrow
$\hat{\rightsquigarrow}$	$\hat{\rightsquigarrow}$	leftrightsquigarrow / l&r arr-wavy
$\hat{\iff}$	$\hat{\iff}$	iff / if and only if
$\hat{\Lleftarrow}$	$\hat{\Lleftarrow}$	Lleftarrow / left triple arrow
$\hat{\twoheadleftarrow}$	$\hat{\twoheadleftarrow}$	twoheadleftarrow
$\hat{\leftarrow}$	$\hat{\leftarrow}$	leftarrow / gets / leftward arrow
$\hat{\Leftarrow}$	$\hat{\Leftarrow}$	Leftarrow / is implied by
$\hat{\leftleftarrows}$	$\hat{\leftleftarrows}$	leftleftarrows / two left arrows

Symbols: Arrows (continued)

Map To	Character	Description
$\hat{\hookleftarrow}$	$\hat{\hookleftarrow}$	hookleftarrow / left arrow-hooked
$\hat{\looparrowleft}$	$\hat{\looparrowleft}$	looparrowleft / left arrow-looped
$\hat{\leftarrowtail}$	$\hat{\leftarrowtail}$	leftarrowtail / left arrow-tailed
$\hat{\lhd}$	$\hat{\lhd}$	leftharpoondown / l harpoon-down
$\hat{\lhd}$	$\hat{\lhd}$	leftharpoonup / left harpoon-up
$\hat{\rarrtwo}$	$\hat{\rarrtwo}$	leftrightharpoons / l arr over r arr
$\hat{\rlharpoonright}$	$\hat{\rlharpoonright}$	leftrightharpoons / l harp over r
$\hat{\lsh}$	$\hat{\lsh}$	Lsh
$\hat{\mapsto}$	$\hat{\mapsto}$	mapsto
$\hat{\multimap}$	$\hat{\multimap}$	multimap
$\hat{\nearrow}$	$\hat{\nearrow}$	nearrow / NE pointing arrow
$\hat{\nrightarrow}$	$\hat{\nrightarrow}$	nrightarrow / not l&r arrow
$\hat{\nrightarrow}$	$\hat{\nrightarrow}$	nLeftrightarrow / not l&r dbl arr
$\hat{\nleftarrow}$	$\hat{\nleftarrow}$	nLeftarrow / not implied by
$\hat{\nleftarrow}$	$\hat{\nleftarrow}$	nleftarrow / not left arrow
$\hat{\nrightarrow}$	$\hat{\nrightarrow}$	nrightarrow / not implies
$\hat{\nrightarrow}$	$\hat{\nrightarrow}$	nrightarrow / not right arrow
$\hat{\nwarrow}$	$\hat{\nwarrow}$	nward / NW pointing arrow
$\hat{\circlearrowleft}$	$\hat{\circlearrowleft}$	circlearrowleft / l arr in circle
$\hat{\circlearrowright}$	$\hat{\circlearrowright}$	circlearrowright / r arr in circle
$\hat{\Rightarrow}$	$\hat{\Rightarrow}$	Rightarrow / right triple arrow
$\hat{\rightarrow}$	$\hat{\rightarrow}$	rightarrow / to / rightward arrow
$\hat{\Rightarrow}$	$\hat{\Rightarrow}$	Rightarrow / implies
$\hat{\twoheadrightarrow}$	$\hat{\twoheadrightarrow}$	twoheadrightarrow
$\hat{\rarrtwo}$	$\hat{\rarrtwo}$	rightrightarrow / two rt arrows
$\hat{\hookrightarrow}$	$\hat{\hookrightarrow}$	hookrightarrow / rt arrow-hooked
$\hat{\looparrowright}$	$\hat{\looparrowright}$	looparrowright / rt arrow-looped
$\hat{\rightarrowtail}$	$\hat{\rightarrowtail}$	rightarrowtail / rt arrow-tailed
$\hat{\rightharpoonup}$	$\hat{\rightharpoonup}$	squigarrowright / rt arrow-wavy
$\hat{\rhd}$	$\hat{\rhd}$	rightharpoondown / rt harpoon-down
$\hat{\rhd}$	$\hat{\rhd}$	rightharpoonup / rt harpoon-up
$\hat{\rarrtwo}$	$\hat{\rarrtwo}$	rightleftarrows / r arr over l arr
$\hat{\rlharpoonleft}$	$\hat{\rlharpoonleft}$	rightleftharpoons / r harp over l
$\hat{\rsh}$	$\hat{\rsh}$	Rsh
$\hat{\uparrow}$	$\hat{\uparrow}$	uparrow / upward arrow
$\hat{\Uparrow}$	$\hat{\Uparrow}$	Uparrow / up dbl arrow
$\hat{\Uparrow}$	$\hat{\Uparrow}$	uparrows / two up arrows
$\hat{\upharpoonleft}$	$\hat{\upharpoonleft}$	upleftharpoon / up harpoon-left
$\hat{\upharpoonright}$	$\hat{\upharpoonright}$	uprightharpoon / up harp-r
$\hat{\downarrow}$	$\hat{\downarrow}$	updownarrow / up&down arrow
$\hat{\Downarrow}$	$\hat{\Downarrow}$	Updownarrow / up&down dbl arrow
$\hat{\longleftrightarrow}$	$\hat{\longleftrightarrow}$	longleftrightarrow / l&r arrow
$\hat{\longleftrightarrow}$	$\hat{\longleftrightarrow}$	Longleftrightarrow / long l&r dbl arr
$\hat{\Longleftarrow}$	$\hat{\Longleftarrow}$	Longleftarrow / long l dbl arrow
$\hat{\Longrightarrow}$	$\hat{\Longrightarrow}$	Longrightarrow / long rt dbl arr

Additional Symbols, Boxes, Bullets

Map To	Character	Description
^ballot	☒	ballot cross
^bottom	⊥	bot / perpendicular
^bsun	☀	black sun
^bull	•	bullet / round bullet, filled
^check	✓	checkmark / tick, check mark
^cir	○	circ / circle, open
^cir1	①	open circle with appropriate character
^cire	⊖	circeq / circle, equals
^cirf	●	circle, filled
^cirf2	⦿	filled circle with appropriate character
^clubs	♣	clubsuit / club suit symbol
^comp	∕	complement - complement sign
^compfn	∘	B: composite function (small circle)
^conint	∫	oint / contour integral operator
^copy	©	copyright sign
^curren	¤	general currency sign
^daleth	ד	daleth - daleth, Hebrew
^deg	°	degree sign
^diam	◇	diamond / open diamond
^diams	◆	diamondsuit / diamond suit symbol
^dtri	▽	triangledown / down triangle, open
^dtrif	▼	blacktriangledown / dn tri, filled
^ETH	Ð	capital Eth, Icelandic
^eth	ð	small eth, Icelandic
^exist	∃	exists / at least one exists
^female	♀	female symbol
^flat	♭	flat / musical flat
^fnof	ƒ	function of (italic small f)
^forall	∀	forall / for all
^hamilt	ℋ	Hamiltonian (script capital H)
^hearts	♥	heartsuit / heart suit symbol
^hE	⏞	horizontal E
^hellip	...	ellipsis (horizontal)
^hex	⬡	hex
^horbar	—	horizontal bar
^hybull	▀	rectangle, filled (hyphen bullet)
^iexcl	¡	inverted exclamation mark
^incare	%	in-care-of symbol
^infin	∞	infty / infinity
^int	∫	int / integral operator
^intcal	⊢	intercal / intercal
^iohm	Ω	inverted ohm sign
^iquest	¿	inverted question mark
^lagran	ℒ	Lagrangian (script capital L)
^laquo	<	angle quotation mark, left

Additional Symbols, Boxes, Bullets (continued)

Map To	Character	Description
^lceil	⌈	left ceiling
^lfloor	⌋	left floor
^lowbar	—	low line
^loz	◇	lozenge - lozenge or total mark
^lozd	◊	lozenge with dot
^lozf	◆	blacklozenge - lozenge, filled
^lpargt	(>	leftparengtr / left parenthesis, gt
^lthree	×	leftthreetimes
^ltri	◁	triangleleft / l triangle, open
^ltrie	◁	triangleleftsq / left triangle, eq
^ltrif	◼	blacktriangleleft / l tri, filled
^male	♂	male symbol
^malt	⌘	maltese / maltese cross
^minusb	⊖	boxminus / minus sign in box
^mldr	...	em leader
^natur	♮	natural - music natural
^nexist	∄	nexists - negated exists
^nldr	..	double baseline dot (en leader)
^nmid	⌵	nmid
^oast	⊛	circledast / asterisk in circle
^ocir	⊙	circledcirc / open dot in circle
^odash	⊖	circleddash / hyphen in circle
^odot	⊙	odot / middle dot in circle
^ohm	Ω	ohm sign
^ominus	⊖	ominus / minus sign in circle
^oplus	⊕	oplus / plus sign in circle
^or	∨	vee /lor / logical or
^ordf	♀	ordinal indicator, feminine
^ordm	♂	ordinal indicator, masculine
^oS	Ⓢ	circledS - capital S in circle
^osol	Ⓣ	oslash / solidus in circle
^otimes	⊗	otimes / multiply sign in circle
^para	¶	pilcrow / paragraph sign
^phmmat	ℳ	physics M-matrix (script capital M)
^phone	☎	telephone symbol
^planck	ℏ	hbar / hslash - Planck's over 2pi
^plusb	⊕	boxplus / plus sign in box
^plusdo	⋈	dotplus / plus sign, dot above
^pmil	‰	per thousand
^pound	£	pound sign
^Prime	″	double prime or second
^prime	′	prime / prime or minute
^prod	∏	prod / product operator
^qprime	″″	quadruple prime
^radic	√	surd / radical

Additional Symbols, Boxes, Bullets (continued)

Map To	Character	Description
^raquo	>	angle quotation mark, right
^rceil	⌈	rceil / right ceiling
^rect	□	rectangle, open
^reg	®	circledR / registered sign
^rfloor	⌋	rfloor / right floor
^rpargt)>	rightparengtr / right paren, gt
^rthree	×	rightthreetimes
^rtri	▷	triangleright / r triangle, open
^rtrie	⊳	trianglerighteq / right tri, eq
^rtrif	▴	blacktriangleright / r tri, filled
^rx	℞	pharmaceutical prescription (Rx)
^sdotb	◻	dotsquare /boxdot / small dot in box
^sect	§	section sign
^sext	*	sextile (6-pointed star)
^sharp	#	sharp / musical sharp
^spades	♠	spadesuit / spades suit symbol
^sqcap	⊔	sqcap / square intersection
^sqcup	⊔	sqcup / square union
^squ	□	square, open
^sqf	■	square, filled
^sqf	▪	blacksquare / sq bullet, filled
^star	☆	star, open
^starf	★	bigstar - star, filled
^step	⌋	step
^sum	Σ	sum / summation operator
^target	®	register mark or target
^THORN	Þ	capital THORN, Icelandic
^thorn	þ	small thorn, Icelandic
^timesb	⊠	boxtimes / multiply sign in box
^top	⊥	top / inverted perpendicular
^tprime	'''	triple prime
^trade	™	trade mark sign
^trade	®	trade mark sign
^trid	△	triangle up with dot

Additional Symbols, Boxes, Bullets (continued)

Map To	Character	Description
^utri	△	triangle / up triangle, open
^utrif	▲	blacktriangle / up tri, filled
^vellip	⋮	vertical ellipsis
^vprime	′	varprime - prime, variant
^weierp	wp	wp - Weierstrass p
^xcirc	◯	bigcirc / large circle
^xdtri	▽	bigtriangledown / big dn tri, open
^yen	¥	yen / yen sign

Radicals and Complex Fractions

Map To	Description
<rad>a+b<rdx>3</rad>	$\sqrt[3]{a+b}$
<rad>a+b</rad>	$\sqrt{a+b}$
<fr>2x</>3xy</fr>	$\frac{2x}{3xy}$

Simple Fractions:

To be keyed as, for example, 1/2, 3/4. . .

Characters in Alternate Typefaces

Map To	Character	Description
^scrR	℞	Script (appropriate character)
^scrg	g	Script (appropriate character)
^scl	ℓ	Script (appropriate character)
^opnH	ℋ	Open (appropriate character)
^opnR	℞	Open (appropriate character)
^gerR	℞	German Fraktur (appropriate character)
^rusA	А	Russian (appropriate character)

APPENDIX B - ICON DESCRIPTIONS

Icon Descriptions - Search



Online help



Open application



Browse words



Browse entries



Evaluate search



Go to short list or full display



Load query



Cut



Save query



Copy



Clear query



Paste

APPENDIX B - ICON DESCRIPTIONS

Icon Descriptions - Display



Online help



Open application



Toggle between full display and search screen



Returns to search screen



Clear selections



Displays image



Go to next search term



Sort documents



Go to previous search term



Unsort documents



Print



Delete selected documents



Print one



Delete non-selected documents



Paste

APPENDIX B - ICON DESCRIPTIONS

Icon Descriptions - Images



Online help



Open application



Zoom image



Reduce image



Next image



Previous image



Go to short list or full display



Print



Print one