TECHNICAL NOTE

*HELP: The Automated Binding Records Control System*

An interesting new aspect of library automation has been the appearance of commercial ventures established to provide for an effective use of the new ideas and techniques of automation and related fields. Some of these ventures have offered the latest in information science research and development techniques, such as systems analysis, management planning, and operations research. Others have offered services based on new procedures, for example, computer-produced book catalogs, selective dissemination of information services, indexing and abstracting activities, mechanized acquisitions, and catalog card production systems. One innovation is a new technique devised for libraries to reduce the clerical effort required to prepare materials for binding and to maintain the necessary related records.

The technique is called HELP, the Heckman Electronic Library Program. It was developed by the Heckman Bindery of North Manchester, Indiana, with the cooperation of the Purdue University Libraries.

It was recognized by Heckman's management that the processing of 10,000 to 20,000 periodicals weekly and the maintenance of over 250,000 binding patterns would soon become too unwieldy and costly unless more efficient procedures were developed. It was additionally realized that any new system should also be designed as a means to aid libraries with their interminable record-keeping problems. The latter purpose could be accomplished by providing a library with detailed and accurate information regarding each periodical it binds, and by simplifying the library's method of preparing binding slips for the bindery.

In the fall of 1969, after a detailed analysis, the Heckman Bindery Management began the development and programming of a computerized binding pattern system. This system was a result of a team effort involving management, sales, and production departments. John Pilkington, Data Processing manager, directed the installation of the system and Earl Beal performed the necessary programming functions. In December of 1971 approximately 700 libraries were using the system, and about 100,000 binding patterns were in the data file.

As the system was developed, a library's binding pattern data were converted to machine-readable form which then made it possible for the bindery automatically to provide nearly complete binding slips for each periodical title bound. In addition, the system provides an up-to-date pattern record for the libraries' files, and the bindery maintains the resultant data bank of pattern records as the library notifies it of additions, changes, and deletions. In this manner, the bindery expects to establish an efficient method for purging the file of out-of-date information.

The system revolves around four forms: the binding pattern index card, the binding slip, the variable posting sheet, and the binding historical record.

The binding pattern index card (Figure 1) is a 5" x 8½" card, pink in color, which is a computer printout. One of these cards is retained in the library as its pattern record for each set of each periodical bound by the library. The data given on the card are essentially the same as those maintained by most libraries in their manual pattern files, except that more detail is provided by the HELP system, and the library does not maintain the record—the bindery does—in machine-readable form. As changes are made to the patterns, the library clerk simply crosses out the old data on the appropriate binding slip and writes in the new data. When the bindery receives the binding slip, a new index card is produced, among other records, and forwarded to the library with the returned shipment of bound volumes. The system also provides for one-time changes that do not affect the pattern record.

The data contained on the index cards include the library account number, the library branch or department code, the pattern number, color, type size, stamping position, title (vertical or horizontal spine positions), labels, call number, library imprint, and collating instructions. The collating instructions, which are listed in the instruction manual provided by the bindery, are given as a series of numeric codes. Asterisks are used to indicate the end of a print line.

The binding slips are also 5" x 8½" forms, but they are four-part multiple forms, of which three parts are sent to the bindery with the periodical to be bound, and one part, a card form, is retained by the library as its "at bindery" record. The information required by the binding slip is essentially the same as that included on the index card. The library, however, must provide the variable data such as volume number(s), date(s), month(s), or whatever information is required to identify a specific volume.

The variable posting sheet (Figure 2) is an 8½" x 11" form that is used by the library when it sends several volumes or copies of a volume to the bindery at the same time. Since the bindery cannot determine beforehand the number of physical volumes of a title a library will want to send for binding at a given time, it sends to the library only one printed-out binding slip to be used for the next volume of a given serial. If multiple volumes of

PATTERN

THE HECKMAN BINDERY, INC. N. MANCHESTER, INDIANA

PAPER PATENTED BY NCR CO.

| | TYPE SIZE | SLOT OR START | CUST. ACCT. NO. | | LIBRARY | PATTERN NO. | COLOR | | TRIM | | SPINE | CUST. PAT. NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | PRINT | MATERIAL | | | | |

HORIZONTAL

VERTICAL

FRONT OR LABELS

LIBRARY
▼
POST ACCENTS TO TITLE IF REQUIRED

NEW TITLE

SAMPLE OR RUB

LIBRARY USE ►

CALL

IMPRINT

PANEL LINES

COLLATE

BINDERY USE ►

| SPECIAL PREP. | INSERT MATERIAL | BEN. SEW | PERMA-FILM | | POCKETS | | | PRODUCT | VOL. | | QTY. | JOB NO. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OVER 12'' | UNDER 12'' | PAPER | BUCK. | CLOTH | 1 MAG 2 REF. B 3 M.PAM | | OF | | |
| TAPE STUB | FILLER | FILLER W/STUB | SEP. SHEETS | PARTS BOUND | | CLOTH EXT. | | TRIM | COVER SIZE | | | COVER NO. |
| | GUM | STUB | | | IN PAPER | IN CLOTH | | | | X | | |

PRINTED BY THE STANDARD REGISTER COMPANY, U. S. A.

Fig. 1. Binding pattern index card.

FIG 1

Fig. 2.  *Variable  posting  sheet.*

a set are to be bound, the library clerk provides the variable information for the first volume by using the single binding slip, and the variable data for each additional volume of the same title are posted by the clerk on the posting sheet. The bindery will automatically produce from its pattern data bank the binding slips necessary for binding the additional volumes that are listed on the posting sheet.

The binding historical record (Figure 3) is a form provided for the use of the library if it desires a permanent record of every volume bound. The use of this form is not required by the system; it is simply a convenience record for the library binding staff. The form is printed on the back of the pattern index card. Spaces are provided for volume, year, and date sent to the bindery, and most of the back of the card is available for posting.

All data fields are of fixed length with the maximum size of the records at 328 characters. Some of the data formats are shown in Figure 4. A few of the data fields in the example need additional explanation. The fifth field labeled "PRINT" refers to the color of the spine stamping, i.e., gold, black, or white. The "TRIM #1 & 2" fields are for bindery use only, and indicate volume size within certain groups for printing purposes. The "SPINE" field is also for bindery use, and it indicates the size of type that can be used according to the width of the spine. "PRODUCT NO." refers to certain types of publications such as magazines, matched sets, or items which will be pamphlet (inexpensively) bound.

**BINDING RECORD**

TITLE:

PUBLISHER'S ADDRESS:

| VOLUME | YEAR | DATE SENT | VOLUME | YEAR | DATE SENT |
|--------|------|-----------|--------|------|-----------|
|        |      |           |        |      |           |
|        |      |           |        |      |           |
|        |      |           |        |      |           |
|        |      |           |        |      |           |
|        |      |           |        |      |           |
|        |      |           |        |      |           |
|        |      |           |        |      |           |

*Fig. 3. Binding historical record.*

Card Name _____

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Print | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | Print Line 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | P |
| | | | | | | | Tier 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | T |
| Punch | 1 | CUST. NO. | | | | | | | LIB. NO. | | PATTERN NO. | | | | P R I N T | MAT. | | | TRIM #1 | | TRIM #2 | | S P I N E | CUSTOMER PATTERN NO. | | | | | | | | | | | | | | | | |
| Program Control Card | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |

Card Name _____

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Print | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | Print Line 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Pr |
| | | | | | | | Tier 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Ti |
| Punch | 2 | CUST. NO. | | | | | | | LIB. NO. | | PATTERN NO. | | | | COLLATE (CONT.) ⟶ ⟨ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Program Control Card | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |

Card Name _____

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Print | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | Print Line 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Pr |
| | | | | | | | Tier 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Ti |
| Punch | 3 4 5 | CUST. NO. | | | | | | | LIB. NO. | | PATTERN NO. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Program Control Card | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |

*Fig. 4. Data formats.*

**MULTIPLE LAYOUT FORM**

| 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Print Line 2 — Print Lines 3 and 4

Tier 2 — Tier 3

PROG NO

←———— COLLATE ————

| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Print Line 2 — Print Lines 3 and 4

Tier 2 — Tier 3

VARIABLE

| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

Print Line 2 — Print Lines 3 and 4

Tier 2 — Tier 3

———— VARIABLE (CONT.) ————————————→

| 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

*Fig. 5.  Pattern printing setup.*

One additional form used in the system is for Heckman's internal operations. That is a data input form known as the "pattern printing setup" (Figure 5). This form is used by the bindery's input clerks to prepare new binding patterns for conversion to machine-readable form. The data prescribed by the form is much like that required by the binding pattern index card, except that data tags are shown for keypunching purposes.

The system operates on an IBM System 3 computer with two 5445 disk drives and a 1403N1 printer. The disk drives provide a total of 40,000,000 characters of on-line storage in addition to the 7,500,000 usable characters provided by the System 3 itself. Five 5496 Data Recorders are used for data conversion. The programs are written in RPG2.

The development of computer-oriented commercial services for libraries suggests that, perhaps if librarians wait long enough, they will not have to automate their libraries as commercial ventures will do it for them. The rapid appearance of systems-analysis firms, commercial and societal abstracting and indexing services, management and planning consulting groups, and data processing service bureaus tends to bear this theory out. At the very least, libraries will not be able to automate internally without providing for the incorporation of such ready services into their systems. When a service such as HELP is made available at no additional charge, there is no way for libraries to avoid automation.

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