

## Computer Software Reviews

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**Archivist, Version 1.02.** IRL Press, Ltd.: P.O. Box 1, Eynsham, Oxford OX8 1JJ, UK (or IRL Press Inc.: P.O. Box Q, McLean, VA 22101-0850). List price, \$95.00 single installation plus \$20.00 per extra installation or \$190.00 departmental installation. Not copy protected.

**Introduction.** Archivist is a flat-file database manager and a full-text editor that uses WordStar editor commands for use on the IBM-PC and compatibles. It requires at least 400K of RAM or more if you expand the record types or other user-configurable features. Each record in a database may contain up to ~16 300 characters (~2000 words) so approximately 300 average sized records will fill a 360K floppy disk. As for most database programs, a hard disk is strongly recommended.

Archivist is provided with three simple forms for assembling a bibliographic database and the 88-page manual (no index) describes features and functions particularly relevant to that purpose. However, by editing the default startup files, forms can be defined for other types of record keeping as well. The number of different forms is limited to 26, each identified by the initial letters A-Z. Each form can contain an unlimited number of fields, each of which is a free format text field. There are no calculated fields, e.g., for molecular weights from a formula field, or field validation, e.g., for restricting the type of information entered.

**The Screen Interface.** The program is initiated from the DOS command line with or without a database specified. Inside the program, there are useful prompt boxes and the commands and operations are relatively simple. Every form has the same general appearance: each field (no field labels) is the full width of the screen and is separated from the next by a full screen width horizontal line. Data automatically wrap to write as many lines as necessary and the field box height expands. The field name is visible only on the status line and changes with the placement of the cursor. A form or record of more than 24 lines is easily scrolled with use of the keypad.

There is limited on-line help for 66 basic commands. Alt-keys drop down the search, edit, append, import, and export menus from which options are selected from the keyboard. Function keys abbreviate many of these sequences.

For editing, searching and viewing records, the interface is quite easy to use. To modify the forms or the import and export configuration files, however, you must work outside the program in the editor. It would appear to be difficult to achieve a variety of effects (columnar output, e.g.) in your output using the readily available commands.

**Creating a Database.** Some items for this review were tested on a database of approximately 100 records provided as a sample by the distributor. Normally, you will create a searchable database for the Archivist by either of two methods.

From scratch, you must define the types of forms you will use (for a partial list of bibliographic forms used in chemistry, see: Wipke, W. T. *Tetrahedron Computer Methodology* 1988, 1, 87) in the AR.DEF (form definition) file. Within Archivist, template forms are selected and data entered using the editor functions. A single function key terminates the entry and adds it to your database. Different forms (Article, Book, Chapter, ...) can be combined within a single database.

If you already have a database as a text file and wish to import it for searching with Archivist, there are severe limitations. You must write your own import definition file in an editor; the imported records can only be of a single type (Article OR Book OR ...); the structure of the text file must be uniform and have identifiable delimiters. If you currently

use a large bibliographic record keeping system similar to the Scribe, LaTeX, or REFFORM (Wipke, op. cit.) styles, it will be a monumental task to import records into Archivist. If you have other records in text files, you must check their structure carefully. The easiest files to import unambiguously are those derived directly from the output of another database program and Archivist provides a sample for importing data from "dBase" output.

**Searching.** Archivist uses a unique system of full text indexing to conduct its searches. When a set of records is indexed for the first time, *every word*, with the exclusion of 500 or so words in the user editable stopword list, is indexed. Reading in a 100 item database takes approximately 5 min. Once the .DEX file is created, however, searching is incredibly fast. The first item in a found list appears almost instantaneously and all the search terms are highlighted when viewing individual records.

Archivist has unconventional Boolean logic operators. To modify a Found list, sequentially "Widen" (OR), "Narrow" (AND), or "Selective drop" (NOT) a term. This, of course, lengthens the search time. A search sequence can be stored automatically in a .SCH (search) file for repeated use or written separately in an editor. However, any faults such as "term not found" cause a system wait condition that needs to be cleared interactively with the escape key.

Version 1.02 has incorporated field restricted searching so that one may search dates exclusive of data, abstracts exclusive of titles, etc.

**Exporting.** Once a list of records has been found, a report can be exported to a file or to a printer. The format of the report is controlled by the style.EXP files that can only be modified in an editor and not from within the program. Three standard forms for bibliographic output are provided, but none of them produces standard *J. Am. Chem. Soc.* or other major chemistry journal format. Printer output is controlled by the .EXP file as well, but in order to properly interpret control characters for bold, italic, or other printer features you must check the contents of AR.INI where the print driver definitions are found. The simplest Epson definitions are provided and if you are using a different printer or want additional effects you must check your printer manual and rewrite the codes to achieve the desired output. Control codes can be written to files for direct incorporation into word processors, assuming the codes are compatible. Otherwise, the control characters must be suppressed by editing the AR.INI file.

**Other Features.** Archivist can search using wildcard characters, do "fuzzy searching" (using a homophone algorithm), and do user editable synonym searching. Macros can be interpreted during export to convert abbreviated data to an expanded format. Extant databases can be reformatted to incorporate changed fields or merged with each other. There is a shell command to enter DOS commands without exiting Archivist and a security system allowing read only access to the databases while protecting against unauthorized writes or deletes.

**Recommendation.** Archivist is an inexpensive database manager of simple overall design with many good flexible features. Its most problematical features would be the lack of a friendly interface to permit the construction and modification of forms, record input, and report output. Although it lacks special chemistry related features, chemists may find it an economical program for the management of various types of information.

Toby J. Sommer, Brandeis University