

National Radio Astronomy Observatory

Charlottesville, Virginia

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To: Bob Burns

From: Sarah Stevens-Rayburn *SR*

Subject: CPG and Library needs

In your ongoing planning for the Observatory's computer requirements, I'd like to suggest that further automation of the Library operation be kept in mind. In order for us to serve library users in five libraries in four states adequately, more sophisticated approaches involving greatly expanded computer use will be necessary. What follows is a brief description of what we are currently doing and what we would like to do.

I. Current

We now have on tape full bibliographic data for all books purchased since mid-1980 as well as all titles at the VLA, Tucson, and Ivy Road. Updates are received quarterly and are merged with the older data to produce what is in essence a card catalog in print-out form, which is then used in lieu of card catalogs in Tucson, Socorro, and Ivy Road.

II: Proposed

Using the above-mentioned tapes as a base, a library system should include the following:

- a. Online catalog access, allowing staff to check the card catalog for the availability of materials. Dial-up or hard-wired access from any location should allow staff to search the system efficiently (via a menu-driven or a direct search approach). Key-word access to author, title, publisher, and subject, as well as a combination of these (using Boolean terms) should be available.
- b. Circulation control should be able to be driven online either through bar coding and light pens or through terminal entry.
- c. Book processing should be able to be performed directly online or off-loaded from MARC (MACHINE READABLE CATALOGING) tapes. Format capabilities should provide a choice of full or partial display.
- d. Serials control, merging functions such as check-in, claiming, routing, and ordering should be available.
- e. Acquisitions function, allowing items on order to be available in the database, enabling staff to know the status of any item when searching the catalog, should be available. Generation of purchase orders as well as financial analysis should be provided.
- f. Ability to produce offline products, such as a formatted print-out of search results and a microfiche or hardcopy backup of the card catalog is essential.

III. Other considerations

- a. Hardware support for such a library system should include a minimum of 10Mb disk space, at least half of which should be contiguous to facilitate online searching. If retrospective conversion of the entire catalog were to be considered, approximately 20Mb would be required.
- b. Turnkey software packages that can do all/most of the above are available already to run on IBM, CDC, Univac, and DEC mainframes, and VAX, IBM, and PRIME minicomputers, with prices (for all functions) in the \$30-40K range. Obviously the Observatory isn't prepared to spend that just for library applications even if the library applications are Observatory-wide. However, such systems also support a sort program, a report writer, an online or batch input module, a database usage monitor, formatted screen abilities, thesaurus capabilities, etc. and therefore use could extend far beyond the Library.
- c. Current library services using the computer, such as the RAPSheets, various indexes, and so on must have full support under whatever system materializes. The more of these that could be accessed and searched online, the more beneficial they would become.
- d. Electronic mail and word processing capabilities could also be effectively put to use if available to the library.