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ABSTRACT

THE CSL SERIALS CONTROL SYSTEM IS AIMED PRIMARILY AT SATISFYING CONTROL AND RETRIEVAL REQUIREMENTS OF SERIALS DATA FOR SUBSCRIBERS TO THE CALIFORNIA STATE LIBRARY PROCESSING CENTER (CSL-PC). THE PRIMARY OBJECTIVE OF THE SYSTEM IS TO PROVIDE A METHOD OF SERIALS CONTROL WHICH WILL BE VERY FLEXIBLE BOTH IN TERMS OF INPUT REQUIREMENTS AND OUTPUT CAPABILITIES. THE SYSTEM IS ALSO DESIGNED TO ACCOMMODATE THE VARYING DEGREES OF COMPLEXITY WHICH WILL OCCUR IN SERIAL COLLECTIONS OF DIFFERENT SIZE AND SCOPE. THE SYSTEM IS DESIGNED TO FUNCTION AS AN AID TO SERIALS LIBRARIANS IN MAINTAINING CONTROL OF THEIR BASIC FILES IN TERMS OF ORDERING, SUBSCRIPTION RENEWAL, EXPECTED ARRIVALS, CLAIMING, BINDING, AND HOLDINGS INVENTORY. THE MACHINE PORTION OF THE SYSTEM IS DESIGNED TO BE COMPATIBLE WITH EMERGING STATE AND NATIONAL STANDARDS. TO FURTHER THIS GOAL A MACHINE RECORD HAS BEEN CONSTRUCTED WHICH STRONGLY RESEMBLES THE STANDARD MACHINE RECORD FOR MONOGRAPHS (MARC) DEVELOPED BY THE LIBRARY OF CONGRESS. INCLUDED IN THIS REPORT ARE SECTIONS WHICH COVER: (1) A GENERAL INTRODUCTION; (2) TECHNICAL DESIGN; (3) THE CONVERSION REQUIREMENTS FOR THE CSL-PC SERIALS RECORDS; AND (4) SUBSCRIBER'S GUIDE WHICH PROVIDES A DETAILED DISCUSSION OF EACH DATA ELEMENT USED IN THIS SYSTEM. (AUTHOR/JB)

CALIFORNIA STATE LIBRARY:

PROCESSING CENTER DESIGN AND SPECIFICATIONS

VOL IV: SERIALS CONTROL SYSTEM

By

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FOREWORD

REPORT DESCRIPTION

The CSL Serials Control System is aimed primarily at satisfying control and retrieval requirements of serials data for subscribers to the California State Library Processing Center. The primary objective of the system is to provide a method of serials control which will be very flexible both in terms of input requirements and output capabilities. The system is also designed to accommodate the varying degrees of complexity which will occur in serial collections of different size and scope.

We have divided the stream of tasks involved in controlling serials into its components, and reduced those components to a set of data manipulations which can be controlled by the computer. Obviously we have not attempted to create a mechanized system which controls all phases of serial processing. Not only would such an undertaking be too extensive at this point in time, it would be economically impossible to accomplish considering the complexity and extreme variability of serial control procedures.

The system is designed to function as an aid to serials librarians in maintaining control of their basic files in terms of ordering, subscription renewal, expected arrivals, claiming, binding, and holdings inventory. The machine portion of the system is designed (hopefully) to be compatible with emerging State and National standards. To further this goal we have constructed a machine record which strongly resembles the standard machine record for monographs (MARC) developed by the Library of Congress.

This report does not reflect the recently issued Library of Congress serials format because the report was in the final stages of writing when the format was issued. One should see: SERIALS - A MARC Format; Working Document. Library of Congress, Information Systems Office, Washington, D.C., August 1969. 72 pp.

ACKNOWLEDGMENTS

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Finally we want to thank all the members of the Institute who participated in the production of the report. Specifically we thank: Jay Cunningham for his help in dealing with the problems of descriptive cataloging and MARC monograph compatability, Jorge Hinojosa for his work on statistical approaches to prediction, Thomas Hargrove and Luke Howe for general support, and typists Joan Chan, Kitty Colburn, Liz Ford, Linda Horton, Pam Mitchell, and Connie Torii.

The work reflected in this report was done under the supervision of Don Sherman, the Institute's project manager for the California State Library Processing Center contract, with the advice and assistance of Ralph Shoffner, coordinator of Projects at the Institute of Library Research, Berkeley branch.

M.D.F.
R.D.

Berkeley, California
September, 1969

GENERAL INTRODUCTION

INTRODUCTION

An initial overall description of serials is given here as one way of understanding the proposed technical design for Automated Serials Control. In terms of this perspective it is hoped that the design can be understood and evaluated. The point of view adopted is that of the flow of information required in either manual or computer based systems.

Two types of information seem to be involved in serials control: bibliographic and operational. Bibliographic information tells what item is involved in the library collection. Operational information tells what to do with it or about it.

Bibliographic information identifies and distinguishes the bibliographic unit from others (whether monograph, serial, newspaper, document, or any other type library material). It serves very much like an identifying code and home-address which tell where and what serial, or bibliographic unit, is involved.

Such information can be broken down into two further types:

- Catalog information, such as call number, title, publisher, holding information, etc.
- Relational information, such as cross reference to other titles within the same series, or to changed names of the same publication.

Catalog information is common to all types of library material. It is the relatively permanent identification of the serial, and (in its call number) the serial's "permanent" relative location in the collection. Catalog information is added to the card (apart from incompleteness or corrections) only once.

A temporary type of catalog information is the initial subscription title identifying the serial until formally cataloged. It may also be temporary identification prior to cataloging, due to back orders, gifts, or exchanges. Because such identification is temporary, and incomplete or different in comparison to permanent cataloging, some might not wish to call such identification "bibliographic". Other than being temporary, however, it serves the same functions of identifying, referring to, and locating the serial or information about it.

Relational information is the permanent linking data which leads to current, previous, or related names of the same publication, or to inactive status. A serial, for example, can merge into another as far as its own subject and activity are concerned, but cease as a separate and distinct publication. Or, a serial can remain the same, but change its name. (For serials control, change is considered a change in identifying information, not change in internal format, policy, etc.) A serial can also split into different versions, such as A and B, but in other respects have the same general title. A link is then needed as of a certain date to refer from the single publication to the divided ones. And finally, when a serial ceases publication (called inactive), its termination can be considered a link to inactivity as of some date. If it is later revived or incorporated into some other serial, its relational information can then be updated as no longer inactive.

The connection between temporary-identifying-information and permanent-catalog-information (as discussed under catalog information) is not considered "relational" because such a connection is known to be only a working and temporary relationship. The temporary title is incomplete, and sometimes incorrect. When it is replaced by full cataloging, the temporary version is no longer useful.

These types of bibliographic information--catalog (including temporary identification) and relational--are given different names because they differ in how and when they are entered on the files, and in the uses they serve in the system. They share the common quality, however, of identifying and locating serials.

Operational information describes the procedures to be followed with or about serials, or provides the information needed to carry out such procedures. The procedures themselves can be physical-actions or information-processing. The physical objects (the actual serial, binding material, etc.) or the physical actions with them (actual binding, marking, etc.), of course, are not involved here. Only the information about such physical objects or actions is considered. The instructions for processing information itself, however, are very much involved, whether they continue to be done manually or as much as possible by computer processing.

In general, operational information concerns:

Physical properties or conditions (such as color-of-binding or date-of-claiming).

Physical actions (such as binding, marking).

Instructions for information processing (such as hold, resubmit, tally).

Logical conditions for processing (such as type, order, completeness).

In terms of these two types of information, bibliographic and operational, a general description can be given of the information flow of serials. But first, a general definition of serials will be useful:

> The 1967 AA Glossary definition of Serials is:
>
> "A publication issued in successive parts bearing numerical or chronological designations and intended to be continued indefinitely. Serials include periodicals, newspapers, annuals (reports, yearbooks, etc.), the journals, memoirs, proceedings, transactions, etc. of societies, and numbered monographic series. (p.346)

General information flow of serials involves two approaches: Time and Functions. These are presented in terms of information-flow as a preface to the general description.

If one views serials control from the first approach of time, three stages of processing become evident. These three stages are: On Order, In Process, and Existing Order. From the point of view of information flow, these time distinctions imply groupings of types of information in a perpetual cycle of:

1. "On order"-- This is similar to "in process" and includes operational information involving temporary (or initial and intermediate) identification.
2. "Existing order"-- This includes the above, plus additional operational information about permanent (or cataloged) identification.
3. Occasional changes -- Such changes may occur in relational information when existing serials are stopped, replaced, or linked to other serials.

On the other hand, if one views serials control from the second approach of functions, eight functions are pretty well established, though their names may differ, or vary in what they include. The details within these functions, however, are not standardized, and there is sufficient overlapping between functions to justify consolidating the eight into fewer modules. These functions (and the types of information involved) are briefly listed as follows:

Function		Types of Information Involved
1. Ordering	--	temporary identification, plus operational information for the process.
2. Cataloging	--	relatively permanent identification and relational information required to connect other serials or indicate inactivity. (The great body of cataloging rules are not considered here but only the functional role that catalog information plays in serials control.)
3. Inventory	--	holdings information and operational information in connection with temporary and permanent identifying information, allowing check-in, receiving, etc.
4. Claiming	--	operational information needed to follow up delays in expected (or predicted) arrivals, as indicated in receiving and check-in information.
5. Lacunae	--	operational information needed to deal with retroactive "gaps" in the holdings information (no longer considered as claims) noted on lists of desired serials, or "Desiderata" lists.
6. Binding	--	operational information needed to physically bind a unit of serials when designated from holdings information as an issuing unit, with operational information of already established series of color, size, etc., plus cataloging information.
7. Accounting	--	the operational information and accumulated totals of activity to show the costs of serial functions performed, and subscriptions started, renewed, replaced, stopped, or acquired as gift or exchange.
8. Managerial Control	--	statistics on all aspects of serials, both processing and costs, as well as billing to participating libraries.

From the point of view of information flow, the problem in technical design for computer handling of serials is how to weave together into one perpetual cycle a modular structure to handle these eight functions. Two broad steps are involved in the technical design:

1. Assemble and analyze the aspects of:
    a. all the data elements of bibliographic and operational information involved in the eight functions.

b. descriptions of all handling of the serials themselves and the handling of information about them.

The first aspect tells the information needed to take actions, or to be arrived at after the action is taken. The second aspect tells the type and order of actions taken in handling physical objects or in processing information.

2. Design a smooth flow whereby the computer handles as much information and computation as possible, consistent with batch processing. (On-line processing is not economically feasible at this time, but batch processing assumed here is compatible with the on-line approach.) In this design, at predicted times, in prescribed sequence, and according to stipulated conditions, the computer will cycle out specified actions and needed information. After such actions are taken, the computer will receive back a confirmation of that action or a notice of alternate action taken. In addition, the design will provide for inputs not predicted by the computer. Lists and statistics can be produced at specified times or for special purposes.

The success of such a computer based serials control will depend on three factors:

A. the accuracy with which the computer program processes input information.

B. proper sequencing of the steps in that processing.

C. the effectiveness of manual procedures in preparing turnaround information in sufficient time for the computer program to correctly predict the next step in the cycle.

A "time dependent" computer system, as is serials, to be really effective must have a predictive capacity which is accurate not only relative to actual calendar time, but also responsive to actual working time, such as delays or backlog, or inability to re-enter or newly-enter required information.

The effectiveness of correct prediction by calendar time and working time will be especially important, due to the variations of different services, data, and time schedules expected from different libraries participating in the central CSL-PC serials control.

VARIATIONS FOR PARTICIPATING LIBRARIES

Each library wishing to participate in CSL-PC services for serials control probably will choose first what it needs most or can afford. Backlog, lack of personnel for increasing volume, or a limited budget will determine at what point each library begins. It must be a beneficial and realistic starting point. Each library will need a well planned transition from its wholly manual procedures to computer handling. It will also need a cumulative plan for further development, to justify its initial investment, and to realize the optimal benefits from MARC serial cataloging and computer processing.

To meet these variations, the Center will need to establish not only a working system for all serial services, but also optional mixtures of services, which can be started at different points of optional services (with an essential basic file underlying any option) but still develop to a full system or as far as benefits and funds allow.

Optional Mixtures of Serials Services. The ability to supply optional mixtures of serial control will depend upon how attractive are the conditions for participating, and also upon how easily and effectively the computer programs allow libraries to enter, maintain, and change the services desired.

Conditions. As soon as serials services are established as a full working system, charter membership by some libraries is one way of attracting pilot participants, as well as a way of amortizing costs of establishing the initial programs. Such pilot members will give early experience and a needed test of the effectiveness of handling "time-scheduled" services from a central system. The cost (and undoubtedly inevitable difficulties) of charter membership would be in lieu of an entrance fee otherwise required of libraries who enter later. The charter member libraries would also have earlier benefits from the system, and a chance to ensure that the system reflects their local needs as well as CSL-PC and national standards.

Each participating library could pay:

- an entrance fee (except charter members), including possible cancellation costs.
- a basic annual maintenance fee for essential data and operations, regardless of options.
- a unit cost for the number of serials (actual data and processing) and types of optional services contracted.

At any time (consistent with established computer processing periods) the participant could increase or decrease optional services. If he cancels the basic services, however, the cancelled file would be held dormant on tape for a certain period, and then transferred to inexpensive machine-entry media, such as punched cards, and returned to the user for his keeping. To re-enter the system later would require another entrance fee, plus the cost and effort of converting whatever new serials, holdings information and additional operational information that has accumulated since leaving the system. The punched cards would be lieu of another total conversion.

Computer Programs to Handle Options. In addition to the programs which actually do the processing of serials information, a monitor program will handle optional services for each library, keep track of the processing contracted for, and compute costs for doing it.

In manual systems, process control is maintained by supervision and recap sheets. Costs are controlled by assessing an average unit cost for each service against the number of items processed. In cataloging monographs, for example, the average unit cost of cataloging once established is assessed against the total number of items cataloged, to give the total cost.

In computer handling, the monitor program will supervise the actual processing, recap tallies of what is processed, but assess costs on actual services, data, and processing, not by averages. Serials, after all, are more complicated than monographs. There is not only a variety of data pertaining to each serial, but also a varying amount of processing applicable to a particular serial at different times of the cycle, as well as different services contracted for by each library.

At the beginning of each computer run, the monitor program will test if there are any changes being made to the table of contracted services for each library already in the system, or any libraries being added or stopped. If any changes are involved, the simple update of the monitor table will automatically insure that all successive transactions in the very same run follow the new contract. Change in services, then, as far as the computer processing is concerned, is a simple matter of entering a Library Profile Tape at the beginning of a run. Corresponding changes and preparation, of course, of manual data and handling will not be so easy.

Once possible changes in library services are tested, the monitor program will test each transaction for its library code. With this code, from the library-contracted-services table, it will assign internal codes in each transaction to insure only currently contracted services are performed.

The monitor program will then keep an exact tally of what data and what processing instructions are actually used in that particular run for each transaction, of each library.

For costing purposes, these tallies of the total amount of data processed and the number of instructions actually used will be translated into time-units (plus the time to make the tallies and translation and computation), and then computed at unit computer-time cost, to produce actual total costs.

Such detail tallies, translations and computations, of course, would be out of the question if done manually. Fortunately, detail tallies are a feasible by-product of datum-by-datum, instruction-by-instruction processing on the computer. Exact tallies and calculations, in fact, are probably an easier, and certainly more accurate, way of costing, than trying to pre-establish average costs for varying services, varying data, and varying processing. Averages, however, will be periodically calculated from accumulated costs, and stated as a part of management statistics and billing to libraries. The basic control of processing and costs will be on what is actually done, not on what is estimated or averaged out.

As presented here, optional mixtures of serials services, at least as far as computer handling is concerned, will be quite flexible and responsive to needs and funds of participants. It will allow a precise way of assessing fixed-unit-costs of processing for any volume of serials, whether backlog or future increase. It also will keep serial information up-to-date. As more libraries participate in the system, the more quickly costs for establishing the serials programs can be amortized (or reported back to outside funding), and the lower the basic unit cost of maintenance can be made.

Differences in Data Terminology. In addition to optional services, provision can be made also for computer input and output programs to receive and print out variations in terminology of data elements and their order of presentation. In the face of non-standard terminology and order of data (both bibliographic and operational) the acceptance and printing out of variations in a long transition period can encourage different libraries to join the system for immediate benefits, and to have a way of working toward a statewide standard of serials control, and hence a truly union serials catalog.

TECHNICAL DESIGN

- T A B L E   O F   C O N T E N T S -

SYSTEM DISCUSSION:

GENERAL INTRODUCTION

The Serials Control System (SCS) designed for the California State Library Processing Center, parallels in general the functions performed by the Center's monograph system. That is, they both cover problems of:

Retrospective Conversion
Current Acquisitions
File Maintenance
Authority Verification
Retrieval
Union Catalogs

As for monographs, the serials system is also designed to operate in a network environment, where participating libraries may subscribe to either full or partial service from the Center.

Thus in a general way, SCS is a form of bibliographic processing system providing assistance to library technical services. In its initial stages, the system will operate much in the service of the serials librarian. The differences between serials and monographs are not difficult to perceive. It is the similarities which are harder to discover; yet from the machine point of view it makes good sense to exploit as much commonality as can be salvaged.

We propose to do this in two ways: by record format and by file organization. There will be within the next few years, a proposed standard record format for serials data, in parallel to the current MARC II record for monographs. This standard is currently under study by the three National Libraries (L.C., N.A.L., N.L.M.). In the absence of a formal standard, we will attempt to extrapolate a format based on the MARC II monograph structure. The format we attempt to develop will, we hope, be a prototype of the national standard. At any rate, it will be compatible in structure with the current MARC record. This will mean potential re-use of some of the Center's monograph software.

A second point of monograph/serial system parallelism is file structure. SCS embodies three main files:

1. Central (Bibliographic) Master File (CMF)
2. Local Master File (Holdings) (LMF)
3. Index File (INDEX)

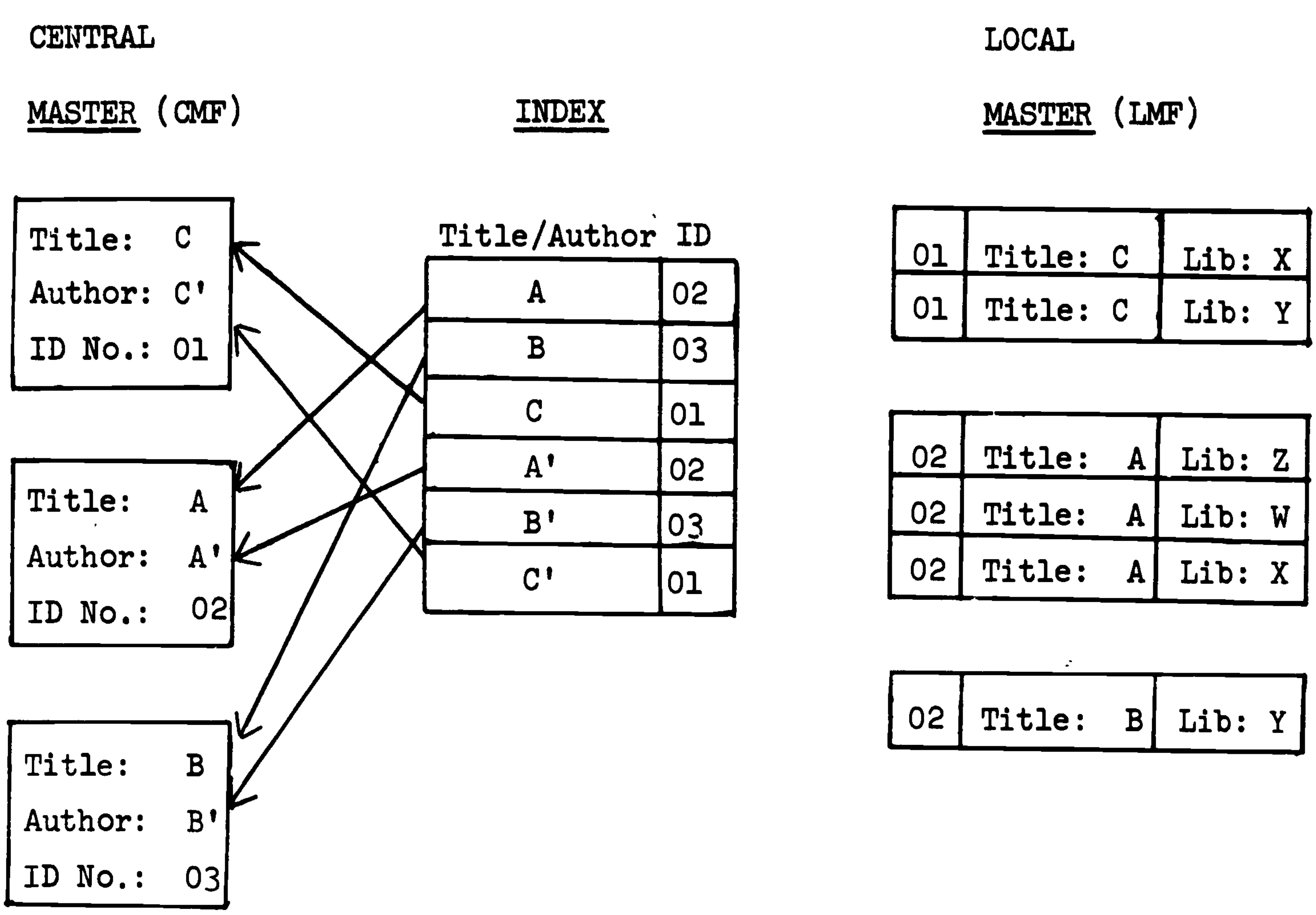
The three files are in rough parallel to the BIB MSTR, HOLD and INDEX files of the monograph system.

The Central Master File (like BIB MSTR) contains the full bibliographic description of the serial, such as title, author, publisher, language, publication pattern, etc. Each CMF record has a unique Serial Control Number (SCN) assigned to it.

The Local Master File roughly parallels the HOLD file, in that its basic function is to record holdings of a single library with respect to a single serial. <u>All</u> the local library's data relative to a single serial title is embedded in this file. This includes retrospective holdings, current arrivals, and all data relevant to a serial's presence in a local library such as routing, claiming, subscription, funding and bindery instructions.

The INDEX file is an alphbetically ordered file designed for serial title searching during file conversion operations. The INDEX file allows the Central and Local Master Files to be randomly ordered according to simple accession number which then functions as a Serial Control Number.

EXAMPLE:



The following can be seen from this example. CMF is in random order; the accession number is a Serials Control Number. INDEX contains alphabetized Titles and author statement. INDEX is used for searching for duplicates. LMF is ordered by Serials Control Number and holding library.

In contrast to the monograph system, the Serials Control System will have a high number of holdings relative to a small number of unique titles. Preserving the uniqueness of entries in the CMF poses a major problem for the system. There are two aspects to this problem: first, variations in a title; and second, title changes which occur in the history of a serial.

The solution to the problem requires the services of a serials control analyst, as well as the presence of linking data elements in the CMF. When a new title is to be converted/added to the system, it is the responsibility of the control analyst to determine:

1. Whether the title has already been converted
2. Whether any previous or later titles for the same serial exist in the file.

If the first determination is positive, then a new entry is made to the Local Master File but not to the Central Master File. If the determination is negative then a new entry is made both to CMF and LMF.

The second determination is related to the problem of linking related titles in the file. This is accomplished by the use of a link number data element. Specifically, the link number is a common SCN assigned to all CMF entries which are part of a single title history. Assume a title history of four changes, represented by T_1, T_2, T_3, T_4. Further assume that the order of arrival into the CMF is T_3, T_4, T_1, T_2. The SCN's and link numbers would be assigned as follows:

Title	SCN	Link Control Number (LCN)
T_3	1234	1234
T_4	1246	1234
T_1	1297	1234
T_2	2338	1234

The link control number is developed by the serials control analyst who searches the INDEX file to determine whether any title predecessor successor exists in the file. If not, the LCN is equated to SCN. If the answer is positive, then the LCN is set to the LCN of the related title.

SYSTEM DISCUSSION:

GENERAL SYSTEM DESCRIPTION

The Serials Control System is basically a carryon effort of the monographs portion of the CSL-PC design. The technical design however is being presented in a slightly different format for several basic reasons. The first and prime reason for a different approach to serials is simply that the Library of Congress has not yet released an official MARC II record format for serials. Because of this, it was necessary to develop a record format and include those data elements peculiar to serials. It was decided early in the evolutionary phase of the specifications to attempt to parallel the MARC II monographs format as closely as possible, while expanding it to fit serials requirements. This decision was based upon the expectation that the Library of Congress MARC II serials format, when released, will closely resemble their monographs format. Hopefully this will allow us to use L.C. serials tapes in building and verifying our files, and will make our bibliographic master file compatible with MARC.

Beyond the fact that the MARC serials format has not yet been released, we quickly realized that when it is released, it will be insufficient for our purposes. The Serials Control System is required not only to maintain catalog records of serials, but it must also track and control the normal administrative functions associated with serials processing. We have therefore supplemented what we expect to appear on the MARC file with control data required by local library systems in managing their serials collections. In developing these new data elements, it became mandatory to explain their form and function to a very high degree of detail.

Also since the Serials Control System is primarily a control system, it was required that we specify the mechanics of the processing flow in a more explicit form. Thus the individual programs are spelled out in detail in the system flow-chart and specifications are oriented toward particular programs. Timing of events in the processing stream is crucial, and as a result the system flow-chart indicates from what programs transaction outputs emanate and at which points these transactions re-enter the system. This does not mean that the system is closed nor complete. These specifications provide a base system from which to build. The main purpose of these specifications is to provide a very flexible and complete record format from which to work, and to spell out the basic file maintenance procedures to be used with that format. It is expected that the report outputs herein specified will be sufficient for a basic operating system, however we expect that other outputs and even more data elements will be added in the future.

The following few pages contain the basic system flow-chart, indicating all of the specified inputs, outputs, and programs. As can be seen, all transaction input occurs on a weekly basis during the weekly updating program. The transactions are first reformatted from cards to tape and then enter an optional validation routine. Specifications for the validations are not included with this report because such validation is not absolutely essential to the system. It is strongly advised however that a validation routine be developed as soon as practicable, since it becomes extremely costly and time-consuming to correct easily identifiable input errors which are allowed to affect the files. This validation routine should act as a screen by stopping input errors detectable by the computer before they can affect the files.

After the transactions are strung on a tape they will enter the Weekly Update Program. This program accomplishes all file updating not directly associated with prediction. Through it all new records are added to the file, all turnaround transactions are entered and processed, and all change and delete transactions are processed. The program's primary output consists of updated master files and a transaction and error list. The transaction and error list will display all transactions input to the program and will flag any transactions which could not be processed. At a later date, when the validation program is developed, this list will display only those transactions with errors which the validation could not detect, and will indicate the reason that the transaction could not be processed.

Also emanating from the weekly update is the new orders tape. This tape will contain copies of all new order records placed on the master file during the updating cycle. These tapes will either be listed weekly for verification by the ordering staff or they may be cumulated and listed on a monthly or as required basis.

The last major step in file maintenance is the Monthly Status Run. This program accomplishes all file updating directly dependent upon the prediction phase of the system. All expected arrivals data, claims data, and binding data resulting from file searching and issue designation generation is generated by this program and added to the files. This data is also output on a monthly status work tape and is in turn extracted, sorted, and listed in the various required formats. New master files are also generated which will be input to the first weekly update of the following month. The master files input to this run are those created by the last weekly update of the previous month.

It is assumed throughout these specifications that the close of business on Friday of each week is the end of the week. (Any day may be chosen but it must be a fixed day of the week.) This means that the last weekly update of any month occurs as of the last Friday of that month. It also means that wherever we refer to a number of weeks for a delay code or the number of weeks in a month, we are referring to the number of Fridays. This may on the surface seem insignificant, however the distinction is important and can create many problems if not made. The prediction functions which occur in the Monthly Status Run depend upon their relation to a calendar week or month, and it must therefore be made explicit when a week or month begins and ends.

All file maintenance procedures are accomplished by the two foregoing updating programs. The tape files which emerge from the weekly update represent the status of the libraries' holdings and control data as of that week. Any of the many report products which require only the master files as input may be produced as of any weekly update, thus showing the status of the libraries on a very current basis. They may also be produced from the master files which are created by the Monthly Status Run. Programs which are classified as monthly processing will normally receive the master files from the Monthly Status Run as input.

The Monthly Status Work Tape is passed through a series of routines which extract, reformat, sort, and display the data in appropriate formats. These routines will produce all of the system turnaround transactions except for the BTC2 which is produced by the Weekly Update. With the production of the turnaround transactions and the prediction of the next month's activity, the file maintenance procedures are completed. The turnaround transactions are resubmitted to the weekly updates as actions are accomplished and the cycle rebegins. As stated, the resulting files can be displayed in any of the formats specified in this report or in any other format desired by the users.

The following pages graphically depict the proposed system in flow-chart form. All of the specified programs appear on the flow-chart, and a time-flow relationship can readily be seen. These flow-charts represent a breaking point in the technical specifications. Following the flow-charts the reader will find a discussion of the file organization and the data structure. It will be assumed that the reader has consulted and is generally acquainted with the record format as specified in the Subscriber's Guide portion of this report before proceeding beyond this point. Without a general understanding of the record formats the next sections will be difficult to follow.

The flowchart, (Fig. 1) is given in six parts as follows:

Part A: Weekly Processing
Part B: Monthly Status Run
Part C: Monthly Processing
Part D: General As Required Runs
Part E: General As Required Runs
Part F: Local and Union Catalogs

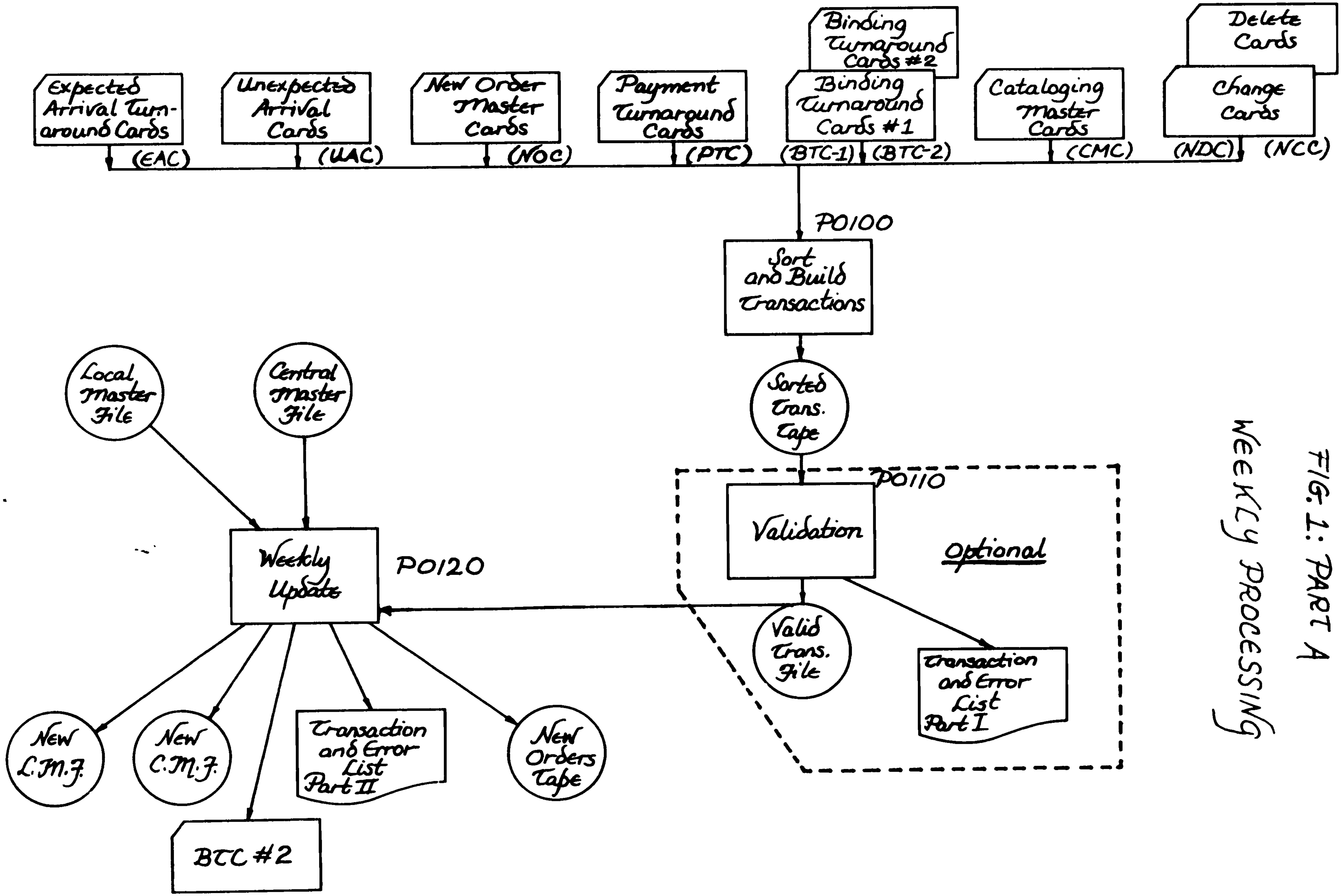


FIG. 1: PART A

WEEKLY PROCESSING

FIG. 1: PART B

MONTHLY STATUS RUN

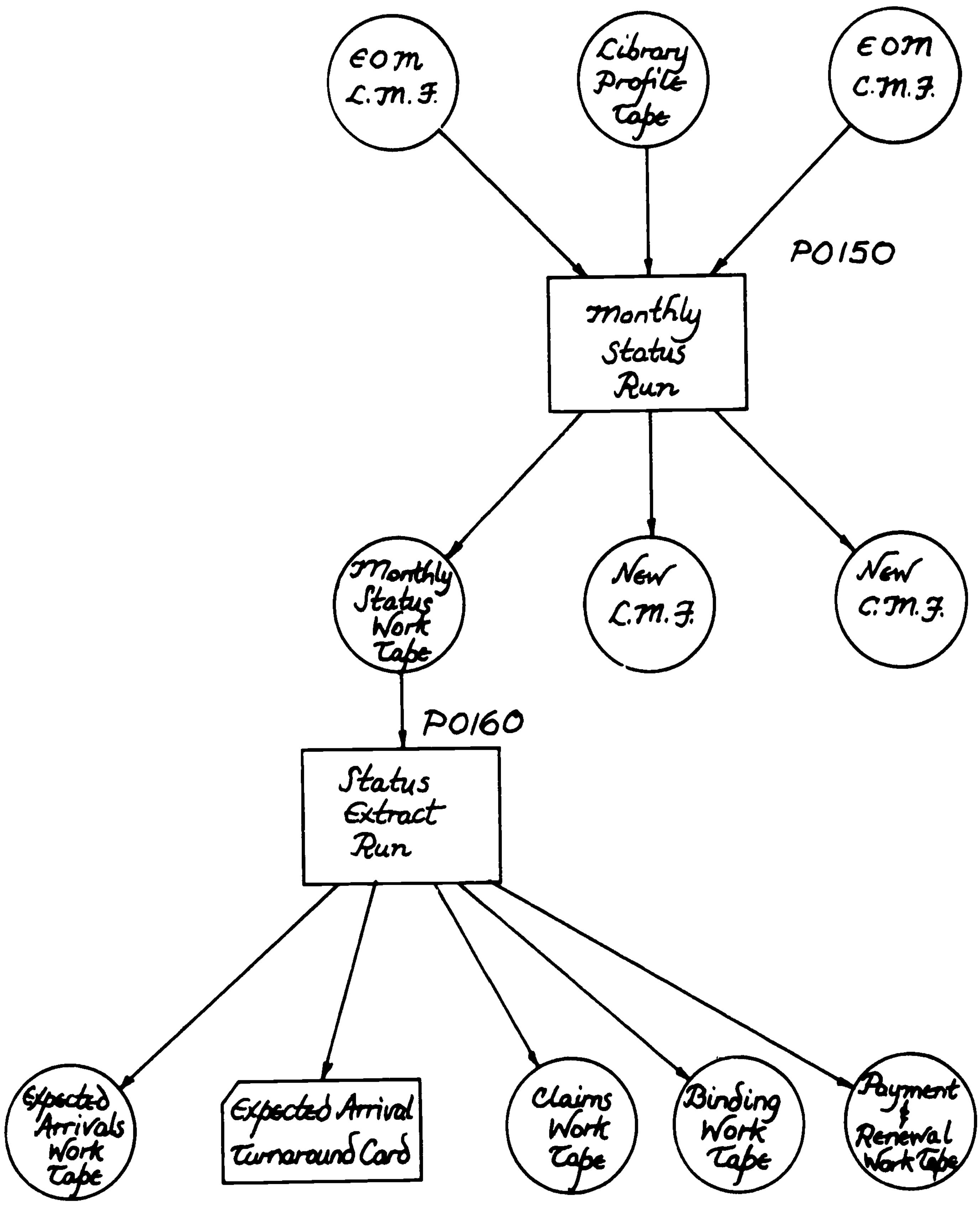


FIG. 1: PART C. MONTHLY PROCESSING

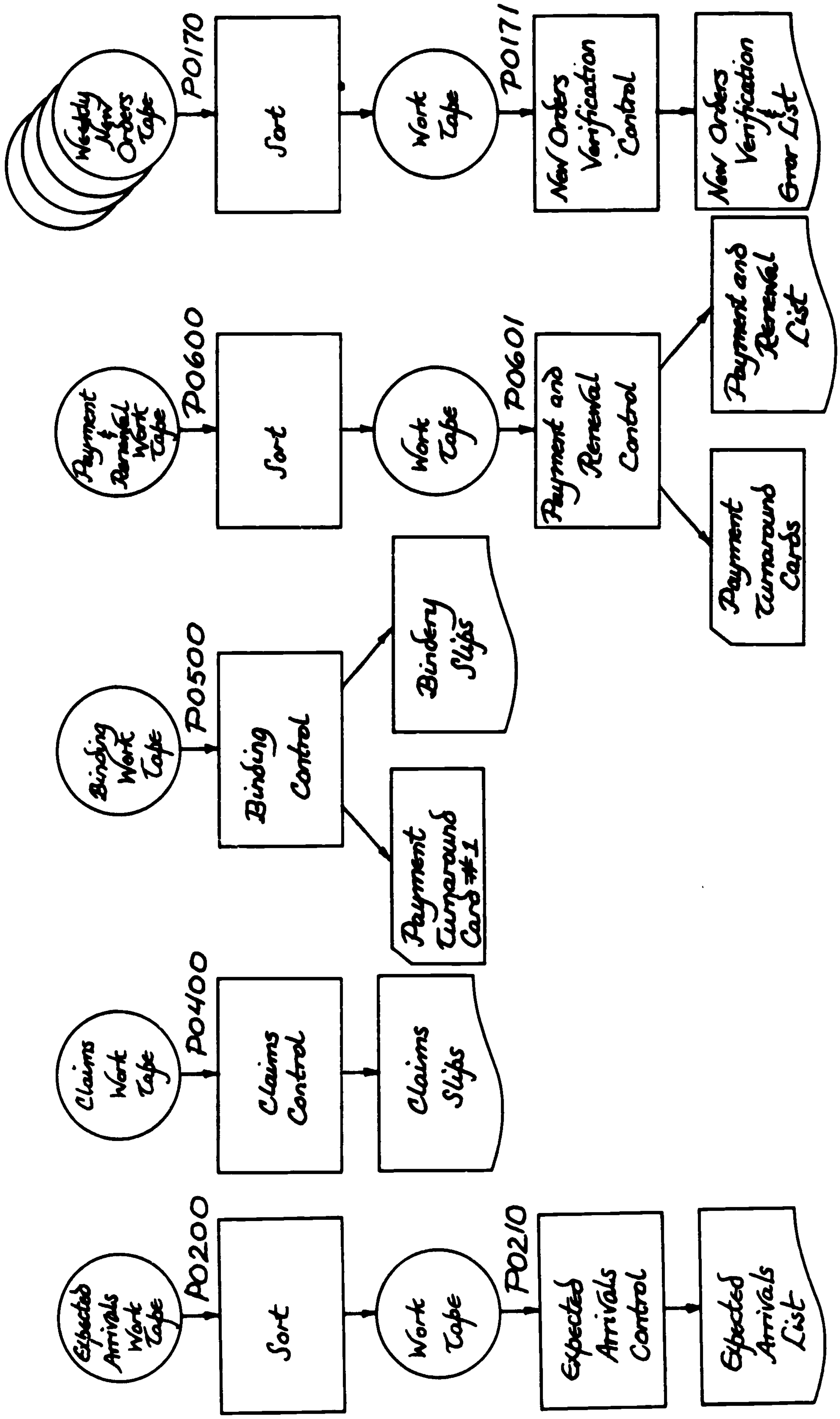


FIG. 1: PART D. GENERAL AS REQUIRED RUNS

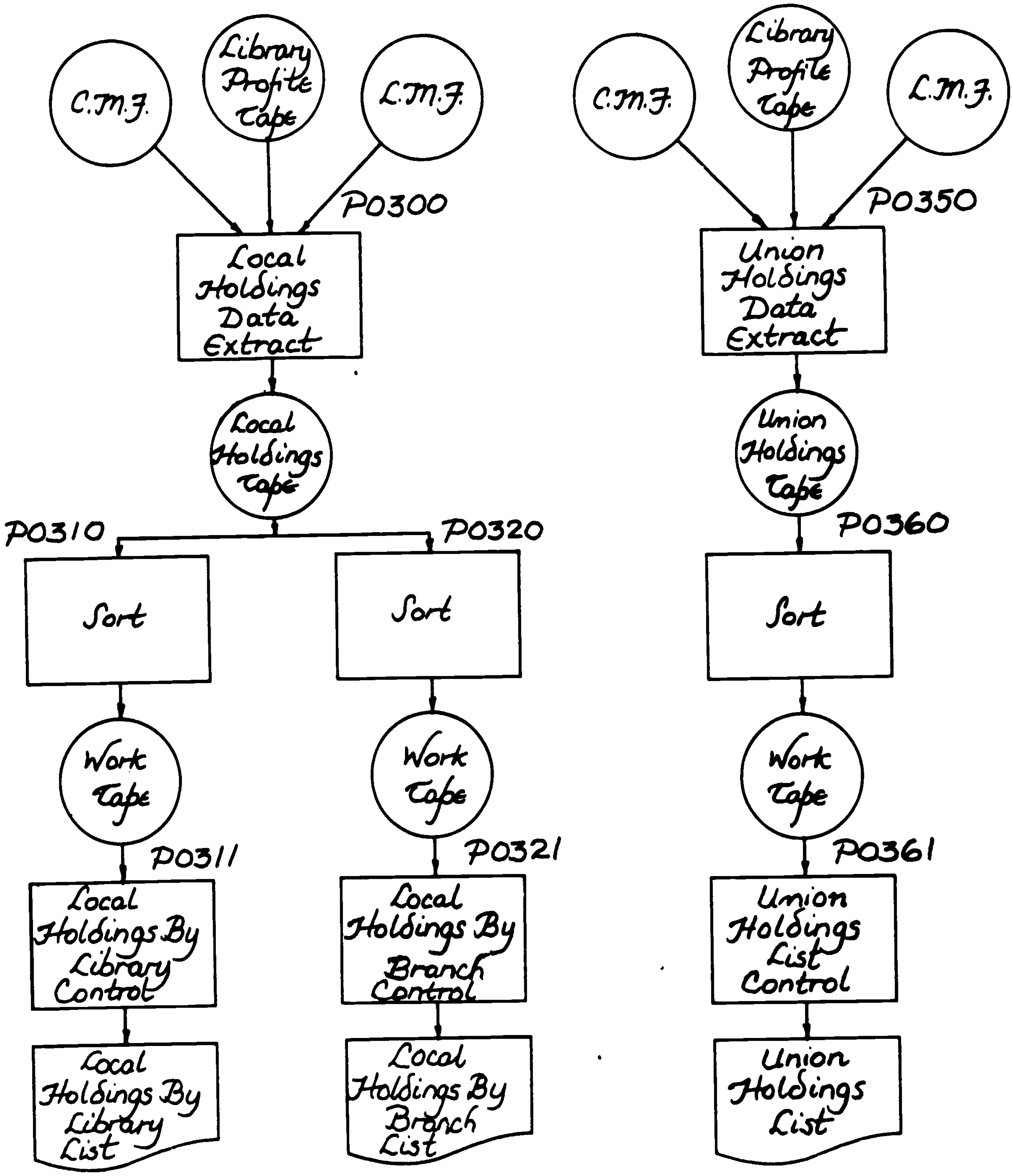


FIG. 1: PART E. GENERAL AS REQUIRED RUNS

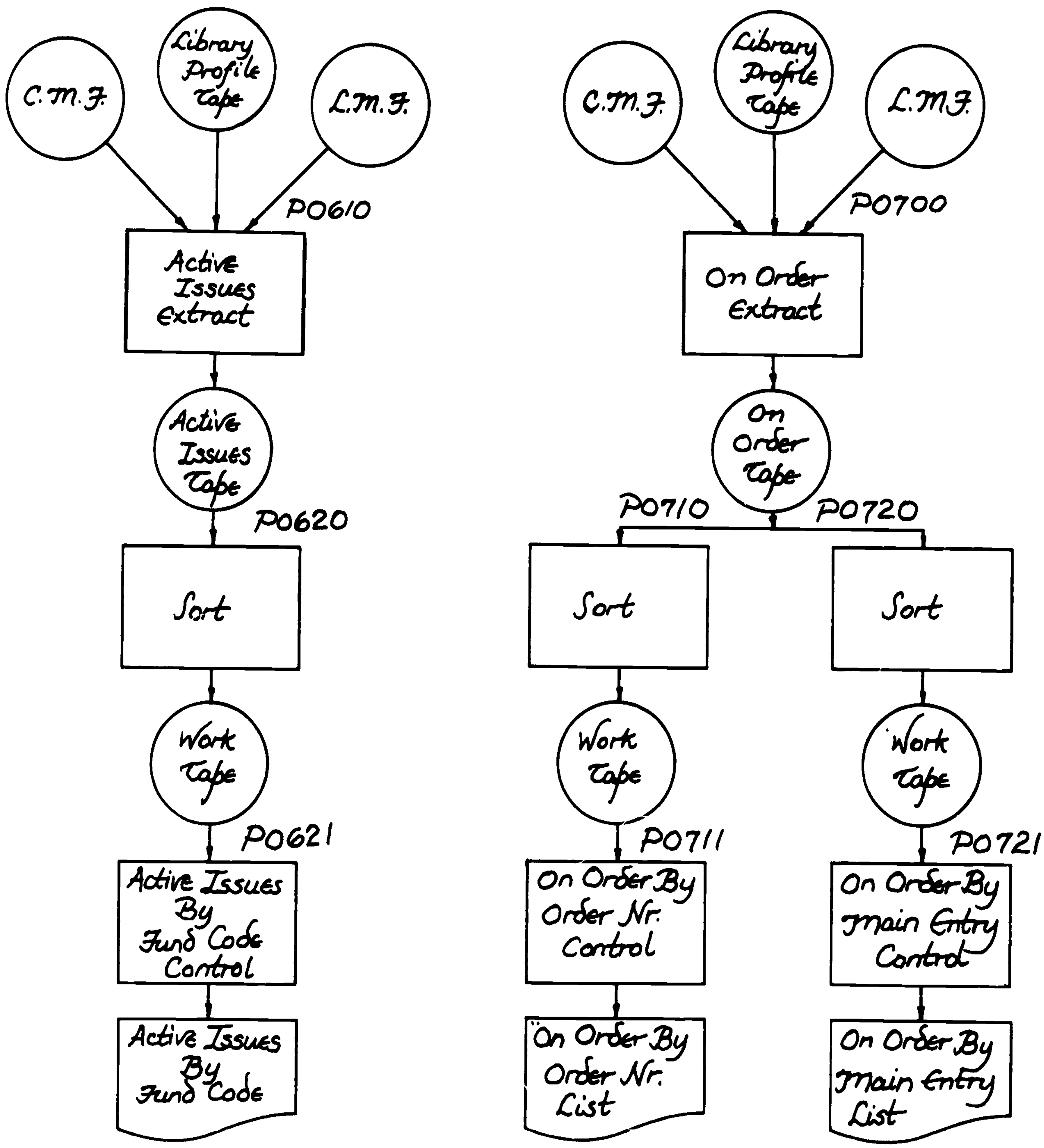
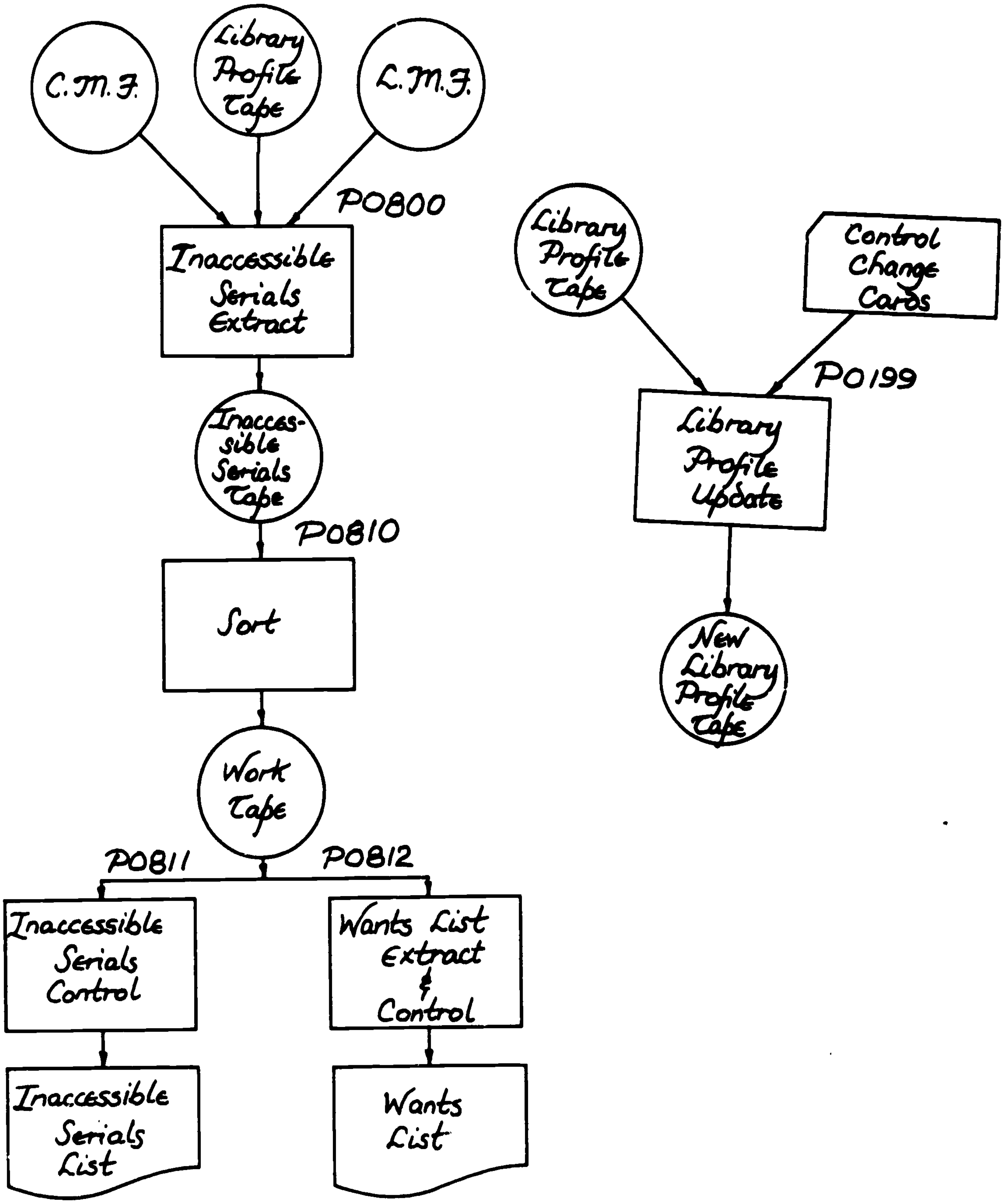


FIG. 1: PART F. LOCAL AND UNION CATALOGS



SYSTEM DISCUSSION:

FILE STRUCTURE AND ORGANIZATION

The Serials Control System files are organized around the concept of separation of non-variant bibliographic data from locally-variant control data. In order to accomplish this separation and in order to minimize processing costs these two types of data have been physically separated on two different tape files. The bibliographic data master file is denoted the Central Master File (CMF), and the local control data file is denoted the Local Master File (LMF).

The Central Master File records contain all of the title oriented data which will not vary among the several libraries using the system. Data entries such as standard main entry, publication pattern, indexed-in information and standardized union catalog subject headings will be found in these records. There will be one record for each serial title held by any library within the system. These records are to be arranged in the file in random order with respect to the data they contain. The sequence is by accession number, or file entry order. As records are entered onto this file they are assigned a Serial Control Number (SCN), (for a discussion of the SCN see Appendix 1) which is the accession number of the record and is located in the last five positions of the Leader. This number is used to link CMF records to LMF records for file maintenance and retrieval purposes. It will be automatically assigned by the computer and will be available for activity immediately following its addition to the files. Once assigned to a title this number is immutable and will identify that title until it is removed from the file.

The Local Master File records contain all of the serial activity and control data. The organization of this file is based on the major tracking and control tasks which must be accomplished by the computer. These tasks have been assembled into related groups which we have denoted "modules". The entire spectrum of tasks which the computer must accomplish has been divided into six basic modules. These consist of: 1) ordering, 2) accounting, 3) inventory, 4) binding, 5) prediction and status tracking, and 6) storing local description variations. The LMF records directly reflect the first five of these modules since a single CSL-PC serials tag has been assigned to each, whereas the sixth module uses an expanded set of MARC II Monograph Tags.

This file will contain all locally variant control data such as prediction delay codes, claims data, processing status indicators, funding and payment data, reference tracings, etc. It is with the records of this file that the system will track the processing stages of serials from expected status through claims and binding to missing issue status.

As they have been developed, the CMF and LMF may be looked upon as containing the two halves of any one serial record. Logically, the CMF can be viewed as a file of header records with standard data, while the LMF represents a file of trailer records grouped relative to their associated headers on the CMF. In other words, for every record on the CMF there can be any number of records on the LMF (one for each permanently held copy within the system). Most of the report requirements and some parts of the updating methodology require the simultaneous use of both files. Thus parallel file structuring is most economical from the standpoint of both time and storage. Therefore, both files will be in Serial Control Number (SCN) sequence and will normally be processed together.

A single physical file approach has been adopted for the Local Master File. This means that all individual logical Local Master Files (i.e. individual libraries' records) will be merged into one physical file which is in Library, Branch and check-in Location sequence with the SCN.

CMF Example

SCN	Serial
12345	TIME
12346	LIFE

LMF Example

SCN	Serial	Library	Branch
12345	TIME	001	
12345	TIME	002	A
12345	TIME	002	B
12345	TIME	005	
12346	LIFE	001	
12346	LIFE	002	B
12346	LIFE	003	

The record contents of the Central Master File and of the Local Master File are listed on the following pages. Notice that some categories of data may be carried in both the CMF and LMF. When this happens their tag assignment does not change. The purpose for making identical tags available to both files is so locally variant versions of these data elements can be retained for local lists. Thus one serial record may contain both a standard main entry on the CMF and a variant main entry on each LMF record for that serial. Both main entries will be assigned the appropriate and identical main entry tag. For a detailed list of tags available to the serials control system see the INDEX OF AVAILABLE TAGS section at the end of the Subscribers' Guide. Also for a general discussion of the MARC II record format the reader is referred to the Library of Congress Information Systems Office, "Subscribers' Guide to the MARC Distribution Service," August, 1968. And finally for a detailed discussion of each data element used by this system see the Subscribers' Guide portion of this report.

CMF RECORD CONTENTS:

A. LEADER - all elements

B. RECORD DIRECTORY

C. CONTROL FIELDS:

007	Non-variant Data Description

D. VARIABLE FIELDS:

010-042	(Control Numbers) - except:
	035 Local System Number 036 Linking Local Number
050-082	(Knowledge Numbers)
100-130	(Main Entry)
240-242	(Supplied Titles)
245-260	(Title Paragraph)
300-360	(Collation)
400-490	(Series Notes)
500-520	(Bibliographic Notes)
600-670	(Standardized Subject Added Entries)
700-753	(Other Added Entries)
800-840	(Series Added Entries)
900-945	(Reference Tracings)
950	Holdings (CMF)
958	Abstracted In
959	Indexed In
970	Prediction (CMF)

LMF RECORD CONTENTS:

A. LEADER - all elements

B. RECORD DIRECTORY

C. CONTROL FIELDS:

009	Variant Data Descriptions

D. VARIABLE FIELDS:

090	Local Call Number
100-130	Variant Main Entry
240-242	Variant Supplied Titles
245	Variant Title
500-520	Variant Bibliographic Notes
600-670	Variant Subject Added Entries
900-945	Reference Tracings
951	Holdings (LMF)
957	Arrival History
960	Binding Data
971	Prediction (LMF)
980	Ordering
985	Accounting

Summary of File Structure

1. Central Master File

    a. 1 record per serial title and untraced reference record

    b. In SCN sequence where SCN amounts to an accession number, or file entry number.

    c. Main Entries will be in random order.

    d. Major Data:

        1) All bibliographic data such as official union list main entry (standardized main entry), title paragraph, LC card number, etc.

        2) Serial oriented prediction data such as publication pattern and issue designation pattern

2. Local Master File

    a. 1 record per serial title per library per check-in location plus an additional serial record for each additional permanently held copy of a serial.

    b. In SCN sequence

    c. Major Data:

        1) All local control data including predicition delay codes, claiming data, status indicators, etc.

        2) Status tracking data from early arrival status through all stages to permanent holdings or missing status.

        3) Operational data such as binding information, claims information, routing data, etc.

        4) Local variations on main entry. For expected arrivals list or local holdings lists.

        5) Holdings Data.

Each of the value fields is a variable length field, and yet each is distinguishable within the $d delimiter.

The field level of hierarchy proved to be inadequate for some of the more complex coding formats required for handling the matrix representations of holdings. The best example of this is the Issue Designation Generation Code. In this case it was necessary to build repeatable fields from more than one variable length element or subfield. Thus it was necessary to delimit these subfields within the fields. The dash (-) was adopted for the subfield separator.

Example: Issue Designation Code for a volume -

```
| $a | VOL | Y | ƀƀƀ | ƀƀ | ƀƀ | 01 | * | - | ƀ | / | NUM ... |
                                    |   |   |   
                                    |   |   |  Field Separator
                                    |   |  Reset Value
                                    |  Subfield Separator
                                   Reset Limit
```

Both Reset Limit and Reset Value are variable length subfields within the volume designation field. The delimiter in turn is made up of a series of issue designation fields.

From the software standpoint this hierarchy has been standardized. From the top down the delimiting characters run:

R̸ - Record Terminator
F̸ - Field Terminator
$ - Delimiter
/ - Field Separator
\- - Subfield Separator

This hierarchy will also represent the normal order of accessing data. A subfield will be accessed only for a very specific task whereas records must be accessed for every task.

Beyond these two distinct variations (non-repeatability of delimiters and modular structuring of data), the Serials Control System format will function precisely like the MARC II format. Thus most of the monographs retrieval and sorting techniques will be applicable to the serials format.

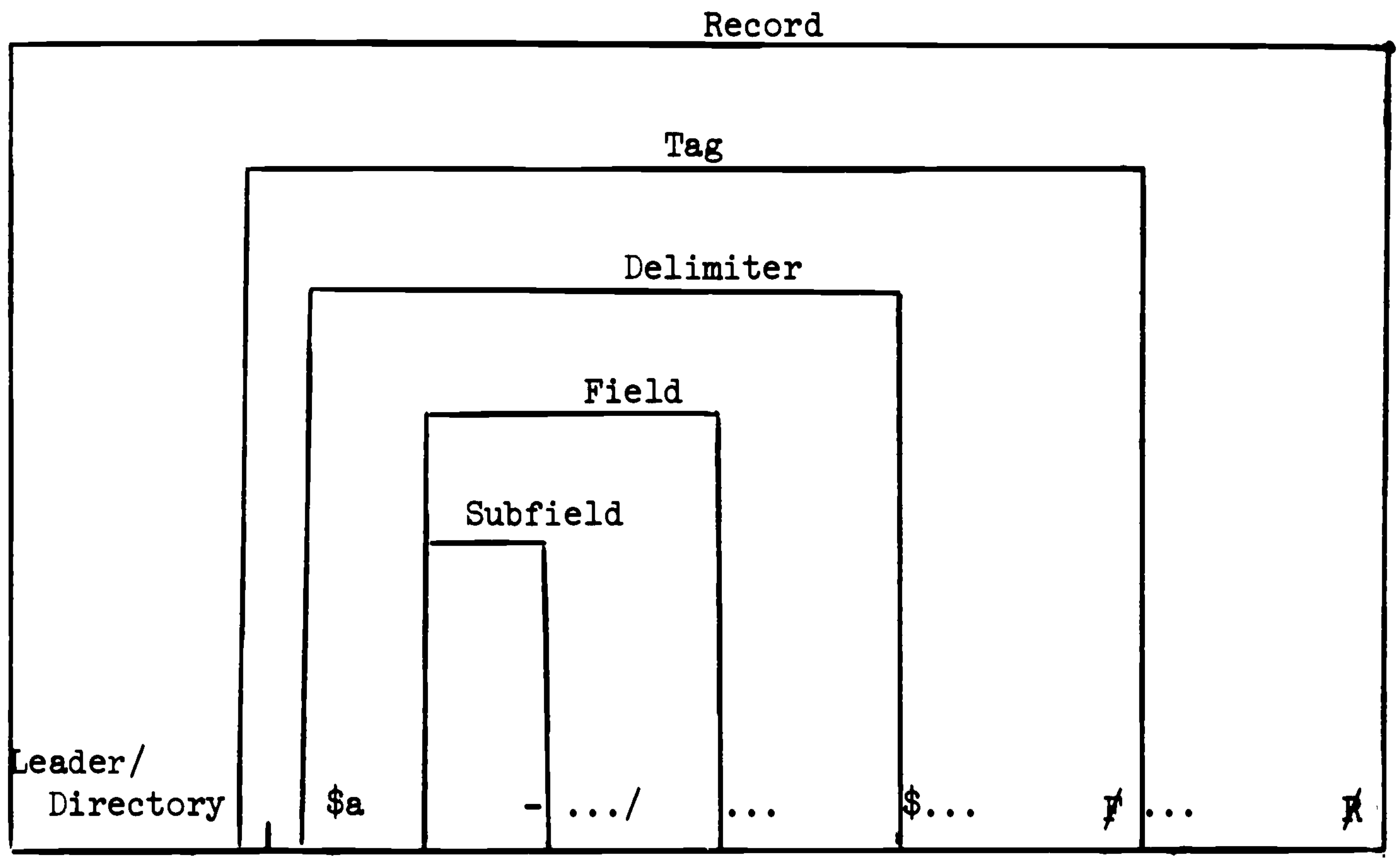
DATA STRUCTURE

In this system the data has been structured similar to the MARC II structure. However since the MARC II structure represents a communication format and very definately not a file maintenance format, certain basic conceptual changes have been made. Firstly, unless already specified in the MARC Subscriber's Guide, no tags or delimiters are repeatable. Thus none of the tags or delimiters specified in this report are repeatable. Instead, a hierarchy of data levels has been developed, along with an expanded set of variable data separators, such that data elements can be grouped into logical processing families, rather than as separate tags or delimiters.

This approach has led to the adoption of a "modular" concept of structuring the data. Thus, wherever possible, all the data elements pertaining to a specific task or module have been drawn into a relevant group and presented as a tag. In looking over the serials data elements one will immediately see this difference. Instead of finding tags such as binding title, fixed binding data, and binding notes, these elements are grouped into the binding tag. This approach greatly facilitates processing since it requires only one entry into the Directory and one retrieval to accomplish most of the processing steps immediately required for any one function.

Since one of the primary goals of the system is to be MARC compatible, it was necessary to retain a structure similar to the MARC II communication format. Also considering the size of the serial records (estimated range is 1000 to 1500 characters per file per serial record), the MARC concept of using a Leader and Directory proves reasonably efficient if properly handled. These two factors led to the development of a "MARC-like" format with extensions of the MARC concept where needed.

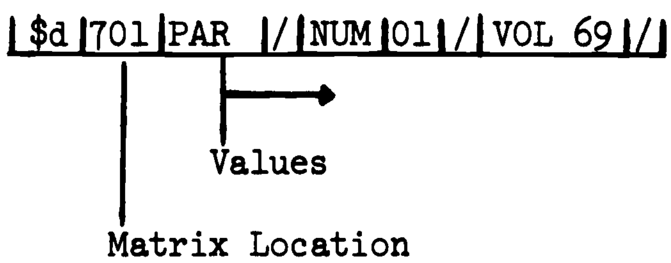
The resulting structure runs in a hierarchy as follows:



Thus as in MARC, a record is made up of a Leader, Directory, and Tags. Fixed length tags are structured similar to MARC, and variable length tags are similarly broken down into delimiters. Thus far the structure parallels MARC exactly except for the non-repeatability of hierarchical levels. At this point however, the serials format diverges from MARC by providing two lower levels of hierarchy.

The first level below delimiter is field. The field level is used whenever a variable length group of data elements is to be repeated within a delimiter. The format of the field is defined; however the length of the elements is not fixed. Thus a field separator symbol is required to signal the end of one repeatable field and the beginning of the next. The slash (/) was adopted for this purpose. This level allows us to repeat such fields as Matrix Start Values such that we can carry the starting values of all issue designation levels in one delimiter.

Example: The values of the issue Part A of Number 1 of Volume 69 can be carried as



PROCESSING METHODOLOGY:

FILE MAINTENANCE

This portion of the technical design is involved with detailed program specifications. Each of the major file maintenance programs is laid out here, specifying inputs, outputs, and processing methodology. Report specifications are not included in these specifications because they are to be developed by the users. This will allow greater flexibility in the final product as well as serve the libraries' needs more responsively. The only exception to this is the specifications for Holdings Generation. The Holdings Generation processing methodology will be found in the special output routines section following the last File Maintenance program specifications. That process is not intended as a program specification, but merely as a generalized subroutine which can be invested into any holdings list program.

The general format of the program specifications is as follows:

I. Title Page
II. Run Description
III. Run Diagram
IV. I/O Specifications
V. Special Processing Algorithms

This format is not strictly held to because in some cases parts IV and V are inseparable. However, this is the standard form used.

I/O specifications are somewhat generalized since all of the records and files vary considerably in both size and logical content. Thus tape I/O specifications in particular are aimed at stating the general content of the tape rather than specific data elements or field lengths. In order to develop a feel for the contents of any specified file, the programmer should read the preceeding System Discussion and the Subscriber's Guide. Also a sample record (both CMF and LMF) is provided on the following two pages. Many of the examples used in these specifications refer directly to this sample record or can be better understood through reference to it.

It will be extremely difficult, if not impossible for the programmer to proceed beyond this point without a firm grasp of the record formats and file structure. It is advised to use the Subscriber's Guide in conjunction with reading the individual File Maintenance program specifications. Many of the flowcharts presented in the program specifications are quite detailed and should be thoroughly desk checked in order that the programmer understand their functioning. These flowcharts are not meant to preempt the programmer's job, but merely present an approach to the problem. If the programmer can accomplish the same output specifications in a more efficient manner this would be desirable. However any approach deviating from that specified <u>must</u> accomplish at least what is herein specified.

The sample record and three File Maintenance program specifications follow.

SAMPLE RECORD FOR LIFE MAGAZINE

CENTRAL MASTER FILE

LEADER / RECORD DIRECTORY

| 00857 Bb̸b̸b̸b̸Ib̸22001695 4321 | 007003900000 | 010001700039 | 050001500056 | 082000800071 |

| 245003100079 | 260006400110 | 300005300174 | 500004800227 | 700003900275 | 950011800314 |

NON-VARIANT DATA DESCRIPTION / L.C. CARD

| 953001900043 | 970023800045 | F̸ | 690101M19369999ILU00eng0b̸ANb̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸ | b̸b̸ | $a0C0 |

NUMBER / L.C. CALL NR. / DEWEY NR. / TITLE STATEMENT

| 37008367b̸ | F̸ | 0b̸ | $aAP2$b.L547 | F̸ | b̸b̸ | $a051 | F̸ | 0b̸ | $aLIFE$zv.1-b̸b̸Nov.23,1936-b̸b̸ | F̸ |

IMPRINT / COLLATION

| 0b̸ | $aChicago$bTimeb̸Inc.$y540b̸N.b̸Michiganb̸Ave.,Chicago,Ill.b̸60611 | F̸ | b̸b̸ | $av. |

GENERAL NOTES (BIBLIOGRAPHIC)

| $bIllus.(partb̸col.b̸incl.b̸ports.)$c35cm$zWeekly | F̸ | b̸b̸ | $aEditors:b̸Nov.23b̸1936- |

OTHER ADDED ENTRY / HOLDINGS

| b̸b̸H.R.b̸Luceb̸andb̸others | F̸ | 11 | $aLuce,b̸Henryb̸Robinson$d1898-b̸b̸$eEd. | F̸ | b̸b̸ | $ab̸b̸b̸b̸ |

| b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸$b1936b̸b̸11VOL41 |

INDEXED IN / PREDICTION

| 0010010001/1937b̸b̸12VOL4100200*0002 | F̸ | b̸b̸ | $aReaders'b̸Guide | F̸ | 1b̸ | $aVolBb̸b̸b̸b̸b̸b̸ |

| 01*-b̸/NumNVol01000126-01/DayNb̸b̸b̸b̸b̸b̸07C-b̸$b66666666666600$c701Num01/Vol62/ |

| Day7005$e7b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸/8b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸ |

| b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸/b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸,b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸/9b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸b̸ | R̸ |

SAMPLE RECORD FOR LIFE MAGAZINE

LOCAL MASTER FILE

LEADER RECORD DIRECTORY

01094b03WMYb220014554321	009007300000	090001100073	245001900084	650002900103	

951025800132	957008800390	960005300478	971033000531	980007100861	985001800932	F

VARIANT DATA DESCRIPTION

2SJFAX110SGL1AYYYYBCM03Y133NGEN008127B455EABC1AHX69070802040353829000875N

LOCAL CALL NO TITLE SUBJECT HEADING

bb	aAQbL5	F	0b	$aLifebmagazine.	F	00	$aPHOTOGRAPHY$xPERIODICALS	F

HOLDINGS

1b	$a33333333333333366633333333331111111111841111111111111111145111

$zIncompletebvols:bv.16,nos.1-19,21-26bJan.-Apr.21,bMay1-Juneb1944/v.17,nos.

20-26bNov.21-Dec.1944/v.18,nos.1-10bJan.-Mar.15,1945/v.41,nos.1-24bJuly-

ARRIVAL HISTORY

Dec.1965	F	bb	$a83102010101010001020101000100010004010103070002000101 01

BINDING

0101010100010405010105000000	F	1b	$a11A1102bbb$bLife$c927bbb$d901926

PREDICTION

$zTrimbcarefully	F	bb	$a040915020011$b6 7777777777777777777777777777666666666 / 000000000000000000000000000000000

555666666666666666 / 111000000000000000 /9 2222222222222222222222222221111 / 000000000000000000000000003342A $cDEEbbAbb/BbbG$d926I/926

TPC$uClaimbfrombpublisher$vTossbdups$wDobnotbwaitbforbrenewalbnoticebfromb

publisher$xJun.81.27,Dec.81.28;paybFaxon$yOrderbindexbfrombpublisher,binb

ORDERING

Jan.,3.00$zIndexbarrivesbinbFeb.;bTFCbarrivesbinbMarch	F	bb	$a628063207005

ACCOUNTING

000865$bPub$cOrderb10bcopies$d6260bbybP.L.$e6275bbybST	F	0b	$a080$b010$d015	F

P0100

BUILD AND SORT TRANSACTIONS

RUN DESCRIPTION

Purpose: The purpose of this program is to read in transaction cards, convert them to magnetic tape transaction records, and sort them into the proper sequence for updating the master files. It is basically a reformat and sort run.

Frequency: This is a weekly run.

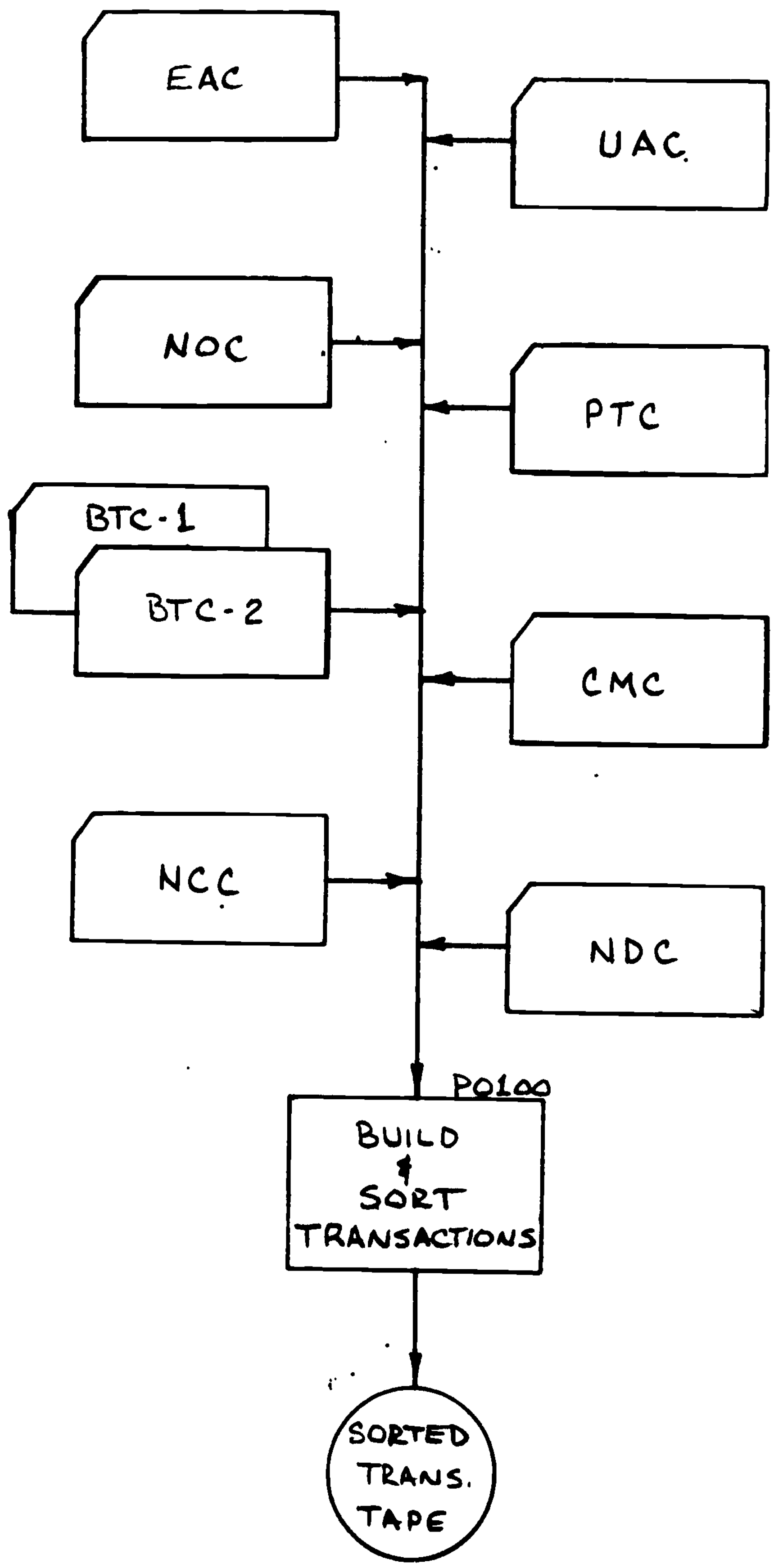
Inputs:

1. Expected Arrival Turnaround Cards. (EAC)
2. Unexpected Arrival Cards. (UAC)
3. New Order Master Cards. (NOC)
4. Payment Turnaround Cards. (PTC)
5. Binding Turnaround Cards 1 & 2. (BTC-1 & BTC-2)
6. Cataloging Master Cards. (CMC)
7. Change Transaction Cards (NCC)
8. Delete Transaction Cards. (NDC)

Outputs:

1. Sorted Transaction Tape.

PNAME: P0100	Run Diagram	DATE: 15 JULY 1969



UNEXPECTED ARRIVAL CARD (UAC)

A. The UAC can be input in one format only and will be reformatted into an UAT. One transaction will be created using the control data from columns 67-80 of the UAC and issue designation data from columns 1-63. This card is manually developed. Input and Output formats follow:

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Normal:		
Matrix Location	1-3	17-19
Issue Designation	4-end of field	20-
Blank	64	
Blank	65-66	15-16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (B)	77	11
Blank	78-80	12-14
Record Mark		end

TRANSACTION BUILD PROGRAM INTRODUCTION

This program is the first program in the file maintenance series. Its function is to load the weekly transactions onto a tape and sort it for input either to the Validation Program (P0110) or the Weekly Update Program (P0120). In many cases these transactions may be developed from several transaction cards. This will require sorting of the card images prior to beginning the reformatting operation. Thus the sort operation should occur as the initial step of processing. The sort sequence is shown under the Weekly Sorted Transaction Tape output specification. Multiple card transactions will be placed in the proper sequence with this sort, because in multiple card transactions the matrix location positions in the cards are replaced with a sequence number.

The following pages contain a transaction-by-transaction list of reformatting specifications. The control field is spelled out for each transaction type. This control field is carried throughout weekly processing and is hereafter referred to as "Control". It consists of the key sorting elements in the transactions. The transactions are specified in the same order as they are specified in the Weekly Update Program (P0120). The functions of the individual transactions are not specified in this section, however they are listed under the specifications for P0120.

EXPECTED ARRIVAL TURNAROUND CARD (EAC)

A. The EAC can be input in one of two formats, and when it arrives an appropriate Expected Arrival Transaction (EAT) must be created. One transaction will be created using control data from columns 67-80 of the EAC and the action codes located in columns 65 and 66. Columns 1-64 of the card will be blank. This card is machine generated. Input and Output formats follow:

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Normal:		
Blank	65-66	15-16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (A)	77	11
Matrix Location	78-80	12-14
Record Mark		17
b) Case #2 - Nonperiodical		
"N"	65	15
Blank	66	16
Control -	67-80	1-14
Same as Case #1		
Record Mark		17

UNEXPECTED ARRIVAL CARD (UAC)

A. The UAC can be input in one format only and will be reformatted into an UAT. One transaction will be created using the control data from columns 67-80 of the UAC and issue designation data from columns 1-63. This card is manually developed. Input and Output formats follow:

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Normal:		
Matrix Location	1-3	17-19
Issue Designation	4-end of field	20-
Blank	64	
Blank	65-66	15-16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (B)	77	11
Blank	78-80	12-14
Record Mark		end

NEW ORDER MASTER CARD (NOC)

A. The NOC will normally be in a family of cards to build the New Order Transaction. It will not contain an SCN upon submission to the Processing Center, however the PC will assign the proper SCN before submitting the transaction to P0100. The cards will be sorted into sequence number (col. 78-80) prior to reformatting. One transaction will be created using the data appearing on the set of cards. An asterisk (*) will appear in column 64 of each card which is followed by another of the set. These cards are manually developed by the local libraries and verified by the Processing Center. Input and Output formats follow:

Data	Input Card Col.	Output Record Pos.
a) Case #1 - LMF		
Card No. 1		
Activity Code	1	17
Suppression Code	2	18
Tags, Indicators, Delimiters, and Data	3-63	19-80
"*"	64	
Blank	65	15
"L"	66	16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (C)	77	11
Sequence Number	78-80	12-14

Card No. 2 and all subsequent master cards for the same transaction:

Data	Input Card Col.	Output Record Pos.
Tags, Indicators, Delimiters, and Data	1-end or 63	80-
"*" if continuations follow	64	
Blank	65	
"L"	66	
Control		
Same as above	67-80	
Record Mark		end

b) Case #2 - CMF

Same as above except column 66 will contain a "C", and Library, Branch, and Checkin Location will be blank.

PAYMENT TURNAROUND CARD (PTC)

A. The PTC can be input for any of several reasons, however the format of the transaction is fixed. This card is normally machine generated however it contains punched turnaround data. Input and Output formats follow.

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Acquisitions:		
Amount of Payment	1-6	17-22
"A"	65	15
Blank	66	16
Control -		
Source	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (D)	77	11
Last 3 digits of the Order Number	78-80	12-14
Record Mark		23

b) Case #2 - Claims:

Same as acquisitions except column 65 contains a "C".

c) Case #3 - Lacunae:

Same as acquisitions except column 65 contains an "L".

d) Case #4 - Other Expenditures:

Same as acquisitions except column 65 contains an "M".

DOCUMENT RESUME

ED 036 308 LI 001 845

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ABSTRACT

THE CSL SERIALS CONTROL SYSTEM IS AIMED PRIMARILY AT SATISFYING CONTROL AND RETRIEVAL REQUIREMENTS OF SERIALS DATA FOR SUBSCRIBERS TO THE CALIFORNIA STATE LIBRARY PROCESSING CENTER (CSL-PC). THE PRIMARY OBJECTIVE OF THE SYSTEM IS TO PROVIDE A METHOD OF SERIALS CONTROL WHICH WILL BE VERY FLEXIBLE BOTH IN TERMS OF INPUT REQUIREMENTS AND OUTPUT CAPABILITIES. THE SYSTEM IS ALSO DESIGNED TO ACCOMMODATE THE VARYING DEGREES OF COMPLEXITY WHICH WILL OCCUR IN SERIAL COLLECTIONS OF DIFFERENT SIZE AND SCOPE. THE SYSTEM IS DESIGNED TO FUNCTION AS AN AID TO SERIALS LIBRARIANS IN MAINTAINING CONTROL OF THEIR BASIC FILES IN TERMS OF ORDERING, SUBSCRIPTION RENEWAL, EXPECTED ARRIVALS, CLAIMING, BINDING, AND HOLDINGS INVENTORY. THE MACHINE PORTION OF THE SYSTEM IS DESIGNED TO BE COMPATIBLE WITH EMERGING STATE AND NATIONAL STANDARDS. TO FURTHER THIS GOAL A MACHINE RECORD HAS BEEN CONSTRUCTED WHICH STRONGLY RESEMBLES THE STANDARD MACHINE RECORD FOR MONOGRAPHS (MARC) DEVELOPED BY THE LIBRARY OF CONGRESS. INCLUDED IN THIS REPORT ARE SECTIONS WHICH COVER: (1) A GENERAL INTRODUCTION; (2) TECHNICAL DESIGN; (3) THE CONVERSION REQUIREMENTS FOR THE CSL-PC SERIALS RECORDS; AND (4) SUBSCRIBER'S GUIDE WHICH PROVIDES A DETAILED DISCUSSION OF EACH DATA ELEMENT USED IN THIS SYSTEM. (AUTHOR/JB)

CATALOGING MASTER CARD (CMC)

A. The CMC is similar in form to the New Order Master Card. It will be manually developed either by the local libraries or by the Processing Center. It will be verified by the PC before submission. Input and Output formats follow:

Data

a) Case #1 - LMF

These cards will be in the same format as the New Order Master Cards except the transaction code (column 77) will contain an "E".

b) Case #2 - CMF

Same as Case #1

BINDING TURNAROUND CARD #1 (BTC 1)

A. The BTC 1 can be input for any of several reasons, however its format is fixed. One transaction will be created using the control data from columns 67-80 of the BTC 1 and the action codes in columns 65 and 66. This card is machine generated, however it may contain punched turnaround data. Input and Output formats follow.

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Normal:		
Blank	65	15
Blank	66	16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (K)	77	11
Matrix Location	78-80	12
Record Mark		17

b) Case #2 - Complete Unbound:

Same as Case #1 except column 65 contains a "U" and column 66 is blank.

c) Case #3 - Incomplete, Unbound:

Same as Case #1 except column 65 contains an "M" and column 66 contains an "N".

d) Case #4 - Incomplete, Bound:

Same as Case #1 except column 65 contains an "M" and column 66 contains a "B".

e) Case #5 - Cancel:

Same as Case #1 except column 65 contains a "C" and column 66 is blank.

BINDING TURNAROUND CARD #2 (BTC 2)

A. The BTC 2 is very similar to the Payment Turnaround Card both in format and function. It is machine generated, but it contains punched turnaround data. Input and Output formats follow.

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Normal		
Amount of Payment	1-6	17-22
Blank	65-66	15-16
Control -		
Source	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (L)	77	11
Matrix Location	78-80	12-14
Record Mark		23

NORMAL CHANGE CARD (NCC)

A. The NCC can be input in any of several formats. Some types of change transactions will require multiple card inputs whereas others will not. These cards are all manually developed either by the local libraries or the processing center. All change transactions affecting the CMF will be reviewed by the Processing Center. An asterisk (*) will appear in column 64 of each card which is followed by another card of the same set. If the asterisk is missing, treat the following card as a new transaction even if the control field is identical. The Input and Output formats follow.

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Tag Change:		
Card Number 1		
Tag	1-3	17-19
Indicator	4-5	20-21
Delimiters and Data	6-end or 63	22-
"*" if continuations follow	64	
"T"	65	15
"C"	66	16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (F or H)	77	11
Sequence Number	78-80	12-14
Record Mark		end
Card Number 2 and all subsequent cards of the same set.		
Delimiters and Data	1-end or 63	80-
"*" if continuations follow	64	

Data	Input Card Col.	Output Record Pos.
"T"	65	
"C"	66	
Control -		
same as Card Nr. 1.	67-80	
Record Mark		end

b) Case #2 - Tag Add

These cards will be the same as Case #1 except column 66 will contain an "A".

c) Case #3 - Delimiter Change

These cards will be the same as Case #1 except column 65 will contain a "D" and column 66 will contain either a "C" or an "E".

d) Case #4 - Delimiter Add

These cards will be the same as Case #1 except column 65 will contain a "D" and column 66 will contain an "A".

e) Case #5 - Leader Change

Type of Entry (CMF only)	1	17
New Library Code (LMF only)	2-3	18-19
New Branch Code (LMF only)	4	20
New Checkin Location (LMF only)	5	21
Activity Code	6	22
Suppression Code	7	23
"L"	65	15
Blank	66	16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10

Data	Input Card Col.	Output Record Pos.
Transaction Code (F or H)	77	11
Blank	78-80	12-14
Record Mark		end

f) Case #6 - Control Field Change

Tag	1-3	17-19
Data: formatted exactly as the new tag is to appear	4-end or 63	20-
"*" if continuations follow	64	
"T"	65	15
"F"	66	16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (F or H)	77	11
Sequence Number	78-80	12-14
Record Mark		end

g) Case #7 - Matrix Status Change

Card Number 1

Tag	1-3	17-19
Year	4	20
"/"	5	21
Matrix: formatted exactly like a record matrix with changing locations indicated only	6-end or 63	22-
"*" if continuations follow	64	
"M"	65	15
Blank	66	16

Data	Input Card Col.	Output Record Pos.
Control -		
Source	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (H)	77	11
Sequence Nr.	78-80	12-14
Record Mark		end

Card Nr. 2 and all subsequent cards of the same set.

Same as Card Nr. 1 except matrix locations begin in col. 1.

NORMAL DELETE CARD (NDC)

A. The NDC can be input in any of several formats. Some will require continuations and some will not. These cards are manually developed and <u>all</u> delete transactions affecting the CMF will be reviewed by the Processing Center. An asterisk (*) will appear in column 64 of cards in a continued set. Input and Output formats follow.

Data	Input Card Col.	Output Record Pos.
a) Case #1 - Record Delete		
"R"	65	15
"E" or "W"	66	16
Control -		
Source	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (G or J)	77	11
Blank	78-80	12-14
Record Mark		17
b) Case #2 - Tag Delete		
Tags to be deleted	1-	17-
Blank	64	
"T"	65	15
Blank	66	16
Control		
Same as Case #1		
Record Mark		end

Data	Input Card Col.	Output Record Pos.
c) Case #3 - Delimiter Delete		
Card Nr. 1		
Tag	1-3	17-19
Delimiters to be deleted followed by next tag and delimiters, etc.	4- end or 63	20-
"*" if continuation follows	64	
"D"	65	15
Blank	66	16
Control -		
Source Code	67	1
SCN	68-72	2-6
Library Code	73-74	7-8
Branch Code	75	9
Checkin Location	76	10
Transaction Code (G or J)	77	11
Sequence Nr.	78-80	12-14
Record Mark		end

Card Nr. 2 and all subsequent cards of the same set.

Same as Card Nr. 1 except column 1 just continues the list from column 63 of the previous card.

P0120

WEEKLY UPDATE PROGRAM

RUN DESCRIPTION

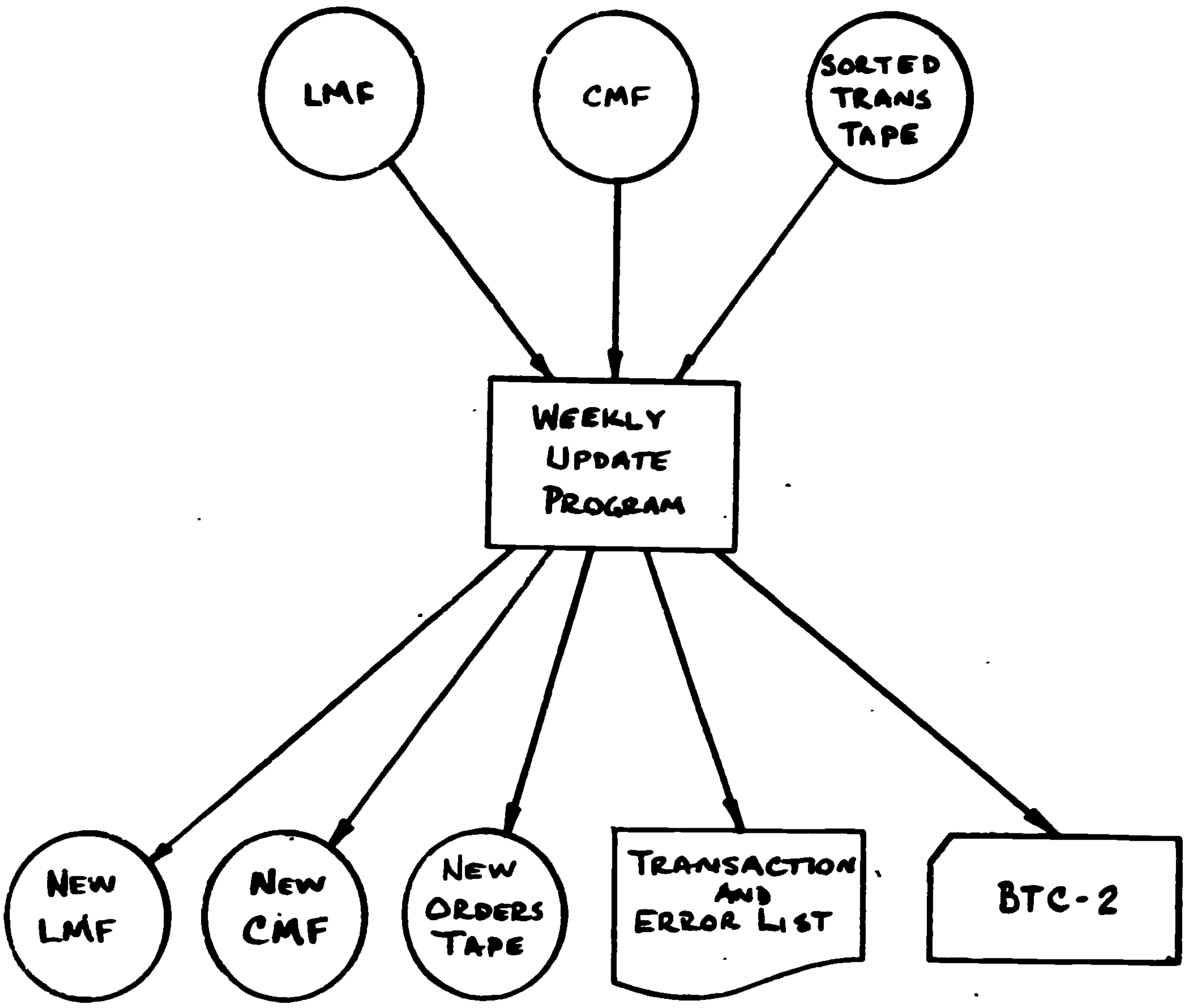
Purpose: The purpose of this program is to update the serials master file with change of status information, new entries, data changes, and data deletion. It reads in the most recent master files and the Weekly Sorted Transactions Tape and produces new updated master files and a transaction and error list.

Frequency: This is a weekly run.

Inputs:
1. Local Master File
2. Central Master File
3. Weekly Sorted Transaction Tape

Outputs:
1. New Local Master File
2. New Central Master File
3. New Orders Tape
4. Transaction and Error List
5. Binding Turnaround Card #2

PNAME: P0120	Run Diagram	DATE: 15 JULY 1969



INPUT/OUTPUT SPECIFICATIONS

Tape Files -

Input: **Local Master File**

This tape will normally be the latest LMF available. It will be the complete file in standard LMF sequence.

Central Master File

This tape will normally be the latest CMF available. It will be the complete file in standard SCN sequence.

Weekly Sorted Transaction Tape

This tape will be output from P0100 and its format is spelled out in the P0100 specifications.

Output: **New Local Master File**

This tape will be the input LMF updated with the transactions on the transaction tape. It will be the complete file in standard LMF sequence as follows:

Major - SCN
Library Code
Branch Code
Minor - Checkin Location

For a detailed description of the format refer to the "Subcriber's Guide" portion of this report.

New Central Master File

This tape will be the input CMF updated with the transactions on the transactions tape. It will be the complete file in SCN sequence. For a detailed description of the format refer to the "Subscriber's Guide" portion of this report.

New Orders Tape

This tape will be a copy of all new records established on the files due to New Order Master Transactions. It will consist of complete records in the SCS - MARC format exactly as they appear on the LMF and the CMF. Newly created CMF records on this file are to be flagged as such so they can be identified for verification on the New Orders Verification List. CMF records which are not new, but which have had new orders placed against them, will be carried on this tape but not flagged. The sequence of this tape will be standard LMF sequence, forcing CMF "header" records to precede their LMF "trailers".

Report: Transaction and Error List

<u>Purpose</u>: This report lists all transactions passed against the master files in the Weekly Update Program. The report format will be the printed image of the original transaction cards. Transactions which for one or more reasons could not be processed against the files will be flagged and followed by a message stating the reasons for non-process. The report's primary function is to list <u>all</u> transactions and aid in input verification.

<u>Classification</u>: System Report.

<u>Displayed Data</u>: This report will display all input transactions reformatted into their original card input form. Error messages will be displayed below the card or set of cards in which the errors occur.

<u>Report Sequences</u> This report will be in the sequence of the sorted transaction tape. See tape output specifications for P0100.

<u>Totals</u>: The following totals are to be provided:

The only totals provided with this report will be a totals page at the end which displays totals of transaction cards processed, transaction cards not processed, and totals of transaction cards by library. Transactions affecting the CMF will be totaled as Processing Center transactions. Also at the end will be the same totals for the overall system.

EXPECTED ARRIVAL TRANSACTION (EAT)

A. Normal

1. This transaction indicates that the system properly predicted the expected arrival's issue designation, and that the issue has been received and is in good order. Its function is to update the holdings statement with a copy of the related issue and to cancel any claiming action currently in process or due to begin under the normal claiming procedures.

2. Format:

Pos.	Data
1-14	Control
15-16	blank
17	Record Mark

3. Action:

a) If the arrival is in claimed status in the Prediction Matrix, add "1" to the appropriate Claims Tally in TAG 009.

b) Subtract "1" from the four bit Copies Outstanding Indicator in the Prediction Matrix. If the remainder is zero, change the four bit status code to "arrived" (2).

c) Enter the arrival week into issue entry in TAG 957 (Arrival History). The form will be | Y | W | W |.

d) Add "1" to checkin tally in TAG 009.

B. Non-Periodical Serial

1. This transaction indicates the arrival of a non-periodical serial which has a regular numbering pattern. Its function is to enter the serial into the Prediction Matrix and trigger the production of the next Prediction Matrix Location.

2. Format:

Pos.	Data
1-14	Control

Pos.	Data
15	N - Non-Periodical
16	blank
17	Record Mark

3. Action:

   a) Add one matrix location to the prediction Matrix.

   b) Add "1" to Checkin Tally in TAG 009.

UNEXPECTED ARRIVAL TRANSACTION (UAT)

A. Normal

1. This transaction indicates the arrival of any unpredicted issue which is to appear on output lists. It will contain the Prediction Matrix Location of the issue with which the unpredicted issue is to be bound or listed.

2. Format:

Pos.	Data
1-14	Control
15-16	blank
17-19	Matrix Location
20-	Issue Description
END	Record Mark

3. Action:

   a) Add "1" to Checkin Tally in TAG 009.

   b) Add the Matrix Location and Issue Description from the transaction to the end of the list of entries in the Additional Issues Description delimiter of TAG 971 (Local Prediction).

NEW ORDER TRANSACTION (NOT)

A. Normal - LMF

1. This transaction indicates that a new serial has been ordered by a member library. Its function is to establish an LMF record for the new serial and enter as much data as is immediately available into that record. This transaction constitutes the normal add transaction to the Local Master File.

2. Format:

Pos.	Data	
1-14	Control	
15	blank	
16	L-LMF	
17	Activity	Leader Data
18	Suppression	
19-21	TAG Number	
22-23	Indicators	
24-25	Delimiter	
Variable	Data	
2 positions	Delimiter	
Variable	Data	
2 positions	TAG Number	
etc.		
END	Record Mark	

3. Action:

a) Load the new record onto the LMF, building the Leader and Directory along with the record. The record will be created in the standard LMF format, using the data provided in the transactions.

b) Check processing status in TAG 009 for "in order" status.

c) If $a and $b of TAG 950 and $a of TAG 957 are present set the Holdings Data Present Indicator in TAG 009.

d) If $b of TAG 971 is present set the Holdings Data Present Indicator in TAG 009.

B. Normal - CMF

1. This transaction indicates that a serial new to the system has been ordered by a member library. Its function is to establish a CMF record for the new serial with as much bibliographic data as is available. This transaction constitutes the normal add transaction to the Central Master File.

2. Format:

Pos.		Data	
1-14		Control	
15		blank	
16		C - CMF	
17		Activity	Leader Data
18		Suppression	Leader Data
19		Type of Entry	Leader Data
20-22		TAG Number	
23-24		Indicators	
25-26		Delimiter	
Variable		Data	
2 positions		Delimiter	
Variable		Data	
2 positions	etc.	TAG Number	
END		Record Mark	

3. Action:

   a) Load the new record onto the CMF, building the Leader and Directory along with the record. The record will be created in the standard CMF format, using the data provided in the transaction.

PAYMENT TURNAROUND TRANSACTION (PTT)

A. Normal - Acquisitions Expenditures

1. This transaction indicates the actual amount paid for a serial acquisitions expense. It will be used to update the accounting module with actual "cost" data as opposed to expected "price" data.

2. Format:

Pos.	Data
1-14	Control
15	A- Acquisition Expenditure
16	blank
17-22	Amount of Payment
23	Record Mark

3. Action:

a) Add amount of payment to Total Acquisitions Expenditures in TAG 985 (Accounting).

b) Add amount of payment to Total Expenditures This Year in TAG 009.

B. Normal - Claims Expenditures

1. This transaction indicates the amount paid for acquisitions of issues which have been claimed.

2. Format:

Pos.	Data
1-14	Control
15	C - Claims Expenditure
16	blank
17-22	Amount of Payment
23	Record Mark

3. Action:

a) Add amount of payment to Total Claims Expenditures in TAG 985 (Accounting).

b) Add amount of payment to Total Expenditures This Year in TAG 009.

C. Normal - Lacunae (Wants) Expenditures

1. This transaction indicates the amount paid for acquisition of lacunae which are purchased.

2. Format:

Pos.	Data
1-14	Control
15	L - Lacunae Expenditure
16	blank
17-22	Amount of Payment
23	Record Mark

3. Action:

a) Add amount of payment to Total Lacunae Expenditures in TAG 985 (Accounting).

b) Add amount of payment to Total Expenditures This Year in TAG 009.

D. Normal - Other Expenditures

1. This transaction indicates the amount paid for general expenses other than acquisitions, claims, lacunae, or binding. It represents a miscellaneous expenditures field for each serial record.

2. Format:

Pos.	Data
1-14	Control
15	M - Miscellaneous
16	blank
17-22	Amount of Payment
23	Record Mark

3. Action:
   a) Add amount of payment to Total Other Expenditures in TAG 985 (Accounting)
   b) Add amount of payment to Total Expenditures This Year in TAG 009.

CATALOGING MASTER TRANSACTION (CMT)

A. Normal - LMF

1. This transaction indicates that a previously ordered serial has been received, and it enters the full cataloging data onto the Local Master File. It normally indicates a change in status from "on order" to "existing order". Its normal function is to fill out and update data entered via the New Order Transaction which was entered for the serial at ordering time. Data entered on this transaction will supersede and replace data entered for the same delimiter on the New Order Transaction. Delimiters which were entered via the NOT and which are not present in this transaction will remain as they were. Otherwise those delimiters and tags appearing in this transaction prevail.

2. Format:

Pos.	Data	
1-14	Control	
15	L - LMF	
16	blank	
17	Activity	Leader Data
18	Suppression	
19-21	Tag Number	
22-23	Delimiter	
Variable	Data	
2 positions	Delimiter	
Variable	Data	
2 positions	Tag Number	
etc.		
END	Record Mark	

3. Action:

a) Check each tag and delimiter in the transaction against the existing IMF record.

- If it is present , replace the old delimiter with the new one.
- If it is not present , insert the new delimiter.
- If it is present in the old and not in the new maintain the old one.

b) Check the processing status in TAG 009 for "existing order" status.

c) If $a and $b of TAG 950 and $a of TAG 951 are present set the Holdings Data Present Indicator in TAG 009.

d) If $b of TAG 971 is present set the Holdings Data Present Indicator in TAG 009.

B. Normal - CMF

1. This transaction indicates that a serial new to the system which was recently acquired by a member library has been received and cataloged. Its function is to enter a full CMF record into the system for the new serial. It will be processed similar to the IMF transaction.

2. Format:

Pos.	Data
1-14	Control
15	C - CMF
16	blank
17	Activity
18	Suppression
19	Type of Entry
20-22	Tag Number
23-24	Delimiter
Variable	Data
2 positions	Delimiter
Variable	Data
2 positions	Tag Number
etc.	
END	Record Mark

3. Action:

a) Check each delimiter in the transaction against the existing CMF record.

- If it is present, replace the old delimiter with the new one.
- If it is not present, add the new delimiter.
- If it is present in the old record and not in the transaction, maintain the old delimiter.

BINDING TURNAROUND TRANSACTION #1 (BTT 1)

A. Normal

1. This transaction indicates that the system properly predicted the binding requirement and the unit is being sent to the bindery.

2. Format:

Pos.	Data
1-14	Control
15-16	blank
17	Record Mark

3. Action:

   a) Change status codes in prediction matrix to "at the bindery" status.

   b) Increment all significant fields in prior upper limit of the "next binding unit" field by one increment.

   c) Enter the result into the lower limit of the "next binding unit" field in the binding module tag.

   d) Insert blanks into the upper limit of the "next binding unit" field in the binding module tag.

   e) Set "at the bindery" flag in the "inaccessibles indicator" field in TAG 009 of the LMF.

   f) Produce a Binding Turnaround Card #2.

   g) Clear indicator for BTC #1 due back.

   h) Set indicator for BTC #2 due back.

B. Complete - Unbound

1. This transaction indicates that the system properly predicted the binding requirement, however the unit is to remain unbound.

2. Format:

Pos.	Data
1-14	Control
15	U - Unbound
16	ƀ
17	Record Mark

3. Action:

   a) Change status codes in Prediction Matrix to "Holdings" status.

   b) Increment all significant fields in prior upper limit of the "Next Binding Unit" field by one increment.

   c) Enter the result into the lower limit of the "Next Binding Unit" field in the Binding Module Tag.

   d) Insert blanks into the upper limit of the "Next Binding Unit" field in the Binding Module Tag.

   e) Clear indicator for BTC #1 due back.

C. Missing--Unbound.

1. This transaction indicates that the system properly predicted the binding requirement, but issues were found to be missing. The "N" in pos. 18 indicates that the unit was <u>not</u> bound and awaits further instructions. Until further instructions are received, the unit will remain in holdings as unbound and the missing issues will appear on the Missing Issues List as "Required for Binding " until the end of the current calendar year.

2. Format:

Pos.	Data
1-14	Control
15	M--Missing Issues
16	N--Not Bound
17	Record Mark

3. Action:

   a) Generate matrix locations in holdings matrix for bib. units being transferred, and enter them as incomplete units.

   b) Increment all significant fields in prior upper limit of "next binding unit" field by one increment.

   c) Enter the result into the lower limit of the "next binding unit" field in the binding module tag.

d) Insert blanks into the upper limit of the "next binding unit" field in the binding module tag.

e) Set "Missing Issues" flag in the "inaccessibles indicator" in tag 009 of the LMF.

f) Zero indicator for BTC # 1 due back.

D. Missing Issues--Bound.

1. This transaction indicates that the system properly predicted the binding requirement, but issues were found to be missing. The "B" in pos. 18 indicates that the unit was bound without the missing issues. Until further instructions are received, the incomplete units will appear on Holdings Lists as incomplete.

2. Format:

Pos.	Data
1-14	Control
15	M--Missing Issues
16	B--Bound
17	Record Mark

3. Action:

a) Change status codes in pred. matrix to "At the Bindery" status if received.

b) Increment all significant fields in prior upper limit of binding unit by one increment.

c) Enter the result into the lower limit of the binding unit field in the binding module tag.

d) Insert blanks into the upper limit of the binding unit field in tag 960 of the LMF.

e) Set "At the Bindery" flag in the "inaccessibles indicator" field in tag 009 of the LMF.

f) Produce a Binding Turnaround Card #2.

g) Set "Missing issues" flag in the "inaccessibles indicator" in tag 009 of the LMF.

h) Clear indicator for BTC #1 due back.

i) Set indicator for BTC #2 due back.

E. Cancel.

1. This transaction indicates that the system's prediction was ccrrect, however the unit was physically too small to bind or binding should occur at a different level. The system provides for binding slips to be triggered either by a predetermined time frame or upon completion of a specified bibliographic unit. It may happen that the thickness of a serial would vary considerably, and <u>sometimes</u> it would be desirable to bind two or more bibliographic units or time frame increments into one bound volume. Thus the function of this transaction is to cancel the binding action indicated and await the next binding trigger. It will not, however, change the binding time frame. If that action is desired, a normal change transaction is required.

2. Format:

Pos.	Data
1-14	Control
15	C--Cancel
16	b̸
17	Record Mark

3. Action:

   a) Clear indicator for BTC #1 due back.

BINDING TURNAROUND TRANSACTION #2 (BTT 2)

A. Normal

1. This transaction indicates that a binding unit which was previously sent to the bindery has been returned bound. Its function is to transfer the bound unit to permanent holdings and to enter the binding cost.

2. Format:

Pos.	Data
1-14	Control
15-16	blank
17-22	Binding Cost
23	Record Mark

3. Action:

   a) Add binding cost to Total Binding Expenditures in Tag 985 (Accounting)

   b) Add binding cost to Total Expenditures This Year in Tag 009.

   c) Transfer the bibliographic unit(s) bound in the associated binding unit to the Permanent Holdings Matrix. The first bibliographic unit will be entered into the matrix location indicated in the control data of the transaction. Other bibliographic units will follow in publication sequence.

   d) Clear the BTC #2 due back indicator.

NORMAL CHANGE TRANSACTION (NCT)

A. The change transaction can be entered in any of several formats. It is designed to affect different levels of the data structure, depending upon the format used. The following specifications indicate the primary formats and the appropriate actions. Position 15 will indicate the level of change of the transaction. The highest level of change for one transaction is the Tag level.

1. General tag Change

a) Format:

Pos.	Data
1-14	Control
15	T - Tag
16	C - Change
17-19	Tag Number
20-21	Indicators
22-23	Delimiter
Variable	Data
2 positions	Delimiter
Variable	Data
etc.	
END	Record Mark

b) Action:

1) Locate the tag indicated in positions 17-19, and replace it with the data in this transaction.

2) If the tag is not present and the tag and its delimiters are valid insert the data in this transaction and list the transaction on the error list as an invalid change.

2. General Tag Add

a) Format:

Pos.	Data
1-14	Control
15	T-Tag
16	A-Add
17-	Same as preceeding
END	Record Mark

b) Action:

1) If the Tag is already present in the record, list this transaction on the error list as an invalid add. Do not add it.

2) If it is not present and the tag and its delimiters are valid, add it to the record and update the directory.

3. General Delimiter Change

a) Format:

Pos.	Data
1-14	Control
15	D - Delimiter
16	C - Change or E - Error Correction.
17-	Same as preceeding
END	Record Mark

b) Action:

1) Locate the tag indicated in positions 17-19, and replace the delimiter as indicated in the transaction. Delimiters not appearing in the transaction will not be affected.

2) If a delimiter in the transaction is not present and it is a valid delimiter, add the transaction and list it on the error list as an invalid change.

3) If the delimiter being changed is $ a, $b, or $d of tag 970 and position 16 of the transaction

contains a C, develop an entry for Tag 970 $y in addition to changing the indicated delimiter(s). If position 16 contains an E, only replace the delimiter(s) indicated and do not create a 970 $y entry.

4. General Delimiter Add

a) Format:

Pos.	Data
1-14	Control
15	D - Delimiter
16	A - Add
17-	Same As preceeding
END	Record Mark

b) Action:

1) If a delimiter in the transaction is already present in the record, do not add it and list it as an invalid add.
2) If it is not present and the delimiter is valid, add it to the record and update the directory.
3) If $a or $b of Tag 950 or $a of Tag 951 is added check to see if all are present. If yes set the Holdings Data Present Indicator in Tag 009.
4) If $b of Tag 971 is added set the Holdings Data Present Indicator in Tag 009.

5. Leader Data Change

b) Format:

Pos.	Data
1-14	Control
15	L - Leader
16	Blank
17	Type of Entry (CMF only)
18-19	Library Code (LMF only)
20	Branch Code (LMF only)

Pos.	Data
21	Checkin Location (LMF only)
22	Activity Code
23	Suppression Code
24	Record Mark

c) Action:

1) Check the file entry in Pos. 16 against the codes in the transaction and change those codes indicated if valid. If a field is blank do not affect that field in the record.

6. Control Field Tag Change

a) Format:

Pos.	Data
1-14	Control
15	T - Tag
16	F - Fixed Length Tag
17-19	Tag Number
20-	Formatted like the Tag it is changing.
END	Record Mark

b) Action:

1) Scan the transaction for entries. When an entry is found check it for validity and if valid replace the existing field with the entry.

2) Fields which are blank in the transaction will not be affected.

7. Matrix Status Change

a) Format:

Pos.	Data
1-14	Control
15	M - Matrix
16	Blank
17-19	Tag Number
20	Year

Pos.	Data
21	" / "
22-	Formatted like the standard Matrix Format. (1 Pos. per issue or volume)
END	Record Mark

b) Action:

1) Locate the indicated Tag and year in the record. Scan the transaction for entries, and when one is found, change the corresponding position in the record as indicated.
2) Blank entries in the transaction will be ignored.
3) If the transaction matrix is of a different length than the record matrix, do not make any changes and list the transaction on the error list as an improper length matrix entry.

NORMAL DELETE TRANSACTION (NDT)

A. The delete transaction can be entered in any of several formats. Like the change transaction, it is designed to affect different levels of the data structure, depending on the format used. Position 15 will indicate the level to be affected. The highest level which can be deleted by one transaction is the record level.

1. Record Delete

a) Format:

Pos.	Data
1-14	Control
15	R - Record
16	E - Error or W - Withdrawn
17	Record Mark

b) Action:

1) If position 16 contains a W, enter the withdrawn status into the Activity Code in the IMF Leader.

2) If position 16 contains an E, delete the IMF record from the file.

2. Tag Delete

a) Format:

Pos.	Data
1-14	Control
15	T - Tag
16	blank
17-19	First Tag to be deleted
20-22	Second Tag to be deleted
etc.	
END	Record Mark

b) Action:

1) Locate the correct record and delete the indicated tags.

3. Delimiter Delete

a) Format

Pos.		Data
1-14		Control
15		D - Delimiter
16		blank
17-19		Tag Number
20-21		First Delimiter to be deleted.
22-23		Second Delimiter " " "
24-26		Tag Number
	etc.	
END		Record Mark

b) Action:

1) Locate the correct record and tags and delete the indicated delimiters.

P0150

MONTHLY STATUS RUN

RUN DESCRIPTION

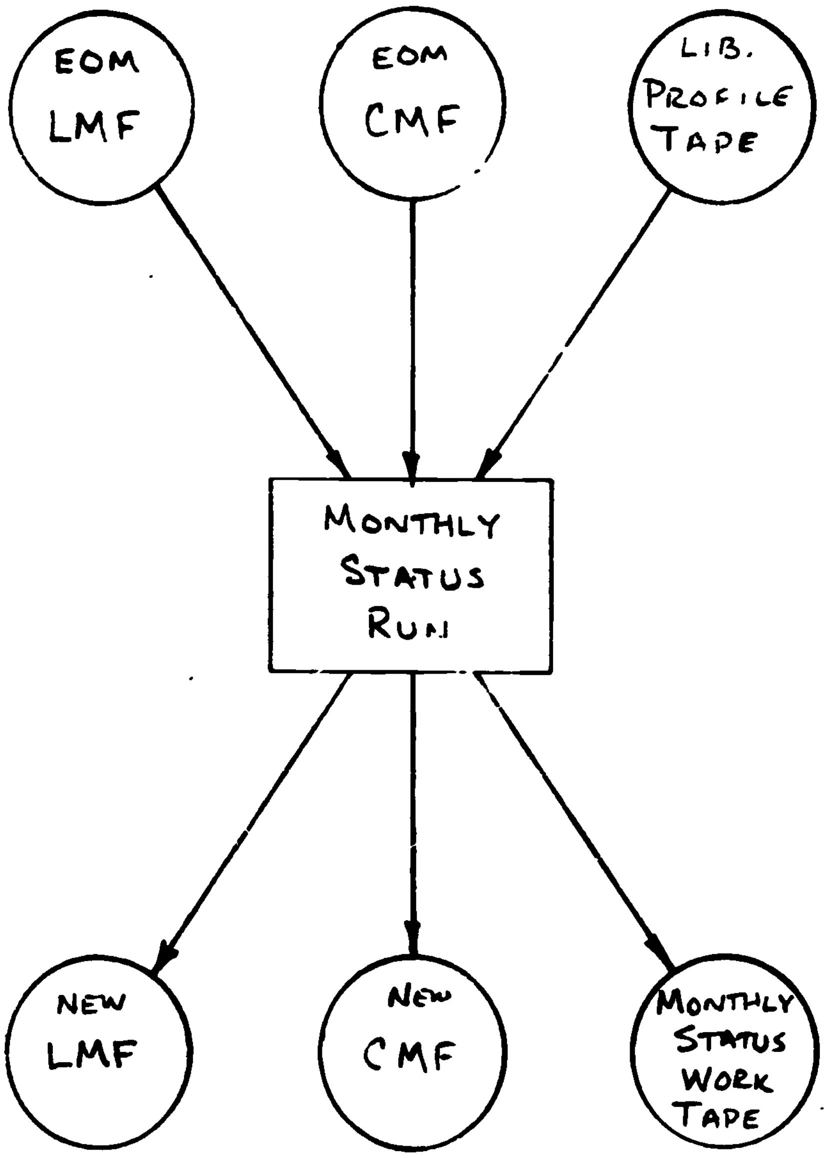
Purpose: The purpose of this program is to update the serials master files with predictions of the next month's expected events. This includes developing the next month's expected arrivals, scanning the files for claims due, binding actions due, payments or renewals due, and predicting new actions to be taken during the month. It will normally read in the master files from the last weekly update of the month and produce new updated master files and the monthly status work tape.

Frequency: This is a monthly run.

Inputs:
1. Local Master File (End of Month).
2. Central Master File (End of Month).
3. Library Profile Tape.

Outputs:
1. New Local Master File
2. New Central Master File
3. Monthly Status Work Tape

PNAME: PC150	Run Diagram	DATE: 15 July 1969



INPUT/OUTPUT SPECIFICATIONS

TAPE FILES -

Input: EOM Local Master File

This tape will normally be the last weekly LMF of the month. It will be the complete file in standard LMF sequence.

EOM Central Master File

This tape will normally be the last weekly CMF of the month. It will be the complete file in standard SCN sequence.

Library Profile Tape

This tape will be a control tape which is read in before processing begins and referred to during updating. Its format and sequence are to be developed by the programmer.

Output: New Local Master File

This tape will be the EOM - LMF updated with prediction data for the next month's activities. It will be the complete file in standard LMF sequence. For a detailed description of the format refer to the "Subscriber's Guide" portion of this report.

New Central Master File

This tape will be the EOM - CMF updated with prediction data for the next month's expected arrivals. It will be complete file in standard SCN sequence. For a detailed description of the format refer to the"Subscriber's Guide" portion of this report.

Monthly Status Work Tape

This tape will consist of an extract of all data required for the outputs which derive from it. These outputs are indicated in the system flowchart and are specified in the following pages. This tape will be in the Standard CSL-PC Serials Control System Format with the exception of the prediction tag. The standard prediction tag will be replaced by the Issue Designation Storage Tag (975) as specified herein. Later actions and extracts against this tape will be determined by what is extracted by the Monthly Status Run and output onto it.

MONTHLY STATUS RUN SPECIFICATIONS:

INTRODUCTION

The specifications for this program are organized into three separate sections. These are 1) Introduction, 2) Prediction Phase, and 3) Output Phase. The prediction and output sections deal specifically with the basic program algorithms whereas the introduction concentrates on organizing and discussing the pertinent data elements for issue prediction and status control. All prediction processing and primary status setting is accomplished by this program. This includes expected arrivals prediction, claiming control through to the missing status, binding control both by bibliographic unit and temporal pattern, and extra issues and special action prediction through the Special Activities Pattern.

Expected Arrivals Prediction:

Our approach to issue prediction amounts to an expansion of the Publication Pattern into a week-based yearly calendar. Through knowledge of the last issue published, the method of generating issue designations, and determination of the number of issues expected during the next month, the system can develop a list of those issues expected. This portion of prediction is covered in the next section. The resulting Expected Arrival Cards (EAC) are to be sent to the appropriate checkin stations, and upon receipt of the issue, the cards are to be returned to the system. One EAC will be produced for each copy of each issue expected by a checkin station and a card is to be returned for each copy received. For a detailed description of the EAC see the specifications for the Weekly Update Program (P0120).

Automatic Claiming:

Our approach to claims is quite simple and straightforward. It amounts to an automated duplication of the manual procedure of visually scanning the file (Kardex) periodically and claiming issues which should have arrived, but have not. Other approaches have been and are being considered, such as statistical methods of claiming; however, at this time such approaches have not been developed to the state of a working model. In anticipation of such a working model in the future, we have allowed for storing the actual arrival dates for a period of one year within the working files and indefinitely on a history storage file. Included in this report is a section dealing with possible statistical models which show promise and should be further investigated. (See Appendix II)

Claiming will automatically be accomplished by this system on a monthly basis and will be triggered by the claim delay codes. The system will provide for two levels of automatic claims to be issued before an item is placed on missing issue status. A claiming action will consist of issuing a claims slip and continuing to issue expected arrival cards for the claimed items until they are received. All claiming slips are to be reviewed by the local claims staff before release in order to verify their correctness. At that time the reviewing librarian can follow any one of three courses of action. First, he can authorize the claim and send it on its way as normal procedure. Second, he may discover that the claimed item has actually arrived and have the EAC turned in on it. Or third, he may discard the first claim because of knowledge of extraordinary conditions, such as a mail holdup, and await the second claim before taking action.

Binding Control:

For numbered periodicals, it is convenient to bind by bibliographic unit (i.e. volume). For unnumbered or non-periodic serials it is common practice to bind according to a temporal or calendar based time frame. The system provides for either type of binding control to be automatically accomplished on any one serial. Only one approach however will be available to any one library on any one serial record. This means that the system will not cue binding on both a bibliographic unit and a time frame for one library on the same serial record. The cueing used will be determined by the binding trigger field in Tag 009. Binding control is primarily accomplished through the output phase of the program, and is fully discussed in that section.

Binding actions are tracked by the system via two Binding Turnaround Cards. The BTC 1 data along with the binding slip data will be issued by this program. This output will be forwarded to the local binding staff for review and action. The local staff must return the BTC 1 indicating the action taken. Possible actions include 1) unit has been sent to bindery, 2) transfer the unit to holdings unbound-incomplete, 3) the unit is being bound as incomplete, 4) transfer the unit to holdings as unbound-complete, or 5) cancel this binding action. Upon return of the BTC 1, the system will take the appropriate action, and if the unit was sent to the bindery a BTC 2 will be issued. The BTC 2 acts as a bindery claiming device, which if not returned within a specified time will trigger a notice indicating that the unit should have been received from the bindery. Upon return of the BTC 2 the unit will be transferred to holdings and removed from the prediction matrix.

Special Activities Prediction:

Special activities or issues are predicted by the system via the Special Activities Pattern. Predictable activities include payment due, renewal due, temporal binding due, or ordering of Title Page, Contents, Index, or extra issues due. Predictable special issues include title page, contents, index, or special supplementary issues which do not conform to the normal numbering sequence as specified in the Issue Designation Pattern. Activities or issues which appear in the SAP will be output for the month during which they are to occur or are expected. There are no delay codes associated with this field. Thus if an index is to be ordered in June and should arrive in July, the SAP must indicate the function in the appropriate month. Or if a binding unit is to include everything published through the end of June, the SAP must indicate that the binding unit concludes in June. However, binding is a special case since the SAP acts only to trigger the binding control process. Outside the control of the SAP the system will assign the Binding Delay Code to the binding unit indicated by the SAP.

P015· consists of a series of algorithms centered around the development of the data required to accomplish the tasks described above. These prediction processing routines are dependent upon several general calendar routines. These routines are not herein specified, however most of them are in common use in business and PERT network programming. Among the routines which will be essential to this processing are conversion routines for julian day to calendar day, calendar day to julian day, relative week to calendar day (i.e. the calendar date of each Friday of any year), and month to number of weeks (i.e., Fridays).

Also in order for the programmer to accomplish the above objectives, he must become familiar with the data represented in the prediction tags 970 and 971. Therefore, a discussion of the requisite data elements follows; however, the data field discussions presented here are meant only to introduce the programmer to the fields and make him aware of their general functions. In order to fully understand the types of data that may be encountered in these fields it will be necessary to study the Subscriber's Guide portion of this report.

PUBLICATION PATTERN - (970 - CMF):

The publication pattern is the heart of the prediction module. This data element describes the frequency of any given serial within a calendar based time frame. This means that it indicates how many issues (numbered issues if a numbering scheme exists) are to be published during any month or year, and during which week or month those issues are to be published. Publication pattern was chosen as the key to prediction first because it is the most reliable piece of data upon which an arrival pattern can be based, and secondly because it allows an effective way of entering totally unexpected arrivals into the system.

If the claiming aspect of the system is ever to be implemented on a weekly basis (a very desirable capability), the expected week of arrival is a necessary element. For this reason we have developed a coding scheme which reflects serial publication patterns to the week of publication. All regular and irregular-but-predictable publication patterns under which a serial can be published can be represented by the coding scheme.

The pattern consists of a twelve position field; one position for each month. Each month holds a code which indicates how many issues are to be published during the associated month and during which week(s) publication is expected. The system is geared to handle publications with a frequency of weekly or any higher level (i.e. monthly, yearly, etc.) Any publication which is published more often than five times per month cannot at present be predicted by the computer. The allowable codes in this field are as follows:

Codes

Ø - Nothing Published	G - 3rd & 5th weeks
1 - 1st week	H - 4th & 5th "
2 - 2nd "	J - 1st, 2nd, & 3rd weeks
3 - 3rd "	K - 1st, 2nd, & 4th "
4 - 4th "	L - 1st, 2nd, & 5th "
5 - 5th "	M - 1st, 3rd, & 4th "
6 - weekly	N - 1st, 3rd, & 5th "
7 - biweekly	O - 1st, 4th, & 5th "
8 - 1st & 2nd weeks	P - 2nd, 3rd, & 4th "
9 - 1st & 3rd "	R - 2nd, 3rd, & 5th "
A - 1st & 4th "	S - 3rd, 4th, & 5th "
B - 1st & 5th "	T - 1st, 2nd, 3rd, & 4th weeks
C - 2nd & 3rd "	U - 1st, 2nd, 3rd, & 5th "
D - 2nd & 4th "	V - 1st, 2nd, 4th, & 5th "
E - 2nd & 5th "	W - 1st, 3rd, 4th, & 5th "
F - 3rd & 4th "	X - 2nd, 3rd, 4th, & 5th "

Publication Pattern Example

J	F	M	A	M	J	J	A	S	O	N	D
6	6	6	6	6	1	1	6	6	6	6	6

The example above describes a serial which is published weekly except for June and July, when it appears monthly. Under the current system, monthly or yearly publications should be entered as being published during the first week of the month of publication unless the actual week of publication is known.

ARRIVAL DELAY CODE - (970 - CMF):

Attached to the publication pattern is a field denoted "Arrival Delay Code". This is a two position element which indicates the number of <u>weeks</u> prior to or after the publication date the serial is expected to arrive at the local check-in station. If the issues are expected prior to the publication date, the arrival delay code will be negative. If expected after the publication date, it will be positive.

Using the publication pattern and the arrival delay code, the system will produce a list of current expected arrivals. In conjunction with this list, an Expected Arrival Card (EAC) will be produced for each copy of each serial expected by each check-in station. For example, if ten copies of one serial are received by one check-in location, ten EAC's will be produced; one for each copy. The Expected Arrivals List (EAL) will be produced monthly, but will show serial issues by the expected week of arrival and by issue designation (e.g. volume and issue number).

ISSUE DESIGNATION PATTERN - (970 CMF):

The second data field fundamental to issue designation prediction is the issue designation pattern. This field indicates the names of issue designation units, their interdependence, and their incrementing scheme. The publication pattern tells the system how many issues are due and when, whereas the issue designation pattern tells it what the issues are called and how the numbering system functions. This code consists of a combination of fixed and variable length data elements.

Name of Numbering Division
Binding Unit? (Y or N)
Directly Superior Numbering Division Name
Number of Cycles (Increments) Before Incrementing Superior Field
Cycle (Increment) Counter
Increment Value
Reset Limit
Reset Value

Vol	Y	ƀƀƀ	ƀ	ƀ	Ø1	*	-	ƀ

For description of the data elements of this field refer to the CSL-PC Subscriber's Guide (TAG 970 - $a). This field is repeatable with the delimiter and each field is defined by a field separator. There will be one field or entry for each level of predictable designation. Thus there must be an entry for each entry in the start values delimiter. For example, if a serial like Time Magazine is considered, it will have three entries in this delimiter; one for each designation level. These would be date, number, and volume. The above example shows an entry (volume in this case) which is the binding unit, has no superior numbering division, increments by 1, and is a non-cyclic or continuous value.

MATRIX START VALUES - (970 - CMF):

The third data field which is necessary for issue designation prediction is the Matrix Start Values Delimiter. This delimiter provides the values which will be used as a basis from which the Publication Pattern and the Issue Prediction Pattern can begin generating issue designations. This delimiter must contain an entry for every entry in the Issue Designation Pattern. The Matrix Start Values Delimiter and the Issue Designation Pattern should parallel one another in content, however not necessarily in sequence. The entries in the Matrix Start Values Delimiter must be entered in the same order as they are to appear on output. The only restriction on this order is that superior fields MUST BE entered to the right of their subordinate fields. Entries in the Issue Prediction Pattern can be entered in any order. The format of a Matrix Start Values Field is as follows:

Numbering Division Name

Value

| NUM | 24 |

This is a repeatable field within the delimiter with each field being defined by a field separator.

Legitimate sequences of entries for a serial whose issue designation is in terms of month, year, number, and volume are as follows: (year is superior to month and volume is superior to number):

Month, Year, Number, Volume

Month, Number, Year, Volume

Month, Number, Volume, Year

Number, Volume, Month, Year

Number, Month, Volume, Year

Number, Month, Year, Volume

DELAY CODES - (971 - LMF):

This delimiter indicates the delay factor associated with the various actions controlled by the system. The format is as follows:

Claim Delay 1 (weeks)

Claim Delay 2 (weeks)

Missing Delay (weeks)

Binding Delay (months)

$a | 04 | 08 | 15 | 06 |

Claim Delay 1 indicates the number of weeks after publication to issue the first claim for an unreceived issue.

Claim Delay 2 indicates the number of weeks after publication to issue the second claim for an unreceived issue.

Missing Delay indicates the number of weeks after publication to declare an issue missing and discontinue producing EAC's.

Binding Delay indicates the number of months after prediction of the last issue of the binding unit before issuing a BTC 1 and Binding Slip.

SPECIAL ACTIVITIES PATTERN - (971 - LMF):

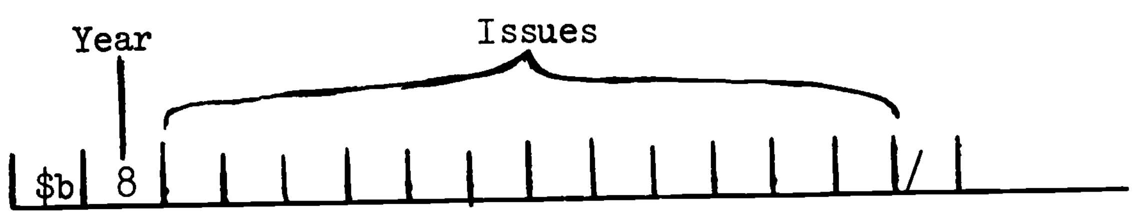
This delimiter is a twelve position code which indicates special issues or activities expected during the year. Its function was discussed in the paragraph on special activities prediction. The allowable codes in this field are as follows:

Code	Activity
b̸	No activity this month
A	Payment to be made this month
B	Renewal to be made this month
C	Binding Notice to be issued this month - indicates that binding unit is now complete and, if no binding delay is given, that the Next Binding Unit should be prepared for binding.
D	TPCIX (Title Page, Table of Contents, Index or Extra unnumbered issue) to be ordered this month
E	TPCIX arrives this month
F	Payment and Renewal
G	Payment and Binding
H	Payment and TPCIX Ordered
J	Payment and TPCIX Arrives
K	Payment, Renewal, Binding
L	Payment, Renewal, TPCIX Ordered
M	Payment, Renewal, TPCIX Arrives
N	Payment, Binding, TPCIX Ordered
Q	Payment, TPCIX Ordered, TPCIX Arrives
R	Renewal, Binding
T	Renewal, TPCIX Ordered
U	Renewal, TPCIX Arrives
W	Renewal, Binding, TPCIX Ordered
X	Renewal, Binding, TPCIX Arrives
Y	Renewal, TPCIX Ordered, TPCIX Arrives
Z	Binding, TPCIX Ordered
1	Binding, TPCIX Arrives
2	Binding, TPCIX Ordered
3	TPCIX Ordered, TPCIX Arrives
4	Payment, Renewal, Binding, TPCIX Ordered
5	Payment, Renewal, Binding, TPCIX Arrives
6	Payment, Binding, TPCIX Ordered, TPCIX Arrives
7	Renewal, Binding, TPCIX Ordered, TPCIX Arrives

Due to the number of unrelated activities which are keyed through this delimiter, it may be advisable to simplify the input form. One possibility would be to develop a form with five separate time frames, one for each type of action indicated above. The computer could compress the separate patterns into one SAP as specified using the codes indicated above. The five types of action indicated are: Payment, Renewal, Binding, Ordering and Arrivals.

PREDICTION MATRIX - (971 - LMF):

The Prediction Matrix in the Local Master File consists of one character location for each issue which has been predicted to date and has not been transferred by the member library to permanent holdings. The only exception to this occurs when less than a full year's issues is transferred to permanent holdings. In this case those issues which have been transferred will remain in the Prediction Matrix until the last issue of the year is transferred. The matrix is divided into year segments with the first position of each segment indicating the year. For example, the matrix format for the year 1968 of a monthly serial would be as follows:



Each location between the year indicator and the field separator represents one issue. The LMF matrix is used to track the status of each of these issues. Thus each location carries codes to indicate the status of the issue and the number of issues still expected. This is done with two four bit codes in each character position. The upper four bits indicate the status and the lower four bits indicate the number of copies outstanding. Obviously this limits the number of copies trackable by one record to a maximum of 15, however, it can safely be assumed that if one library branch receives over 15 copies of a serial, they will maintain more than one permanently held copy.

The individual character locations are split into two four-bit codes as follows:

Upper 4 bits - Status Code

Code	-	Status
1	-	Expected
2	-	Arrived
3	-	Claimed Once
4	-	Claimed Twice
5	-	Missing
6	-	In Binding Process
7	-	Transferred to Permanent Holdings

Lower 4 bits - Expected Issues Counter

The binary value of these four bits indicates the number of copies outstanding.

Thus the 1968 example above may look like:

Issues

	Year														
$b	8	6	6	6	5	4	2	2	3	1	2	2	1	/	- Status
		0	0	0	1	2	0	0	2	3	0	0	4		- Copies Outstanding

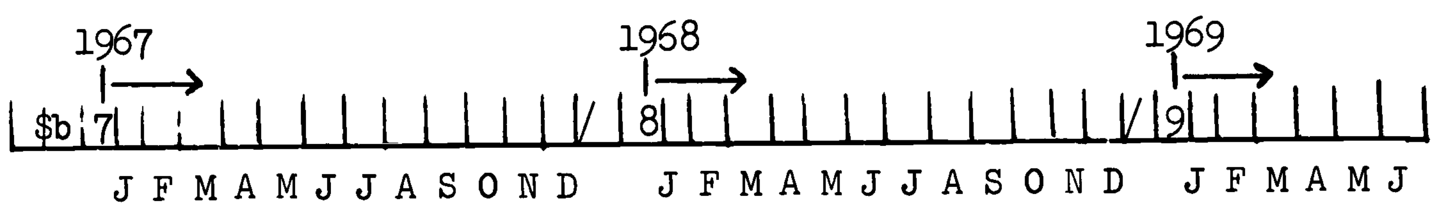
This is a repeatable field, meaning that for each year that a library has any issues which have not been transferred to permanent holdings (TAG 951), there will be a year's matrix. The current year's matrix will carry one character location for each issue <u>predicted</u> as of the last monthly status run. All other year matrices will indicate all issues predicted for the year. Thus the local prediction matrix for the monthly above through June of 1969 might be:

	1968 →													1969 →							
$b	8	7	7	7	6	6	6	2	5	2	2	4	3	/	9	2	2	3	1	2	1	- status
		0	0	0	1	0	0	0	1	0	0	1	2			0	0	1	1	0	4	- copies outstanding
		J	F	M	A	M	J	J	A	S	Ø	N	D			J	F	M	A	M	J	

In the above example, when the status of the December issue is changed to 7 (permanent holdings), the 1968 year matrix will be dropped from this LMF record. The following two sections present algorithms for changing the status codes in the prediction matrix. Not all status changing however is accomplished by this program since the Weekly Update Program is concerned largely with updating and changing status. The Monthly Status Run is primarily concerned with the initial setting of status codes.

PREDICTION MATRIX - (970 - CMF):

The format of the CMF prediction matrix is identical to that of the LMF Matrix with two major exceptions. First, the CMF Prediction Matrix indicates one character location for each issue from the first issue of the earliest year for which any member library has holdings not transferred to TAG 951, through the last issue predicted. Secondly, no status tracking informaion is carried in the CMF matrix. Thus an example of the CMF matrix corresponding to the LMF example above might be:



The CMF matrix above for the LMF matrix preceding would indicate that some other library within the system still maintains some holdings from 1967 which have not been transferred to permanent holdings (i.e. bound). The CMF matrix will retain the 1967 matrix until <u>all</u> members' holdings are made permanent. Also the Matrix Start Values delimiter in the CMF record will refer to the values of the issue designation for location 701. (the first matrix location in <u>1967</u>).

This completes the discussion of the major data elements involved in prediction. The next section deals with how to put these elements into operation to develop the next month's predictions.

MONTHLY STATUS RUN SPECIFICATION:

PREDICTION PHASE

The prediction process will be accomplished in central memory using the data fields discussed in the introduction. The prediction phase of the program is concerned with status checking and generation of new matrix locations for both the LMF and CMF matrices. The main output of this phase of P0150, however, is a list of issues, by matrix location, which require action in the output phase. This list will include new issues predicted, unreceived issues which are to be claimed, and unreceived issues which are to be reclassified as missing.

This phase of processing will be accomplished in twelve basic steps. Those steps are listed below and then followed by an example. The example should clarify the prediction phase of the operation and provide the answers to any questions which may arise. The basic steps in the prediction process are as follows:

STEP 1 - Develop in memory a work area of 52 fields (one for each week of the current year), and using the Publication Pattern, insert the Prediction Matrix Location of each issue expected into its week of Publication.

STEP 2 - Using the local prediction matrix, insert the status data for each issue of the current year.

STEP 3 - Load a reference point register such that it points to the publication week whose issue was last predicted.

STEP 4 - Determine the number of weeks in the month being predicted.

STEP 5 - Check the next week for publication. If an issue is to be published, generate a location for it in the prediction matrix and store the address (matrix position) of the new location.

STEP 6 - Repeat STEP 5 for each week in the month being predicted.

STEP 7 - Determine the number of weeks in the last month predicted.

STEP 8 - Load the Reference Point Register (RPR) with the last publication week currently ready for first claims.

STEP 9 - Check the week indicated by the RPR for outstanding issues and if found, store the address of the claimable issue.

STEP 10 - Repeat STEPS 8 and 9 for each week in the last month predicted.

STEP 11 - Repeat STEPS 8,9, and 10 for the second claim period.

STEP 12 - Repeat STEPS 8,9, and 10 for the missing delay period.

The example on the following pages expands the steps listed above into a more explicit form. This example should be thoroughly understood before proceeding into the preliminary programming stages. This procedure is not meant to be absolutely rigid. It is expected that if the programmer can accomplish the output requirement through a simpler method it should be used. However this approach will accomplish the desired goals and should be used as a starting point.

The example shows the work area for the current year only. For actual processing this work area will cover the entire span of years indicated in the CMF matrix.

PREDICTION PROCESS EXAMPLE

Publication Pattern: | 9 | 9 | 9 | 1 | 1 | 9 | 9 | 9 | 9 | 1 | 1 | 1 | Arrival Delay: | 0 | 3 | (weeks)

*Prediction Matrix (CMF): | N | U | M | 1 | - | V | 0 | L | 1 | 9 | / | 7 | | | | | | | | | | | | | | | | | | / |

| 8 | | | | | | | | | | | | | | | | | | / |

| 9 | | | | | | | | | |

Prediction Matrix (LMF):

	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6	6	6	6	
8	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	2	0	0	0	/

	2	2	2	4	2	2	3	1	2
9	0	0	0	1	0	0	2	3	0

Number of Copies: | 6 |

Claim Delay 1 (LMF): | 04 | (weeks)
Binding Delay Code (LMF): | 06 | (months)

Claim Delay 2 (LMF): | 08 | (weeks)
Binding Delay Counter (LMF): | 00 |

Missing Delay (LMF): | 15 | (weeks)

Issue Designation Pattern (CMF): | V | Ø | L | Y | | | | | 0 | 1 | * | - | | / | N | U | M | N | V | Ø | L | 1 | 1 | 0 | 1 | 1 | 9 | - | 0 | 1 |

Special Activities Pattern:

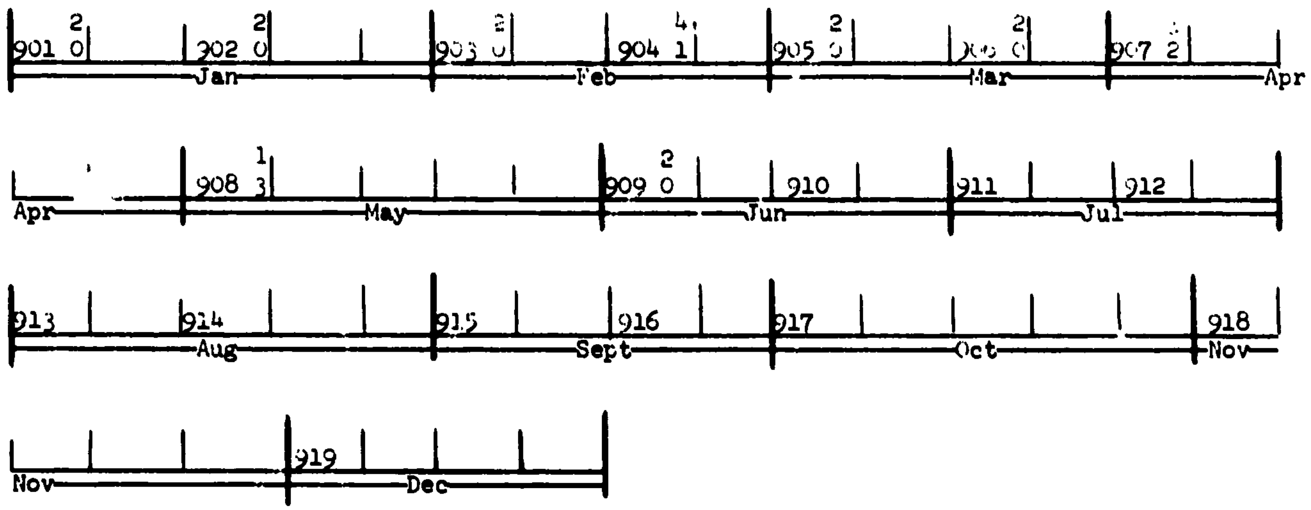
J	F	M	A	M	J	J	A	S	Ø	N	D
						F					

Last Week Predicted = Last Week of June = Week 26

Prediction Month = July 1969

*All CMF items will be found in TAG 970; LMF items in TAG 971.

STEPS 1 & 2: Develop a work area, load it with matrix locations of published issues, and insert local status data.



STEP 3: Load Reference Point Register and save its contents-

RPR = Last week predicted - Arrival Delay = 26 - 3 - - 23 RPR = 23

RPR points to the 23rd week location in the above RPRSAV = 23

STEP 4: Look up the number of weeks in the Prediction Month-

PM = 4 weeks

STEP 5: Increment the RPR by 1 and check the field for a published issue. If present, add 1 matrix location to the CMF Prediction Matrix, add 1 matrix location to the LMF Prediction Matrix and load it with the expected arrival indicator and the number of copies, and store the Matrix Location in a save area.

Week Location

Thus: RPR = 23 + 1 = 24 - No issue in indicated in location 24, therefore no action is taken.

STEP 6: Repeat STEP 5 for a total of (PM - 1) times. $\boxed{PM - 1 = 3}$

Thus: RPR = 24 + 1 = 25 Issue 910 is indicated in location 25, therefore develop a new Matrix location for the CMF and LMF and load the latter with the EA indicator and number of copies. Also store the Matrix Location in EA-Save.

EA-Save = 910

And: RPR = 25 + 1 = 26 - No issue in location 26

And: RPR = 26 + 1 = 27 - Issue 911 is in location 27, therefore create Matrix Location and

$\boxed{\text{EA-SAV now 910, 911}}$

PREDICTION PROCESS EXAMPLE (CONTINUED)

STEP 7: Look up the number of weeks in the Last Predicted Month-
LMF = 4 weeks

STEP 8: Restore the RPR with RPRSAV and decrement the result by Claim Delay 1-
RPR = 23 - 4 = 19

Thus RPR points to the 19th week location in the work area.

STEP 9: Check the location indicated by the RPR for expected issue status. If present store the Prediction Matrix Location in a Save area.

Week Location

Thus: RPR = 19 - No issue is expected in week location 19, therefore no action is taken.

STEP 10: Repeat STEP 9 for a total of (LPM -1) times, decrementing the RPR by 1 each time. $\boxed{\text{LPM - 1 = 3}}$

Thus: RPR = 19 - 1 = 18 - Issue 908 is indicated as expected in week location 18. Therefore store the Matrix Location in CL1-SAVE.

$\boxed{\text{CL1-SAVE = 908}}$

And: RPR = 18 - 1 = 17 - No issue indicated, thus no action.

And: RPR = 17 - 1 = 16 - No issue indicated, thus no action.

STEP 11: Repeat STEPS 8, 9 and 10 using Claim Delay 2 in place of Claim Delay 1, and store the resulting Matrix Location in CL2-SAVE instead of CL1-SAVE.

Thus: $\boxed{\text{CL2-SAVE = 907}}$

STEP 12: Repeat STEPS 8, 9 and 10 using the Missing Delay in place of Calim Delay 1, and store the resulting Matrix Locations in MISS-SAVE instead of CL1-SAVE.

Thus: $\boxed{\text{MISS-SAVE = 904}}$

MONTHLY STATUS RUN SPECIFICATIONS:

OUTPUT PHASE

With STEP 12 the prediction phase of the program is completed. The program now enters the output generating phase. With the output phase the Issue Designation Pattern and the Matrix Start Values Fields are activated. Also the Special Activities Pattern begins operation along with the actual status changing and outputting routines.

Thus far no binding control data has been developed. This is because binding control is an integral part of the output phase of P0150. Its cuing is determined either on the issue designation generation or on data stored in the Special Activities Pattern. All binding control data will be developed in this phase of the process.

Due to the amount of decision making involved in the output phase of the program, the specifications are presented in general flowchart form. This format should be more direct and easier to follow than text specification. The flowchart is followed by a continuation of the example begun in the prediction phase. This example displays explicitly the results of the output phase.

The flowcharts for the output phase are divided into two basic parts. The first is a general chart showing the decisions to be made while developing the program outputs whereas the second is a detailed flowchart for generating Issue Designations.

In order to efficiently produce the many lists indicating the issue designations generated by this phase of the program a special work tag (TAG 975) has been developed. The specifications for this tag precede the output generation routines and appear on the following two pages. They are followed by the output generation discussion.

TAG 975 - ISSUE DESIGNATION STORAGE

This is a special <u>system generated</u> work tag which is to appear on work tapes only. <u>It will NOT appear on master file tapes</u> or in the standard CSL-PC Serials Format. This tag will contain the serial's issue designations which are to be printed in text form. The general format of the TAG will be as follows:

```
Indicators
  Delimiter
     |               Data
     |                 |        Field Terminator
     |   |             |              |
| b|b|$|a |Issue/Issue/Issue/...     |F|
```

Delimiter	Name of Data Element(s)	Number of Positions
$a	EXPECTED, CLAIMABLE, and NEWLY MISSING ISSUES	V + "/"
	1. Status	1N
	2. Copies Outstanding	2N
	3. Matrix Location	3N
	4. Issue Designation	V
	5. Field Separator - after every field except last.	"/"

$a <u>EXPECTED, CLAIMABLE, and NEWLY MISSING ISSUES</u>:

This delimiter will carry all <u>issue</u> identification and status data to be output on the Expected Arrivals List (EAL), Claims Lists or Slips, and Turnaround Cards. It will contain an entry for every issue to be listed on the EAL plus an entry for every issue which was newly assigned a "missing" status code.

Format $a:

```
     Status
     | Copies Outstanding
     | |   Matrix Location
     | |   |           Issue Designation
     | |   |           |                       Field Terminator
     | |   |           |     Field Separator   |
     | |   |           |     |                 |
 | $ | a | 3̄ | 03 | 908 | Num 08 - Vol 21 | / | 1̄ | 04 | 910 | Num 10 - Vol 21 | F̸ |
```

Definition of Data Elements:

1. Status - This field indicates the status of the associated issue according to the status codes in the local prediction matrix. If the status was newly changed or assigned by the Monthly Status Run producing this tape, it will appear signed negative. If the status was not newly assigned, it will appear unsigned. The sign is to be used in extracting for creating turnaround cards or lists indicating status changes.

2. Copies Outstanding - This field indicates the number of copies of the associated issue which were predicted but have still not been received.

3. Matrix Location - This field indicates the prediction matrix location in both the LMF and CMF with which the associated issue is identified (i.e., matrix location 908 indicates the eighth predicted issue of the year "_9".)

4. Issue Designation - This field carries the issue designation as generated by the issue designation generation routine in the Monthly Status Run.

5. Field Separator - "/"

OUTPUT GENERATION:

This routine works with the work matrix developed in the first phase of the program. It loops through the work area generating issue designations and developing the 975 output tag as it goes. In addition to EA, claims, and SAP data, this routine develops the next binding unit limits in the binding tag. The logic is straightforward, and the output phase flowchart should be clear. Note in reading through it, that changes to status are made in the prediction matrix in the LMF and not necessarily in the work area. Also note that if an issue changes status, the new status is entered into TAG 975 as a negative signed value. Finally, outputs moved by SAP decisions are only to the delimiter level. The delimiters which are output indicate what actions are required.

There are seven basic steps involved in output generation. These steps are:

STEP 1 - Initialize the New Start Values (NSV) with the Matrix Start Values.

STEP 2 - If no matrix location is present in the week location cycle through the weeks until the first matrix location is found.

STEP 3 - Generate the issue designation for this issue and then if no status is present for it, return to STEP 2. Continue until an issue with status is found.

STEP 4 - If the status is "arrived", "missing", "at bindery processing" or "permanent holdings", go on to the next week location and return to STEP 2.

If the status is "Claim 1", "Claim 2", or "Expected", check the status change save areas developed in the first phase of the processing. If the issue is in a save area, change the status in the LMF prediction matrix and load the data into TAG 975 of the Monthly Status Work Tape. In loading TAG 975 the status code should carry a negative sign. If the issue is not in a save area, load the data into TAG 975 with the status code unsigned.

STEP 5 - At the end of processing the work matrix, interrogate the SAP for actions. If actions are indicated for the prediction month move the appropriate delimiters to the work tape or set the binding triggers. Binding triggers are to be set as of the last week of the prediction month.

STEP 6 - After processing the SAP, check the Binding Delay Counter to determine if a binding slip is due. If the counter is zero, move the binding tag to the work tape.

STEP 7 - Go on to the next record.

These seven steps are presented in greater detail in the following flowchart. The flowchart is then followed by an example showing the output derived from the sample processing accomplished through these specifications.

FIG. 2.

MSR OUTPUT PHASE FLOW CHART

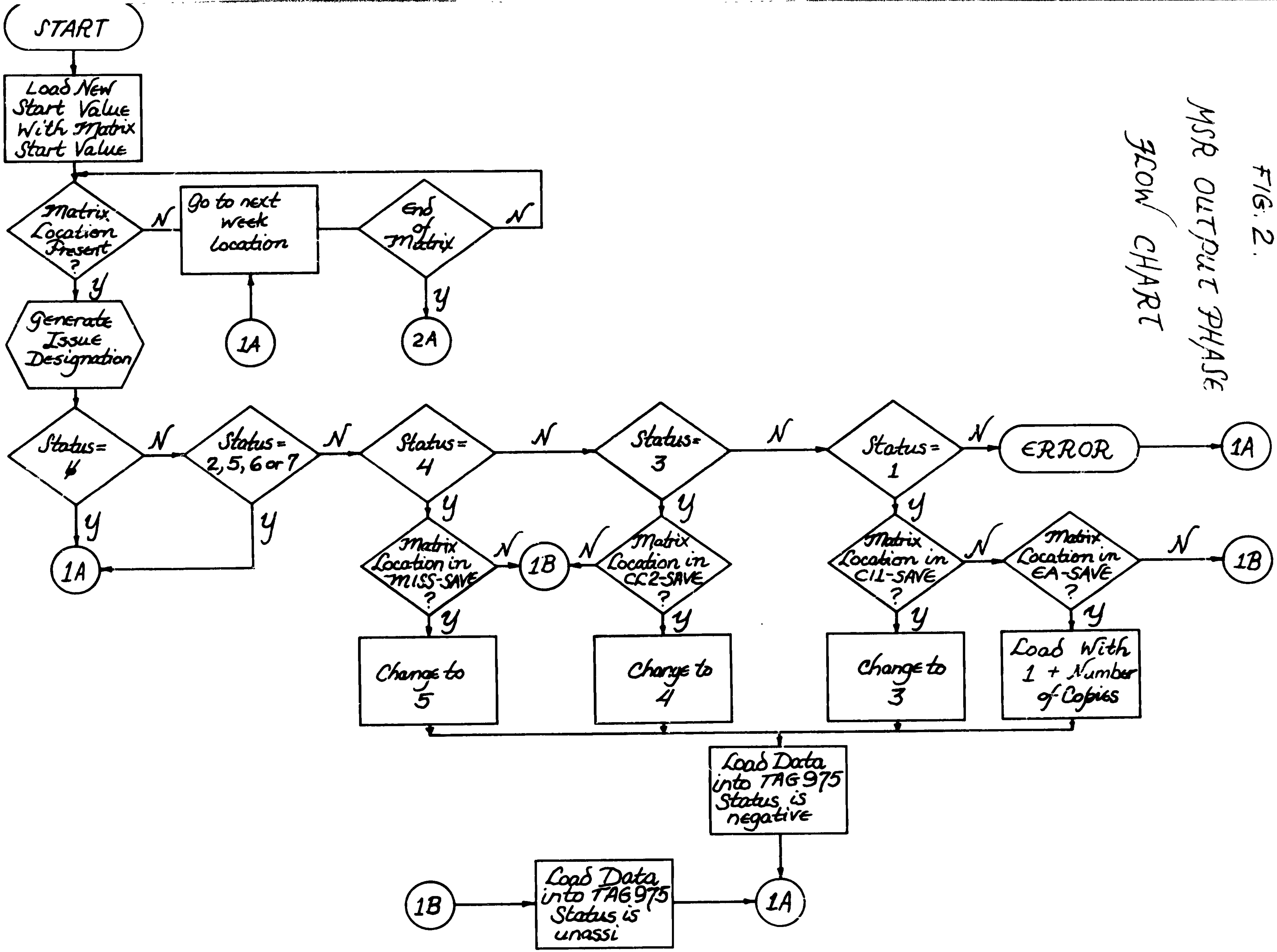
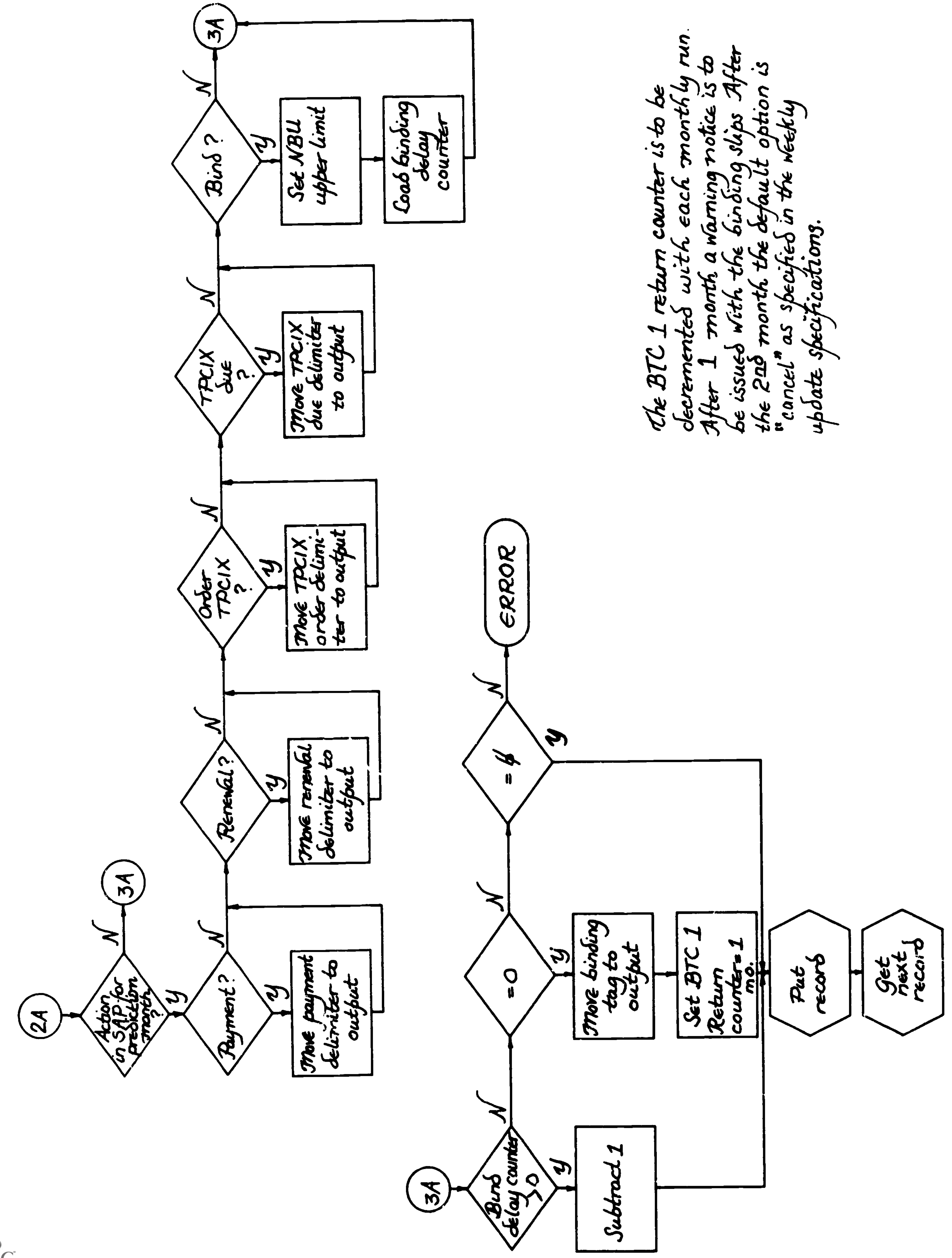


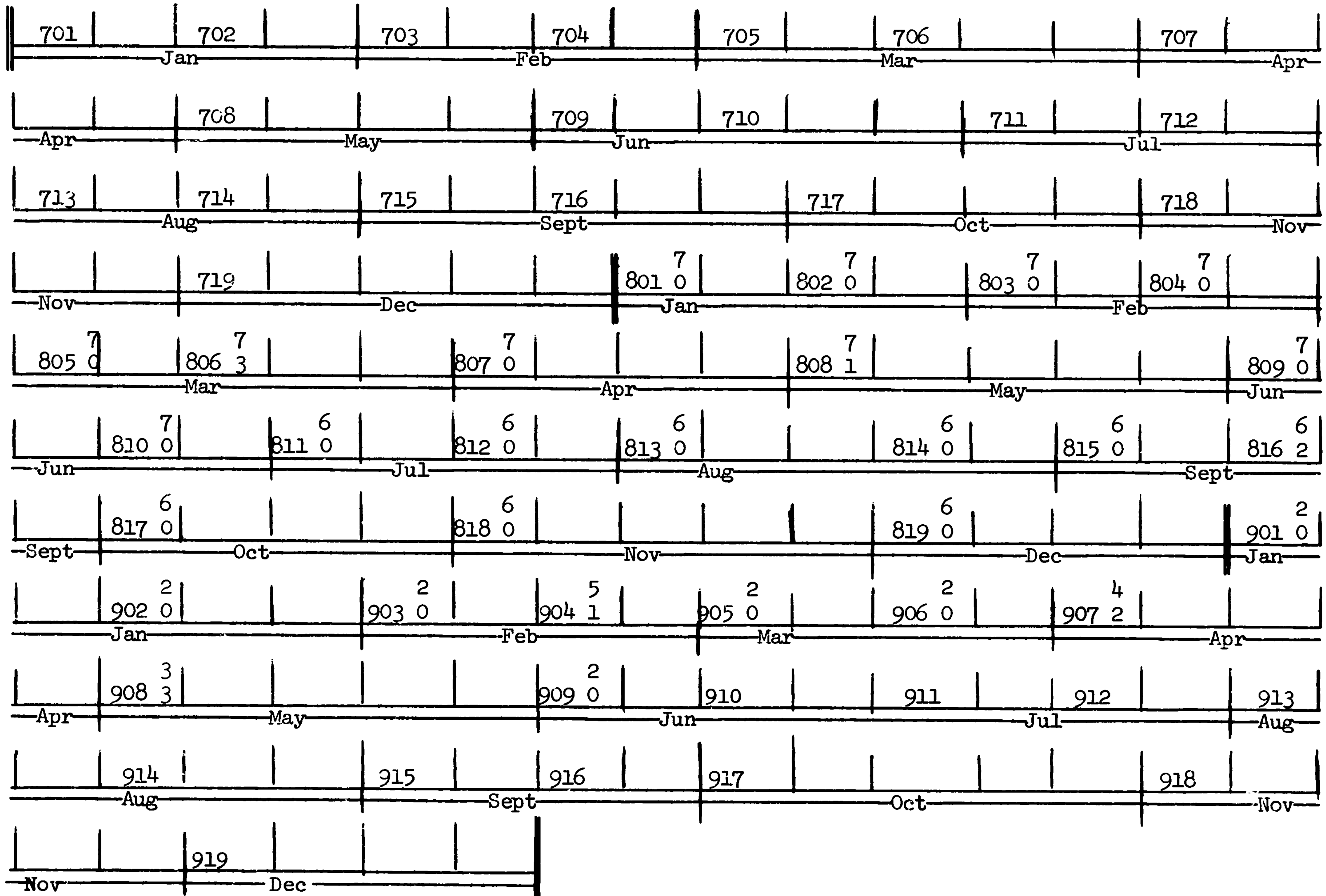
FIG 2 (Cont.) MSR OUTPUT PHASE FLOW CHART



The BTC 1 return counter is to be decremented with each monthly run. After 1 month a warning notice is to be issued with the binding slips. After the 2nd month the default option is "cancel" as specified in the weekly update specifications.

GENERAL OUTPUT EXAMPLE

Full Work Area:



GENERAL OUTPUT EXAMPLE

Binding in this example is cued by incrementing the volume field in the issue designation. The numbering scheme is a simple relationship between number and volume with the reset limit being 19. The Binding Delay Code is 6 months.

STEP 1: Load New Start Values with Num 1 - Vol 19.

STEPS 2,3,4: Develop TAG 975 with Expected Arrival, Claims and Missing Data.

```
                Status
                  Copies Outstanding
                      Matrix Location
                              Issue Designation
TAG 975: |$a|1|06|910| Num 10-Vol 21|/|1|06|911|Num 11-Vol 21|/|3|03|908|Num 08-Vol 21|/|

         | 4|02|907|Num 07-Vol 21|/|5|01|904|Num 04-Vol 21|F
```

STEP 5: The SAP carries a code of "F" for the prediction month. Therefore move the Payment and Renewal Delimiters from 971 to the output tape.

STEP 6: The Binding Delay Counter equals zero. Therefore move the Binding Tag (960) to the output tape.

STEP 7: Get the next record.

3

PROCESSING METHODOLOGY:

SPECIAL OUTPUT ROUTINE

Holdings Generation

Generally speaking, if the holdings of any serial is to be expressed in relation to a year based time frame, there are three forms that that expression can take. A serial can be issued in one volume* per year, more than one volume per year, or more than one year per volume. These forms are somewhat complicated by the fact that a year can be either a calendar year like 1968 or a non-calendar year like 1968/69.

The Holdings Tag is designed to store and regenerate holdings in any of these forms. The Holdings Generation Pattern is used in conjunction with the Basic Holdings Matrix to develop the text form of the holdings statement. The Local Holdings Matrix is designed to extract that portion of the Basic Holdings Matrix which is applicable to the Local Library's holdings, and to indicate the status of the volumes held. For a discussion of the matrix and the generation code refer to TAGS 950 and 951 in the Subscribers' Guide portion of this report.

For the most part the Holdings Generation Pattern speaks for itself. The only portion needing further discussion is the Ratio of Year Span to Bib. Unit Span. This ratio is the key to generation from the matrix, since it gives the relationship between a matrix location and the time span covered by that location. Since each location represents one volume (bibliographic unit), this ratio makes it possible to convert the matrix into output forms like:

			RATIO Vol : Years
Vol 1	1936		1 : 1
Vol 2	1937	or	
Vol 1-2	1936		2 : 1
Vol 3-4	1937	or	
Vol 1	1936-38		1 : 3
Vol 2	1939-41		

*For convenience sake bibliographic unit is equated to volume in this discussion. This does not mean that volume is the only bib. unit acceptable. Holdings can be generated for whatever numbered counting unit is used.

Following this discussion is a detailed flowchart of the basic logic used in developing these types of text output forms from the Basic Holdings Matrix. The logic is oriented toward representing holdings by the lowest common denominator, namely volume by volume representation. It is also designed to handle each of the four basic year span types allowable in the Holdings Generation Pattern. These four are 1) Calendar year spans, 2) Non-calendar year spans (i.e. fiscal year), 3) Single year spans, and 4) Multi-year spans.

A volume by volume list of holdings is of course the most detailed form available from the system, however this does not mean that it is the only form available. Each type of format can easily be output in a combined format. For example -

Vol 1	1936
Vol 2	1937
Vol 3	1938

can easily be output in the form -

Vol 1-3	1936-38

The second type of holdings representable by the system is that for a non-periodic serial. In this case publication of the serial is sporadic and cannot be linked to a time span. There are two alternatives for storing this type of serial holdings. First the library may opt to use the holdings statement for irregular serials delimiter and maintain the dates and holdings for these serials in a note form. This will require manual updating of holdings with the passage of time, since this field is not automatically updatable. The second option is to leave the year span field blank in the Holdings Generation Pattern and to allow the Prediction Module to update holdings. Choosing this option will mean that holdings will be automatically updated but they will not be directly relatable to a time span through the generation codes. This problem can be circumvented by entering the year spans applicable to the holdings into the holdings comments delimiter. With this option the system can generate the volume numbers held and the status of each volume. Nonperiodical serials holdings recorded in this format can be listed volume by volume just as periodical serials are, with the exception that the dates will appear as a note.

The following flowchart accounts for all types of holdings statements mentioned. It derives all of its initial input data from the Holdings Generation Pattern and is entered via the Basic Holdings Matrix. Since volume generation is a time-consuming process, it would be advisable to generate the total holdings history from the Basic Holdings Matrix and then select the locally held volumes using the Local Holdings Matrix. This will require generation of holdings only once per serial title.

In the flowchart the fields YS, BV, BU, DATE 1, and DATE 2 are work areas and counters whose contents vary during processing. During initialization YS is loaded with Year Span, BV with Begin Value, BU with Bib. Unit Span, DATE 1 with Begin Year, and Date 2 with Fiscal Year. Also all switches are set off. Movements of data into the output area vary in their locations according to the accompanying examples. The flowchart is followed by several examples showing the generation codes, the matrix, and the resulting output.

FIG. 3: Generating Routine for Expansion of the Basic Holdings Matrix.

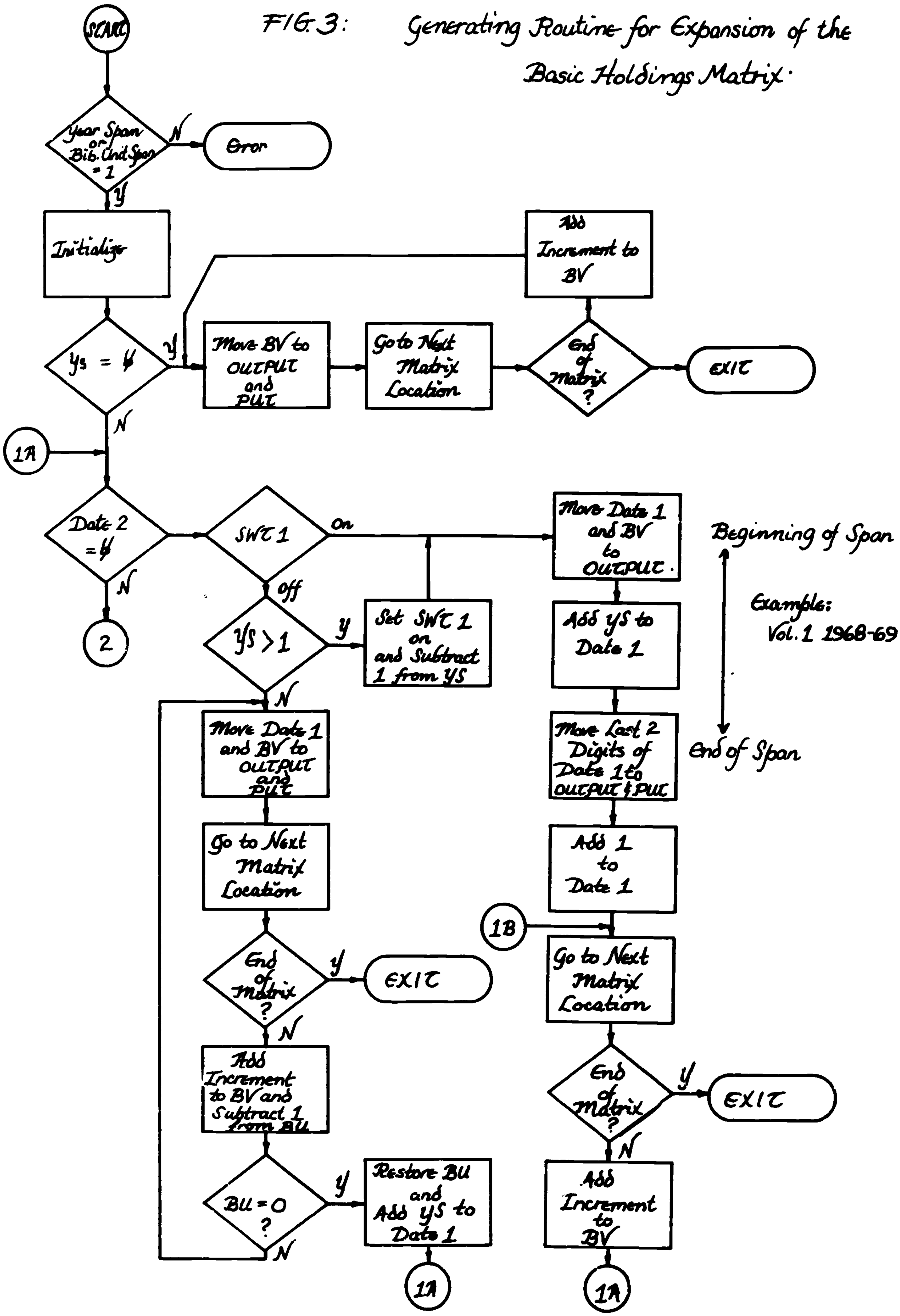
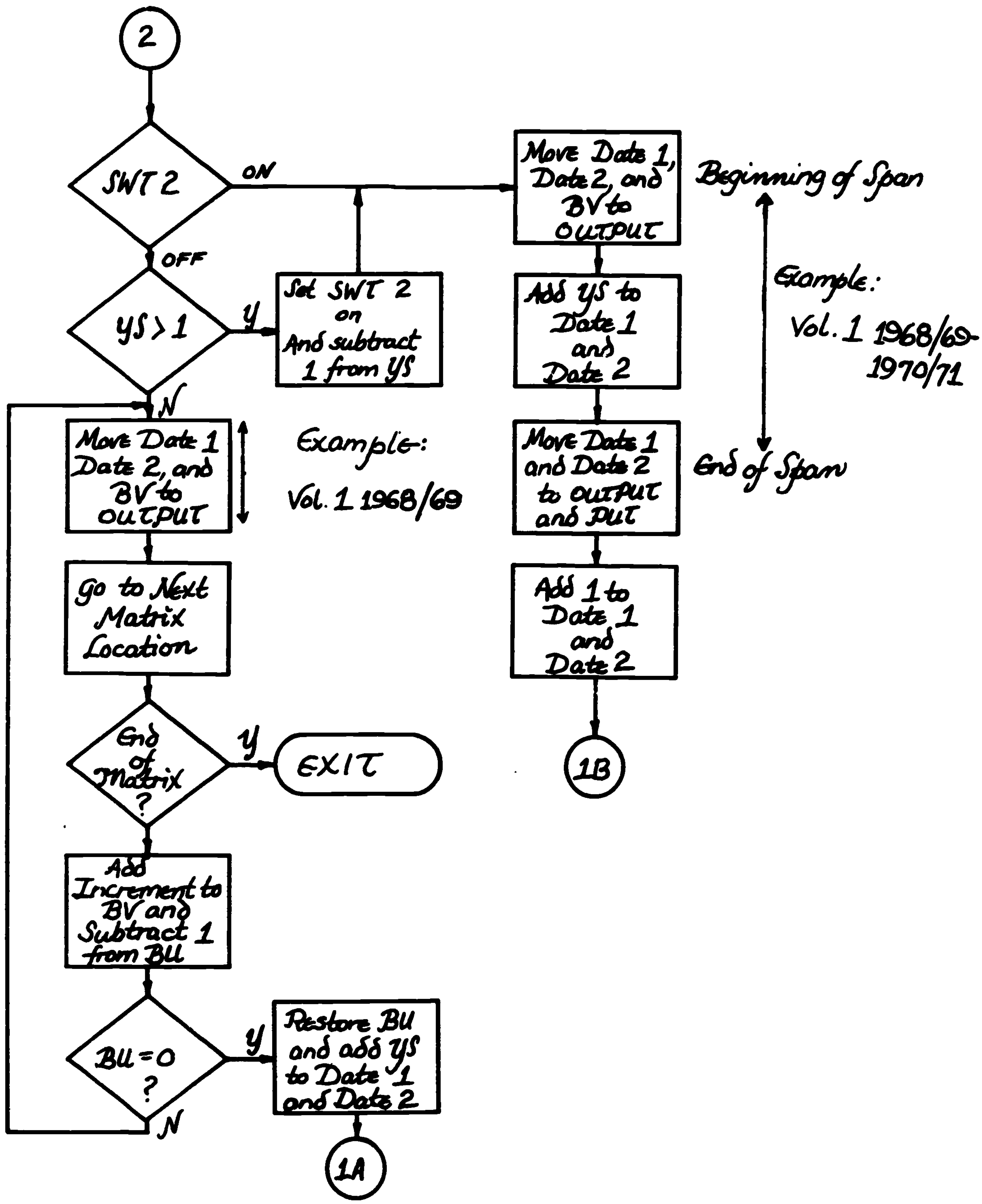


FIG. 3 (Cont.)


2
SWT 2
ON
OFF
Move Date 1, Date 2, and BV to OUTPUT
Beginning of Span
Example:
Vol. 1 1968/69-1970/71
End of Span
YS > 1
Y
Set SWT 2 on And subtract 1 from YS
Add YS to Date 1 and Date 2
N
Move Date 1 Date 2, and BV to OUTPUT
Example:
Vol. 1 1968/69
Move Date 1 and Date 2 to OUTPUT and PUT
Go to Next Matrix Location
Add 1 to Date 1 and Date 2
End of Matrix ?
Y
EXIT
1B
Add Increment to BV and Subtract 1 from BU
BU = 0 ?
Y
N
Restore BU and add YS to Date 1 and Date 2
1A

The following examples represent the holdings output resulting from the logic as presented in the flowchart. That is with no modification for developing text statements in a condensed format. It represents a basic volume by volume list.

Example 1 - Basic Holding Matrix: | $a | b̸b̸b̸b̸ |

Holdings Generation Pattern: | $b | 1937 | b̸b̸ | 1 | 2 | Vol | 3 | 1 | 001 | 00* | 002 |

Begin Value

Bib. Unit Span

Year Span

Begin Year

Results:		
	Vol 002	1937
	Vol 003	1937
	Vol 004	1938
	Vol 005	1938

Example 2 - Basic Holdings Matrix: | $a | b̸b̸b̸b̸ |

Holdings Generation Pattern:

| $b | 1937 | b̸b̸ | 2 | 1 | Vol | 3 | 1 | 001 | 00* | 002 |

Begin Value

Bib. Unit Span

Year Span

Begin Year

Results:		
	Vol 002	1937-38
	Vol 003	1939-40
	Vol 004	1941-42
	Vol 005	1943-44

Example 3 - Basic Holdings Matrix: | $a | b̸b̸b̸b̸ |

Example 3 (cont.) -

Holdings Generation Pattern:

```
| $b | 1937 | 38 | 1 | 1 | Vol | 3 | 1 | 001 | 00* | 002 |
```

Begin Value

Bib. Unit Span

Year Span

Begin Year

Results:		
	Vol 002	1937/38
	Vol 003	1938/39
	Vol 004	1939/40
	Vol 005	1940/41

Example 4 - Basic Holdings Matrix: | $a | b̸b̸b̸b̸b̸ |

Holdings Generation Pattern:

```
| $b | 1937 | 38 | 3 | 1 | Vol | 3 | 1 | 001 | 00* | 002 |
```

Begin Value

Bib. Unit Span

Year Span

Begin Year

Results:		
	Vol 002	1937/38 - 1939/40
	Vol 003	1940/41 - 1942/43
	Vol 004	1943/44 - 1945/46
	Vol 005	1946/47 - 1948/49
	Vol 006	1949/50 - 1951/52

Any of these formats can be accumulated and presented in any of several modes by adding accumulation routines to the basic logic as presented. Such accumulation techniques could be selected through keys present in the Library Profile Tape. The range of output formats available is almost unlimited when compared with holdings notations currently employed by libraries.

In addition to a very basic level of holdings control, the system provides for the capability of recording the status or condition of each unit. This means that the system can be an extremely valuable tool in ordering missing issues and making available immediate and up to date lists of holdings to the shelflist level of detail.

Both local and union holdings will be generated using this basic routine. The way in which the holdings are accumulated and presented on output will certainly vary considerably however, since local libraries will find volume by volume lists of holdings useful and union lists will find them unmanageable.

APPENDIX I

SERIAL CONTROL NUMBER

Form, Function, and Development

Once the decision was made to develop the system around two separate but closely related file types, a method of communication between files became mandatory. This communication device would necessarily be present and identical in both files and would serve to locate the records for the same serial on each file. The next question to be answered was concerned with the code structure. Several formats were considered and compared on the basis of practicality and usefulness.

According to a recent study conducted by James L. Dolby[1] the main criteria for developing useful control codes for a sequentially organized file consist of the following:

1. Uniqueness. It is desirable to have a one-to-one relationship between the code and the item coded.
2. Immutability of Assignment. Once a code is assigned it should be permanently attached to a serial forever.
3. Immutability of Format. The format should be distinctive (and hence recognizable) and remain unchanged.
4. Common Character Set. The format should consist of a linear array of discrete characters from a widely used character set.
5. Efficiency. The code should be as short as possible consistent with the requirement of uniqueness.
6. Low Density. The ratio of the number of assigned codes to the total number of codes available should be low so that random errors in specifying a code will generate unassigned codes with a high probability.
7. Sortability. The code should be so formed that sorting on various fields of the code, singly and in combination, will lead to meaningful groupings of the items for bibliographic and other purposes.

Serial Control Number

For our purposes most of these criteria apply, however the relative importance of each varies considerably. Fundamental to any useful code is the use of a common character set. Unprintable characters or unusual symbols create unnecessary difficulties in sorting, processing, and recognizing the codes. Beyond this requirement, the others, listed

[1] Dolby, J.L. and H.L. Resnikoff. On the Construction of Codes for Serials. Los Altos, California, R. & D. Consultants Co., July 1968. 55 p.

in order of importance, are 1) Uniqueness, 2) Efficiency, 3) Sortability, and 4) Low Density. Immutability of format or assignment are not really essential due to the dynamic state of any serial control system.

A unique code-record relationship is essential since the code will be the <u>only</u> device used to relate the records of the two file types. This code must also contain some sort of location factor if either of the files is developed in random sequence. Thus a unique Serial Control Number (SCN) must be developed which can be used for random sequence location, and which responds to the other criteria as much as possible.

Efficiency and Sortability are closely related factors since sort time is directly dependent upon the development of concise, efficient coding techniques. An initial requirement placed upon the system was the adoption of the MARC II record format as closely as possible with expansion of data elements where required. The fastest and most efficient access to this format is obviously through the leader, and according to the most recent (August '68) version of MARC II, the standard leader would allow up to a seven position code within its boundaries. This points to the desirability of an SCN of seven positions or less, of a common character set, of a unique character, and which could act as an address or location code.

J.L. Dolby's concept of sortability was based on the development of a code which represented various data elements within the one code. This approach was considered but discarded because of two reasons: 1) the size limitations set on the SCN, and 2) the realization that those few data elements (other than main entry) which would be present in <u>every</u> record were of little or no significance in sorting the files. Therefore the resulting SCN would be a number associated directly to a title or main entry.

Low density was determined to be of little significant value, since the file could be organized in random order, allowing the SCN to essentially become an accession number or file entry number. Thus, very high density of numbers is most desirable, allowing the greatest number of new entries to be added before the SCN range is exhausted.

After a considerable amount of study and experimentation with file organizations based on different SCN types, we chose a code which would be a direct reflection of the unique titles on the Central Master File in random sequence (i.e. Accession sequence), placing the titles in no special order. This code is to be developed by the computer and must be available for activity as soon as possible after assignment. The need for number assignment is to be externally determined due to the high probability of variance in main entries submitted to the system for any one serial. This determination will be controlled by the Processing Center staff. This approach alleviates the problems of assigning multiple SCNs to one title entry because of variant main entries. It also relieves the system of the necessity of renumbering or resequencing the file, as was required by most other approaches. This type of code could easily be converted to a direct addressing code at a later date if random access becomes available and the system goes on-line.

There are several other factors which contributed to the decision to use this type of control number, and several requirements and design criteria which arise from it.

There is only one major disadvantage encountered with this approach; that being the increased sorting time required for sorting on main entry. However, this drawback is relatively insignificant when balanced against the problems which would be encountered with other numbering systems considered.

By developing the files around this form of the SCN we can greatly reduce the weekly updating time on the Central Master File because the tape need not be copied unless transactions are submitted against it which would change the length of a record imbedded in the file. This can easily be determined in the transaction building or validation programs, and such transactions could be batched and processed as required.

By using this form of SCN, the files function conceptually as two parts of one tape - like a header (CMF) with several associated trailers (LMFs). This in fact could be the actual physical format, requiring only one file rather than two. However, the dual file approach has been adopted because it minimizes read-write time in all phases of file processing.

APPENDIX II

CONSIDERATIONS ON STATISTICAL METHODS FOR ARRIVAL PREDICTION AND CLAIMING OF SERIALS

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Any statistical model for prediction of arrival and claiming dates of serials has to deal with the following issues:

a) The model should be able to differentiate between "natural" and "unnatural" variations of arrival dates.

b) There are cases in which a later issue arrives before an earlier issue. However, this does not imply that claiming action should be taken for the earlier issue.

c) It is known that the characteristics of receipt of some titles change over time. The model should be able to consider or detect such changes.

In predicting the arrival dates, one might assume that the arrival delays are generated by the sum of two processes, one of them deterministic, which may be identified with the publication pattern followed by a particular editor, and the other, a random process which generates disturbances at different stages of the "path" from publisher to library.

The model is represented as follows:

$$x(t+1) = \Phi x(t) \qquad (1)$$

$$y(t) = x(t) = v(t) \qquad (2)$$

where $x(t)$ is the value generated by the deterministic process at time <u>t</u>, and $v(t)$ is the random disturbance added to $x(t)$ yielding the observed value $y(t)$. It should be noted that equation 1 defines different values of x at different times by the use of "transfer" function Φ. This is a general representation of a relationship that takes into account changes of publication patterns which may be of any form; it might be periodic, or present "steps", or "ramps", etc.

Without loss of generality one can assume that the sequence of random values $v(t)$ behaves as "white noise", that is to say, are independent, random values with mean zero. Kalman has shown that given <u>any</u> random process with prescribed mean and covariances, one can find a <u>unique</u> gaussian process with the same mean and covariances, therefore uniquely determining the original process. (Kalman 1)

It is important to define "reference points", which are not subject to random variations and are used to compute the delays. The use of the interval, in calendar days, from the receipt of an issue to the receipt of the next issue presents two obvious difficulties, first, both observed values have random components, and using the model of equations 1 and 2 it is equivalent to predict the difference,

$$\Delta y = x(t+1) - x(t) + v(t+1) - v(t),$$

which might require a very complicated scheme, and second, the difference Δy may be negative (a further complication).

If instead, one defines reference points as the publication or "issue" date of the previous issue, all that it means is adding a constant to the unknown value of $x(t)$. This does not affect the model and the problem of prediction is that of finding an estimate $\hat{x}(t)$ of the true value $x(t)$ based upon the sequence of previous observations, $y(t-1)$, $y(t-2)$,..., such that the mean square of the error $e(t) = x(t) - \hat{x}(t)$ is minimized. One can see that using this approach all estimated values are positive.

It can be shown that the following set of equations which constitute a recursive algorithm yields estimates $\hat{x}(t)$ such that the mean square error is minimized.

$$\hat{x}(t+1) = \Phi\hat{x}(t) + \alpha_t(y(t) - \hat{x}(t)) \tag{3}$$

$$\alpha_t = \Phi \mathrm{Var}(e;t)/(\mathrm{Var}(e;t) + \mathrm{Var}(v)) \tag{4}$$

$$\mathrm{Var}(e;t+1) = (\Phi - \alpha_t)^2\mathrm{Var}(e;t) + \alpha_t^2\mathrm{Var}(v) \tag{5}$$

Equation 3 resembles the well known exponential smoothing scheme, with the difference that a transfer function has been incorporated. However, equation 4 gives us the value that the smoothing coefficient should take at a given time, or what is equivalent, the weight that should be given to past observations.

The transfer function Φ might be estimated by fitting a regression curve to past data, or in case of existing periodic or sinusoidal trends, by spectral analysis methods. (Parsen 2)

If periodic trends are not observed, it may be unnecessary to use a transfer function, and a simple exponential smoothing might suffice. Rao and Shapiro presented a method of calculating the smoothing coefficient α, based on changes of the spectral density function of the time series.

The spectral density function is the Fourier transform of the autocovariance and as the latter, reflect changes on the process of generating the time series. The value of the smoothing coefficient is altered according to the intensity of those changes. This scheme has shown a fast response to linear trends and even "step" changes of the mean value of the process.

According to this procedure, spectral densities are computed for overlapping portions of the time series using different time lags. A time window N, equal to 36 observations and a lag window M = F, are recommended.

The spectral density is estimated by,

$$\hat{f}(h) = \frac{1}{\pi}\left[\frac{1}{2}\,\bar{R}(0) + \sum_{v=1}^{M} \cos\,(v \cdot w)k\left(\frac{v}{M}\right)\bar{R}(v)\right]$$

where h = 0, 1, 2,..., M, is the time lag,

$\bar{R}(v)$ = autocorrelation function. v = 0,1,..., M

$w = \pi \cdot v/M$

$k(\frac{v}{M})$ = Parsen kernel, such that,

$$k(u) = 1 - 6u^2 + 6\,|u|^3 \quad , \text{ if } |u| \leq \tfrac{1}{2}$$
$$= 2(1 - |u|)^3 \quad , \text{ if } \tfrac{1}{2} < |u| \leq 1$$
$$= 0 \quad \text{otherwise}$$

Defining $F(h) = \log \hat{f}(h)$, one may consider the log spectral densities, as displayed in an array, S(i,j), i = 1,..., (M+1); j = 1,..., L - M, where L = the total number of observations.

The components of S(i,j), are smoothed using a moving average of 3 values,

$$S(i,j) = |S(i,j)| - \frac{1}{3} \sum_{k=i-2}^{k=i} S(k,j)$$

and for each column j,

$$\Delta_j = \text{Max } S(i,j) \quad \text{for } \forall\, i$$

Then, $\alpha_j = \text{Max } (0.1,\ 1 - e^{-B_j})$, where $B_j = b + c\,(\Delta_j/\sigma)^2$, b and e are constants, and σ^2 is the variance of Δ_j which may be shown to be equal to:

$$\text{Var } (\Delta_j) = 0.47 \text{ Var}(\hat{S}_{ij}), \text{ and}$$
$$\text{Var } (\hat{S}_{ij}) = \frac{KM}{N}\left[\frac{2}{3} - \frac{2}{9} R_1^1 - \frac{4}{9} R_2^2\right]$$

where $K = \int_{-\infty}^{+\infty} k^2(u)du$

and $R_p = 1/(1 + 2p/N(n-p))$.

(Rao, Shapiro, 3)

With respect to prediction of claiming dates, one should notice the following:

a) Two different probabilities might be estimated, first, the probability that some "unnatural" delay occur, and second, the probability that an "unnatural" delay has a certain length.

b) The occurrence of "unnatural" delays is an 0/1 process and might present a Poisson distribution, under the assumption that the probability of occurrence of "unnatural" delays is small. Thus it might be possible to estimate the expected number of claims to be issued during a given interval of time, or the probability that a claim will be needed.

c) The distribution between natural and unnatural delays suggests that in estimating the length of the latter, only those outcomes should be taken into account. In other words, one may assume that unnatural delays belongs to another sample space, different to that of the natural ones, and therefore any hypothesis should be tested based on the member of that particular sample space.

d) The assumption of the same distribution for natural and unnatural delays would mean that one is trying to find confidence limits on the upper tail of a very skewed distribution.

e) The statistical analysis of the natural variations might, however be useful for testing a null hypothesis on the maximum length of the natural delays, which may be helpful in identifying the unnatural ones.

References:

1. Kalman, R. E., "A New Approach to Linear Filtering and Prediction Problems." Journal of Basic Engineering, March 1960, pp 35-45.

2. Parsen, E., "An Approach to Emperical Time Series Analysis." Radio Science Journal, vol. 680, September 1964.

3. Rao, Shapiro, "Adaptive Smoothing Using Evolutionary Spectra." (Mimeographic)

APPENDIX III

TABLES OF CODES
USED IN THE CSL-PC
SERIALS CONTROL SYSTEM

- T A B L E   O F   C O N T E N T S -

1. TABLE OF GENERAL SUBJECT CATEGORIES

Code	Subject
AGR	Agriculture
ANT	Anthropology
ART	Art
BAC	Bacteriology
BCH	Biochemistry
BPH	Biophysics
BOT	Botany
BUS	Business
CHE	Chemistry
CLA	Classics
DRA	Dramatic Art
ECO	Economics
EDU	Education
EGR	Engineering
ENG	English
FOR	Foreign languages except French, German, Italian, Russian, Spanish
FRE	French
GEN	General
GGR	Geography
GEO	Geology
GER	German
HEA	Health Sciences
HIS	History
ITA	Italian

1. TABLE OF GENERAL SUBJECT CATEGORIES (Cont.)

Code	Subject
LAW	Law
MAT	Mathematics
MIL	Military Science
MUS	Music
PHI	Philosophy
PED	Physical Education
PHY	Physics
POL	Political Science
PSY	Psychology
RUS	Russian
SOC	Sociology
SPA	Spanish
ZOO	Zoology

2. TABLE OF CODES FOR MAJOR SERIAL VENDORS

CODE	VENDOR NAME AND ADDRESS
ANG	Angus and Robertson, Ltd. Box 1516 G.P.O. 89 Castlereagh Street Sydney, Australia
APR	Academic Press 111 Fifth Avenue New York, New York 10003
BER	Bernan Associates 5010 Wisconsin Avenue, N.W. Washington, D. C. 20016
BFS	B. F. Stevens & Brown, Ltd. Ardon House Mill Lane Godalming, Surrey, England
BRO	Broude 1619 Broadway New York, New York 10019
CHO	Chiao Liu Publications Service P.O. Box 5734 Mongkok, Kowloon, Hong Kong
CNT	Central News Agency 23-90 Connaught Circus P.O. Box 374 New Delhi, India
DHB	Dora Hood's Book Room, Ltd. 34 Ross Street Toronto 2B, Canada
FAX	F.W. Faxon Co. 515 Hyde Park Avenue Boston, Mass. 02131
HRZ	Otto Harrassowitz Postfach 349 6200 Wiesbaden Germany
IBH	International Book House, Ltd. 9, Ash Lane Bombay 1, India

CODE	VENDOR NAME AND ADDRESS
IDH	International Documents Service Columbia University Press 136 South Broadway Irvington-on-Hudson New York 10533
JPT	Japan Publications Trading Co., Ltd. P.O. Box 5030 Tokyo International Tokyo, Japan
KRS	Kraus Reprint Limited FL9491 Nendeln Lichtenstein
LDT	Les Livres Etrangers 10, Rue Armand Moisant Paris 15, France
LIB	Libreria Liberma Casella Postale N. 492 San Silverstro Roma, Italy
MWL	I.R. Maxwell & Co., Ltd. 4 Fitzroy Square London, W.1, England
MUN	Einar Munksgaard 6 Nørregade DK1165 Copenhagen K., Denmark
NIJ	Martinus Nijhoff P.O. Box 269 9, Lange Voorhout The Hague, Nederlands
NTL	Unipub, Inc. P.O. Box 433 New York, New York 10016
PER	Pergamon Press, Inc. Maxwell House, Fairview Park Elmsford, New York 10523
POR	Porter-Libros Avenida Puerta Del Angel 9 Apartado De Correos 574 Barcelona 2, Spain

2. TABLE OF CODES FOR MAJOR SERIAL VENDORS (Cont.)

CODE	VENDOR NAME AND ADDRESS
PUB	Use Publisher's Address as Found in Tag 26Ø (Imprint)
RDL	Hans Riedel Musikalienhandlung Uhlandstrasse 38 Ecke Lietzenburger Strasse Berlin W15, Germany
SCH	Scholarly Books Richard Abel & Co., Inc. Industrial Center Bldg. Gate 5 Road Sausalito, California 94965
STA	J.W. Stacey, Inc. 2575 Hanover Street Palo Alto, California 943Ø4
STH	Stechert-Hafner, Inc. 31 East 1Øth Street New York, New York 1ØØØ3
STI	Nathan Steiner 43 Geulah Street Tel Aviv, Israel
TED	Theodore Front 1Ø46 South Holt Avenue Los Angeles, California 9ØØ35
WJO	Walter J. Johnson 111 Fifth Avenue New York, New York 1ØØØ3
ZLG	N.V. Swets & Zeitlinger Keizergracht 471 Amsterdam, Nederlands

3. TABLE OF SOURCE CODES

(Card Column 67 in Input Transactions)

CODE	DEPARTMENT SOURCE
A	Computer
B	Acquisitions
C	Cataloging
D	Receiving and Checkin
E	Accounting
F	Binding
G	Circulation
H	Technical Processing
J	Miscellaneous

This code is not fixed and can be altered by the local libraries to fit their needs. The purpose of this code is primarily for sequencing of transaction validation lists so they can be returned to the proper location for verification. It is not used in processing, and thus, its use is left to the discretion of the local libraries. Any valid alpha or numeric character may be used for this code and all transactions containing the same code will be listed together and returned to the appropriate source department or section.

4. TABLE OF TRANSACTION CODES

(Card Column 77 in Input Transactions)

CODE	TRANSACTION TYPE
A	Expected Arrival Card (EAC)
B	Unexpected Arrival Card (UAC)
C	New Order Master Card (NOC)
D	Payment Turnaround Card (PTC)
E	Cataloging Master Card (CMC)
F	Central Master File Change Transaction - CSL-PC Only (NCC)
G	Central Master File Delete Transaction - CSL-PC Only (NDC)
H	Local Master File Change Transaction (NCC)
J	Local Master File Delete Transaction (NDC)
K	Bindery Turnaround Card Nr. 1 (BTC 1)
L	Bindery Turnaround Card Nr. 2 (BTC 2)

CONVERSION

INTRODUCTION

In order to be available for use in a computer environment, CSL-PC serials data must be converted into machine usable form. Overall conversion efforts required to produce CSL serials records are discussed in this chapter.

As a general principle, it can be stated that specific conversion requirements arise directly out of the overall design specification for CSL-PC serials records. That is, elements specified and defined to be part of a CSL-PC serials record constitute by their very form and order, an outline of the conversion configuration. If an element has been defined to be needed, its position within the conversion configuration is also defined.

Conversion configuration is taken to mean that mix of manpower, machine-time, and materials needed to produce CSL - defined serials records. The overall configuration forms an inverse hierarchy of functions from less to more sophisticated techniques and outputs.

Three different levels of conversion effort enter into the overall conversion configuration. Viewing each of these conversion components as "levels" will emphasize their hierarchical relation to each other. Thus, the lowest level - conversion level one (CONVEL I) - remains separate from the two higher levels both in processing technique and in output sophistication.

The three levels of effort entering into the overall CSL-PC serials conversion configuration are: CONVEL I, CONVEL II, and CONVEL III.

CONVEL I represents the initial conversion effort which will center around computer-assisted identification of catalog card data elements. By this is meant those algorithms and programs which can readily identify and convert important blocks of serials record data without the need for elaborate field delineating and coding. Algorithms and programs capable of this sort of raw input conversion have been called automatic field recognition (AFR) techniques.

CONVEL II involves detailed authority checking and validation of CONVEL I output. This work cannot be done algorithmically. It requires trained personnel capable of using both system-oriented editorial modes and traditional authority checking tools.

CONVEL III draws on results produced at the two lower levels of conversion effort. CONVEL III operations will be a function of local-library needs. Local library elements must be identified in, and differentiated from central master file (CMF) data elements before a fully validated, fully usable record can be made available.

CSL-PC serials data will be converted, therefore, at these three major levels:

- CONVEL I - apply AFR techniques to raw serials records producing a basic machine record.
- CONVEL II - edit and expand the basic record into a fully defined and verified CMF record.
- CONVEL III - utilize CMF as fully as possible in construction of LMF records given local needs.

It has been the aim of this introductory section to outline the three major levels of conversion effort that must be provided for within the CSL-PC serials control system.

CONVEL I

Two key personnel will be required at the onset of CONVEL I. They are a library systems analyst and a serials librarian. These two professionals would combine expertise in the structure of the machine system on one hand and training in serials cataloging on the other. Their immediate task will be to identify several important conversion parameters presented by the particular circumstances surrounding the specific collection to be converted. For example, they will determine the number and nature of existing serials files; isolate data elements within those files deciding which are to be converted and which are not; provide conversion clerks with specific direction with regard to formatting of non-standard data elements, and otherwise formulate a plan of action to cover the particular needs of the particular collection in question.

With respect to the California State Library serials collection, the CONVEL I configuration might take shape as follows.

The "Periodical Shelf List of Bound Holdings" would be examined and determinations would be made as to how pre-1956 entries are to be treated, what percentage of total CSL bound serials holding must be determined from main catalog entries, how 'periodical serials' are to be handled relative to 'continuation serials,' etc. Beyond these factors, some estimate of the file size (6000 entries) and file physical format (3 x 5 cards) should enter into the conversion analysis. The same process could then be applied to the 'On-order File,' the 'Binding Data File' and the KARDEX-based 'Current Receipts and Accounting' File.

Once file components have been isolated, a conversion clerk begins collecting raw data. The conversion clerk should be sufficiently knowledgeable in serials work as to move easily through the various record formats identifying relevant records both within and across files. It will be the responsibility of the conversion clerk to scan files pulling records according to the guidelines established by the library systems analyst and the serials librarian. Pulled records are then photocopied either with or without templates. The conversion clerk - working in a batch mode - must carefully control the removal, copying and replacement of original serials records. A flexible numbering system will facilitate such control.

Conversion clerk familiarity with serials and serials formats will be essential for the next steps of CONVEL I. Photocopies of records from several files must be grouped together by the conversion clerk - again in a batch mode - and submitted for keypunching. Control of both punched cards and photocopied records will continue to be the concern of the conversion clerk until the conclusion of the initial conversion effort.

CONVEL I will terminate when all regular and 'exception' raw serials input data has been processed by AFR programs and output on computer printout.

Programming for automatic field recognition involves fairly straightforward techniques which center on the more stable elements within a record. Thus, the abbreviation 'cm' in the collation statement of a serials catalog card might be used as a reference point from which other data elements can be identified and converted by the computer. Because of the speed with which these frequently found and readily identified fields can be coded by computer, AFR will be used to generate a first form of the central master file (CMF) record. This first record becomes input to CONVEL II.

<u>CONVEL II</u>

The key figure in the second level conversion effort is the serials librarian. Professionally trained and conversant with detailed aspects of serials cataloging and accounting procedures, the serials librarian will be responsible for creating a full CMF record as defined by CSL-PC specifications and local file requirements. To fulfill this responsibility the serials librarian must have a thoroughgoing knowledge of both the CSL-PC computer conformation and the total structure of the files to be converted. The latter requirement is controlling, since it is anticipated that a library systems analyst will be available to provide backup information on the computer conformation.

CONVEL II begins with an examination of CONVEL I output. The librarian checks computer-created data fields against the original photocopy input sheets. Errors, additions and emendations are taken care of through the use of standard correction mode procedures. Line numbers, field tags and correction of codes are keypunched for correction mode programs. Editing operations cycle as often as necessary until a fully edited, fully amplified CMF record is produced.

Fully edited CMF records are those that have been examined for correctness and completeness of MARC tags and CSL-PC tags defined for the CSL-PC system. CSL-PC tags have been defined. MARC tags are used in CSL-PC definitions wherever possible; MARC tags that are serials specific will be used by CSL-PC when they become available.

Fully amplified CMF records are those for which the fullest possible entry has been researched and input by the serials librarian. Full cataloging of CMF entries is desirable, even though considerable professional time may be required, so that the more fragmentary holdings records likely to appear in a working library's collection can be silhouetted against a bibliographically complete serials record.

A bibliographically complete serials record is taken to be that final form of the CMF record which results from the careful application of CONVEL I and CONVEL II techniques. Brought up to a first level of useability by CONVEL I, the record comes into the hands of the serials librarian who does detailed research upon the record. This research will involve use of the traditional tools of librarianship employed in the interest of full bibliographic authority checking and record amplification. The output from CONVEL II, therefore, will be a CMF record that is as bibliographically complete as is practical in the CSL-PC context.

An exhaustive serial title definition at CMF creation time will pay dividends later. Libraries joining the system at a later date need not amplify the possibly fragmentary data available for a specific serial title held by another library no matter how large that other library may be. All titles entered into the CSL-PC system will thus be fully defined in their CMF form which will serve as a reference for local master file (LMF) entry creation.

Local master files will require a minimal effort to generate since it is anticipated that libraries joining the CSL-PC system after the creation of a substantial CMF will enjoy the benefits of a downward compatible CMF record as well as the benefits that may accrue from MARC.

The incorporation of MARC and CSL-PC tags will insure a standardized record for exchange purposes yet avoid the imposition of unwanted standardization from above, since the LMF will permit local variation.

CONVEL III

Because the third level of conversion effort draws on the results of CONVEL I and CONVEL II, it constitutes a hierarchically superior procedure placed at the disposal of local libraries entering the CSL-PC system.

A serials specialist conversant with the CMF records, studies the local library collection. This is done in consultation with local librarians to insure that the LMF which CONVEL III outputs closely conforms to local desiderata.

Raw data is collected and processed as described in CONVEL I. The LMF record is then created by the CSL serials specialist, who uses programs that have the effect of lifting out those CMF data elements that are wanted for the LMF in question. Thus, CONVEL III utilizes a full CONVEL I operation in conjunction with CONVEL II output only. Once local records have been made CSL-PC compatible, the main CONVEL III effort will be concentrated in the area of local option inclusion. CSL-PC specifications for LMF records define an adequate range of local variations which the CSL serials specialist will test and validate in batch mode producing a completed LMF record suited to local library needs.

Local library needs will be considered controlling at the CONVEL III stage of serials conversion. Having drawn on the already formatted CMF record and such MARC records as may apply, the local library can proceed to the creation of data elements thought necessary for local usage.
The final conversion level terminates with the creation of an LMF tailored to local needs, yet compatible with national and regional standards.

CONCLUSION

Seen in overview the serials conversion effort falls easily into the three modules of CONVEL I, CONVEL II, and CONVEL III described above.

No especially difficult techniques are required. Automatic field recognition algorithms and error correction routines present no serious programming problems. The same is true for record matching and data element recognition at local master file creation time in CONVEL III. Input record handling involves fairly familiar control operations associated with the batch processing of raw data which has been assigned some sort of control number.

The personnel needed at each level should require only a minimal amount of training if recruited from the sources mentioned above. The incorporation of already available serials skills will be a primary concern at staffing time.

It should again be emphasized that the conversion effort is basically a mapping operation amenable to more or less sophisticated approaches, but essentially already defined by the sequence of specifications that define the CMF and LMF within the CSL-PC system.

SUBSCRIBER'S GUIDE

TABLE OF CONTENTS

INTRODUCTION

INTRODUCTION

The Subscriber's Guide for the CSL-PC Serials Control System has been written so that the bulk of serials description and control data can be presented in a MARC compatible format.

The clear majority of MARC monographic data elements can be used in the CSL-PC serials system with no changes. Consequently, an attempt was made to work with the MARC II monograph format, supplementing rather than altering the tag assignment scheme, so that serials data elements which are not common to monographs could be incorporated into the MARC II format.

The 900-999 block of MARC tags not used by the MARC Distribution System will be used in the specification and definition of data elements which are unique to serials.

Serials data elements which were judged to be similar or identical to monographic data elements have not been defined a second time. Instead, the tag number and name is given in this section; a reference is then made to the appropriate page in the Library of Congress Information Systems Office publication, "Subscriber's Guide to the MARC Distribution Service", August 1968. This publication contains the full tag definitions for MARC II and is essential reading for a full understanding of the MARC format.

A MARC II monograph record is made up of four basic parts:

Leader
Record Directory
Control Fields
Variable Fields

A CSL-PC serials record on the other hand, consists of two physical records each having all four of the MARC II monograph record parts:

Central Master File (CMF)	Local Master File (LMF)
Leader	Leader
Record Directory	Record Directory
Control Field (TAG 007)	Control Field (TAG 009)
Variable Fields	Variable Fields

The serials Leader has been redefined to include some serials information which is highly important in machine processing. No changes have been made in the format of the Record Directory entries.

MARC monographic Control Fields 001, 002 and 008 have had some of their data elements redistributed for use in a serials environment. For example, mongraphic TAG 001 has been switched to TAG 010 in the Central Master File. Tags 002 and 003 have not been included since MARC has not yet specified how they are to be used.

The data in monographic TAG 008 was examined and a serials-specific MARC compatible TAG 007 was defined for the CSL-PC serial record. It was found that serials-specific fixed fields differed in enough important ways from monographic fixed field data to warrant the creation of TAG 007.

Because of the file structure of the CSL-PC serials system, another Control Field tag was required for the Local Master File. TAG 009 was set up to handle serials-unique fixed-length data elements which will vary from library to library using the CSL-PC system.

Certain other interpolations of a minor sort appear in the data elements defined in the sections to follow. These will present no problems for the programmer. However, the work of the coder will be eased by the inclusion of a slash (/) instead of a repeatable delimiter within a repeated field. Likewise, the use of a hyphen (-) to delimit variable length elements to subfields within a field, makes for ease of coding and reading.

ORGANIZATION

The organization of this section will parallel that of "Subscriber's Guide to the MARC Distribution System". In fact references will be made to applicable pages of that publication whenever possible. This is done to avoid unnecessary duplication of definition for MARC tags shared by both monographs and serials in the CSL-PC system.

The Leader will be defined first, followed by the Record Directory since these two fields appear in this order and are fairly easy to deal with. It will be noticed at the start that CMF and LMF are used to indicate which of the two serials-specific records is meant during the defining of any given tag. When a discussion relates to both records, the word BOTH is used.

A conscious effort has been made to incorporate examples into the definition of data elements wherever possible. These examples are based on what is taken to be a sensibly full and typical serial record, that for LIFE magazine. A fully worked out machine record for LIFE has been provided on the following pages.

FIG. 4: SAMPLE RECORD FOR LIFE MAGAZINE

LOCAL MASTER FILE

LEADER — RECORD DIRECTORY

| 01094b̸03WMYb̸22001455 4321 | 009007300000 | 090001100073 | 245001900084 | 650002900103 |

| 951025800132 | 957008800390 | 960005300478 | 971033000531 | 980007100861 | 985001800932 | F̸ |

VARIANT DATA DESCRIPTION

| 2SJFAX110SGL1AYYYYBCM03Y133NGEN008127B455EABC1AHX690708020403538290000875N |

LOCAL CALL NO. — TITLE — SUBJECT HEADING

| b̸b̸ | aAQbL5 | F̸ | 0b̸ | $aLifeb̸magazine. | F̸ | 00 | $aPHOTOGRAPHY$xPERIODICALS | F̸ |

HOLDINGS

| 1b̸ | $a33333333333333336663333333333311111111118411111111111111111145111 |

| $zIncompleteb̸vols:b̸v.16,nos.1-19,21-26b̸Jan.-Apr.21,b̸May1-Juneb̸1944/v.17,nos. |

| 20-26b̸Nov.21-Dec.1944/v.18,nos.1-10b̸Jan.-Mar.15,1945/v.41,nos.1-24b̸July- |

ARRIVAL HISTORY

| Dec.1965 | F̸ | b̸b̸ | $a8310̄20̄10̄10̄10101000̄10̄201010001000100040̄1010307000̄2000̄10̄10̄1 |

BINDING

| 0̄1010̄10̄1000̄10405̄010̄105000000 | F̸ | 1b̸ | $a11A1102b̸b̸b̸$bLife$c927b̸b̸b̸$d901926 |

PREDICTION

| $zTrimb̸carefully | F̸ | b̸b̸ | $a040915020011$b8 777777777777777777777777777666666666 / 000000000000000000000000000000000000 |

| 555666666666666666 / 111000000000000000 /9 2222222222222222222222222221111 / 000000000000000000000000000342A $cDEEb̸b̸Ab̸/Bb̸b̸G$d926I/926 |

| TPC$uClaimb̸fromb̸publisher$vTossb̸dups$wDob̸notb̸waitb̸forb̸renewalb̸noticeb̸fromb̸ |

| publisher$xJun.81.27,Dec.81.28;payb̸Faxon$yOrderb̸indexb̸fromb̸publisher,b̸inb̸ |

ORDERING

| Jan.,3.00$zIndexb̸arrivesb̸inb̸Feb.;b̸TPCb̸arrivesb̸inb̸March | F̸ | b̸b̸ | $a628063207005 |

ACCOUNTING

| 000865$bPub$cOrderb̸10b̸copies$d6260b̸byb̸P.L.$e6275b̸byb̸ST | F̸ | 0b̸ | $a080$b010$d015 | F̸ |

FIG. 4 (Cont.): SAMPLE RECORD FOR LIFE MAGAZINE

CENTRAL MASTER FILE

```
LEADER                              RECORD DIRECTORY
| 00857Bƀƀƀƀƀ1ƀ220016954321 | 007003900000 | 010001700039 | 050001500056 | 082000800071 }

| 245003100079 | 260006400110 | 300005300174 | 500004800227 | 700003900275 | 950011800314 }

                                      NON-VARIANT DATA DESCRIPTION                  L.C. CARD
| 95900190043 | 97002380045 | ǂ | 690101M19369999ILU00eng0ƀANƀƀƀƀƀƀƀƀƀƀƀƀ | ƀƀ | $a000 }

NUMBER        L.C. CALL NR.        DEWEY NR.     TITLE STATEMENT
| 37008367ƀ | ǂ | 0ƀ | $aAP2$b.L547 | ǂ | ƀƀ | $a051 | ǂ | 0ƀ | $aLIFE$zv.1-ƀƀNov.23,1936-ƀƀ | ǂ }

IMPRINT                                                                     COLLATION
| 0ƀ | $aChicago$bTimeƀInc.$y540ƀN.ƀMichiganƀAve.,Chicago,Ill.ƀ60611 | ǂ | ƀƀ | $av. }

                                                     GENERAL NOTES (BIBLIOGRAPHIC)
| $bIllus.(partƀcol.ƀincl.ƀports.)$c35cm$zWeekly | ǂ | ƀƀ | $aEditors:ƀNov.23ƀ1936- }

                                OTHER ADDED ENTRY                                 HOLDINGS
| ƀƀH.R.ƀLuceƀandƀothers | ǂ | 11 | $aLuce,ƀHenryƀRobinson$d1898-ƀƀ$eEd. | ǂ | ƀƀ | $aƀƀƀƀ }

| ƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀ$b1936ƀƀ11VOL41 }

                                           INDEXED IN            PREDICTION
| 0010010001/1937ƀƀ12VOL4100200*0002 | ǂ | ƀƀ | $aReaders'ƀGuide | ǂ | 1ƀ | $aVolBƀƀƀƀƀƀ }

| 01*-ƀ/NumNVol01000126-01/DayNƀƀƀƀƀƀ07C-ƀ$b666666666666600$c701Num01/Vol62/ }

| Day7005$e7ƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀ[illegible]ƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀ/8[illegible]ƀƀƀƀƀƀƀ }

| ƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀ/9ƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀ | R̸ |
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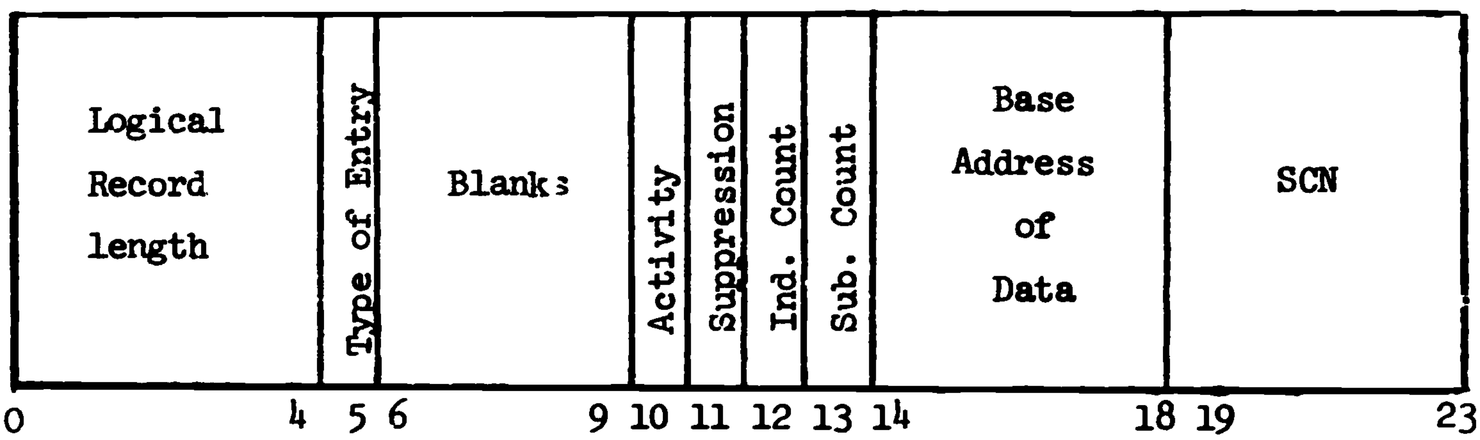
SERIAL CONTROL SYSTEM RECORD SPECIFICATIONS:

LEADER

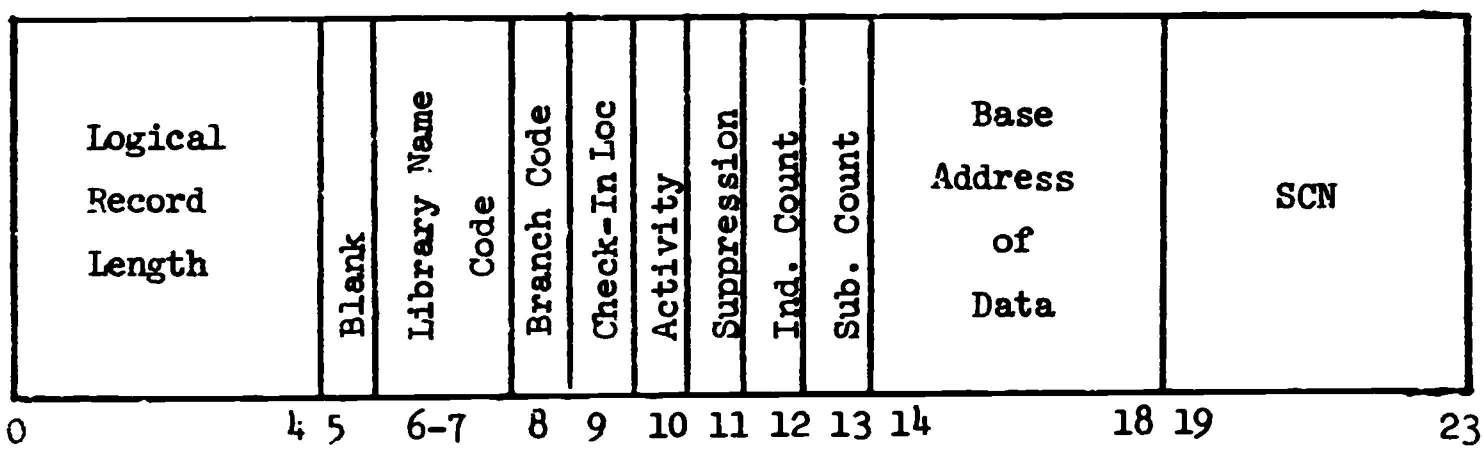
Since there are two separate files for each serial record in the CSL-PC system, two separate Leaders must be defined. The Central Master File leader, which will be defined first, is contrasted with the Local Master File leader below in order to present the essential differences between the two leaders in as graphic a manner as possible.

FIG. 5: LEADER

CMF LEADER



LMF LEADER



CMF - LEADER

Name of Data Elements	Number of Positions	Char. Pos. In Record
Logical Record Length	5N	ø-4
Type of Entry	1A	5
Blanks	4A	6-9
Activity	1A	10
Suppression	1A	11
Indicator Count	1N	12
Sub-Field Code Count	1A	13
Base Address of Data	5N	14-18
Serial Control Number (SCN)	5N	19-23

Definition of Data Elements

Logical Record Length

A five-digit number in this first part of the CMF Leader will represent a count of the total number of positions taken up by the record in question. The number is left justified and filled with leading zeroes as needed. The Logical Record Length includes itself.

Type of Entry

This position will be used to indicate whether the CMF record contains a main (bibliographic) entry or a reference entry.

Code	Meaning of Code
B	The record contains a bibliographic entry.
R	The record contains a reference entry.

Definition of Data Elements (cont.)

Blanks

Positions 6-9 of the CMF leader have not been specified and are to be filled with blanks.

Activity

A one-position, alphabetic code indicates whether the serial is in progress, has been suspended, or has ceased publication.

Code	Meaning of Code
I	The serial is in progress
S	Publication has been suspended
C	Publication has ceased

Suppression

A code is used in this field to to effect suppression of the record from union lists. The code may be expanded by the Processing Center.

Code	Meaning of Code
H	Suppress from Union Holdings List
ƀ	Do not supress

Indicator Count

Each variable length tag begins with two characters called "indicators" which provide certain descriptive information about the data which follows. For serials, as for monographs, the first two positions of each variable tag data stream will be reserved for indicators, whether or not the tag's definition specifies the use of one or both. Each indicator position which is not used will contain a blank. The Indicator Count is the same for all records.

Sub-Field Code Count

The data in a variable length tag is always given in segments preceded by a subfield code (e.g. $a). This field contains a number which tells how many positions the subfield code itself will take up. The Sub-Field Code Count is the same for all records. This guide specifies a two position subfield code made up of a delimiter ("$") and a lower case alphabetic character. But the term "delimiter" has been used throughout this report to refer to the entire subfield code and/or its data segment.

Definition of Data Elements (cont.)

Base Address of Data — This number is the starting character position of the first control field. It is equal to the length of the Leader and the Record Directory (including the field terminator). The Base Address of Data is right justified and filled with leading zeros.

The starting character position for each tag entered in the Record Directory is relative to this Base Address of Data (not the first position of the record). This number gives the base from which each tag is addressed. Thus the address of the first position of any tag may be determined by adding the Base Address of Data to the SCP of the desired tag. Consult the sample records.

Serial Control Number (SCN) — This five-digit number uniquely identifies a serial record and links together the CMF and LMF records. In the CSL-PC Serials Control System this number is a computer-assigned accession number; it reflects the order of entry of logical records into the system.

Name of Data Elements	Number of Positions	Char. Pos. In Record
Logical Record Length	5N	∅-4
Blank	1	5
Library Name Code	2N	6-7
Branch Name Code	1A	8
Check-In Location	1A	9
Activity	1A	10
Suppression	1A	11
Indicator Count	1N	12
Sub-Field Code Count	1A	13
Base Address of Data	5N	14-18
Serial Control Number (SCN)	5N	19-23

Definition of Data Elements

Logical Record Length — This LMF field is identical in function and form with its CMF counterpart defined above.

Blank — Position 5 of the LMF Leader has not been specified. It will contain a blank.

Library Name Code — A two position numeric code representing the name of the member library or of an autonomous library directly related to a member library. An example might be the Law Library within the California State Library. An appropriate two-digit code will be created and assigned by the Processing Center; the code will indicate to which library this LMF record pertains.

Branch Name Code — Find here a one position alphabetic code representing the name of the library branch which maintains the serial record.

Branch Name Code (cont.)

If no branch is named, the implication to be drawn is that the library named in the Library Name Code maintains the serial record. This is also a Processing Center assigned code.

Check-In Location

A one position alphabetic code representing the name of the library, branch, department, division, etc. that handles receiving and check-in for this serial record will be created by the local library and stored in this position.

Activity

If the serial is in progress or has been suspended, this field will be used to indicate whether or not it is being currently received by the library.

Code	Meaning of Code
Y	Yes, the library is currently receiving the serial
N	No, the library is not currently receiving the serial
W	The serial has been withdrawn
C	The serial has ceased publication

The LMF Activity code C will be set automatically if the CMF Activity code is C.

Suppression

A code is used in this field to effect suppression of the entire record, or parts of the record from some or all output lists. The single position alphabetic code which the Processing Center will develop should include an "exclude from union holdings list" code.

Indicator Count

This LMF field is identical in function and form with its CMF counterpart as defined above.

Sub-Field Code Count

This LMF field is identical in function and form with its CMF counterpart as defined above.

Definition of Data Elements (cont.)

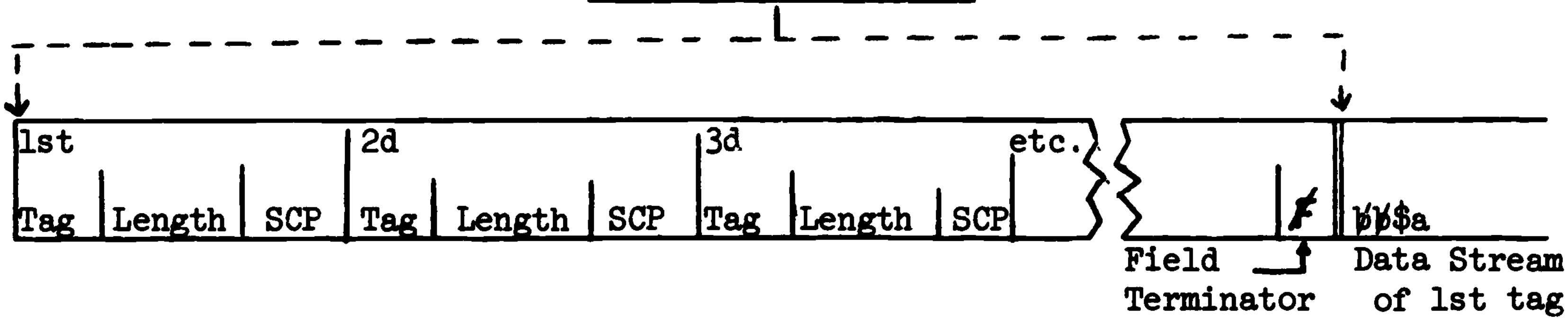
Base Address of Data — This IMF field is identical in function and form with its CMF counterpart as defined above.

Serial Control Number — This IMF field is identical in function and form with its CMF counterpart as defined above.

SERIAL CONTROL SYSTEM RECORD SPECIFICATIONS:

RECORD DIRECTORY

Outline of Directory



The two parts of every serial record (CMF and LMF parts) will require separate Directories. The Directory contains a 12 position field for each tag used in the record. It points to the exact position in the machine record where the tag's data stream begins. The length of the directory will vary depending upon how many tags are used in the record.

Name of Data Elements	Number of Positions
Tag Number	3N
Length of Tagged Field	4N
Starting Character Position (SCP)	5N

Definition of Data Elements

Tag Number — The three-digit number found in this part of the twelve position Directory entry will indicate which one of the tags in the range 007 through 985 applies to the fixed or variable data stream that follows.

Length of Tagged Field — A four-digit number in this part of the Directory entry provides a count on the total number of characters contained in the data stream identified by the preceding tag. The count includes data, indicators, subfield codes, and field terminator. The number is right justified with leading zeroes as needed.

BOTH - DIRECTORY (Cont.)

Starting Character Position (SCP) Five digits are stored (right justified with zero fill) to give the character position (address) of the first character of data for the tag in question. The first Directory entry will contain 00000 in this position. The second entry will contain the field length of the first entry, and subsequent entries will increment as a function of subsequent field lengths.

An examination of the LIFE example provided as part of this report will facilitate understanding of the Directory functions.

LIFE example

009	Tag Number
0071	Length of Tagged Field
00000	SCP
090	Tag Number
0011	Length of Tagged Field
00071	SCP
245	Tag Number
0034	Length of Tagged Field
00082	SCP

SERIAL CONTROL SYSTEM RECORD SPECIFICATIONS:

CONTROL FIELDS

CMF TAG 007 - NON-VARIANT DATA ELEMENTS

Name of Data Elements	Number of Positions	Char. Pos. In Field
Date Entered on CMF File	6N	1-6
Type of Publication Date Code	1A	7
Date 1 (Begin date in most cases)	4N	8-11
Date 2 (End date for ceased serials)	4N	12-15
Country of Publication Code	3A	16-18
Government Publication Indicator	1N	19
Index Indicator	1N	20
Language Code	3A	21-23
Modified LC Card Indicator	1N	24
LC Cataloging Source Code	1A	25
Type of Record	1A	26
Source of CMF Record = MARC ?	1A	27
CODEN Designation	7A	28-34
Link Control Number	5N	35-39

Definition of Data Elements

Date Entered on CMF File — A six-digit number of the form YYMMDD will indicate the day, month and year a given CSL-PC serial title was entered on the Central Master File.

Type of Publication Date Code — This field will be used to indicate whether a given serial was published during one year only or during a period of two or more years.

If the Date of Publication consists of a single known date or a probable date that can be represented by four digits, the date will be entered under Date 1 and Date 2 will be set to blanks. The code entered under Type of Publication will then be S.

If the Date of Publication consists of multiple dates with beginning and ending dates known or open-ended, Type of Publication Date Code (cont.)

the Type of Publication Date Code will be M. The beginning date will be entered under Date 1, the ending date when known will be entered under Date 2. In the case of an open-ended date, the numbers 9999 will appear under Date 2.

Date 1 (Begin date in most cases) A four-digit number set as a function of the Type of Publication Date Code. Thus, if Type of Publication Date Code is S, the single year of publication for the serial title in question will be entered here.

If the Type of Publication Date Code has been set to M, the beginning date of a multiple date pair will be entered in this field.

Date 2 (End date for ceased serials) A four-digit number set as a function of the Type of Publication Date Code. If the Type of Publication Date Code contains the code S, Date 2 will be filled with blanks.

If the Type of Publication Date Code has been set to M, Date 2 will contain the second date of a multiple date pair; otherwise Date 2 will be set to 9999.

Country of Publication Code A two or three character, left-justified, alphabetic code will be used to indicate the country of publication for a given serial title.

MARC has not yet released a full list of valid codes for use in this field. Some idea of the form these codes will take can be drawn from the examples given in the "Subscriber's Guide to the MARC Distribution Service", where the code CAU represents California, U.S.A. and PKƀ represents Pakistan.

For CSL-PC purposes, TAG 260 $d will be used to indicate Country of Publication, since this subfield contains Publisher's Address. The Country of Publication Code will be filled with blanks until MARC issues a standardized list of codes.

Government Publication Indicator

This field will indicate whether or not a given serial title is known to be a government publication.

If the title is known to be a government publication, the code 1 will appear as the Government Publication Indicator.

If the serial title is not known to be a government publication, the code for this field will be 0.

Index Indicator

Entered in this field will be an indicator showing whether the serial in question contains an index to its own contents.

If the serial in question does not contain an index to its own contents, the code entered in this field will be 0.

If the serial title does contain an index to its own contents, the code entered here will be 1.

Language Code

The language in which a given serial was published will be recorded in this field in the form of a three character alphabetic code.

If the work is multilingual or a translation, the first language will be recorded under this field.

TAG 041 will accomodate both the first language - in coded form - and subsequent languages as defined for translations, etc.

Modified LC Card Indicator

This field will be used to indicate whether or not the CMF machine record for the serial in question was generated directly from an LC printed card with no changes. Changes might be necessitated by the appearance on an LC printed card of such things as non-Roman alphabet characters or mathematical symbols.

If the source of the CMF record was a MARC tape record it will be assumed that a corresponding LC printed card was indirectly used to construct the CMF record

For CSL-PC purposes, unusual symbols will be named or described in brackets, while non-Roman characters will be Romanized as feasible.

If an LC printed card was not used either directly or indirectly to construct the CMF machine record, the

Modified LC Card Indicator (cont.)

code ƀ will appear as the Modified LC Card Indicator under TAG 007.

If the CMF machine record does not contain all information exactly as found on the corresponding LC printed card, the correct code is 0.

When the CMF machine record does contain all information exactly as found on the corresponding LC printed card, a 1 will be coded in this position.

LC Cataloging Source Code

This field will indicate whether or nct the Library of Congress derived all or part of the cataloging information for the LC printed card record from some other library.

If no corresponding LC card was used in constructin the CMF machine record, the LC Cataloging Source Code will be set to Z.

In the case of one of the national libraries being responsible for the cataloging information, codes for this field will be assigned as follows: ƀ for Library of Congress cataloging; B for the National Library of Medicine, and A for the National Agricultural Library.

When Cooperative Cataloging was used, the name of the cooperating library will be entered under TAG 040 and the code C will appear in this position.

Type of Record

Information in this field will describe, by way of a single alphabetic code, the physical format and type of catalog record being referenced by a given machine record.

For Language Materials, the code A will be entered as the Type of Record code.

Microform publications (not reproductions) will be assigned the code H. Further codes that may be needed for use in this field will be selected from the list given on pages 41 and 42 of the Library of Congress, Information Systems Office publication "The MARC II Format: A Communications Format for Bibliographic Data", January 1968.

Source of CMF Record = MARC ?

If the CMF record was constructed using a MARC magnetic tape record, the code Y will be entered. If a MARC magnetic tape record was not used in constructing the CMF record, the correct code will be N.

CODEN Designation

If the CODEN designation for a serial title is known, it will be entered in this field which allows seven alphanumeric positions for that purpose.

Other nationally or internationally accepted serial identification codes or abbreviations that prove useful can be coded here instead of the CODEN designation.

When no standard identification scheme has been adopted, blanks will be entered in this field.

Link Control Number

A common serial control number (SCN) assigned to all CMF machine records forming part of one single chain of bibliographic history may be recorded here. It may not be assigned and recorded if part of the bibliographic history consists of a merging of two or more serials. or of a division of one serial into two or more serials. The linking number assigned will be the SCN of that serial in the chain which was the first to be entered on the CMF file. It will not necessarily be the SCN of the first serial in the chain.

When no link number is being used, blanks will be entered in this field.

CMF TAG 007 - NON-VARIANT DATA ELEMENTS (Cont.)

<u>LIFE example</u>

690101	Date Entered into CMF record
M	Type of Publication Date Code
1936	Date 1
9999	Date 2
ILU	Country of Publication Code
0	Government Publication Indicator
0	Index Indicator
ENG	Language Code
0	Modified LC Card Indicator
ƀ	LC Cataloging Source Code
A	Type of Record
N	Source of CMF Record Indicator
ƀƀƀƀƀƀ	CODEN Designation
ƀƀƀƀƀ F	Link Control Number

LMF TAG 009 - VARIANT DATA DESCRIPTION

Name of Data Elements	Number of Positions	Char. Pos. In Field
Processing Status	1N	1
Bibliographic Level	1A	2
Number of Copies	1A	3
Agent Code (includes publisher)	3A	4-6
Fund Code	6AN	7-12
Sub-Account Number	2AN	13-14
Holdings Data Present ?	1A	15
Binding Data Present ?	1A	16
Prediction Data Present ?	1A	17
Accounting (Payment) Data Present ?	1A	18
Inaccessible Issues Indicator Field	3A	19-21
Local Library's Cataloging Source	2N	22-23
Variant Main Entry ?	1A	24
Catalog Status	1N	25
Routing Slip Number	2N	26-27
Include in Want List ?	1A	28
Broad Subject Category	3A	29-31
Total Payments To Date This Fiscal Year	6N	32-37
Retention Policy	2AN	38-39
Order Number or Membership Number	7AN	40-46
Acquisition (Provenance) Code	1AN	47
Form of Arrival Code	1A	48
Form of Storage Code	1A	49
Date Entered on LMF File	6N	50-55
Claim Tally	2N	56-57

Name of Data Elements (cont.)	Number of Positions	Char. Pos. In Field
Check-In Tally	3N	58-60
Bound Volumes Added Tally	2N	61-62
Local System Conversion Number	4N	63-66
Price Per Year in Dollars & Cents	6N	67-72
Binding Unit Determined By	1A	73

Definition of Data Elements

Processing Status

Indicates in coded form the current processing stage of the serial. This field can be used to increase the library's control of the serial from the time it becomes 'on order' through that point in time when it is cancelled or ceases publication. CSL-PC may expand these codes.

Code	Meaning of Code
1	New Order
2	Existing Order
3	Cancelled Order
4	Processing Status Unknown

Bibliographic Level

This field will be used to show what what kind of bibliographic entity is being cataloged or described as a serial. For present CSL-PC purposes, only the serial aspect of a serial will be described and used.

Code	Meaning of Code
S	Serial aspect of a serial is being described
Y	Serial aspect of a collection is being described
Z	Serial aspect of a monograph is being described

Number of Copies

One LMF record will track the status of several copies of a serial provided that only one of the copies is permanently held, i.e., bound. If all, or several, copies are permanently held then separate LMF records must be created for each of the permanently held copies.

Number of Copies (cont.)

The number of copies traced by any one LMF record will be entered here as an alphabetic code. A one-to-one relation between the letters of the alphabet from A through O will allow for the coding of number of copies from 1 through 15. No more than 15 copies can be accounted for at present.

Agent Code

If an agent is used for the acquisition or claiming of the serial's issues, a code for the agent will be given here. If there is no agent handling one or both of the above-mentioned functions, then the publisher will be considered the agent and the code PUB will be used. Codes for other agents will be found in Appendix III (Table of Major Vendor Codes).

Fund Code

A locally developed and maintained six position alphanumeric code is to be stored in this field. Accounting functions will normally be handled using this code.

Sub-Account Number

A sub-account number may be recorded here. If no sub-account number exists for the serial this field will be filled with blanks.

Holdings Data Present ?

This position will be used to indicate whether or not the library has recorded its holdings for a given serial in one of two tags within the LMF record. If data has been supplied under TAG 951 Local Holdings Matrix or TAG 971 Prediction Matrix, a code of Y is automatically set in this field.

Code	Meaning of Code
Y	Yes, holdings data is contained in the LMF record
N	No, there is no holdings data in the LMF record

Binding Data Present ?

This position will be used to indicate whether or not the library at present wishes to be automatically notified of the completion of a binding unit. A "yes" cannot be given in this field unless the binding unit is determined by an increment of one of the numbering divisions of the serial, or on a temporal basis.

Binding Data Present ? (cont.)

Code	Meaning of Code
Y	Yes, binding notice is wanted
N	No, binding notice is not wanted

Prediction Data Present ? If the library wishes the prediction of expected arrivals to begin immediately, this field should contain a Y. If the library wants prediction to begin at some future time, code N here. N may be coded even if all of the prediction data called for in TAG 970 and 971 has been entered.

Code	Meaning of Code
Y	Yes, prediction data is present
N	No, prediction data is not present

Accounting (Payment) Data Present ? When accounting data has been entered under TAG 985, an indicator in this field will signal the presence of such data. As suggested in the name of this data element, only payment information is referenced.

Code	Meaning of Code
Y	Yes, payment data is to be held in the record
N	No, payment data is not to be held in the record

Inaccessible Issues Indicator Field If any of the "current" issues are not on the shelves because they are at binding processing, are being claimed, or have been declared "missing", this field will automatically reflect their inaccessibility. "Current" issues are those issues which have not yet become part of the permanent holdings recorded in TAG 951. This field consists of three indicators (B, C, and M respectively) which are described below. If any condition is absent the respective indicator will be blank.

Code	Meaning of Code
B	One or more issues are at binding processing
C	One or more issues are being claimed
M	One or more issues have been declared missing

<u>Local Library's Cataloging Source</u> — A two-digit code will be used in this field to identify the source of the information used in cataloging this serial. It is assumed that Library of Congress printed card information was not used if this field is coded.

The specific codes to be used in this field are to be developed by CSL-PC. It should include the CSL and pertinent reference works.

<u>Variant Main Entry ?</u> — If a local library's entry for a serial is not the same as that used in the CMF record, this field will carry a code of Y. The LMF must then contain one or more tags in the 100 to 245 range.

Code	Meaning of Code
Y	Yes, a variant main entry exists in the LMF record
N	No, a variant main entry does not exist in the LMF

<u>Catalog Status</u> — Whether the serial has been completely cataloged (i.e. whether subject headings, a call number, and a main entry have been assigned) will be shown in this field. The code specified below may be expanded by the Processing Center.

Code	Meaning of Code
1	Serial has been completely cataloged
2	Serial has not been completely cataloged
3	Serial has not been completely cataloged, print "uncataloged"

<u>Routing Slip Number</u> — A two digit number which indicates the routing destination(s) of the issues will be placed in these positions. If the serial is not routed they should contain blanks. Routing slip numbers will be locally developed and assigned.

<u>Include in WANT List ?</u> — If <u>any</u> missing issues or bibliographic units (i.e., volumes) are wanted for acquisition this field should contain a "yes" indicator.

Include in Want List ? (cont.)

Code	Meaning of Code
Y	Yes, include missing issues/bibliographic units on 'want list'
N	No, omit missing issues/bibliographic units from 'want list'

Broad Subject Category — To provide a rough subject approach to serial titles which have not been assigned subject headings, and/or have not been classified, the local library may develop a set of codes to suit its needs. In the absence of such local codes, the field will be filled with blanks.

Total Payments to Date This Fiscal Year — A running total is computed using the individual totals provided in the accounting tag (TAG 985). The total is automatically updated. At the close of a fiscal year it will be transferred to a history tape The amount is given in dollars and cents. Fill this field with blanks if TAG 985 is not used.

Retention Policy — An unusual retention policy may prove desirable in the handling of a serial title. Locally developed codes fitting the two position alphanumeric specified here will indicate such unusual retention policies as: "Keep latest 2 issues only". Blank fill if not used.

Order Number or Membership Number — The order number or membership number must be given here. If there is neither an order number nor a membership number for the serial this field will be filled with blanks.

Acquisition (Provenance) Code — A code consisting of a single alphanumeric symbol will indicate the most recent procedure used by the local library for acquiring the serial. Procedures include acquisition via subscription, gift and exchange. These codes will be locally developed.

Form of Arrival Code — The specific physical format in which a serial is received will be indicated by a single alphabetic character in this field. The codes can be expanded by CSL-PC if needed.

Code	Meaning of Code
H	Hard copy
M	Microform
T	Magnetic tape
P	Phonograph record
X	Mixed (sometimes one form, sometimes another)

Form of Storage Code — The specific physical format in which a serial is stored by the library will be indicated in this field. The code can be expanded by the CSL-PC if necessary.

Code	Meaning of Code
H	Hard copy
M	Microform
T	Magnetic tape
P	Phonograph record
X	Mixed

Data Entered on LMF File — The TAG 009 field serves the same function for the LMF that its counterpart in the TAG 007 field serves, that is to indicate in YYMMDD form the day, month and year that a given serial record is entered on the Local Master File. Six numeric positions are provided for this purpose.

Claim Tally — Each time a claims notice is issued by the Monthly Status Run Program, the value of this field is increased by one. If outside claims are to be included in the tally, the Claim Tally will also be incremented via change transactions against the LMF. The tally value will be transferred to a history tape at the fiscal year end.

Check-In Tally — The Weekly Update Run program will store a running tally for each Expected Arrival Card and each Unexpected Arrival Card read into a serial record in this three position numeric field. The tally value will be transferred to a history tape at the end of each fiscal year.

Bound Volumes Added Tally — If the Binding Data Present indicator has been set at "yes" this field must carry a cumulative tally of the number of physical volumes added to permanent holdings and the tally value will be automatically incremented. If the Binding Data Present indicator has been set at "no", a tally value can be carried, but it will have to be manually updated.

Local System Conversion Number — At conversion time it will be convenient to use a four-digit number to control the conversion process for local library items. This field may be used for that purpose and will then revert to a back-up field within the 009 TAG. If not used, the field will contain blanks.

Price per Year in Dollars & Cents — The most recent price quoted for the serial will be entered here. The amount given will reflect the price of one set of issues even if the library holds multiple sets, or copies. If the price given is for some unit other than year, the unit must be recorded in Ordering Comments, $ c of TAG 980.

Binding Unit Determined By — If the library wishes to be notified by the computer at the time that a previously determined binding unit reaches completion, this field must be used.

Since the computer can issue binding notices when a numbering division (e.g. a volume) increases its value as well as when a specified time period has been satisfied, the library must indicate in this field which of the alternative methods will be controlling. Blank fill should be used if binding notices are not wanted.

Code	Meaning of Code
N	Binding unit is complete when the numbering division defined as the "Binding Unit" in Prediction TAG 970 is incremented.
T	Binding unit is completed at time intervals specified in the Special Activities Pattern of Prediction TAG 971.
P	The serial issues always arrive pre-bound.

LMF TAG 009 - VARIANT DATA DESCRIPTION (Cont.)

<u>LIFE example</u>

2	Processing Status
S	Bibliographic Level
J	Number of copies
FAX	Agent Code
110SGL	Fund Code
1A	Sub-Account Number
Y	Holdings Data Present ?
Y	Binding Data Present ?
Y	Prediction Data Present?
Y	Accounting (Payment) Data Present ?
BCM	Inaccessible Issues Indicator Field
03	Local Library's Cataloging Source
Y	Variant Main Entry ?
1	Catalog Status
33	Routing Slip Number
N	Include in Want List ?
GEN	Broad Subject Category
000136	Total Payments To Date This Fiscal Year
B4	Retention Policy
55EABC1	Order Number or Membership Number
A	Acquisition (Provenance) Code
H	Form of Arrival Code
C	Form of Storage Code
070869	Date Entered on LMF File
02	Claim Tally

LMF TAG 009 - VARIANT DATA DESCRIPTION (Cont.)

LIFE example (cont.)

04	Check-In Tally
035	Bound Volumes Added Tally
3829	Local System Conversion Number
018437	Price Per Unit in Dollars & Cents
N	Binding Unit Determined By

SERIAL CONTROL SYSTEM RECORD SPECIFICATIONS:

VARIABLE FIELDS

FIG. 6: NAMES OF VARIABLE FIELD TAGS

Control Numbers

+010 LC Card Number
*011 Linking LC Card Number
015 National Bibliography Number
*016 Linking NBN
+020 Standard Book Number/Serial Reg.No.
*021 Linking SBN
025 Overseas Acquisition Number
*026 Linking OAN
*035 Local System Number
*036 Linking Local Number
040 Cataloging Source
041 Languages
*042 Search Code

Knowledge Numbers

050 LC Call Number
051 Copy, Issue, Offprint Statement
060 NLM Call Number
070 NAL Call Number
*071 NAL Subject Category Number
*080 UDC Number
*081 BNB Classification Number
082 Dewey Decimal Classification No.
*086 Supt. of Documents Classification
+090 Local Call Number

Main Entry

100 Personal Name
110 Corporate Name
111 Conference or Meeting
130 Uniform Title Heading

Supplied Titles

240 Uniform Title
241 Romanized Title
*242 Translated Title

Title Paragraph

+245 Title
250 Edition Statement
+260 Imprint

Collation

+300 Collation
350 Bibliographic Price
*360 Converted Price

Series Notes

400 Personal Name-Title (Traced Same)
410 Corporate Name-Title (Traced Same)
411 Conference-Title (Traced Same)
440 Title (Traced Same)
490 Series Untraced or Traced Differently

Bibliographic Notes

500 General Notes
501 "Bound with" Note
502 Dissertation Note
+503 Bibliographic History Note
504 Bibliography Note
505 Contents Note (Formatted)
*506 "Limited use" Note
520 Abstract or Annotation

Subject Added Entries

600 Personal Name
610 Corporate Name (excluding political jurisdiction alone)
611 Conference or Meeting
630 Uniform Title Heading

LC Subject Headings

650 Topical
651 Geographic Name

Other Subject Headings

*660 NLM Subject Headings (MESH)
*670 NAL Subject Headings
*690 Local Subject Heading Systems

Other Added Entries

700 Personal Name
710 Corporate Name
711 Conference or Meeting
730 Uniform Title Heading
740 Title Traced Differently

Series Added Entries

800 Personal Name-Title
810 Corporate Name-Title
811 Conference or Meeting-Title
840 Title

Serials Control Data

Reference Tracings

900 Personal Name -Title
910 Corporate Name -Title
911 Conference or Meeting -Title
945 Title

---

950 Holdings (CMF)
951 Holdings (IMF)
957 Arrival History
958 Abstracted In
959 Indexed In
960 Binding
970 Prediction (CMF)
971 Prediction (IMF)
975 Reserved
980 Ordering
985 Accounting

*The Library of Congress is not supplying data for these fields at present.
+Definitions of these fields have been modified to cover CSL-PC serials.

CMF TAG 010 - LIBRARY OF CONGRESS CARD NUMBER

For definition and discussion of this tag, consult page 30 of the "Subscriber's Guide to the MARC Distribution Service".

Comment — This field will contain the L.C. card number when such information is readily available for use in the CSL-PC record. TAG 001 will not be used.

LIFE example

bb	Indicators
$a000370083676b F	L.C. card number

CMF TAG 015 - NATIONAL BIBLIOGRAPHY NUMBER

For definition and discussion of this tag, consult page 43 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 020 - STANDARD BOOK NUMBER/SERIAL REGISTRATION NUMBER

Delimiter	Name of Data Elements	Number of Positions
$a	Serial ~~Registration~~ Number	V

Definition of Data Elements

$a Serial Registration Number — At some time in the future a serial registration number may be assigned to serial titles. Such a number is likely to take a form similar to the standard book numbering scheme now being used in England and elsewhere. Such numbers will be entered here.

Indicators — BOTH INDICATORS are blank in this field.

CMF TAG 025 - OVERSEAS ACQUISITION NUMBER

For definition and discussion of this tag, consult page 44 of the "Subscriber's Guide to the MARC Distribution Service".

Serials are sometimes included in the Library of Congress Overseas Acquisition Programs (i.e. LACAP, PL 480).

CMF TAG 040 - CATALOGING SOURCE

For definition and discussion of this tag, consult pages 44-45 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 041 - LANGUAGES

For definition and discussion of this tag, consult pages 45-46 of the Subscriber's Guide to the MARC Distribution Service".

CMF TAG 050 - L.C. CALL NUMBER

For definition and discussion of this tag, consult pages 46-47 of the "Subscriber's Guide to the MARC Distribution Service".

<u>LIFE example</u>

0b̸	Indicators
$aAP2	LC classification number
$b.L547 F̸	Book number

CMF TAG 051 - COPY, ISSUE, OFFPRINT STATEMENT

For definition and discussion of this tag, consult page 47 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 060 - NATIONAL LIBRARY OF MEDICINE CALL NUMBER

For definition and discussion of this tag, consult page 47 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 070 - NATIONAL AGRICULTURAL LIBRARY CALL NUMBER

For definition and discussion of this tag, consult page 48 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 082 - DEWEY DECIMAL CLASSIFICATION NUMBER

For definition and discussion of this tag, consult page 48 of the "Subscriber's Guide to the MARC Distribution Service".

LMF TAG 090 - LOCAL CALL NUMBER

Delimiter	Name of Data Elements	Number of Positions
$a	Class Number	V
$b	Cutter Number	V
$d	Holdings Collection Code	V + "/"

Definition of Data Elements

$a Class Number — The class number or letter which has been assigned to this serial title by the local cataloger according to the cataloging system being used by the library in question is entered under this delimiter.

LMF TAG 090 - LOCAL CALL NUMBER (Cont.)

Definition of Data Elements (cont.)

$b Cutter Number — The book number, whether it be a Cutter number, a letter or a number will be recorded in this field under this delimiter. The workmark will also appear in this subfield.

$d Holdings Collection Code — This code will be developed by the local library to identify specific shelving locations within a local system. Because of the multiplicity of locations and local usages the formulation of the specific codes is left to the discretion of the local library.

This delimiter will tend to duplicate some of the information entered in the Leader under Library Name Code and Branch Name Code. It should be made clear that Leader entries identify the department or section which maintains the serial record, while the codes under this delimiter point to a specific shelving location within a local library system.

Indicators — BOTH INDICATORS are blank in this field.

LIFE example

b̸b̸	Indicators
$aAQ	Class number
$bL5 F̸	Cutter Number

Example

b̸b̸	Indicators
$aRA576A1	Class number
$bA5	Cutter number
$dENG-3 F̸	Holdings collection code

BOTH 100-130 - MAIN ENTRY

For definition and discussion of these tags, consult pages 48-54 of the "Subscriber's Guide to the MARC Distribution Service".

Comment

A standardized entry for the serial will be given in the 100s and/or 245 tags stored in the CMF record.

A local entry which varies from the CMF standardized entry will be retained if the library so specifies. If the variant entry is retained, the author element, if one exists, MUST be included in the LMF record - whether or not it is the author element portion of the entry which is non-standard.

BOTH TAG 240 - UNIFORM TITLE

For definition and discussion of this tag, consult page 54 of the "Subscriber's Guide to the MARC Distribution Service".

BOTH TAG 241 - ROMANIZED TITLE

For definition and discussion of this tag, consult page 55 of the "Subscriber's Guide to the MARC Distribution Service".

B: TH TAG 245 - TITLE STATEMENT

Delimiter	Name of Data Elements	Number of Positions
$a	Short title	V
$b	Subtitle	V
$z	Statement of inclusion	V

Definition of Data Elements

$a Short title — That part of the title up to the first logical break - usually a mark of punctuation. Data found under this delimiter can be used to generate a TITLE ADDED ENTRY heading

$b Subtitle — The remainder of the title statement.

$z Statement of inclusion — The summary statement or description of what was issued under a given serial title, usually expressed in terms of the numbering divisions assigned by the publisher.

If the serial is still in progress the minimum information most often given is 1) the name of the bibliographic unit; 2) the bibliographic unit beginning value; and 3) the beginning date of the serial.

If the serial has ceased publication, an ending date and bibliographic unit value are usually given.

In some cases several sets of dates and values will be noted for a single serial title because of numbering discontinuities or changes in series.

The $z delimiter normally contains the entire statement of inclusion exactly as it appears on the catalog card. This includes any pencilled-in dates or unit designations added to bring a card up to date.

Two or more concurrent series of a single serial title are to be treated as two or more independent serial records, each with its own machine record.

Libraries often use the statement of inclusion as a holdings statement. If TAG 245 $z data has been so used, the same data must be entered again in the holdings TAG 951.

Comment — Standardized titles will exist at once on the CMF. These titles will be assigned a tag in the 240 range and stored in the CMF.

BOTH TAG 245 - TITLE STATEMENT (Cont.)

Comment (Cont.)

A local entry which varies from the CMF standardized entry will, if the library so specifies, be retained. If the variant entry is retained, the title element must be included in the LMF record -- whether or not it is the title element which is non-standard.

Indicators

The FIRST INDICATOR shows whether a TITLE ADDED ENTRY is to be generated from the title data in tape exactly the form recorded in the short title:

ø = No title added entry

1 = Title added entry is same

TITLE ADDED ENTRIES which are in a form different from the short title are recorded under TAG 740 as defined below.

The SECOND INDICATOR is blank in this field.

LIFE example (CMF TAG 245)

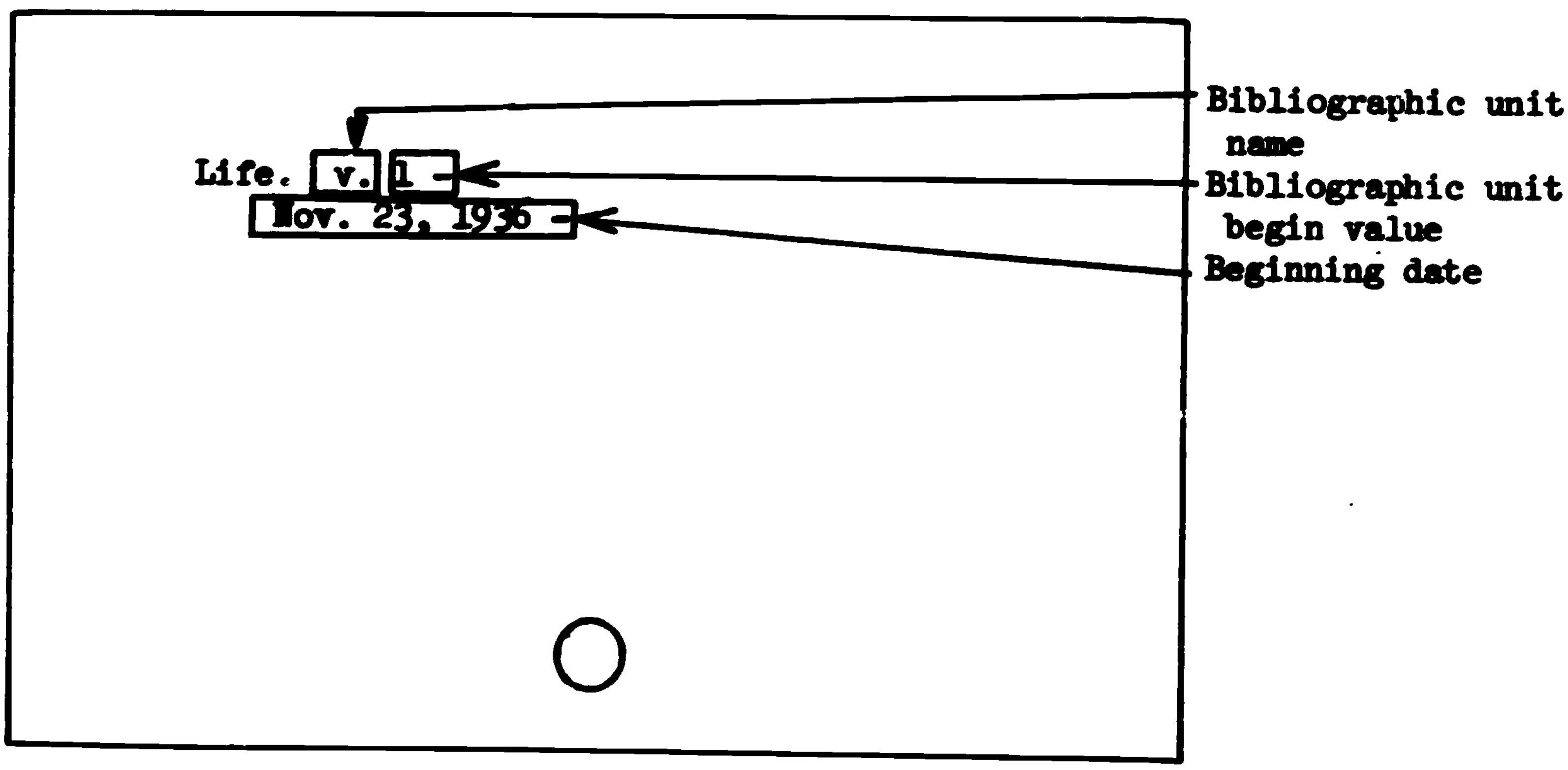
0b̸	Indicators
$aLIFE	Short title
$zv.1-b̸b̸Nov.23,1936-b̸b̸ ‡	Statement of inclusion

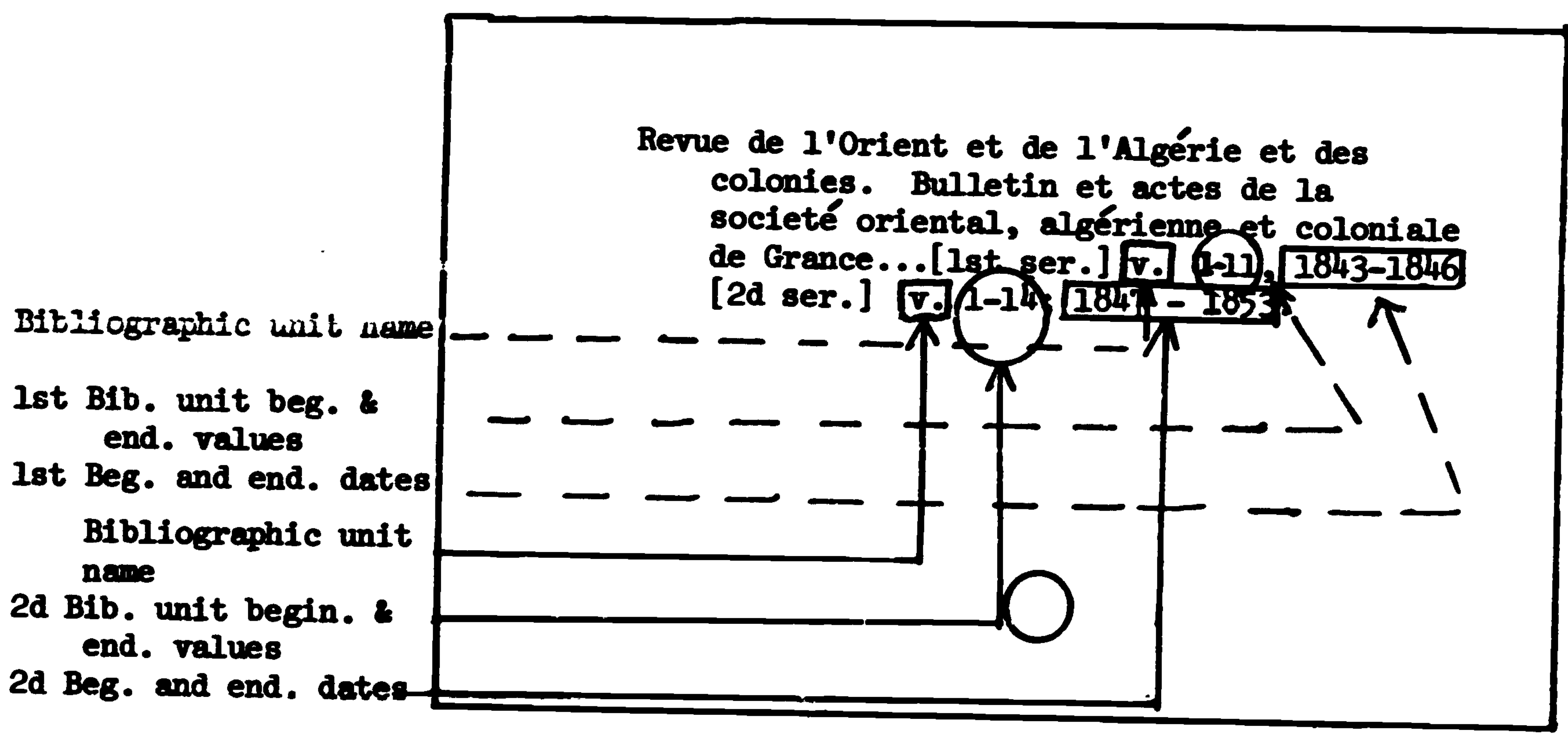
LIFE example (LMF TAG 245)

0b̸	Indicators
$aLife b̸magazine.	Short title

BOTH TAG 245 - TITLE STATEMENT (Cont.)

Catalog card examples





CMF TAG 250 - EDITION STATEMENT

For definition and discussion of this tag, consult page 56 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 260 - IMPRINT

Delimiter	Name of Data Elements	Number of Positions
$a	Place of publication	V
$b	Publisher	V
$c	Dates of publication	V
$y	Publisher's address	V

Definition of Data Elements

$a Place — The place (city or town) in which the offices of the publisher are located.

$b Publisher — The name of the publisher.

$c Dates — Beginning and ending dates of publication for a serial. These dates are given only if they were not entered under TAG 245 $z STATEMENT OF INCLUSION.

$y Publisher's address — The full mailing address of the current publisher for serials that are in progress.

Indicators — The FIRST INDICATOR shows whether the name of the publisher is the same as the main entry:

ø = Publisher is not Main Entry

1 = Publisher is Main Entry

When IND1 = 1, the publisher subfield $b is not entered under TAG 260.

The SECOND INDICATOR is blank in this field.

LIFE example

0ƀ	Indicators
$a[Chicago]	Place of publication
$bTimeƀ,inc.	Publisher
$y540ƀN.ƀMichiganƀAve.,Chicago,Ill.ƀ60611 ǂ	Publisher's address

CMF TAG 300 - COLLATION & FREQUENCY STATEMENT

Delimiter	Name of Data Elements	Number of Positions
$a	Volume or pagination statement	V
$b	Illustration statement	V
$c	Height	V
$z	Frequency statement	V

Definition of Data Elements

$a Volume or pagination statement A description of the bibliographic unit or units representing a given serial is entered under this delimiter. By far the most prevalent form of bibliographic unit is "volume". Data in this field should contain a number representing the number of bibliographic units issued; if the serial has ceased publication, a total is given.

If the bibliographic unit divisions do not coincide with the publisher's physical divisions, some legend much as "in____v. follows.

If the serial is still in progress, bibliographic unit data may consist of a simple legend such as "v."

A pagination statement is ordinarily given if the serial is complete in one physical division.

$b Illustration statement Any terms used to describe the non-text portion of the serial as a whole may be enterea under this delimiter.

Some common terms used are maps, portraits (ports.), charts, plates (pl.) and the familiar illustrations (illus.).

$c Height This field is easily identified by the presence in most cases of the abbreviation "cm."

$d Frequency Any adjective, adverb or phrase used to describe the frequency of publication is to be entered under this delimiter.

Indicators BOTH INDICATORS in this field are blank.

CMF TAG 300 - COLLATION & FREQUENCY STATEMENT (Cont.)

LIFE example

ʙʙ	Indicators
$av.	Volume statement
$billus.(partʙcol.ʙincl.ʙports.)	Illustration statement
$c35cm	Height
$zweekly ǂ	Frequency statement

Catalog card example

Life. v.1- Nov. 23,1936-
[Chicago], Time, inc.

v. illus. (part col., incl. ports) 35 cm.

weekly.

CMF TAG 350 - BIBLIOGRAPHIC PRICE

For definition and discussion of this tag, consult page 57 of the "Subscriber's Guide to the MARC Distribution Service."

CMF TAG 400-490 - SERIES NOTES

For definition and discussion of these tags, consult pages 58-61 of the"Subscriber's Guide to the MARC Distribution Service".

CMF TAG 500 - GENERAL NOTE

For definition and discussion of this tag, consult page 61 of the "Subscriber's Guide to the MARC Distribution Service".

<u>LIFE example</u>

⌧⌧	Indicators
$aEditors:⌧Nov.23⌧1936-⌧⌧H.R.Luce⌧and⌧others ⌧	General Note

LMF TAG 501 - "BOUND WITH" NOTE

This tag is specified on page 61 of the "Subscriber's Guide to the MARC Distribution Service".

BOTH TAG 503 - BIBLIOGRAPHIC HISTORY NOTE

Delimiter	Name of Data Element	Number of Positions
$a	Bibliographic history of the serial	V

Definition of Data Elements

$a Bibliographic history of the serial - All notes which describe the relationships a serial may have with other bibliographic records may be entered under this tag and delimiter.

Indicators BOTH INDICATORS in this field are blank.

Example

ƀƀ	Indicators
$aSupersedesƀtheƀNewƀInternational"published	Bibliographic history note
ƀasƀtheƀtheoreticalƀorganƀofƀtheƀSocialistƀ	
workersƀparty." ƒ	

Catalog card example

Fourth International. v. 1-
May 1940 -
[New York, Fourth International
Publishing association, etc.
v. in 30cm. monthly (irregular)

Supersedes the New International "published as the theoretical organ of the Socialist workers party."

CMF TAG 504 - BIBLIOGRAPHY NOTE

This tag is specified on page 61 of the "Subscriber's Guide to the MARC Distribution Service".

CMF TAG 505 - CONTENTS NOTE

For definition and discussion of this tag, consult page 61 of the "Subscriber's Guide to the MARC Distribution Service".

BOTH TAG 600-653 - SUBJECT ADDED ENTRIES

For definition and discussion of these tags, consult pages 62-65 of the "Subscriber's Guide to the MARC Distribution Service".

Comment	All subject headings for the CSL-PC system will be entered initially on the LMF. Should some form of subject heading standardization prove desirable in the future, such standardized entries would appear on the CMF and variant forms for local use will continue to reside on the LMF.

LIFE example (LMF TAG 650)

00	Indicators
$aPHOTOGRAPHY	Topical Subject Heading
$xPERIODICALS ≠	Subject Subdivision

CMF TAG 700-750 - OTHER ADDED ENTRIES

For definition and discussion of these tags, consult pages 65-66 of the "Subscriber's Guide to the MARC Distribution Service".

<u>LIFE example</u> (CMF TAG 700)

11	Indicators
$aLuce,ƀHenryƀRobinson	Name
$d1898-ƀƀ	Dates
$eEd. F̸	Relator

CMF TAG 800-840 - SERIES ADDED ENTRIES

For definition and discussion of these tags, consult page 67 of the "Subscriber's Guide to the MARC Distribution Service".

BOTH TAGS 900-945 - REFERENCE TRACINGS

Discussion

History reference tracings and title heading reference tracings will be tagged in the 900-945 block of numbers. The tag assignment will reflect the type of reference entry which is to be generated from the tracings, i.e. Personal Author, Corporate Author, Conference, or Title entry. The author and title portions of the reference will not be tagged separately. Instead, the entire entry will be given either in an author tag (900, 910 or 911) or in the title tag (945).

Delimiters have been grouped to reflect two general classes of references: History References (¢a - ¢j) and Title Heading References (¢y and ¢z). The History Reference group (¢a - ¢j) is further subdivided by type of reference (i.e. ¢a see, ¢b see also; ¢c continued by, $j other references, etc.); while the Title Heading Reference group is subdivided into "see" references (¢y) and "other" references (¢z). This means that the directive words "see", "see also", etc. do not have to be recorded ("other" references are an exception; the directive words will have to be given since the delimiter can contain more than one type of reference tracing).

Since use of the delimiters for each of the 900-945 tags has been preempted for type of reference classification purposes the various data elements which comprise the author and title segments of the reference (i.e. corporate name subdivision, surname, forename, etc.) cannot be individually delimited.

A further distinction to be made between the usual _00 - _45 tags and the 900-945 tags involves the format of the delimiters. Each delimiter in the 900-945 tag block consists of a variable length formatted field which is repeatable within the delimiter. Thus ¢a of each tag can contain all of the "see" history reference tracings for the serial, $b can contain all of the "see also" history reference tracings, etc.

HISTORY REFERENCES

The file structure of the CSL-PC Serial System, with its one central bibliographic record which is supplemented by several local holdings records, might seem to require that a policy of successive entries for successive titles of a serial be adopted, rather than entry under latest title or entry under earliest title. If this were the case then all member libraries would be forced to follow the successive entry policy when converting their serial files to CMF and LMF records, whether or not their current cataloging practice called for successive entry.

While successive entries are far easier to establish in a system such as this, there is no immediate necessity for imposing such a policy. Furthermore, the vast amount of time and energy required to manually change all non-conforming serial records to successive entry records so that conversion can take place argues against such a course of action. And, since such a change, if it is ever required, can be effected with much less effort once the serial records have been entered on the CMF and LMF files, we have not specified a successive entry policy. Instead, any or all of the issues of a serial may be listed under any or all of its successive titles.

The only serious difficulty which arises has to do with the production of a Union Holdings List. A user will have to consult the Union Holdings List under <u>each</u> of the successive titles of a serial before concluding that the issue(s) sought are not held by any member library. However, if the libraries are willing to accept the successive entry policy for union lists while retaining individual policies for local holdings lists this problem can be avoided.

In order to allow each library to enter the holdings of successive serial titles on the LMF as it pleases and at the same time to insure that a reference, at least, and a full record, at most, is established on the CMF for each title under which some issues of the serial were published, a CMF accessioning procedure has been specified. It is given in flow chart form at the end of this section and will be explained in the following paragraphs. Examples follow the flowchart.

ACCESSION PROCEDURE

No CMF record will be created for a serial title unless some library holds some issues under that title. However, CMF history reference tracings, from which reference entries will be generated, must be given for the immediate predecessor(s) and/or immediate successor(s) of the serial title being accessioned - whether or not issues of these predecessors/successors are held under that serial title. This will insure that all bibliographic chains, separate as well as intertwining, can be traced in the CMF.

In addition, tracings will be given for other predecessor/successor titles; but only if some of their issues are held under the serial title being accessioned, i.e. if the 5th title is being accessioned and some of the issues of the 3rd title are held under the 5th title, a reference tracing must be given for the 3rd title even though it is not an immediate predecessor/successor. Conversely, if no issues of the 3rd title are held, there will not be a reference tracing for the 3rd title in the 5th title's CMF record.)

History notes (TAG 503) explaining the relationship of a serial being accessioned to its immediate predecessor(s) and/or successor(s) must also be supplied in the CMF record. If other predecessors/successors exist, history notes explaining their relationship(s) to the serial being accessioned need be given only if some of their issues are held under the serial title being accessioned.

The CMF history tracings will be printed as reference entries on union output lists (with one exception) only if some issues published under the traced title are actually held by a member library. In other words, a reference tracing for a predecessor/successor title will not be printed unless some of the predecessor/successor's issues are held. This is intended to insure that all entries on union output lists will represent actual holdings. A "silent" indicator precedes each history reference tracing. It will be set at "0" ("silent") on the CMF for those predecessor/successor titles for which no member library has holdings.

There is one union output list on which all CMF reference tracings will be printed. It will serve as an accessioning index and is called the FINDING LIST. The primary purpose of this list is to help the Processing

Center librarian decide in each case whether the addition of a new LMF serial record necessitates the addition of a new CMF record, or a new CMF history reference tracing, or whether no change need be made to the CMF.

STEPS:

1. If Serial A (the serial being accessioned) appears on the FINDING LIST as a regular entry, build only an LMF record. Check to see if the holdings in this LMF record include holdings for any immediate predecessor or successor serial.

If such holdings are included, check the "silent" indicator for each such predecessor/successor. If it is set at "silent", reset it at "non-silent". Go to Step 4.

If Serial A does not appear on the FINDING LIST, build LMF and CMF records.

If A appears on the FINDING LIST as a silent tracing, first delete the tracing entry and then build LMF and CMF records.

If A appears on the FINDING LIST as a regular reference tracing, before deleting the tracing check A's CMF record for a history note explaining the relationship of Serial A to the title to which the reference refers.

2. Determine whether or not any immediate predecessor or successor titles exist. If none exist, go to Step 4. If one exists, add a history note explaining the predecessor/successor's relationship to A's CMF record.

If the immediate predecessor/successor is entered on the FINDING LIST as a regular entry, go to Step 3.

If the immediate predecessor/successor is not entered on the FINDING LIST or if it is entered on the list as a tracing entry, determine whether any of the immediate predecessor/successor's issues are held by this library under Serial A.

If they are, add a reference tracing for the immediate predecessor/successor to A's CMF record.

If they are not, add to A's CMF record a silent reference tracing (that is, a reference tracing which will be printed out only on the FINDING LIST).

3. Repeat Step 2 until all immediate predecessor/successor titles have been processed.

4. If there are other, non-immediate predecessor(s)/successor(s), determine whether any of the issues of the first predecessor/successor are held by this library under Serial A.

If they are not so held, go to Step 5.

If they are so held, add a history note to A's CMF record, explaining the predecessor/successor's relationship to A.

Determine whether the predecessor/successor is on the FINDING LIST. If it is and if it is a regular entry, check the predecessor/successor's CMF record for a history note explaining the predecessor/successor's relationship to Serial A. Go to Step 5.

If the predecessor/successor is not entered on the FINDING LIST or if it is entered on the list as a tracing entry, add a reference tracing for the the predecessor/successor to A's CMF record. Go to Step 5.

5. Repeat Step 4 until all non-immediate predecessor/successors with issues held under Serial A have been processed.

6. Get next record.

FIG. 7: ACCESSIONING PROCEDURE

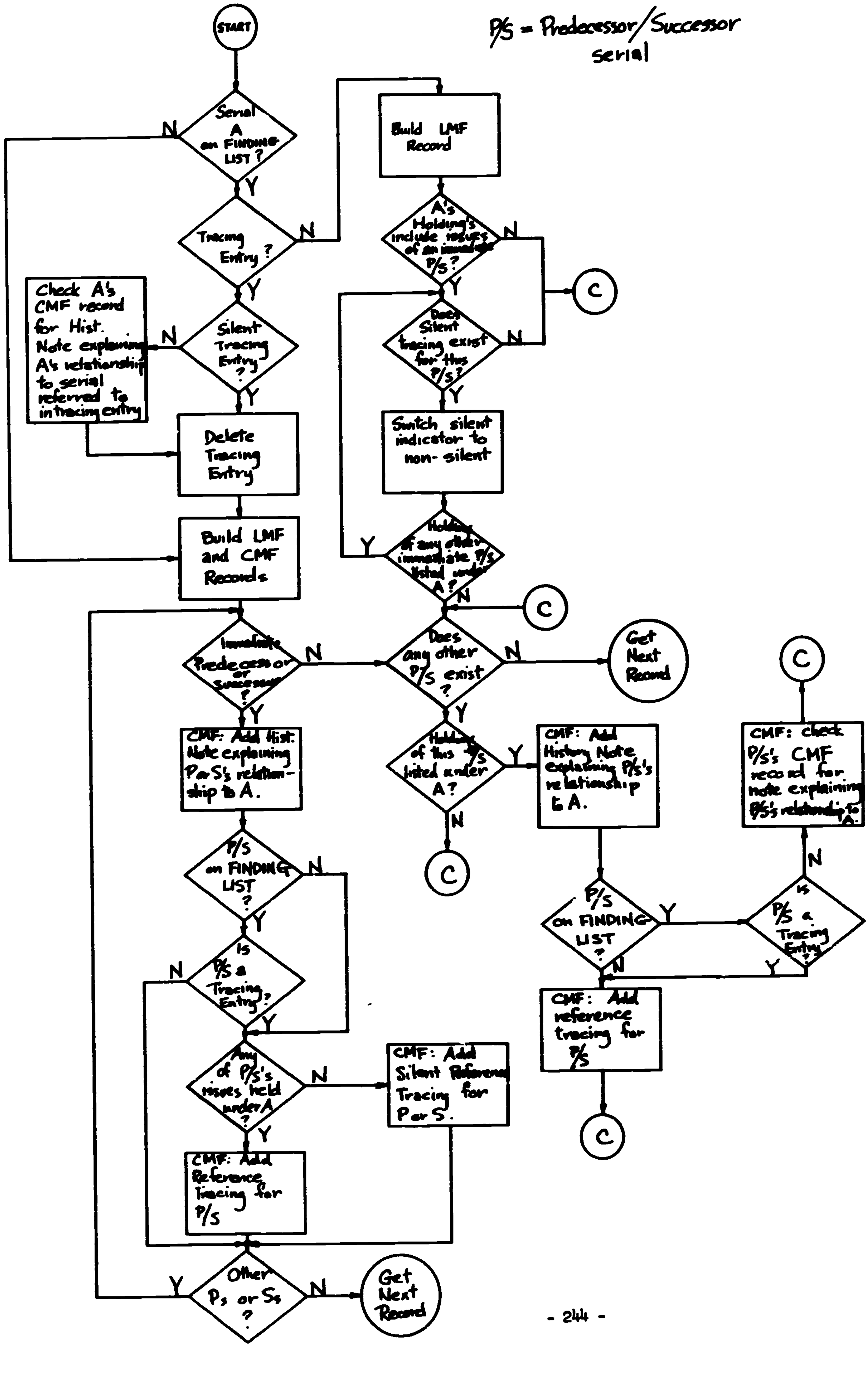


Fig. 8: History of American Fruit Grower Magazine

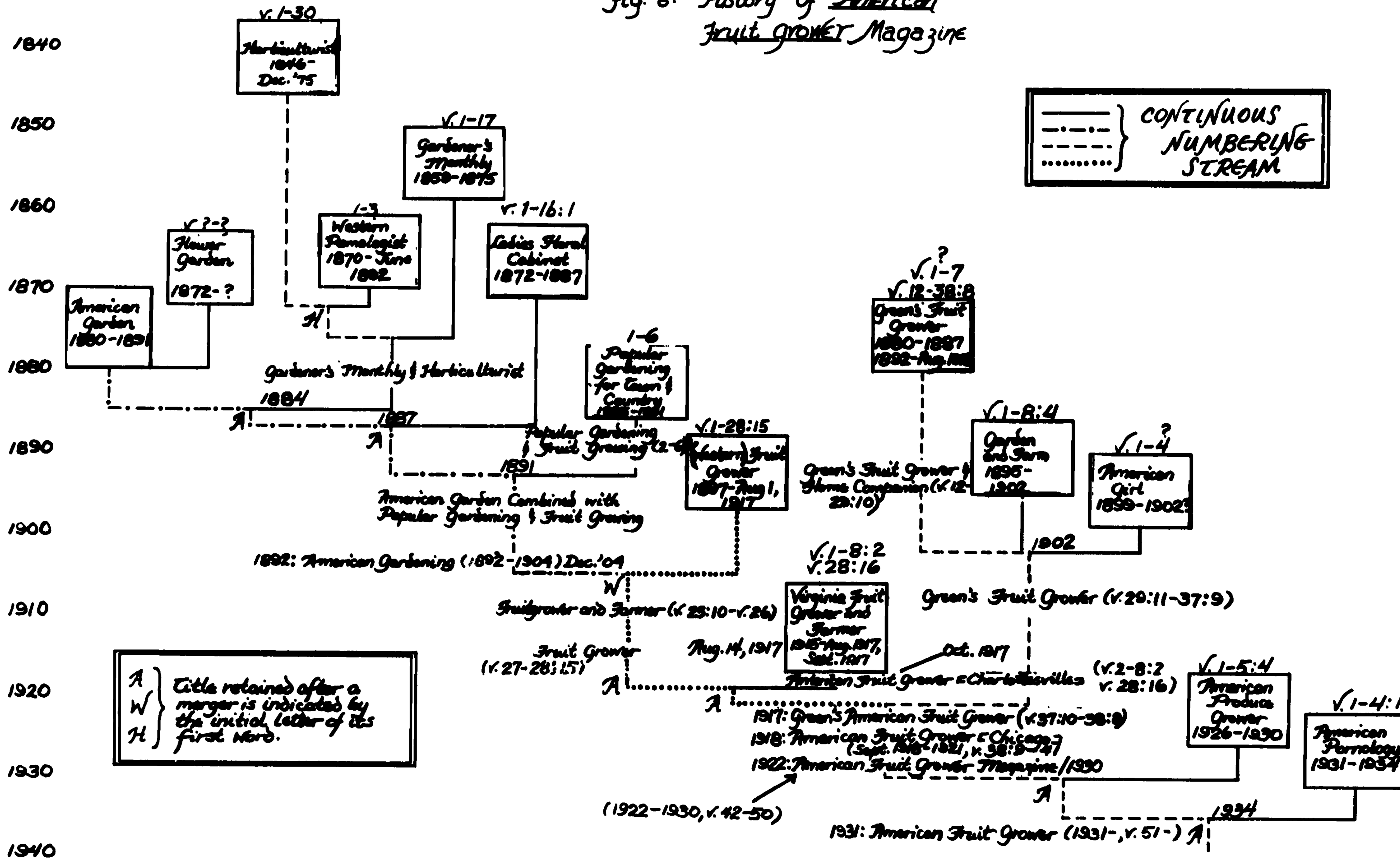


FIG. 9: HISTORY REFERENCES FOR AMERICAN FRUIT GROWER MAGAZINE

In the example below the main entry and history reference tags are given for some of the successive titles of the serial whose history is outlined on the preceding page.

TAG	Delimiter	Data
245	$a	Flower garden
945	$g	American garden/
245	$a	American garden
945	$c	Flower garden
	$e	Gardner's monthly and horticulturist/
	$f	Ladies floral cabinet merged with/ American garden combined with popular gardening and fruit growing resulted from the merger (Nov. 1891) of Popular gardening and fruit growing and/
245	$a	American garden combined with popular gardening and fruit growing
945	$c	American garden/
	$f	Popular gardening and fruit growing merged with American garden (Nov. 1891) to become/
	$g	American gardening/
245	$a	American gardening
945	$c	American garden combined with popular gardening and fruit growing/
	$i	Western fruit grower/
245	$a	Western fruit grower
945	$e	American gardening/
	$g	Fruitgrower and farmer/
245	$a	Fruitgrower and farmer
945	$c	Western fruit grower/
	$g	Fruitgrower/
245	$a	Fruit grower
945	$f	American fruit grower[Charlottesville] resulted from the merger (Aug. 14, 1917) of American fruit grower[Charlottesville] and/
	$g	Fruitgrower and farmer/
245	$a	American fruit grower [Charlottesville]
945	$e	Fruit grower/
	$h	Green's American fruit grower/
245	$a	Green's American fruit grower
945	$c	Green's fruit grower/
	$d	American fruit grower [Charlottesville] /
	$g	American fruit grower [Chicago]/
245	$a	American fruit grower [Chicago]
945	$c	Green's American fruit grower/
	$g	American fruit grower magazine/
245	$a	American fruit grower magazine
945	$c	American fruit grower/
	$e	American produce grower/
	$g	American fruit grower/
245	$a	American fruit grower
945	$c	American fruit grower magazine/
	$f	American ponology contained in/

TITLE HEADING REFERENCES

The ǂ4 and ǂz delimiters of the 900-945 block of tags will be used for recording the tracings for serial heading authority references. These references may or may not contain an author element. They are discussed below under the headings: Tracings for references to a title main entry heading and Tracings for references from variant forms of a serial heading when entry is under author.

Tracings for references to a title main entry heading

References to a serial heading used in the holding library's catalog but not traced in a separate authority file will need to be tagged. Title main entry headings are normally considered to be "self-establishing" and thus are excluded from a separate authority file. If they are excluded from the separate authority file, the library must depend upon some other file (such as the public catalog) for a record of the tracings of any references made to the "self-establishing" serial title headings. Consequently, when such data is found in the catalog record, it should be preserved.

Tracings for references from variant forms of a serial heading when entry is under author

If they are recorded in the holding library's catalog and if they are excluded from a separate authority file, (because they include reference to a title), these references will also have to be tagged. Such references are from one specific author and title heading to another specific author and title heading (i.e. from U.S. Bureau of labor statistics, B.L.S. Bulletin to U.S. Bureau of labor statistics, Bulletin) or from a title to an author-title heading.

CONVERSION OF REFERENCES

All cross reference records (cards) should be converted to Reference Records. The machine storage format of Reference Records will consist of:

1. LEADER
2. Author } Entry
   Title
3. Text

Reference Records are stored on both files (CMF and LMF).

Notice that this format is strongly divergent from the standard format. This record type is the only case in which the standard record format is not used. As can be seen, there is no record directory and there are no tags. The leader contains an "R" in the Type or Entry field which identifies it as as reference record.

In addition, all reference tracings contained in serial records will be included in the machine record (900-945 tag block). At some point after conversion, Reference Records should be compared with 900-945 tags. Those Reference Records for which 900-945 tag(s) exist should then be deleted, since the tracings can be used to generate Reference Records during each monthly update. Those Reference Records for which no 900-945 tag(s) exist, and which are therefore untraced, should be preserved, since there is nothing from which to generate them during the monthly update. The bulk of these records should be records for information cards. The only other Reference Records ordinarily not traced in the public catalog are name authority references. These references are customarily traced in the name authority file before they are filed in the public catalog. If and when the library's name authority file is converted, all name authority Reference Records may be deleted from the LMF, since the tracings in the name authority file can be used to generate Reference Records during each monthly update.

BOTH TAG 900 REFERENCES - PERSONAL AUTHOR FOLLOWED BY TITLE

Delimiter	Name of Data Elements	Number of Positions
	A. HISTORY REFERENCES	
$a	"See" References	V + "/"
$b	"See also" References	V + "/"
$c	"Continued By" References	V + "/"
$d	"Superseded By" References	V + "/"
$e	"Absorbed By" References	V + "/"
$f	Other References (Directive words must be given with each tracing)	V + "/"
$g	"Continues" References	V + "/"
$h	"Supersedes" References"	V + "/"
$j	"Absorbed" References	V + "/"
	B. SERIAL HEADING REFERENCES	
$y	"See" References	V + "/"
$z	Other References (Directive words must be given with each tracing)	V + "/"

Definition of Data Elements

$a "See" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "see" reference tracing if the function of the reference is to link a predecessor or successor serial to this serial. It may be used in both the LMF and CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

$a "See" References (cont.)

"Silent" Indicator

This is a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent".

This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Reference Tracing

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$b "See also" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "see also" reference tracing if the function of the reference is to link a predecessor or successor serial to this serial. It may be used only in the LMF record.

Format	Number of Positions
"Silent" Indicator	1 N
Reference Tracing	V
Field Separator	"/"

"Silent" Indicator

Since this element is a print key for CMF history tracings, it will not be used for this field. It should be set at "1" (non-silent) for each reference tracing.

Reference Tracing

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$c "Continued by" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "continued by" reference tracing. It may be used in both the LMF and CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other ouput lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

<u>Reference Tracing</u>

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

<u>Field Separator</u> ("/")

A field separator must be given after every field except the last.

$d <u>"Superseded by" References</u>

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "superseded by" reference. It may be used in both the LMF and CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

<u>"Silent" Indicator</u>

This is a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

<u>Reference Tracing</u>

The entire reference tracing is to

$d "Superseded by" References (cont.)

be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$e "Absorbed by" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording an "absorbed by" reference. It may be used in both the LMF and CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Reference Tracing — The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/") — A field separator must be given after every field except the last.

$f Other History References — This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording those history references which do not fall in the category of $a - $d above or $g - $j below. It may be used in both LMF and CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing and Directive Word(s)	V
Field Separator	"/"

"Silent" Indicator — This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Reference Tracing and Directive Word(s) The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment. In addition the directive words (i.e. "continued in part", "merged with", etc.) must be given.

Field Separator ("/") A field separator must be given after every field except the last.

$g "Continues" References This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "continues" reference. It may be used in both the LMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

"Silent" Indicator This a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Reference Tracing

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$h "Supersedes" References

This is a variable length formatted field which is repeatable with the delimiter. It is to be used for recording a "supersedes" reference. It may be used in both the IMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all IMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Reference Tracing

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$j "Absorbed" References

This a variable length formatted field which is repeatable within the delimiter. It is to be used for recording an "absorbed" reference. It may be used in both the LMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Reference Tracing	V
Field Separator	"/"

"Silent" Indicator

This a print key for CMF history tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the used is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Reference Tracing

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$y Serial Heading "See" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "see" reference tracing if the function of the reference is to lead the user from a serial author/title heading which is not used to a serial heading which is used. It may be used only in the IMF record. If and when standardized authority references are adopted by the member libraries of the CSL-PC, this delimiter may be used in the CMF record as well.

Format:	Number of Positions
Reference Tracing	V
Field Separator	"/"

Reference Tracing

The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment.

Field Separator ("/")

A field separator must be given after every field except the last.

$z Other Serial Heading References

This is variable length formatted field which is repeatable within the delimiter. It is to be used for recording those reference tracings which are not "see" references but which lead the user from a serial author/title heading which is not used to a serial heading which is used. It may be used only in the

$z Other Serial Heading References (cont.)

LMF record. If and when standardized authority references are adopted by the members of the CSL-PC, this delimiter may be used in the CMF record as well.

Format	Number of Positions
Reference tracing and Directive Word(s)	V
Field Separator	"/"

Reference Tracing and Directive Word(s) The entire reference tracing is to be given here: author segment, followed by a period, followed by the title segment. In addition the directive words must be given.

Field Separator ("/") A field separator must be given after every field except the last.

Indicators BOTH INDICATORS are blank.

BOTH TAG 910 REFERENCES - CORPORATE AUTHOR FOLLOWED BY TITLE

Delimiter	Name of Data Elements	Number of Positions
	A. HISTORY REFERENCES	
$a	"See" References	V + "/"
$b	"See also" References	V + "/"
$c	"Continued by" References	V + "/"
$d	"Superseded by" References	V + "/"
$e	"Absorbed by" References	V + "/"
$f	Other References (Directive words must be given with each tracing)	V + "/"
$g	"Continues" References	V + "/"
$h	"Supersedes" References	V + "/"
$j	"Absorbed" References	V + "/"
	B. SERIAL HEADING REFERENCES	
$y	"See" References	V + "/"
$z	Other References (Directive words must be given with each tracing)	V + "/"

Definition of Data Elements

The data elements in this tag are identical to those defined in TAG 900.

BOTH TAG 911 REFERENCES - CORPORATE NAME - CONFERENCE OR MEETING FOLLOWED BY TITLE

Delimiter	Name of Data Elements	Number of Positions
	A. HISTORY REFERENCES	
$a	"See" References	V + "/"
$b	"See also" References	V + "/"
$c	"Continued by" References	V + "/"
$d	"Superseded by" References	V + "/"
$e	"Absorbed by" References	V + "/"
$f	Other References (Directive words must be given with each tracing)	V + "/"
$g	"Continues" References	V + "/"
$h	"Supersedes" References	V + "/"
$j	"Absorbed" References	V + "/"
	B. SERIAL HEADING REFERENCES	
$y	"See" References	V + "/"
$z	Other References (Directive words must be given with each tracing)	V + "/"

Definition of Data Elements

The data elements in this tag are identical to those defined in TAG 900.

BOTH TAG 945 REFERENCES - TITLE

Delimiter	Name of Data Elements	Number of Positions
	A. HISTORY REFERENCES	
$a	"See" References	V + "/"
$b	"See also" References	V + "/"
$c	"Continued by" References	V + "/"
$d	"Superseded by" References	V + "/"
$e	"Absorbed by" References	V + "/"
$f	Other References (Directive words must be given with each tracing)	V + "/"
$g	"Continues" References	V + "/"
$h	"Supersedes" References	V + "/"
$j	"Absorbed" References	V + "/"
	B. TITLE HEADING REFERENCES	
$y	"See" References	V + "/"
$z	Other References (Directive words must be given with each tracing)	V + "/"

Definition of Data Elements

$a "See" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "see" reference tracing if the function of the reference is to link a predecessor or successor serial to this serial. It may be used in both the IMF and CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$b "See also" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "see also" reference tracing if the function of the reference is to link a predecessor or successor serial to this serial It may be used only in the LMF record.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

<u>"Silent" Indicator</u>

Since this element is a print key for CMF history tracings, it will not be used with this field. It should be set at "1" (non-silent) for each reference tracing.

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

<u>Title Referred From</u>

The title referred from is given here.

<u>Field Separator</u> ("/")

A field separator must be given after every field except the last.

$c <u>"Continued by" References</u>

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "continued by" reference tracing. It may be used in both the LMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all IMF reference tracings the indicator should be set at " non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$d "Superseded by" References

This a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "superseded by" reference tracing. It may be used in both the IMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all IMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$e "Absorbed by" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording an "absorbed by" reference tracing. It may be used in both the IMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$f Other References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording those history references which do not fall in the category of $a-$d above or $g-$j below. It may be used in both the CMF and LMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$g "Continues" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "continues" reference tracing. It may be used in both the LMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all IMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$h "Supersedes" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "supersedes" reference tracing. It may be used in both the IMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For all LMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$j "Absorbed" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording an "absorbed" reference tracing. It may be used in both the LMF and the CMF records.

Format	Number of Positions
"Silent" Indicator	1N
Title Referred From	V
Field Separator	"/"

"Silent" Indicator

This is a print key for CMF history reference tracings. It is used to indicate whether or not any library in the System holds issues of the predecessor/successor serial from which the user is being referred.

If no library holds issues of the predecessor/successor serial, the indicator is set at "silent". This insures that a reference entry will be generated from the reference tracing for the FINDING LIST only. It will be excluded from all other output lists.

For LMF reference tracings the indicator should be set at "non-silent".

Code	Meaning of Code
0	Silent reference tracing
1	Non-silent reference tracing

Title Referred From

The title referred from is given here.

Field Separator ("/")

A field separator must be given after every field except the last.

$y Title Heading "See" References

This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording a "see" reference tracing if the function of the reference is to lead the user from a serial title heading which is not used to a serial heading which is used. This delimiter may be used only in the LMF record. If and when standardized authority references are adopted by the member libraries of the CSL-PC, this delimiter may be used in the CMF record as well.

Format	Number of Positions
Title Referred From	V
Field Separator	"/"

Title Referred From — The title referred from is given here.

Field Separator ("/") — A field separator must be given after every field except the last.

$z Other Title Heading References — This is a variable length formatted field which is repeatable within the delimiter. It is to be used for recording those reference tracings other than "see" reference tracings which lead the user from a serial title heading which is not used to a serial heading which is used. The delimiter may be used only in the LMF record. If and when standardized authority references are adopted by the members of the CSL-PC, this delimiter may be used in the CMF record as well.

Format	Number of Positions
Title Referred From and Directive Word(s)	V
Field Separator	"/"

Title Referred From and Directive Word(s) — The title referred from is given here. In addition the directive word(s) must be given.

Field Separator ("/") — A field separator must be given after every field except the last.

Indicators — BOTH INDICATORS are blank.

CMF TAG 950 - HOLDINGS

Delimiter	Name of Data Elements	Number of Positions
$a	Basic Holdings Matrix	V
$b	Holdings Generation Pattern	V
$x	Holdings Statement for Irregular Serials	V
$z	Holdings Comments	V

Definition of Data Elements

$a Basic Holdings Matrix

The CMF Basic Holdings Matrix records the continuous chain of bibliographic units published over the periods for which member libraries have holdings. If gaps occur in members' holdings they should not be reflected in this delimiter. However, if the gaps are very large, they may be represented as indicated in Holdings Generation Pattern.

This delimiter will contain at minimum a matrix position for each bibliographic unit issued under this title which is held by some library (or libraries) in the system. At maximum, it will contain a matrix position for each bibliographic unit issued under this title whether or not it is held by a library in the system. The Basic Holdings Matrix must be used in conjunction with the Holdings Generation Pattern. The matrix positions will contain blanks initially.

This delimiter should be used for serials having numbered counting units, each of which can be related to a fixed time span stated in terms of full years (i.e. no fractions). These serials have been labeled BIB UNIT/ FIXED TIME SPAN SERIALS.

To better understand the Basic Holdings Matrix read the discussion under Local Holdings Matrix ($a under TAG 951) and Holdings Generation Matrix ($b under 950).

Another term for "numbered counting unit" is "bibliographic unit".

A "bibliographic unit" is defined to be whatever numbering division of a serial the Processing Center Serials Librarian has approved

$a Basic Holdings Matrix (cont.)

for use as a counting unit. The division is identified by name in the Holdings Generation Pattern.

The Basic Holdings Matrix may also be used for serials with numbered counting units (bibliographic units) none of which can be related to a fixed time span, (e.g. Report Nos. 1-50). It may also be used if such a serial has only a beginning and ending date, or only a beginning date, or very sporadic date-unit relationships. All dates would then be recorded in the Holdings Comment delimiter, $z of this tag. Holdings can be output in a unit-by-unit format or in a summary statement format. Dates, however, would be listed exactly as they were recorded in $z. Those active serials which fall into this category can have their Basic Holdings Matrix updated automatically, but any dates contained in their $z delimiter will have to be manually updated. These serials have been labeled BIB UNIT/NO FIXED TIME SPAN SERIALS.

All serials which use the Basic Holdings Matrix may be thought of as "regular" serials.

Example

ƀƀ	$aƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀƀ	$b...

Comment

The Example given above shows the initial form of $a under 950. An actual holdings configuration that would generate such a pattern for $a under 950 might be:

vol. 5-10 of Serial A held by Library 01

vol. 25-30 of Serial A held by Library 02

vol. 20-35 of Serial A held by Library 03

It should be noticed that the Basic Holdings Matrix will contain a matrix position for vol. 5-35 even though no library holds vol. 10-20. This means that the total number of positions in the matrix will be 35 as shown in the Example above.

$b Holdings Generation Pattern The primary function of this delimiter is to enable the Holdings program to expand the Basic Holdings Matrix into a text form. It is used only in conjunction with the Basic Holdings Matrix.

This is a variable-length, formatted field which is repeatable within the delimiter. The various subfields will be separated by a field separator ("/").

A single entry will appear in this delimiter if the Holdings Generation Pattern does not change throughout the history of publication. However, if a change in any of the elements has occurred there must be an additional Holdings Generation Pattern to reflect each change or set of changes in publication pattern. Also if a very large gap occurs in the composite holdings of member libraries, multiple entries may be given. This will obviate the need for carrying matrix locations for those volumes covered by the gap.

Because Holdings Generation Pattern is a complex field, it has been broken down into its constituent parts for ease of understanding. The reader is advised however that only a careful reading of TAG 950 and TAG 951 will thoroughly acquaint him with the important interrelations that exist among the sub-elements of these two tags. All subelements in the discussion which follows will be right-justified with zero fill.

Name of Subelement	Number of Positions
Begin Year	4N
Fiscal Year	2N
Ratio of Year Span to Bib Unit Span	2N
Division Name	3A
Division Field Length	1N
Increment Value of Division	1AN
Begin Matrix Location	3N
Number of Matrix Locations	3N
Begin Value	V

Definitions of Subelements

Begin Year — The year value associated with the first bibliographic unit HELD by any library in the system. (It may or may not be the first bibliographic unit ever issued.) This sub-field should contain blanks if the serial is a BIB UNIT/NO FIXED TIME SPAN serial, (e.g. "Reports 1-50").

Fiscal Year — The last two digits of a fiscal year value, (e.g. 1961/62) associated with the first bibliographic unit HELD by any library in the system. In this Guide 'fiscal year' means any publication year which does not coincide with a calendar year (so a publication year running from April to April is a fiscal year). This sub-field is never used when Begin Year contains blanks.

Ratio of Year Span to Bib Unit Span — Two numeric positions will be used to enable the Holdings programs to match years to bibliographic units when Holdings lists are to be generated. They are not used in generating the Basic Holdings Matrix. The ratio may be stated in terms of "years per bibliographic unit", or "bibliographic units per year" or "year span per bibliographic unit span". See examples which appear at the end of this delimiter section.

The first numeric position, Year Span cannot contain a value less than 1. It should contain blanks if the serial is a BIB UNIT/NO FIXED TIME SPAN serial (e.g. "Reports 1-50").

Likewise, the second numeric position in this field cannot contain a value less than 1 and should contain blanks if the serial is a BIB UNIT/NO FIXED TIME SPAN serial.

Division Name — The name of the numbering division which serves as the bibliographic unit (the counting unit for bound issues) is found in this position. The length of this field is limited to three alphabetic positions. If the name (or its abbreviation) occupies more than three positions it must be truncated. Note that the

Definitions of Subelements (cont.)

full name or abreviation may be given elsewhere under $z of TAG 245. All serials can be considered to have bibliographic units. For some serials the only counting unit is the year of publication. A serial which covers one or more years (e.g. an annual report) has a bibliographic unit - the year of coverage - which may or may not coincide with the years of publication. For such serials the code YEA for year may be entered in this field.

Division Field Length — Find here the number of positions required to express the values of the bibliographic unit. Division Field Length determines the length of Begin Value.

Increment Value of Division — Stored in this single alphanumeric position will be a code for the amount by which the bibliographic unit division must be incremented in order to form its next value. If the increment is a single alphabetic letter, this field contains the code A.

If the Division Name is "year", and the bibliographic unit year values coincide with the years of publication, this field will contain the same value as that given in Year Span.

Begin Matrix Location — Matrix locations are numbered sequentially beginning with 001 for the earliest unit recorded in the system. Begin Matrix Location indicates the matrix location at which the associated Holdings Generation Pattern takes effect.

Number of Matrix Locations — The value contained in this field will indicate the number of bibliographic units described by this Holdings Generation Pattern. If the Holdings Generation Pattern being given is the latest or most recent pattern, an asterisk must be placed in the third position of this field. The asterisk indicates that this pattern controls through the end of the Basic Holdings Matrix.

Definitions of Subelements (cont.)

Begin Value — The value of the first bibliographic unit of that part of holdings being described in the Holdings Generation Pattern is stored in this position under $b of TAG 950.

BIB UNIT/FIXED TIME SPAN SERIAL

Example: v. 7-13 (1901-1914)
v. 15-19 (1917-1926)

In this example each volume covers two years. Therefore, the "years per bibliographic unit" ratio will be entered as 2:1.

ƀ ƀ	$ a ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ	$b	1901	ƀƀ	2	1

Matrix Loc. 1,2,3.... 13

Bib. unit span
Year span
Fiscal year
Begin year
Delimiter

Vol.	3	1	ØØ1	ØØ*	ØØ7

Begin value
Number of matrix locations
Begin matrix location
Increment value of division
Division field length
Division name

This combination of pattern and matrix can be used to print the holdings as represented above or in various other formats. (e.g., volume by volume, etc.)

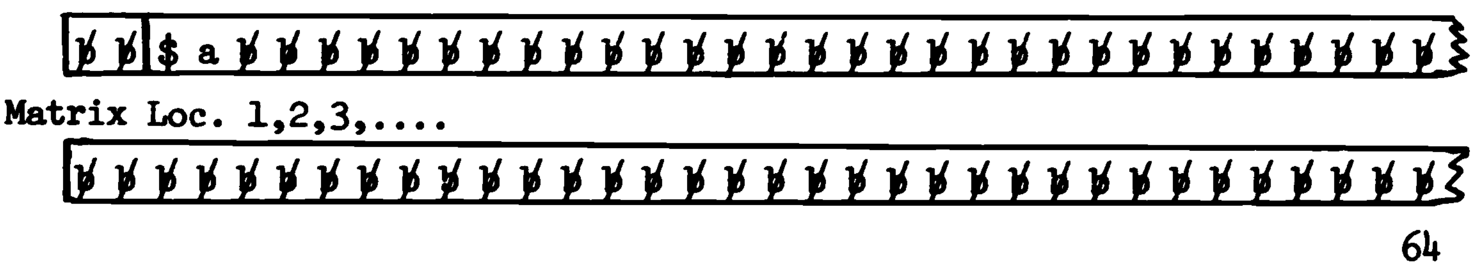
BIB UNIT/ FIXED TIME SPAN SERIAL

Example: v. 1-64, 1936-June 1968

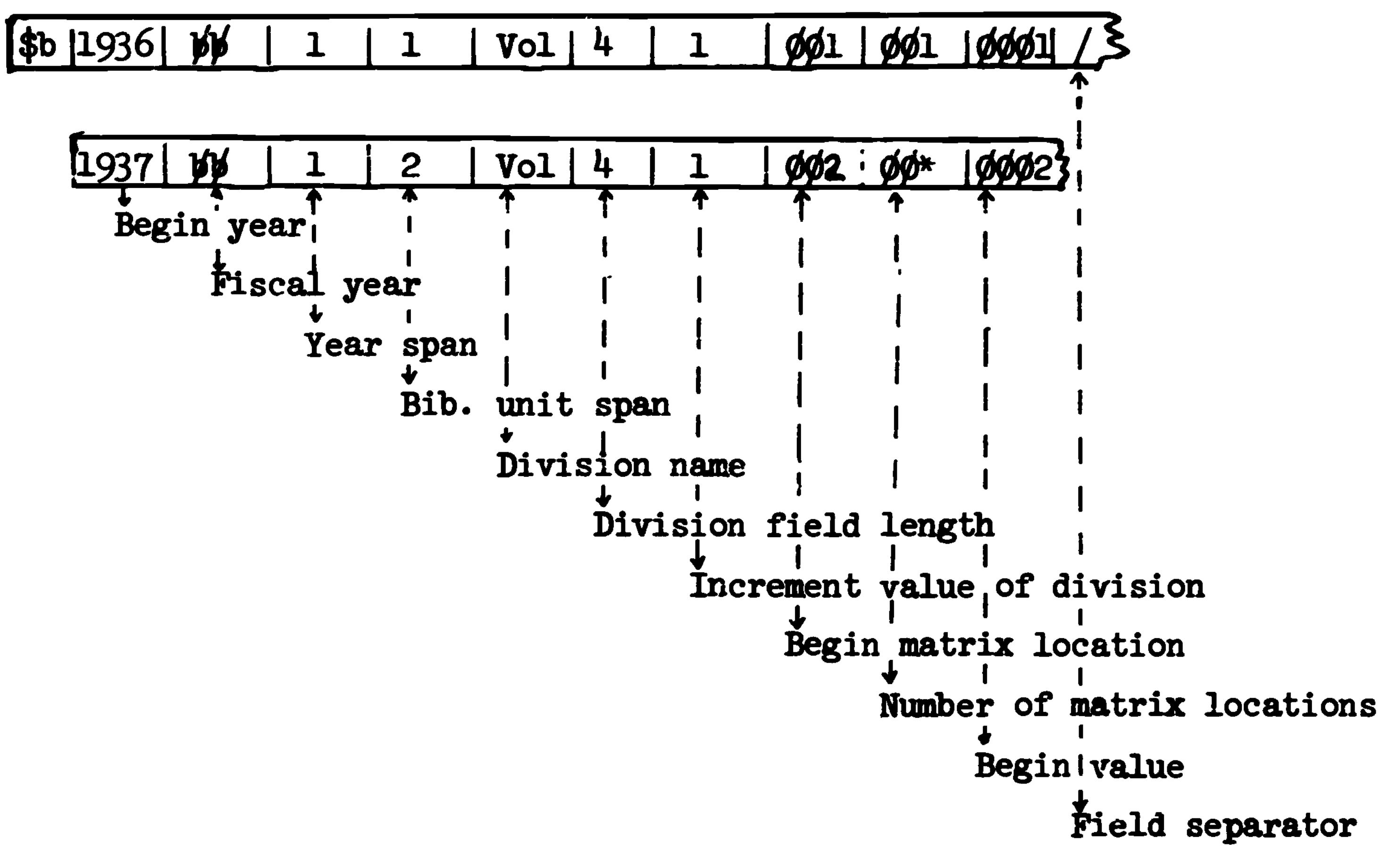
In this example volume 1 covers 1 year. Therefore, the "years per bibliographic unit" ratio (or "Bibliographic units per year" ratio) will be entered as 1:1 in the 1st Holdings Generation Pattern.

Each succeeding volume (2-64) covers 1/2 year. Therefore the ratio should be stated in "Bibliographic units per year" terms. The ratio will be entered as 1:2 in the 2nd Holdings Generation Pattern.

Basic Holdings Matrix



Holdings Generation Pattern



This combination of pattern and matrix can be used to print the holdings as represented above or in various other formats. (e.g. volume by volume, etc.)

CMF TAG 950 - HOLDINGS (Cont.)

BIB UNIT / NO FIXED TIME SPAN SERIAL

Example: Reports 1-50

In this example there is no "Years per bibliographic unit" ratio. Therefore the ratio fields will contain blanks.

Basic Holdings Matrix

ƀ ƀ	$ a ƀ

Matrix Loc. 1,2,3,....

ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ ƀ

50

Holdings Generation Pattern

$ b	ƀƀƀƀ	ƀƀ	ƀ	ƀ	Rep	3	1	001	00*	001
	Begin year	Fiscal year	Year span	Bib. unit span	Division name	Division field length	Increment value of division	Begin matrix location	Number of matrix locations	Begin value

This combination of pattern and matrix can be used to print the holdings as represented above or in a unit-by-unit format.

Definition of Data Elements (cont.)

$x Holdings Statement for Irregular Serials — This variable length unformatted delimiter can be used for recording the numbering, etc., of the bibliographic units of serials which are outside the scope of Basic Holdings Matrix and Holdings Generation Pattern. The holdings may be given in a detailed text form or in a summary text form. This delimiter will not be automatically updated. Therefore any change must be input via a change transaction which replaces the entire delimiter.

Comment — It is recommended that this field be given in a summary text form. If this is done, and if a field separator ("/") is used to separate the upper limit from the rest of the data, the upper limit can be changed whenever necessary without this change affecting the rest of the holdings statement. If this is done the capacity of this delimiter will have expanded so that the holdings for serials with thousands of bibliographic units (e.g. Securities and Exchange Commissions Releases) will not have to be expressed in thousands of matrix positions but can, instead, be given here in a short summary form with an ever changing upper limit. This would require an additional change transaction to be specified for updating this upper limit.

$z Holdings Comments — This variable length, unformatted delimiter may contain any descriptive information pertaining to bibliographic units or issues. Such comments should be entered in the record only after the approval of the Processing Center Serials Librarian has been obtained.

One important category of information which will appear in this delimiter is some definition of 'series'. If the bibliographic units have been separated into groups characterized as series or some other division name, each of these series should be defined here, if the Basic Holdings Matrix was used. Each

Definition of Data Elements (cont.)

comment which is to begin on a new line of output must be preceded by a field separator ("/").

Example

| $z v. 1-12, 1940-52 constitute the 1st ser./

| v. 13-24, constitute the 2nd ser.

If a BIB UNIT/NO FIXED TIME SPAN SERIAL has one or more dates associated with one or more of its units the date(s) may be carried in this delimiter.

Example

An active serial with these holdings:
Bulletin 1 through 45
Bulletin 1 is dated 1940; Bulletin 45 is dated 1947.

| $z Bull.1,1940; Bull.45,1947 ⨍ |

Example

A dead serial with these holdings:
v.1-3, 1911-Oct.1918

| $z v.1 dated 1911; v.3 dated Oct.1918 ⨍ |

Indicators

BOTH INDICATORS are blank.

LMF TAG 951 - HOLDINGS

Delimiter	Name of Data Elements	Number of Positions
$a	Local Holdings Matrix	V
$x	Holdings Statement for Irregular Serials	V
$z	Holdings Comments	V

Definition of Data Elements

$a Local Holdings Matrix

A matrix position for each bibliographic unit permanently held (i.e. bound) by the library will be stored here. A "bibliographic unit" is whatever numbering division the Processing Center has approved for use as a counting unit. The division is identified by name in the Holdings Generation Pattern under TAG 950.

The Local Holdings Matrix is a variable-length, formatted field repeatable within the delimiter; it is to be used in conjunction with the CMF Basic Holdings Matrix and Holdings Generation Pattern under TAG 950. Matrix locations in this delimiter assume the numbering of the CMF Basic Holdings Matrix locations with which they are associated. The CMF Basic Holdings Matrix definition - under TAG 950 - indicates which type of serial uses holdings matrices and which type uses the Holdings Statement for Irregular Serials delimiter.

A Basic Holdings Matrix can be visualized more easily if it is thought of as a string of clusters. Each cluster is made up of a three-digit number indicating the Begin Matrix location, a variable length Holdings Matrix Field and a special slash Field Separator (/) following each cluster except the last.

The field will need to be repeated only if large gaps occur in the library's holdings. Small gaps can be represented in the matrix by specifying "missing" bibliographic units. Note that in this delimiter holdings are being described only

$a Local Holdings Matrix (cont.)

in terms of bibliographic units; this is because the Basic Holdings Matrix contains data concerning the bibliographic unit as a whole.

Formatted holdings information about individual issues will be found only in that part of the record - under TAG 971 - which is concerned with tracking individual issues until that point in time when they have become part of the library's permanent holdings. However, it is possible for a library to record and preserve unformatted information about the individual issues of bibliographic units which have become part of permanent holdings. This can be done by recording such information in the $z sub-field under TAG 951. If this is done, however, any subsequent changes which the library wishes to make in the issue unit information can be made only if the library is willing to input, or resubmit, all (that which has not changed as well as that which has changed) of the data recorded under $z of TAG 971.

A code contained in each matrix position will indicate the condition of the associated bibliographic unit. Possible conditions are as follows:

Code	Meaning of Code
1	Complete, Bound, Hard Copy
2	Complete, Unbound*, Hard Copy
3	Complete, Microform
4	Incomplete, Bound, Hard Copy
5	Incomplete, Unbound*, Hard Copy
6	Incomplete, Microform
7	Missing (WANT LIST candidate)
8	Missing (Exclude from WANT LIST)

* Unbound includes partially bound.

FIG. 10: LOCAL HOLDINGS MATRIX

<u>Example</u>

Assume that Library A has a "small gap" in its holdings as shown below:

FILM: v. 2-15 (1937-1943)
v. 16, nos. 1-19, 21-26 (Jan.-June 1944)
v. 17, nos. 20-26 (July-Dec. 1944)
v. 18, nos. 1-10 (Jan.-June 1945)
v. 19-29 (July 1945-1950)

HARD COPY: v. 30-39 (1951-1955)
v. 41, nos. 1-24 (July-Dec. 1956)
v. 42-58 (1957-June 1965)
v. 59, nos. 2-26 (July-Dec. 1965)
v. 60 (Jan.-June 1966) unbound
v. 61-64 (July 1966-June 1968)

The Local Holdings Matrix will contain a matrix position for each volume held: v.1-39, 41-64. In addition, since the only gap is a small one (v. 40) there will be a position for the missing volume.

| 1b̸ | $a0023333333333333666333333333331111111111 |

1937 1946 1951

Local Matrix

| 8411111111111111111451111 |

1956 1966

<u>Example</u>

Assume that Library A has the following "large gap" in its holdings:

FILM: v. 2-15 (1937-1943)
v. 16, nos. 1-19, 21-26 (Jan.-June 1944)
v. 17, nos. 20-26 (July-Dec. 1944)
v. 18, nos. 1-10 (Jan.-June 1945)

HARD COPY: v. 41, nos. 1-24 (July-Dec. 1956)
v. 42-58 (1957-June 1965)
v. 59, nos. 2-26 (July-Dec. 1965)
v. 60 (Jan.-June 1966) unbound
v. 61-64 (July 1966-June 1968)

LMF TAG 951 - HOLDINGS (Cont.)

FIG. 10 (Cont.)

The Local Holdings Matrix will contain a matrix position for each volume held: v. 1-18, 41-64. The large gap (v.19-40 missing) will not be represented. Therefore, two local holdings matrices will be used.

```
| 1b̸ | $a00233333333333333666/04141111111111111111 }
          ↑                          ↑
        1937     Local Matrix      1957     Local Matrix

| 11451111 }
```

$x Holdings Statement for Irregular Serials

This variable-length, unformatted delimiter can be used to record the numbering of those bibliographic units of serials which are outside the scope of both holdings matrices (CMF and LMF) and the Holdings Generation Pattern. The holdings may be given in a detailed text form or in a summary text form.

Example

$x [1st ser.] v.1, 3-5, 7, 9-11, 1843-1846;

[2d ser.] v.2, 6, 8, 12-14, 1847-1853

Comment

It is recommended that this field be given in a summary text form. If this is done, and if a field separator (/) is used to separate the upper limit from the rest of the data, the upper limit can be changed whenever necessary without this change affecting the rest of the holdings statement. If this is done the capacity of this delimiter will have expanded so that serials with thousands of bibliographic units (e.g. Securities Exchange Commission releases) will not have to be expressed in thousands of matrix positions but can, instead, be given here in a short summary form with an ever-changing upper limit. This would require that an additional change transaction be specified for updating this upper limit.

$z Holdings Comments

This variable-length, unformatted delimiter will contain any library-unique holdings information the library may wish to preserve which is not specifically provided for elsewhere in this report. It is anticipated that detailed holdings statements for incomplete bibliographic units will form the bulk of the contents of this field.

Example

$z Incomplete vols. with issues held: v.16, nos.1-19,

21-26, Jan.-Apr.21, May 1-June 1944; v.17, nos.20-26,

Nov.21-Dec.1944; v.18, nos.1-10, Jan.-Mar.15, 1945;

v.41, nos.1-24, July-Dec.15,1956; v.59, nos.2-26,

July 12-Dec.1965. F

Indicators

The FIRST INDICATOR describes the microform in which all or some of the issues are held. Each bibliographic unit will be

Indicators (cont.)

characterized as either "hard copy" or "microform" in the Local Holdings Matrix. This indicator will specify the type of microform held, providing one or more of the bibliographic units is characterized as microform. Microform is a catch-all term; it includes all non-hardcopy forms. If no issues are held in microform the indicator will be blank.

Code	Meaning of Code
1	Microfilm
2	Microfiche
3	Microcard
4	Magnetic tape

The SECOND INDICATOR is blank in this field.

LMF TAG 957 - ARRIVAL HISTORY

Delimiter	Name of Data Elements	Number of Positions
$a	Issue Arrival History	V

Definition of Data Element

$a Issue Arrival History — This delimiter should be used if a library wishes either to preserve issue arrival history data which already exists for the serial and/or wishes to use the computer to begin collecting issue arrival history data. The second goal can be realized by preserving here the dates of the weekly update programs under which the arrival cards were submitted. Likewise, if the library wishes to begin, or to continue, manually collecting and inputting arrival history data as additions to the record, this delimiter should be used for that purpose.

If the decision to use a statistical method of claiming is made, this delimiter will have to be used.

The actual arrival data of each issue will be input in any format the library chooses. See LIFE example in this report. The LIFE example uses a three-position Starting Prediction Matrix Location followed by a string of two-digit numbers indicating the variance in weeks from the predicted week. At the end of a fiscal year the arrival data will be transferred to a history tape.

Indicators — BOTH INDICATORS will be blank in this field.

CMF TAG 958 - ABSTRACTED IN

Delimiter	Name of Data Elements	Number of Positions
$a	Name of Abstracting Service	V
$b	Name of Abstracting Service	V

Definition of Data Element

$a Name of Abstracting Service -- The full name (or its conventional abbreviation) of a publication which regularly abstracts the contents of the serial will be given here.

$b Name of Abstracting Service -- If more than one publication regularly abstracts the serial's contents, $b through $z will be used to delimit the additional names.

Indicators BOTH INDICATORS are blank.

CMF TAG 959 - INDEXED IN

Delimiter	Name of Data Elements	Number of Positions
$a	Name of Indexing Service	V
$b	Name of Indexing Service	V

Definition of Data Element

$a Name of Indexing Service -- The full name (or its conventional abbreviation) of a publication which regularly indexes the contents of the serial will be given here.

$b Name of Indexing Service: If more than one publication regularly indexes the serial's contents $b through $z will be used to delimit the additional names.

Indicators BOTH INDICATORS will be blank.

LIFE example

bb Indicators

$a Readers' b Guide f Abstracted In

LMF TAG 960 - BINDING

Delimiter	Name of Data Elements	Number of Positions
$a	Binding Data	10AN
$b	Binding Title	6N
$c	Next Binding Unit	6N
$d	At Binding Processing Unit	V
$z	Binding Comments or Notes	V

Definition of Data Elements

$a Binding Data — Ten alphanumeric codes entered here allow the local library to specify various physical aspects of the binding processing desired. Each of the several aspects is named below and its range of codes follows. Obviously, any or all of the codes can be expanded by the local library.

Style Code	Meaning of Code
1	Quarterbind
2	Portfolio
3	Pam Bind

Material Code	Meaning of Code
1	Buckram
2	Full Cloth
3	Morocco

Color Code	Meaning of Code
A	Black
B	Blue
C	Brown

Color Code (cont.)	Meaning of Code
D	Gray
G	Green
M	Maroon
O	Orange
P	Purple
R	Red
T	Tan

Ads Code	Meaning of Code
1	All ads
2	All ads in last issue
3	No ads

Covers Code	Meaning of Code
1	All covers
2	Cover page between
3	Front cover of each issue
4	No covers

TPCI Bind-In Code	Meaning of Code
Ø	None
1	Title Page
2	Contents
3	Index
4	Title Page and Index
5	Title Page and Contents

TCPI Code (cont.)	Meaning of Code
6	Contents and Index
7	Title Page, Contents and Index

Ink Code	Meaning of Code
1	Gold
2	White
3	Black
4	Blue
5	Red
6	Green
7	Brown
8	Carbon

Type Size Code	Meaning of Code
	Local Library to assign a two-digit number

Font Code	Meaning of Code
	Local library to supply a single alphabetic character.

$b Binding Title — The spine data which does not change appears here and includes all spine data except issue designation data. The data is strung out in print-line segments which are separated by a field separator ("/"). Even if the full main entry constitutes the binding title, this delimiter should contain the title, line by line. If only one print line segment is used, no ("/") is needed.

Example

\$bLloyd library and museum	First Binding Title Line
/Bibliographic contributions	Second Binding Title Line

\$c Next Binding Unit

The contents of this fixed length delimiter will change. When a binding unit is complete a Binding Turnaround card No. 1 (BTC 1) will be issued and the Prediction Matrix Locations of the upper and lower issues of the unit will be stored here.

When the library notifies the computer (via the BTC 1) that the next binding unit has been sent to binding processing, the contents of this delimiter will be transferred to \$d under TAG 960.

Format:	Number of Positions
Lower limits of Next Binding Unit (lower Prediction Matrix Location)	3N
Upper Limits of Next Binding Unit (upper Prediction Matrix Location)	3N

\$d At Binding Processing Unit

This is a fixed length delimiter. Its contents will change. When the library notifies the computer (via the BTC 1) that the Next Binding Unit, specified in \$c above, has been sent to binding processing the contents of \$c will be transferred to this delimiter where they will remain until the library notifies the computer (via BTC 2) that the unit has been returned from binding processing. At this point the fact that the binding unit issues are now permanently held (i.e. bound) will be recorded in the Prediction Matrix Field under TAG 971.

Format:	Number of Positions
Lower limits of At Binding Processing Unit (Lower Prediction Matrix Location)	3N
Upper limits of At Binding Processing Unit (Upper Prediction Matrix Location)	3N

$z Binding Comments or Notes — Comments addressed to the binder or to the bindery preparation section of the library, which are not specifically provided for elesewhere in this tag, and which pertain to the serial as a whole may be recorded here.

If binding is "Temporal" but occurs less often than annually, the binding unit limits MUST be given here, and must be expressed in terms of years. Likewise, if binding is determined by the increment of a numbering division but occurs only after 2 or more increments, the binding unit limits must be given here. The binding notices will be issued for every year (or for for every numbering division increment). The interim notices should be ignored.

LIFE example

$zTrimbcarefully F	Binding Comment

Example

$zBindb3vols.batbabtime. F	Binding Comment

Indicators — The FIRST INDICATOR will record binding priority as shown below:

Code	Meaning of Code
0	RUSH
1	REGULAR

The SECOND INDICATOR in this field is blank.

CMF TAG 970 - PREDICTION

The primary function of this tag is to serve as a prediction control mechanism. To do this three data fields are normally necessary:

1. a description of the current numbering scheme (this has been called ISSUE DESIGNATION PATTERN)
2. the current PUBLICATION PATTERN
3. a START VALUE base which is related to the ISSUE DESIGNATION PATTERN

Should a change occur in any one of these areas, all three fields must be resupplied. At that point the three superseded fields will automatically be moved to the PREDICTION HISTORY delimiter of this tag.

Delimiter	Name of Data Element(s)	Number of Positions
$a	Issue Designation	V + "/"
$b	Publication Pattern: 1. Time frame 2. Arrival delay (weeks)	 12 N 2 N
$d	Matrix Start Values	V + "/"
$e	Prediction Matrix	V + "/"
$f	Unbound Issues of Frequent Serials	V
$y	Prediction History	V + "/"

Definition of Data Elements

$a Issue Designation — The names of the numbering divisions which appear on the issues, their interdependence and their incrementing schemes are given under this delimiter. Each numbering division must be described in a separate field. The fields are separated by a field separator ("/"). As many fields as are needed will be used. The numbering divisions may be described in any order desired.

Independent superior numbering divisions which d

$a Issue Designation (cont.)

not increment regularly (e.g. "Series) will be described. If a serial is issued in successive "series", the "series" numbering division should be described. But if it is issued in "concurrent" series, each series must be treated as a separate serial.

Issue Designation is a variable-length, formatted field which is repeatable within the delimiter. The various fields will be separated by a field separator ("/").

Names of Subelements	Number of Positions
Name of Numbering Division	3A
Binding Unit Indicator	1A
Name of Directly Superior Numbering Division	3A
Number of Cycles or Increments Needed to Trigger Superior Division	2N
Cycle or Increment Counter	2N
Increment Value	2AN
Reset Limit	V + "-"
Reset Value	V
Field Separator	"/"

These elements will be rearranged and grouped for discussion as follows:

A. Name of numbering division

B. Increment Value

LIMITS OF NUMBERING CYCLE:

C. Reset Limit

D. Reset Value

$a Issue Designation (cont.)

TRIGGERING ACTION OF CYCLIC NUMBERING DIVISIONS:

E. Name of Directly Superior Numbering Division

F. Number of Cycles or Increments Needed to Trigger Superior Division

G. Cycle or Increment Counter

H. Binding Unit Indicator

Definition of Subelements

A. Name of Numbering Division

The name assigned by the publisher (or supplied by the library) to the numbering division being described. The name must not occupy more than 3 positions. If the name (or its abbreviation) has more than three letters, it must be truncated. The full name, or full abbreviation of the major numbering division is given under $z of TAG 245.

Also important are chronological numbering divisions. If "month" and "year", but not "date," are part of the issue designation, the numbering divisions "Mon" and "Yea" will be entered. Note that the values of "Mon" will be 1-12 instead of Jan-Dec.

If "date" forms a part of the issue designation, then only one numbering division, a division named "Day" should be described. "Day" values will incorporate year and month values through the use of a Julian date for the division value (days of the year are numbered consecutively and preceded by the last digit of the current year value; therefore each date has a unique number.) If an increment of "year" keys binding, the temporal binding trigger should be used. (See Special Activities Pattern TAG 971).

When "year" increments with every issue, or when month increments with every issue,

$a Issue Designation (cont.)

and a oate is also given (i.e. an annual report with "Jan. 1, 1967", "Jan. 1, 1968", "Jan. 1 1969", etc., issue designation; or a monthly with "Jan. 1", "Feb. 1", "Mar. 1", etc., issue designation) the date value will have to be ignored in the issue designation.

$a Issue Designation (cont.)

Example:

Sub-Field 1
Sub-Field 2
Sub-Field 3
Sub-Field 4
Sub-Field 5
Sub-Field 6
Sub-Field 7
Sub-Field 8

1st numbering division to be described is "Month"
FORMAT: b̸b̸ $a Mon

2nd numbering division to be described is "No."
FORMAT: / Num

3rd numbering division to be described is "Year."
FORMAT: / Yea

4th numbering division to be described is "Ser."
FORMAT: / Ser

Example:

1st numbering division to be described is "Day."
FORMAT: b̸b̸$a Day

2nd numbering division to be described is "No."
FORMAT: / Num

3rd numbering division to be described is "Ser."
FORMAT: / Ser

4th numbering division to be described is "Vol."
FORMAT: / Vol

$a <u>Issue Designation</u> (cont.)

B. <u>Increment Value</u>

Find here the amount by which the Start Value of this numbering division goes up (numeric value or alphabetic value); the interval between successive values of this numbering division (usually "1"). Thus, if the division being described is "vol" and if in the past when the volume number of the serial changed it went up by 1 (e.g. from vol. 1 to 2 to 3, etc.) then the increment value will be 01. If the division increments alphabetically (i.e. from A to Z, A to D) this subfield will contain a blank followed by an "A".

If the value of the numbering division being described does not change, or if it changes irregularly, this sub-field will contain blanks. (e.g. a division called "series" with a value of "2" which has not changed for 20 years.) Note that for these static numbering divisions the value of the numbering division can not be incremented by the computer. The library will have to notify the computer each time that the value changes. But if the library decides that it does not want to input these value changes and concludes that the static numbering division is not fundamental to the issue designation, the division may be excluded from the issue designation delimiter. In the CSL-PC Serial System the change in value would only have to be input once--to the CMF, since this tag is stored in the CMF.

<u>Example</u> Given a serial with numbered volumes which increment by 1, the following format would apply:

| ƀƀ | $a | Vol | | | | | 01 | | / | Num (etc....) |

Name of numbering division

Increment value

Field separator

$a <u>Issue Designation</u> (cont.)

LIMITS OF NUMBERING CYCLE

The numbering division's values must be either cyclic or continuous. If they are cyclic then Reset Limit and Reset Value are used to record the upper and lower values of the numbering cycle.

The problem of setting a Reset Limit and Reset Value for "Day" ("Day" is cyclic but the number of days in the year will vary from year to year) will be handled by placing a blank in Reset Value and giving a Reset Limit of 'C', which will tell the computer to consult a calendar table to find the Reset Limit for the current year and the Reset Value for the coming year.

If the numbering division is continuous then Reset Limit will contain an asterisk and Reset Value will contain a blank.

C. <u>Reset Limit - Cyclic Numbering Divisions</u>

This field represents the upper value of the numbering cycle; the highest value assigned to this numbering division; the "stop" value, after which numbering begins anew. For example, if the numbering division being described is "NUM" and if its value stops increasing when a certain number is reached (i.e., "12") then this stop value is given. The value <u>must</u> be followed by an element separator ("-").

C. <u>Reset Limit - Continuous Numbering Division (Non-Cyclic)</u>

If there is no cycle and thus no reset limit for the numbering division, an asterisk ("*") should be placed in this sub-field. The asterisk (*) indicates that the value of the numbering division will continue to go up indefinitely. The asterisk must be followed by an element separator ("-").

CMF TAG 970 - PREDICITON (Cont.)

$a Issue Designation (cont.)

D. Reset Value - Cyclic Numbering Divisions

The lower value of the numbering cycle (usually 1, but not always); the lowest value assigned to this numbering division; the value to be assigned when numbering begins anew. The value must be followed by a field separator ("/") unless the division being described is the last.

D. Reset Value - Continuous Numbering Divisions (Non-Cyclic)

If there is no cycle and thus no Reset Value for the numbering division, this sub-field will contain a blank (ƀ). The blank (ƀ) must be followed by a field separator ("/") unless the division being described is the last.

The Reset Value should occupy the same number of positions as are occupied by the Reset Limit (right justify Reset Value and fill with leading zeros if necessary).

Example

Life magazine.
Numbering divisions:
Date → no. vol.

no. is a cyclic division which increments by 1. It begins at value 1 and continues through value 26, then begins at 1 again, etc.

ƀƀ	$a	Num						01	26	-	01	/	Vol	(etc....)

Field separator
Reset Value
Name of Numbering division
Element separator
Reset Limit
Increment value

$a Issue Designation (cont.)

Example

Hard times.
Numbering divisions:
Date $\boxed{\text{Number}}$

Number is a continuous numbering division (no Reset Limit, no Reset Value) which increments by 1.

```
|ƀƀ|$a|Num| | | | | | |01|*|-|ƀ|/|Day|(etc....)
```

Name of Numbering division

Reset Value

Element separator

Reset Limit

Increment value

TRIGGERING ACTION OF NUMBERING DIVISION

If the activity of this numbering division directly affects (or triggers) the activity of another numbering division, subfields E - G must be used. (Taken together, the numbering divisions may be used to describe parallel hierarchical chains, but they can not be used to describe tree hierarchies).

E. Name of Directly Superior Numbering Division

If the occurrence of 1 or more numbering cycles or increments in this division causes the value of another numbering division to go up, then the name of the affected numbering division must be given in this sub-field. If there are several affected numbering divisions (e.g., vol. and year) the one which is directly superior should be named.

Note that all incrementing superior numbering divisions must be named in a field describing some inferior numbering division if they are ever to be incremented. Static superior numbering divisions do not present this problem, since their increments are irregular or nonexistent.

$a Issue Designation (cont.)

If no part of the issue designation is affected by the cycles or increments of this division, or if this division's numbering is continuous, this sub-field should contain blanks (bbb)

F. Number of Cycles or Increments Needed to Trigger Superior Division

If a directly superior numbering division has been named then the number of times that the numbering division being described must cycle or increment before a change in the value of the superior division can occur must be given here. The presence of an asterisk (*) in Reset Limit will signify that it is the increments of the subordinate inferior numbering division and and not its cycles which cause a change in the value of the superior division.

If no directly superior numbering division has been named this sub-field will contain two blanks (bb).

G. Cycle or Increment Counter

If a directly superior numbering division has been named the number of cycles or increments which have already occurred will be recorded here. If none have occurred this sub-field will contain a zero value ("00").

The counter will be incremented up to the limit specified in the Number of Cycles or Increments Needed to Trigger Superior Division field and back to "00" by the Monthly Status Run, but an initial value (the current count of cycles or increments) must be given by the library.

If no directly superior numbering division has been named and consequently no "number of cycles or increments" value has been given, this sub-field will contain blanks (bb).

$a Issue Designation (cont.)

Example Given a serial with numbering divisions of "vol." and "no.":

"No." goes from 1 to 6 and 1 to 6 again (in increments of 1) at which point "vol." goes up. In the example given below the serial has gone from 1 through 6 once and has a current value of 2.

```
|ƀƀ|$a|Num|   |Vol|02|01|01|6|-|1|/|Vol|(etc....)
        |       |   |  |  |  | |  | |Field separator
    Name of     |   |  |  |  | |  |Reset Value
    numbering   |   |  |  |  | |Element separator
    division    |   |  |  |  |Reset Limit
                |   |  |  |Increment value
                |   |  |Cycle or increment counter
                |   |Cycles or increments needed to
                |        trigger
                |Directly superior numbering division
```

H. Binding Unit Indicator

This sub-field consists of a one-position code which indicates whether this numbering division identifies a binding unit, a bibliographic unit (that is, a CSL-PC approved counting unit for permanently held pieces), or both. Only one numbering division of the serial may identify either unit. A "Y" entry in this position insures that in addition to predicting the arrival of serials issues, a binding notice will be triggered each time that the Monthly Status Run concludes that the serial issue it is predicting will contain a new value in this numbering division, (i.e., each time it concludes that the serial issue it is predicting will contain a new volume number - if the division being described is "vol.") If the binding unit (and/or bibliographic unit) is not completed with each increment of the numbering division, use the Binding Comments delimiter under TAG 960. The notice will be produced only for those libraries which have indicated

$a Issue Designation (cont.)

that the binding unit is to be determined by the increments of a numbering division. This information is given in Tag 009.

Code	Meaning of Code
A	This numbering division is the bibliographic unit
Y	This numbering division is the binding unit
B	This numbering division is both the bibliographic unit and the binding unit
N	This numbering division is neither the bibliographic unit nor the binding unit

Example Given a serial with numbering divisions of "vol." and "no.":

When a vol. is complete it is bound. Vol. increments continuously. The increment of vol. is 1.

| b̸b̸ | $a | Vol | Y | b̸b̸b̸ | b̸b̸ | b̸b̸ | 01 | * | - | b̸

Binding unit indicator

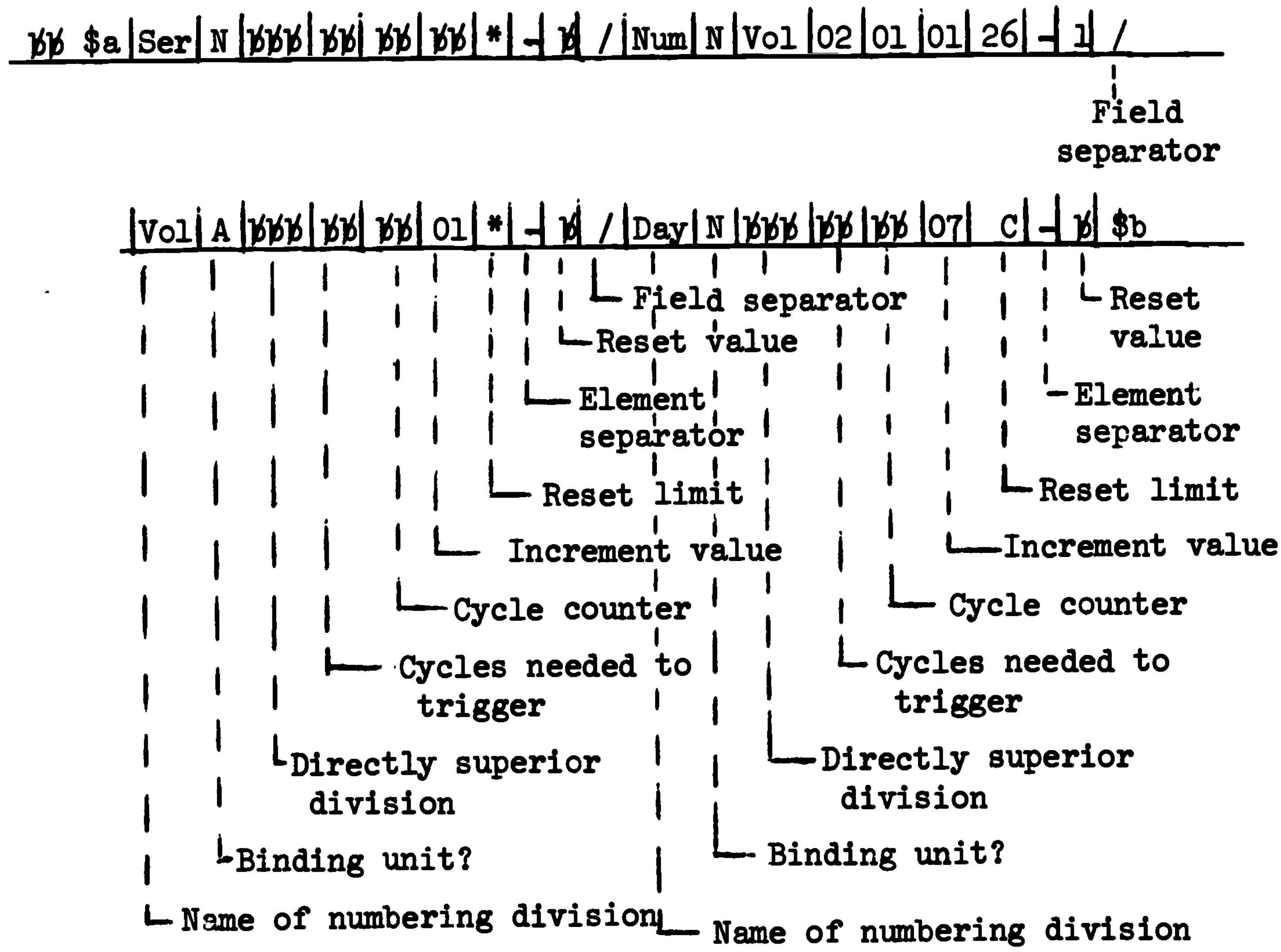
Example Given a serial with this issue designation:
Ser. Vol. No. Date, Month, Year

-The series value is 2 and increments irregularly
-The vol. value is incremented by 1 after no. has gone from 1 through 26, twice. No. has cycled once. Vol. is continuously numbered.
-Date, month and year should be treated as numbering division "day". Day goes up by 7. Current year is 1968.
-Binding occurs every time vol. value increments.
-Vol is the bibliographic unit.
-Year is the binding unit; therefore temporal binding pattern is used.

CMF TAG 970 - PREDICTION (Cont.)

$a Issue Designation (cont.)

FIG.11: ISSUE DESIGNATION



$b Publication Pattern

This delimiter describes the frequency of any given serial within a calendar based time frame. This means that it indicates how many issues are to be published during any month or year, and during which week or month those issues are to be published.

Format:	Number of Positions
Time Frame	12 AN
Arrival Delay (in weeks)	2 N

Time Frame is a twelve position sub-field; one position for each month. Each position holds a code which indicates how many issues are to be published during the associated month and during which week(s) publication is expected.

CMF TAG 970 - PREDICTION PATTERN (Cont.)

$b Publication Pattern (cont.)

The codes allow description of publications with a weekly or lower frequency. Any publication which is published more often than five times per month cannot be described by these codes.

FIG.12: PUBLICATION CODE

ƀ - Nothing published	G - 3rd & 5th weeks
1 - 1st week	H - 4th & 5th weeks
2 - 2nd week	J - 1st, 2nd & 3rd weeks
3 - 3rd week	K - 1st, 2nd & 4th weeks
4 - 4th week	L - 1st, 2nd & 5th weeks
5 - 5th week	M - 1st, 3rd & 4th weeks
6 - Weekly	N - 1st, 3rd & 5th weeks
7 - Biweekly	O - 1st, 4th & 5th weeks
8 - 1st & 2nd weeks	P - 2nd, 3rd & 4th weeks
9 - 1st & 3rd weeks	R - 2nd, 3rd & 5th weeks
A - 1st & 4th weeks	S - 3rd, 4th & 5th weeks
B - 1st & 5th weeks	T - 1st, 2nd, 3rd & 4th weeks
C - 2nd & 3rd weeks	U - 1st, 2nd, 3rd & 5th weeks
D - 2nd & 4th weeks	V - 1st, 2nd, 4th & 5th weeks
E - 2nd & 5th weeks	W - 1st, 3rd, 4th & 5th weeks
F - 3rd & 4th weeks	X - 2nd, 3rd, 4th & 5th weeks

Comment

Monthly Publications for which the exact week of issue cannot be predicted should be described as being published during the first week of each month (Code "1").

Yearly Publications for which the exact month of issue cannot be predicted should be described as being published during January (1st week, Code "1").

Semimonthlies should be coded "8" or "F".

Arrival Delay (In Weeks)

This field indicates the number of weeks prior to or after the date shown in the publication pattern that the issues arrive.

These two positions will contain the number which indicates how many weeks are to

$b Publication Pattern (cont.)

be subtracted or added to the publication pattern date and a sign "+" or "-". The number should be right justified and if it occupies only 1 position it should contain a leading zero.

The sign will be minus ("-") if the arrival delay stands for the number of weeks prior to publication pattern date that issues arrive. The sign will be plus ("+") if the arrival delay stands for the number of weeks after the publication pattern date that issues arrive.

If there is no arrival delay, this field should contain zeros.

Example: "Hard times. Published every Monday, except bkweekly during July and August." Arrives 2 weeks late.

$b	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec		$c
	6	6	6	6	6	6	7	7	6	6	6	6	+02	

$d Matrix Start Values This delimiter provides the values which will be used as a base from which the Publication Pattern and the Issue Designation Pattern can begin generating the issue designations for the issues which are expected (the expected arrivals). These values will be the values which will appear on the first issue due to arrive after the date of entry of the serial record on the CMF and LMF files. They need be given only for serials which are new to the system or which have one or more parts of their Prediction Control changed.

$d Matrix Start Values (cont.)

Number of Start Values To Be Given:

Each numbering division which has been described by a field of data (Elements 1-8) in the Issue Designation Pattern must be assigned a start value. So this delimiter will contain one entry for each of these numbering divisions. (The Matrix Location subelement will be entered only once)

Order of Description:

The start values may be described in any order desired providing that superior fields are entered to the right of their subordinate fields. The order of entry will determine the order in which the divisions will be displayed on the Expected Arrivals List.

This is a variable length formatted field which is repeatable within the delimiter. The various fields will be separated by a field separator ("/").

Names of Subelements	Number of Positions
Matrix Location	3 N
Name of Numbering Division	3 A
Value	V
Field Separator(after every field except last)	/

Definition of Subelements

Matrix location — This subfield will give the value of that position in the Prediction Matrix Field to which the Start Values pertain. Prediction matrix locations are always 3 positions in length. One position is used to identify which year segment of the matrix is being addressed; and two positions are used to indicate which issue in that year segment is being referred to.

$d Matrix Start Values (cont.)

The Matrix Location Value will always be the last digit of a year plus 01. (e.g. "901" if the year segment is 1969), with two exceptions. If the current Prediction Control (that is, Publication Pattern, Issue Designation, and Matrix Start Values) does not apply to all issues contained in the Prediction Matrix Field, then the Matrix Location can be any value between _01 and _52. Similarly, if the first issue to be predicted for a serial which is new to the system is not the first issue of a publication year (e.g. if the first issue of LIFE to be predicted by the system is a March issue) then the Matrix Location can have any value between _01 and _52.

Name of Numbering Division

Find here the name assigned by the publisher (or supplied by the library) to the numbering division being described. The name must not occupy more than 3 positions. If the name (or its abbreviation) has more than 3 letters, it must be truncated. The full name, or abbreviation, of the major numbering division is to be given in $z of TAG 245.

Value — The value of the issue indicated by the start Values Matrix Location. Normally this will be the value of the first issue of the publication year and the Matrix Location will be _01. The length of the Value field must be sufficient to contain the largest value expected for the associated numbering division.

Example: Assume a serial with the following numbering divisions:
vol. ser. no. month year
The example on the following page shows the issue designation for the first issue to be predicted by the system:
vol.10 ser.2 no.6 Jan. 1969

$d Matrix Start Values (cont.)

$d	Ser	2	/	Mon	01	/	Yea	1969	/	No.	06	/	Vol	10	‡

Field terminator

(Order of start values parallels order on check-in list; superior fields to the right of their subordinate fields. Note that "Ser." increments irregularly, therefore it has no subordinate field and so can be entered anywhere in the delimiter).

$e Prediction Matrix This is a variable length formatted field which is repeatable within the delimiter. The Prediction Matrix covers a time period which extends from the earliest publication year for which some member library's issues are not yet transferred to permanent holdings (TAG 951) to the most recent issue predicted for the current publication year. The delimiter is composed of publication year segments. Each of these segments contains one position for a year identifier (e.g. "9" for 1969) plus one position for each predicted issue published during that year.

Names of Subelements	Number of Positions
Year of publication	1 N
Prediction matrix field	V
Field separator	/

$e Prediction Matrix(cont.)

Year of Publication

The first position in the field will contain a number representing the last digit of the calendar year of publication of the issues contained in the matrix (i.e. "9" for 1969).

For non-periodical serials a new year of publication will be generated when 99 matrix locations have been created. However, the new year can be started any time before that point provided that a library notices the change and notifies the Processing Center. Non-periodical serials with more than 99 issues per year cannot be controlled by the prediction mechanism and should have their issue designation stored, in summary form, in $f of TAG 970.

Prediction Matrix Field

For periodical serials, this field will contain one position for each issue published during the year identified in Year of Publication which has been predicted. Using the Publication Pattern the Monthly Status Run will create the matrix. As issue designations are generated for the coming month's expected arrivals, one position for each predicted issue will be added to the Prediction Matrix.

For non-periodical serials, this field will contain one position for each issue published during the year identified in Year of Publication. Since no publication pattern exists for these serials, the prediction matrix positions must be generated by some other means. The arrival of an issue serves this function. An issue designation and a matrix position are generated for the next issue due upon the arrival of the currently predicted issue.

$f Unbound Issues of Frequent Serials This is a variable length unformatted delimiter.

If a serial is published more often than weekly the arrival of its issues cannot be predicted by the system. However, this delimiter has been provided so that a record of the numbering, or the issue designations, of the published unbound issues can be maintained by the Processing Center. A record of the permanently held (i.e., bound), units of such serials can be kept in the HOLDINGS Tag.

The data may be given in a detailed text form or in a summary statement. Since the field is not automatically updated, the Processing Center will have to make additions and changes via a change transaction which replaces the whole delimiter.

Comment: It is recommended that this field be given in a summary text form. If this is done and if a field separator ("/") is used to separate the upper limit from the rest of the data, the upper limit can be changed whenever necessary without this change affecting the rest of the data. This would require that an additional change transaction be specified for updating this upper limit.

$y Prediction History If the prediction control data (that is, the Publication Pattern, Issue Designation, and Matrix Start Values given in TAG 970) has not always been the same as it is currently, then the past prediction control(s) must be preserved in this variable length, formatted, repeatable delimiter.

$y Prediction History (cont.)

Format: (All 4 Sub-Fields Must Be Given)	Number of Positions
1. Publication Pattern	14V
2. Matrix Start Values	V
3. Field Separator	"/"
4. Issue Designation	V

The format of each of these sub-fields is the same as the formats specified in $a, $b and $d above with this exception: a "-" will be substituted for the "/" used to separate the individual segments of the Matrix Start Value.

FIG. 13: PREDICTION HISTORY

Example: Serial A has the following prediction history:

-1964 - June 1967: it was a monthly with continuous numbering
-July 1967: it became a weekly
-Jan 1968: continuous numbering changed to cyclic: 52 nos. to a volume
-Jan 1969 - : it again became a monthly; continuous volume numbering and 12 nos. to a volume.

The Prediction History will contain the Publication Pattern, Matrix Start Values and Issue Designation for:

-the 1964 - June 1967 period
-the July 1967 - Dec 1967 period
- the 1968 period

Therefore, the $y delimiter will be entered three times.

$y	1	1	1	1	1	1	1	1	1	1	1	1	+02	401 NUM 01-MON 01-

$\underbrace{\text{Publication Pattern}}$ $\underbrace{\text{Matrix Start Values}}$

FIG. 13 (Cont.)

```
YEA 1964 / |NUM|N |ƀƀƀ|ƀƀ|ƀƀ| 01|*-|ƀ|/|MON|N|YEA
              Issue Designation

|01|00|01|12-|01|/|YEA|Y|ƀƀƀ|ƀƀ|ƀƀ|01|*-|ƀ|$y

6|6|6|6|6|6|6|6|6|6|6|6|+02| 707 NUM 31 - DAY 7183 /
 Publication Pattern          Matrix Start Values

|NUM|N|ƀƀƀ|ƀƀ|ƀƀ|01|*-|ƀ|/|DAY|N|ƀƀƀ|ƀƀ|ƀƀ|07
          Issue Designation

|C-|ƀ|$y|6|6|6|6|6|6|6|6|6|6|6|6|+02|801 NUM 1-VOL 1 -
          Publication Pattern          Matrix Start Values

DAY 8002 / NUM|N |VOL|01|00|01|52-|01|/|VOL|Y|ƀƀƀ
                        Issue Designation
```

FIG. 13 (Cont.)

| b̸b̸ | b̸b̸ | 01 | *- | b̸ / | DAY | N | b̸b̸b̸ | b̸b̸ | b̸b̸ | C- | b̸ | ‡ |

Indicators

The FIRST INDICATOR will be used to identify non-periodical serials.

Code	Meaning of Code
0	Prediction is not based on Publication Pattern
1	Prediction is based on Publication Pattern

The SECOND INDICATOR will be blank in this field.

LMF TAG 971 - PREDICTION

Delimiter	Name of Data Elements	Number of Positions
$a	Delay Codes:	
	1. 1st Claim Delay (weeks)	2N
	2. 2nd Claim Delay (weeks)	2N
	3. Missing Delay (weeks)	2N
	4. Binding Delay (weeks)	2N
	5. Binding Delay Counter	2N
	6. BTC No.1 Return Counter	1N
	7. BTC No.2 Return Counter	1N
$b	Prediction Matrix	V + "/"
	1. Year of Publication	1N
	2. Prediction Matrix Field	V
	3. Field Separator	"/"
$c	Special Activities Pattern	12N
$d	Additional Issues Discription:	V + "/"
	1. Matrix Location	2N
	2. Issue Designation of Extra Issue	V
	3. Field Separator	"/"
$f	Unbound Issues of Frequent Serials	V
$u	Claiming Comments	V
$v	Check-in Comments	V
$w	Renewal Comments	V
$x	Payment Comments	V
$y	TPCIX Ordering Comments	V
$z	TPCIX Arrival Comments	V

Definition of Data Elements

$a Delay Codes - 1st Claim Delay (weeks) The number of weeks allowed to elapse between the publication date and the issuance of the first claim notice. (This code is not available for use with NON-PERIODICAL SERIALS).

$a <u>Delay Codes</u> (cont.)

<u>Delay Codes - 2nd Claim Delay (weeks)</u> The number of weeks allowed to elapse between the publication date and the issuance of the second claim notice. (This code is not available for use with NON-PERIODICAL SERIALS).

<u>Delay Codes - Missing Delay (weeks)</u> The number of weeks allowed to elapse between the publication date and the time that an issue should be declared "missing, no further claims to be made." (This code is not available for use with NON-PERIODICAL SERIALS).

<u>Delay Codes - Binding Delay (months)</u> The number of months allowed to elapse between the prediction of the last issue of a binding unit and the issuance of the binding notice and the first binding turnaround card.

A zero means that a binding notice is to be issued with the EAC of the issue which triggers the binding.

<u>If this field is left blank then no binding action can occur</u>.

A value of 1 (or more) means that a binding notice is to be issued 1 (or more) months <u>after</u> the prediction of the trigger issue.

<u>Delay Codes - Binding Delay Counter</u> This counter is used to record the passing of the binding delay period. It is automatically developed and maintained. (Initially, it should be set at zero).

<u>Delay Codes - BTC No. 1 Return Counter</u> This counter records the passing of months since the issuance of a Binding Turnaround Card 1. Initially, it should be set at 2. The field is automatically developed and maintained.

<u>Delay Codes - BTC No. 2 Return Counter</u> This counter records the passing of months since the issuance of a Binding Turnaround Card 2. Initially, it should be set at 2. The field is automatically developed and maintained.

$b Prediction Matrix

This delimiter will be composed of one or more transitory fields containing status and tracking information for recent issues.

Serials which may use this delimiter are:

1. PERIODICAL SERIALS - those serials which are issued at known intervals and which possess, or can be assigned, a numbering pattern of some kind.

2. NON-PERIODICAL SERIALS - numbered serials which are issued at irregular intervals.

This delimiter consists of the Prediction Matrix for one or more years of publication.

A field will not be deleted until all of the year's issues have been shifted to permanent holdings. Thus, for serials bound biennially or less often, a period of several years may be covered by the Prediction Matrix at any one time. If this occurs, each year's Prediction Matrix, except the last, is followed by a field separator ("/").

Prediction Matrix - Year of Publication

The first position in the field will contain a number representing the last digit of the calendar year of publication of the issues contained in the matrix. For example, if the year of publication were "1969", a "9" would be given in this position.

PERIODICAL SERIALS - a new Year of Publication will be created for the coming year as soon as the last issue for the current year has been predicted.

NON-PERIODICAL SERIALS - A new Year of Publication will be generated when 99 matrix locations have been created. However, the new year can be started any time before that point provided that the library notices the change and notifies the Processing Center. This should be indicated on the EAC for the first issue of the new year.

$b Prediction Matrix Field (cont.)

Prediction Matrix - Prediction Matrix Field

PERIODICAL SERIALS This field will contain 1 position for each issue published during the calendar year identified in the Year of Publication which has been predicted. Using the PUBLICATION PATTERN the Monthly Status Run will create the matrix. As issue designations are generated for the coming month's expected arrivals, one position for each predicted issue will be added to the Prediction Matrix.

For each issue predicted two types of information are carried in the matrix: number of copies expected and the "status" of some or all of those copies. The bottom,half of each character position is reserved for a machine language number (4 bit) representing the number of copies expected. (This value is given in TAG 009 of the serial record). The top half of the character position will always contain a code (4 bit) for the status of the issue.

Status Code	Meaning of Code
1	"Expected." This code is assigned to a matrix position when the issue with which it is associated has been predicted by the Monthly Status Run.
2	"Arrived." This code is assigned to a matrix position when the Weekly Update Program has determined that all copies of the issue have been received by the Library; (that is, when Expected Arrival Cards have been turned in for all copies of the issue).
3	"Claimed Once." This code is assigned to a matrix position if one or more copies of the issue have not been received and the 1st claim notice has been issued.
4	"Claimed Twice." This code is assigned to a matrix position if one or more copies of the issue have not been received and the 2nd claim notice has been issued.

$b Prediction Matrix (cont.)

Code	Meaning of Code
5	"Missing." This code is assigned to a matrix position if one or more copies of the issue have not been received and the Missing Delay period has elapsed (Beyond the "Missing" stage, extra copies are not tracked.)
6	"At Binding Processing." This code is assigned (usually to a group of matrix positions) if the binding action predicted by the monthly update program was actually taken by the Library. (Note: Assignment of this code is not determined by Binding Delay Code.)
7	"Holdings." This code is assigned (usually to a group of matrix positions) if: 1. The binding action predicted has been completed (i.e., if bound volumes have come back from binding); or 2. Some binding action was taken, though it was not the predicted binding action.

LIFE Example

In a Periodical Serial's Prediction Matrix Field the top half of each matrix position contains a status code. The bottom half indicates the number of copies predicted but not yet received. A "0" means that all copies have been received. Years 1968 to date are carried in the matrix. The serial is a weekly.

```
   77777777777777777777777777777776666666|66555666666666666666/ 222222222222222222222222222221111
$b8000000000000000000000000000000000000000|00111000000000000000/9000000000000000000000000000000342A
```

NON-PERIODICAL SERIALS - This field will contain 1 position for each issue published during the calendar year identified in Year of Publication which has been predicted.

Since no publication pattern exists for these serials, the prediction matrix positions must be generated by some other means. The arrival of an issue serves this function. An issue designation and a matrix position are generated for the next issue due upon the arrival of the currently predicted issue.

$b Prediction Matrix (cont.)

Only one issue can be predicted for any one arrival month. However, if it becomes apparent that one or more issues should have been received but weren't (i.e., if Report no. 90 is predicted and Report 95 arrives), the prediction routine can indirectly catch up with the serial if the checker will do the following:

1) Input the current EAC.

2) Indicate on it the number of missing issues.

3) Await the EAC for the next issue due.

In the case of Non-Periodical Serial's Prediction Matrix Field the top half of each matrix position contains a status code.

The bottom half indicates the number of copies predicted but not yet received. "0" means that all copies have been received.

For each issue predicted two types of information are carried in the matrix: the "status" of the copy predicted and the number of copies.

However, the only status codes to be used for NON-PERIODICAL SERIALS are the following:

Code	Meaning of Code
1	"Expected"
2	"Arrived"
5	"Missing" - This code is assigned by the library
6	"At Binding Processing"
7	"Holdings"

Claiming. At present Claiming cannot be automatically initiated for NON-PERIODICALS. The library must keep track of any claims made for these missing issues.

$b Prediction Matrix (cont.)

Example: The holding library has indicated that new years of publication began after the 10th and 35th issues. Years 1967, 1968 and 1969 are identified in the matrix.

$$\$b7{}^{7777766666}_{0000000000}/8{}^{222222222255222}_{000000000022000}/9{}^{221}_{002}$$

$c Special Activities Pattern (SAP) If prediction of any or all of the following actions is desired a twelve month time frame must be given in this delimiter:

Renewal of Subscriptions

Payments

Temporal Based Binding - (see discussion below)

Index Arrival (I)

Extra Issues Arrival (issues which lack predictable issue designation but arrive regularly (i.e., Christmas issue) (X)

Title Page Arrival (TP)

Table of Contents Arrival (C)

Index to be Ordered (I)

Extra Issues to be Ordered (X)

Title Page to be Ordered (TP)

Table of Contents to be Ordered (C)

$c <u>Special Activities Pattern (SAP)</u> (cont.)

Each month during which some or all of these activities take place will contain a code for the activity (or activities). The Special Activities Codes are given on the following page. Notice that TP, C, I and X are coded as one entry. The delimiters $y and $x are used to specify which pieces are to be ordered and which pieces will arrive during the months indicated.

Prediction of the activities will take the following forms:

Renewal notices

Payment notices

Payment turnaround cards

Binding notices

Binding turnaround card no. 1

TPCIX order notices

Expected arrivals list (TPCIX arrivals)

FIG. 14: SPECIAL ACTIVITIES CODE

Code	Meaning of Code
ƀ	No activity this month
A	Payment to be made this month
B	Renewal to be made this month
C	Binding Notice to be issued this month - indicates that binding unit is now complete and, if no binding delay is given, that the next Binding Unit should be prepared for binding.
D	TPCIX to be ordered this month
E	TPCIX arrives this month
F	Payment and Renewal
G	Payment and Binding
H	Payment and TPCIX Ordered
J	Payment and TPCIX Arrives
K	Payment, Renewal, Binding
L	Payment, Renewal, TPCIX Ordered
M	Payment, Renewal, TPCIX Arrives
N	Payment, Binding, TPCIX Ordered
P	Payment, Binding, TPCIX Arrives
Q	Payment, TPCIX Ordered, TPCIX Arrives
R	Renewal Binding
T	Renewal, TPCIX Ordered
U	Renewal, TPCIX Arrives
W	Renewal, Binding, TPCIX Ordered
X	Renewal, Binding, TPCIX Arrives
Y	Renewal, TPCIX Ordered, TPCIX Arrives
Z	Binding, TPCIX Ordered
1	Binding, TPCIX Arrives
2	Binding, TPCIX Ordered, TPCIX Arrives
3	TPCIX Ordered, TPCIX Arrives
4	Payment, Renewal, Binding, TPCIX Ordered
5	Payment, Renewal, Binding, TPCIX Arrives
6	Payment, Binding, TPCIX Ordered, TPCIX Arrives
7	Renewal, Binding, TPCIX Ordered, TPCIX Arrives
8	Payment, Renewal, Binding, TPCIX Ordered, TPCIX Arrives

TPCIX is used to indicate that the activity of at least one category: (Title Page, Contents, Index, or Extra Issues) is to be predicted.

$c Special Activities Pattern (SAP) (cont.)

Temporal Based Binding - The month during which the last issue of the binding unit is published may be specified but only for those serials which are bound on a "temporal" basis; that is, only for serials which have as their binding limits the limits of a publication period (i.e., all issues published during any one year are bound together.)

An entry in this field sets the upper limit of the binding unit. The lower limit is the first issue published during or after a month which follows an upper limit month.

For example, if LIFE magazine is being bound three times a year it might have binding triggers coded in the months of April, August, and December. This means that the January-April issues form a binding unit, the May-August issues form a binding unit and the September-December issues form a binding unit. (Notice that no clue is given as to when the binding action is to occur. The Binding Delay Code in TAG 971:$a Delay Codes provides this information).

If the binding unit limits extend beyond a 1 year period see Binding Comments, TAG 960.

TPCIX Arrival - The Special Activities time frame differs from the PUBLICATION PATTERN time frame in that the basic information for arriving pieces (TP,C,I,X) is given in an arrival pattern rather than in a publication pattern. Further, unlike the issues controlled by the prediction matrix, the arrivals predicted through use of the SAP will not be confirmed by punched turnaround information (i.e. Expected Arrival Cards). Nor will they be automatically tracked or recorded in the serial record. Thus once prediction has taken place it is up to the library to take over control. Finally, both patterns are expressed in a month based code; however, the Publication Pattern with its Arrival Delay indicates week of arrival whereas the SAP can indicate only the month of arrival.

$c Special Activities Pattern (SAP) (cont.)

Example — For this serial the Library wants:

Renewal notice in January
Payment notices in June and December
Temporal Based Binding -- December
Index Arrival predicted for February
Title Page and Contents arrival predicted February
Index order notice in November

```
         $c ƀ E ƀ ƀ ƀ A ƀ ƀ ƀ ƀ D G ;
Months:     J F M A M J J A S O N D
```

$d Additional Issues Description — This delimiter may be used to store descriptions of any issues received by the library which fall outside the publication pattern. These include any TPCIX pieces, as well as any unpredicted issues, whether numbered or not. This field is not automatically developed; therefore, if it is to appear on any output lists, the data must be supplied by the library via UACs (Unexpected Arrival Cards).

This is a variable length formatted field which is repeatable within the delimiter.

This field consists of a Prediction Matrix Location and description of the issue in the format below.

1. Matrix Location - Each issue must be assigned an identifying Prediction Matrix Location so that it can be placed in the proper time sequence by the computer.

This identifying Prediction Matrix Location must be assigned by the Checker at the time that the issue is received, and will be input to the system via the UAC for the issue. It

$d <u>Additional Issues Description</u> (cont.)

must be the Prediction Matrix Location of a predicted issue which will be bound at the same time as the issue being described.

2. <u>Issue Designation or Description of Additional Issue</u> - Although this data may be given in any way the library chooses, an abbreviated form is preferable. It will be dropped once the binding unit has been added to permanent holdings (TAG 951).

The description for each extra issue, except the last, will be followed by a field separator ("/").

<u>LIFE Example</u> $d926I/926TPC<

$f <u>Unbound Issues of Frequent Serials</u> This is a variable length unformatted delimiter. If a serial is published more often than weekly, the arrival of its issues cannot be predicted by the System. However, this delimiter has been provided so that a record of the unbound issues received can be maintained by the library. (A record of the permanently held, i.e., bound, units of such serials can be kept in the HOLDINGS TAG 951.

The data may be given in a detailed text form or in a summary statement. Since the field is not automatically updated, the library will have to make additions and changes via a change transaction which replaces the whole delimiter.

<u>Comment</u> It is recommended that this field be given in a summary text form. If this is done and if a field separator ("/") is used to separate the upper limit from the rest of the data, the

$f Unbound Issues of Frequent Serials (cont.)

upper limit can be changed whenever necessary without this change affecting the rest of the data. This would require that an additional change transaction be specified for updating this upper limit.

$u Claiming Comments — Comments addressed to the claims division which are not specifically provided for elsewhere may be recorded here.

The source for claiming should be given here.

LIFE Example — $uClaimƀfromƀpublisher

$v Check-In Comments — Comments addressed to the Checker or Enterer, which are not specifically provided elsewhere may be recorded here.

Example — $v First copy to Librarian's Office. Toss dups

LIFE Example — $vTossƀdups

$w Renewal Comments — Comments concerning renewal may be recorded here. The renewing office, agent, etc. should be given here.

Example — $w Do not wait for notice from publisher. Renew through Agent.

LIFE Example — $wDoƀnotƀwaitƀforƀrenewalƀnoticeƀfromƀpublisher

$x Payment Comments

Comments concerning payments may be recorded here. Payment amount and the name of the payee should be given here.

Example

$x Amount of each payment is $20. Pay publisher

LIFE Example

$x8.75,pay⌀Faxon

$y TPCIX Ordering Comments

Comments concerning the ordering of Title Page, Table of Contents, Index, and Extra unnumbered issues must be recorded here.

Exactly which items should be ordered during a TPCIX ordering month should be made clear in this delimiter. Also, the ordering source and price must be given.

Example

$y Order Index from Agent, $2.00 in Jan. Order special Fall issue from Agent, $6.00, in Aug.

LIFE Example

$yOrder⌀index⌀from⌀publisher⌀in⌀Jan.,⌀$3.00

$z TPCIX Arrival Comments

Comments concerning the arrival of Title Page, Table of Contents, Index, and Extra unnumbered issues must be recorded here.

Exactly which items are to arrive during a TPCIX arrival month should be made clear in this delimiter.

$z TPCIX Arrival Comments (cont.)

Example $z TPC arrives in Dec.; Index in Jan. ǂ

LIFE Example $zIndexbarrivesbinbFeb.,bTPCbarrivesbinbMarch ǂ

Indicators BOTH INDICATORS are blank.

LMF TAG 980 - ORDERING

The data carried on order slips may be recorded in this tag. The data will be static except for the "cost" which should be kept up to date by the library. If this tag is used, "On Order" lists by main entry and by order number can easily be output.

Delimiter	Name of Data Elements	Number of Positions
$a	Fixed Data:	
	Date Ordered	4N
	Date Received	4N
	Date of Bill	4N
	Cost	6N
$b	Source of Information	V
$c	Ordering Notes	V
$d	"Recommended" Data:	
	1. Date	4N
	2. Person	V
$e	"Approved" Data:	
	1. Date	4N
	2. Person	V

Definition of Data Elements

$a Fixed Data — This fixed length delimiter consists of four subelements defined below. A total of eighteen numeric positions constitute the field.

Date Ordered - A four-position Julian date indicating when the serial was ordered will be given here. The first position of a Julian date is used for the year, the other three positions represent the ordinal position of the day in the 001-365 sequence of days. If this subelement is not used it will contain blanks.

Date Received A four-position Julian date indicating when the serial was first received will be given here. If this subelement is not used it will contain blanks.

Date of Bill A four-position Julian date indicating when the invoice was written will be given here. If this subelement is not used it will contain blanks.

Cost The amount actually charged for the serial, as opposed to its price, is given here. The amount is to be given in dollars and cents. It reflects the cost per year. for one set of issues. The cost should be kept up to date by the library.

$a Fixed Data (cont.) If the cost given is not the cost per year, a note indicating what the cost unit is must appear under $c of TAG 980. If the cost is not known this subelement will contain blanks.

$b Source of Information This variable-length, unformatted delimiter may be used to record an abbreviated or full text version of the publication or other source from which the ordering data was acquired.

$c Ordering Notes This variable-length, unformatted delimiter may be used to record any ordering data not specified elsewhere in the record.

If the price given under TAG 009 and the cost given under $a of TAG 980 are based on something other than year (i.e. price per issue and cost per issue) then a note to that effect must be given here.

LIFE example $cOrderb10bcopies

$d "Recommended" Data This variable-length, formatted field may be used to indicate on whose recommendation the serial was ordered. Two subelements constitute this field.

Date A four-position Julian date indicating when the recommendation was made will be given here. If the date is unknown this subelement will contain blanks.

Person The name of the person who recommended that the library order the serial will be given here in an abbreviated or full text form. If this information is unavailable, this subelement is omitted.

LIFE example: $d6355bbybP.L.

$e "Approved" Data

This variable-length formatted field may be used to indicate who approved the order for this serial. Two subelements constitute this field.

Date Find here a four-position Julian date indicating when approval for the purchase of this serial was given. If the date is unknown, this subelement will contain blanks.

Person The name of the person who approved the order will be given here in an abbreviated or full-text form. If this information is unavailable, this subelement is omitted.

LIFE example: $e6359b̸byb̸ST F

Indicators

BOTH INDICATORS are blank.

LMF TAG 985 - ACCOUNTING

Delimiter	Name of Data Elements	Number of Positions
	PAYMENTS MADE DURING CURRENT YEAR	
$a	Total acquisitions expenditure (in dollars)	V
$b	Total claims expenditure (in dollars)	V
$c	Total lacunae (wants) expenditure (in dollars)	V
$d	Total "binding" expenditure (in dollars)	V
$e	Total "other" expenditure (in dollars)	V
	ENCUMBRANCES FOR CURRENT YEAR	
$m	Total acquisition encumbrance (in dollars)	V
$n	Total claims encumbrance (in dollars)	V
$o	Total lacunae (wants) encumbrance (in dollars)	V
$p	Total "binding" encumbrance (in dollars)	V
$q	Total "other" encumbrance (in dollars)	V
$z	Accounting comments	V

To assist the serials departments of individual libraries with budget control and analysis, the expenses which are related directly to serial titles may be recorded in delimiters $a through $r. The expenditures and encumbrances recorded will be cumulative for one fiscal year. At the end of the fiscal year they will be dropped from the record. If the library wishes, they will then be added to a separate machine file and stored indefinitely. The cumulative contents of this storage tape can then be printed annually and given to the library.

Definition of Data Elements

PAYMENTS MADE DURING CURRENT YEAR

$a Total Acquisitions Expenditures — The total amount of money paid out for renewal subscriptions, new subscriptions, standing orders, and/or any other acquisitions order (except claims or lacunae orders) for SERIALS IN PROGRESS. Money paid out for the

$a Total Acquisitions Expenditures (cont.) acquisition of CEASED SERIALS which are new to the library should also be recorded here.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$b Total Claims Expenditures The total amount of money paid out for claiming current issues. (The cost of acquiring back issues should be recorded in $c).

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$c Total Lacunae (wants) Expenditures The total amount of money paid out for acquiring back issues needed to fill in gaps in the permanent holdings of serials already held by the library.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$d Total "Binding" Expenditure The total amount of money paid out for binding or otherwise changing the form of the serial issues (i.e. microfilming) for permanent storage.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$e Total "Other" Expenditures The total amount of money paid out for all other expenses incurred as a result of acquiring and storing the serial. The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$f - $l Undefined

These delimiters may be used to record expenditures which are not covered by delimiters a - d and which the library wishes to separate out from the Total "Other" Expenditures contained in $e.

ENCUMBRANCES FOR CURRENT YEAR

$m Total Acquisitions Encumbrances

The total amount of money which the library has agreed to pay for renewal subscriptions, new subscriptions, standing orders, and any other acquisitions orders for SERIALS IN PROGRESS. Money which the library has agreed to pay for the acquisition of CEASED SERIALS which are new to the library should also be recorded here.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$n Total Claims Encumbrances

The total amount of money which the library has agreed to pay for claiming current issues. The amount encumbered for acquisition of back issues should be recorded in $o.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$o Total Lacunae (wants) Encumbrances

The total amount of money which the library has agreed to pay for the acquisition of back issues needed to fill in gaps in the permanent holdings of serials already held by the library.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$p Total "Binding" Encumbrances

The total amount of money which the library has agreed to pay for binding, or otherwise changing the form of

$p Total "Binding" Encumbrances (cont.)

the serial issues (i.e. microfilming) for permanent storage.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$q Total "Other" Encumbrances — The total amount of money which the library has agreed to pay for all other expenses incurred as a result of acquiring and storing the serial.

The total will cumulate monthly for one year. It will then be erased. The cumulative total may not exceed $9999.00.

$r-$x Undefined — May be used to record encumbrances which are not identified in delimiters $m - $q and which the library wishes to separate out from the "Total 'Other' Encumbrances" contained in $q.

$z Accounting Comments — Any accounting information, not specifically provided for elsewhere in this tag, which the library wishes to preserve may be recorded here.

Indicators — The FIRST INDICATOR will show whether or not the serial is a new acquisition in the local library.

Code	Meaning of Code
∅	Serial is not new this year
1	Serial is new this year

The SECOND INDICATOR is blank.

<u>Comment</u>

Any or all of the "payment" delimiters may be used. In the event that only one general payment total is to be input for each serial, delimiters $a - $e will not be used since the TAG 009 field <u>Total Payments to Date This Year</u> carries this data.

Any or all of the encumbrance delimiters may be used. However, if only one general encumbrance total is to be input for each serial, that total will be delimited with $r.

INDEX OF TAGS AVAILABLE
FOR USE IN THE
CSL-PC SERIALS CONTROL SYSTEM

CSL-PC SERIAL CONTROL FORMAT

FIELD AREA TABLE

TAGS	GENERAL FUNCTION
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010 - 049	Control Numbers
050 - 099	Knowledge Numbers
100 - 139	Main Entry
240 - 244	Supplied Titles
245 - 269	Title Paragraph
300 - 369	Collation
400 - 499	Series Notes
500 - 529	Bibliographic Notes
600 - 699	Subject Added Entries
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CSL-PC SERIALS CONTROL FORMAT

SERIALS CONTROL DATA

FIELD AREA TABLE

TAGS	GENERAL FUNCTION
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The following pages contain an index of all tags available for use in the CSL-PC Serials Control System. It includes all standard MARC II tags which are defined in the Subscriber's Guide to the MARC Distribution Service (August, 1968), as well as those which were developed especially for this system. All relevant monographic tags have been retained in order that the system may be expanded in the future to include monographs cataloged and/or purchased as serials. Some tags contained in the Subscriber's Guide have had their definitions and/or their formats altered. These tags, along with those developed especially for the Serials Control System appear underlined in the index. Tags which are particularly useful or necessary to serials processing are indicated by a double asterisk (**) in the left-hand margin.

The format of the index tag entry line is as follows:

```
               TAG
               |   TAG LENGTH
               |   |          TAG NAME
               |   |          |       FILE IN WHICH TAG MAY BE FOUND
               |   |          |             |
               |   |          |             |
EXAMPLE:  **  007 (30) NON-VARIANT DATA -   CMF
          |
          SERIAL USAGE INDICATOR
```

For fixed length tags "TAG LENGTH" will be indicated, whereas this field will contain "VAR" for variable length tags. Listed below the tag entry line for fixed length tags will be the data elements and their relative position in the tag. For variable length tags the indicators and delimiters will be listed below the tag entry line. (Indicators to the left and delimiters to the right.) The resident file field of the tag entry line may contain "CMF" for Central Master File, "LMF" for Local Master File, or "BOTH" if the tag may reside on either or both of the files.

** 007 (39) NON-VARIANT DATA ELEMENTS - CMF

Name of Data Elements	Number of Positions	Char. Pos. In Field
Date Entered on CMF File	6N	1-6
Type of Publication Date Code	1A	7
Date 1 (Begin date in most cases)	4N	8-11
Date 2 (End date for eased serials)	4N	12-15
Country of Publication Code	3A	16-18
Government Publication Indicator	1N	19
Index Indicator	1N	20
Language Code	3A	21-23
Modified LC Card Indicator	1N	24
LC Cataloging Source Code	1A	25
Type of Record	1A	26
Source of CMF Record = MARC?	1A	27
CODEN Designation	7A	28-34
Link Control Number	5N	35-39

** 009 (73) VARIANT DATA DESCRIPTION - LMF

Name of Data Elements	Number of Positions	Char. Pos. In Field
Processing Status	1N	1
Bibliographic Level	1A	2
Number of Copies	1A	3
Agent Code (includes publisher)	3A	4-6
Fund Code	6AN	7-12
Sub-Account Number	2AN	13-14
Holdings Data Present ?	1A	15

** 009 (73) VARIANT DATA DESCRIPTION - LMF

Name of Data Elements	Number of Positions	Char. Pos. In Field
Binding Data Present ?	1A	16
Prediction Data Present ?	1A	17
Accounting (Payment) Data Present ?	1A	18
Inaccessible Issues Indicator Field	3A	19-21
Local Library's Cataloging Source	2N	22-23
Variant Main Entry ?	1A	24
Catalog Status	1A	25
Routing Slip Number	2N	26-27
Include in Want List ?	1A	28
Broad Subject Category	3A	29-31
Total Payments To Date This Fiscal Year	6N	32-37
Retention Policy	2AN	38-39
Order Number or Membership Number	7AN	40-46
Acquisition (Provenance) Code	1AN	47
Form of Arrival Code	1A	48
Form of Storage Code	1A	49
Date Entered on LMF File	6N	50-55
Claim Tally	2N	56-57
Check-In Tally	3N	58-60
Bound Volumes Added Tally	2N	61-62
Local System Conversion Number	4N	63-66
Price Per Unit in Dollars & Cents	6N	67-72
Binding Unit Determined By	1A	73

** 010 (VAR) LC CARD NUMBER - CMF

$a LC Card Number
(Use 001 Format from MARC II Subscr. Guide)

015 (VAR) NATIONAL BIBLIOGRAPHY NUMBER - CMF

$a National Bibliography Number

020 (VAR) STANDARD BOOK NUMBER OR SERIAL REGISTRATION NUMBER - CMF

$a Serial Registration Number

025 (VAR) OVERSEAS ACQUISITION NUMBER - CMF

$a Overseas Acquisition Number

** 040 (VAR) CATALOGING SOURCE - CMF

$a Name of Library

** 041 (VAR) LANGUAGES - CMF

0 - Multi-Language	$a Language of Text
1 - Translation	$b Language of Summaries

** 050 (VAR) LIBRARY OF CONGRESS CALL NUMBER - CMF

0 - Book in LC	$a LC Classification Number
1 - Book not in LC	$b Book Number

051 (VAR) COPY, ISSUE, OFFPRINT STATEMENT - CMF

0 - Book in LC	$a LC Classification Number
1 - Book not in LC	$b Book Number
	$c Copy Information

060 (VAR) NATIONAL LIBRARY OF MEDICINE CALL NUMBER - CMF

$a NLM Classification Number
$b Book Number

070 (VAR) NATIONAL AGRICULTURAL LIBRARY CALL NUMBER - CMF

$a NAL Classification Number
$b Book Number

** 082 (VAR) DEWEY DECIMAL CLASSIFICATION NUMBER - CMF

$a Dewey Decimal Classification No.

** 090 (VAR) LOCAL CALL NUMBER - LMF

$a Class Number
$b Cutter Number
$c Holdings Collection Code

100 (VAR) MAIN ENTRY - PERSONAL NAME - BOTH

0 - Forename	$a Name
1 - Single Surname	$b Numeration
2 - Multiple Surname	$c Titles, Rank, etc.
3 - Family Name	$d Dates
- 0 Main Entry not Subject	$e Relator
- 1 Main Entry is Subject	$k Form Subheading
	$t Title (of Book)

** 110 (VAR) MAIN ENTRY - CORPORATE NAME - BOTH

0 - Surname (inverted)	$a Name
1 - Place or place + name	$b Subordinate units
2 - Name (direct order)	$e Relator
- 0 Main Entry not Subject	$k Form Subheading
- 1 Main Entry is Subject	$t Title (of Book)

** 111 (VAR) MAIN ENTRY - CONFERENCE OR MEETING - BOTH

0 - Surname (inverted)	$a Name
1 - Place or place + name	$b Number
2 - Name (direct order)	$c Place
- 0 Main Entry not Subject	$d Date
- 1 Main Entry is Subject	$e Subordinate Unit in Name
	$g Miscellaneous information
	$k Form Subheading
	$t Title (of Book)

130 (VAR) MAIN ENTRY - UNIFORM TITLE HEADING - BOTH

- 0 Main Entry not Subject	$a Uniform Title Heading
- 1 Main Entry is Subject	$t Title

240 (VAR) UNIFORM TITLE - BOTH

0 - Not on LC Card	$a Uniform Title
1 - On LC Card	

241 (VAR) ROMANIZED TITLE - BOTH

0 - Not on LC Card	$a Romanized Title
1 - On LC Card	

242 (VAR) TRANSLATED TITLE - BOTH

0 - Not on LC Card	$a Translated Title
1 - On LC Card	

** 245 (VAR) TITLE STATEMENT - BOTH

0 - No Title Added Entry	$a Short Title
1 - Title Added Entry	$b Subtitle
	$z Statement of Inclusion

250 (VAR) EDITION STATEMENT - CMF

	$a Edition
	$b Additional info. after edition

** 260 (VAR) IMPRINT - CMF

0 - Publisher not Main Entry	$a Place
1 - Publisher is Main Entry	$b Publisher
	$c Date(s)
	$z Publisher's Address

** 300 (VAR) COLLATION - CMF

	$a Volume (Pagination) Statement
	$b Illustration Statement
	$c Height
	$z Frequency Statement

350 (VAR) BIBLIOGRAPHIC PRICE - CMF

	$a Bibliographic Price

400 (VAR) SERIES NOTE - PERSONAL NAME/TITLE (TRACED) - CMF

0 - Forename	$a Name
1 - Single Surname	$b Numeration
2 - Multiple Surname	$c Titles, rank, etc.
3 - Family Name	$d Dates
- 0 Author not Main Entry	$e Relator
- 1 Author is Main Entry	$k Form Subheading
	$t Title (of Book)
	$v Volume or number (after title)

410 (VAR) SERIES NOTE - CORPORATE NAME/TITLE (TRACED) - CMF

0 - Surname (inverted)	$a Name
1 - Place or place + name	$b Subordinate Units
2 - Name (direct order)	$e Relator
- 0 Author not Main Entry	$k Form Subheading
- 1 Author is Main Entry	$t Title (of Book)
	$v Volume or Number (after title)

411 (VAR) SERIES NOTE - CONFERENCE OR MEETING/TITLE - CMF

0 - Surname (inverted)	$a Name
1 - Place or place + name	$b Number
2 - Name (direct order)	$c Place
- 0 Author not Main Entry	$d Date
- 1 Author is Main Entry	$e Subordinate Unit in Name
	$g Miscellaneous Information
	$k Form Subheading
	$t Title (of Book)
	$v Volume or Number (after title)

440 (VAR) SERIES NOTE - TITLE (TRACED) - CMF

	$a Title
	$b Volume or Number

490 (VAR) SERIES NOTE - UNTRACED OR TRACED DIFFERENTLY - CMF

0 - Series not Traced	$a Series Note
1 - Series Traced in Different Form	

** 500 (VAR) GENERAL NOTE - CMF

$a General Note

501 (VAR) BOUND WITH NOTE - CMF

$a Bound with note

502 (VAR) DISSERTATION NOTE - CMF

$a Dissertation note

** 503 (VAR) BIBLIOGRAPHIC HISTORY NOTE - BOTH

$a Bibliographic History Note

504 (VAR) BIBLIOGRAPHY NOTE - CMF

$a Bibliography Note

505 (VAR) CONTENTS NOTE (FORMATTED) - CMF

0 - Contents	$a Contents Note
1 - Contents (incomplete)	
2 - Partial Contents	

520 (VAR) ABSTRACT OR ANNOTATION - CMF

$a Annotation

600 (VAR) SUBJECT ADDED ENTRY-PERSONAL NAME - BOTH

0 - Forename	$a Name
1 - Single Surname	$b Numeration
2 - Multiple Surname	$c Titles, rank, etc.
3 - Family Name	$d Dates
- 0 LC Subject Heading	$e Relator
- 1 Annotated Card Program Subject Heading	$k Form Subheading
	$t Title (of Book)
- 2 NLM Subject Heading	$x General Subdivision
- 3 NAL Subject Heading	$y Period Subdivision (Chronological)
	$z Place Subdivision

** 610 (VAR) SUBJECT ADDED ENTRY - CORPORATE NAME - BOTH

0 - Surname (Inverted)	$a Name
1 - Place or place + name	$b Subordinate Units
2 - Name (Direct order)	$e Relator
- 0 LC Subject Heading	$k Form Subheading
- 1 Annotated Card Program Subject Heading	$t Title (of Book)
	$x General Subdivision
- 2 NLM Subject Heading	$y Period Subdivision (Chronological)
- 3 NAL Subject Heading	$z Place Subdivision

611 (VAR) SUBJECT ADDED ENTRY - CORPORATE NAME/CONFERENCE OR MEETING - BOTH

0 - Surname (inverted)	$a Name
1 - Place or place + name	$b Number
2 - Name (direct order)	$c Place
- 0 LC Subject Heading	$d Date
- 1 Annotated Card Program Subject Heading	$e Subordinate Unit in Name
	$g Miscellaneous Information
- 2 NLM Subject Heading	$k Form Subheading
- 3 NAL Subject Heading	$t Title (of Book)
	$x General Subdivision
	$y Period Subdivision (Chronological)
	$z Place Subdivision

630 (VAR) SUBJECT ADDED ENTRY - UNIFORM TITLE HEADING - BOTH

- 0 LC Subject Heading	$a Uniform Title Heading
- 1 Annotated Card Program Subject Heading	$t Title
	$x General Subdivision
- 2 NLM Subject Heading	$y Period Subdivision (Chronological)
- 3 NAL Subject Heading	$z Place Subdivision

** 650 (VAR) SUBJECT ADDED ENTRY - TOPICAL - BOTH

0 - Not Entered Under Place	$a Topical Subject Heading
1 - Entered Under Place	$x General Subdivision
- 0 LC Subject Heading	$y Period Subdivision (Chronological)
- 1 ACP Subject Heading	$z Place Subdivision
- 2 NLM Subject Heading	
- 3 NAL Subject Heading	

** 651 (VAR) SUBJECT ADDED ENTRY - GEOGRAPHICAL NAMES - BOTH

- 0 LC Subject Heading	$a Geographical Subject Heading
- 1 ACP Subject Heading	$x General Subdivision
- 2 NLM Subject Heading	$y Period Subdivision (Chronological)
- 3 NAL Subject Heading	$z Place Subdivision

700 (VAR) OTHER ADDED ENTRY - PERSONAL NAME - CMF

0 - Forename	$a Name
1 - Single Surname	$b Numeration
2 - Multiple Surname	$c Titles, Rank, etc.
3 - Family Name	$d Dates
- 0 Alternative Entry	$e Relator
- 1 Secondary Entry	$k Form Subheading
- 2 Analytical Entry	$t Title (of Book)
	$u Filing Information

710 (VAR) OTHER ADDED ENTRY - CORPORATE NAME - CMF

0 - Surname (Inverted)	$a Name
1 - Place or Place + Name	$b Subordinate Units
2 - Name (Direct Order)	$e Relator
- 0 Alternative Entry	$k Form Subheading
- 1 Secondary Entry	$t Title (of Book)
- 2 Analytical Entry	$u Filing Information

711 (VAR) OTHER ADDED ENTRY - CORPORATE NAME - CONFERENCE OR MEETING - CMF

0 - Surname (Inverted)	$a Name
1 - Place or Place + Name	$b Number
2 - Name (Direct Order)	$c Place
- 0 Alternative Entry	$d Date
- 1 Secondary Entry	$e Subordinate Unit in Name
- 2 Analytical Entry	$g Miscellaneous Information
	$k Form Subheading
	$t Title (of Book)
	$u Filing Information

730 (VAR) OTHER ADDED ENTRY - UNIFORM TITLE HEADING - CMF

- 0 Alternative Entry	$a Uniform Title Heading
- 1 Secondary Entry	$t Title
- 2 Analytical Entry	$u Filing Information

740 (VAR) TITLE TRACED DIFFERENTLY - CMF

- 0 Alternative Entry	$a Title Traced Differently
- 1 Secondary Entry	
- 2 Analytical Entry	

800 (VAR) SERIES ADDED ENTRY - PERSONAL NAME/TITLE - CMF

0 - Forename	$a Name
1 - Single Surname	$b Numeration
2 - Multiple Surname	$c Titles, Rank, etc.
3 - Family Name	$d Dates
	$e Relator
	$k Form Subheading
	$t Title (of Book)
	$v Volume or Number (After Title)

810 (VAR) SERIES ADDED ENTRY - CORPORATE NAME/TITLE - CMF

0 - Surname (Inverted)	$a Name
1 - Place or Place + Name	$b Subordinate Units
2 - Name (Direct Order)	$e Relator
	$k Form Subheading
	$t Title (of Book)
	$v Volume or Number (After Title)

811 (VAR) SERIES ADDED ENTRY - CONFERENCE OR MEETING/TITLE - CMF

0 - Surname (Inverted)	$a Name
1 - Place or Place + Name	$b Number
2 - Name (Direct Order)	$c Place
	$d Date
	$e Subordinate Unit in Name
	$g Miscellaneous Information
	$k Form Subheading
	$t Title (of Book)
	$v Volume or Number (After Title)

840 (VAR) SERIES ADDED ENTRY - TITLE - CMF

$a Title
$b Volume or Number

** 900 (VAR) SERIALS - REFERENCES - PERSONAL AUTHOR/TITLE - LMF

$a "SEE" References
$b "SEE ALSO" References
$c "CONTINUED BY" References
$d "SUPERSEDED BY" References
$e "ABSORBED BY" References
$f "OTHER" References
$g "CONTINUES" References
$h "SUPERSEDES" References
$j "ABSORBED" References
$y Serial Heading "SEE" References
$z Serial Heading "OTHER" References

** 910 (VAR) SERIALS - REFERENCES - CORPORATE AUTHOR/TITLE - LMF

$a "SEE" References
$b "SEE ALSO" References
$c "CONTINUED BY" References
$d "SUPERSEDED BY" References
$e "ABSORBED BY" References
$f "OTHER" References
$g "CONTINUES" References
$h "SUPERSEDES" References
$j "ABSORBED" References
$y Serial Heading "SEE" References
$z Serial Heading "OTHER" References

** 911 (VAR) SERIALS - REFERENCES - CORPORATE NAME - CONFERENCE OR MEETING/TITLE - LMF

$a "SEE" References
$b "SEE ALSO" References
$c "CONTINUED BY" References
$d "SUPERSEDED BY" References
$e "ABSORBED BY" References
$f "OTHER" References
$g "CONTINUES" References
$h "SUPERSEDES" References
$j "ABSORBED" References
$y Serial Heading "SEE" References
$z Serial Heading "OTHER" References

** 945 (VAR) SERIALS - REFERENCES - TITLE - LMF

$a "SEE" References
$b "SEE ALSO" References
$c "CONTINUED BY" References
$d "SUPERSEDED BY" References
$e "ABSORBED BY" References
$f "OTHER" References
$g "CONTINUES" References
$h "SUPERSEDES" References
$j "ABSORBED" References
$y Serial Heading "SEE" References
$z Serial Heading "OTHER" References

** 950 (VAR) SERIALS - HOLDINGS - CMF

$a Basic Holdings Matrix
$b Holdings Generation Pattern
$x Holdings for Irregular Serials
$z Holdings Comments

** 951 (VAR) SERIALS - HOLDINGS - LMF

1 - Microfilm
2 - Microfiche
3 - Microcard
4 - Magnetic Tape

$a Local Holdings Matrix
$x Holdings for Irregular Serials
$z Holdings Comments

** 957 (VAR) SERIALS - ARRIVAL HISTORY - LMF

$a Issue Arrival History

** 958 (VAR) SERIALS - ABSTRACTED IN - CMF

$a Name of Abstracting Service
$b Name of Abstracting Service

** 959 (VAR) SERIALS - INDEXED IN - CMF

$a Name of Indexing Service
$b Name of Indexing Service

** 960 (VAR) SERIALS - BINDING - LMF

0 - Binding Priority = RUSH
1 - Binding Priority = REGULAR

$a Binding Data
$b Binding Title
$c Next Binding Unit
$d At Binding Processing Unit
$z Binding Comments or Notes

** 970 (VAR) SERIALS - PREDICTION (COMMON DATA) - CMF

0 - Prediction is not based on Publication Pattern
1 - Prediction is based on Publication Pattern

$ a Issue Designation
$b Publication Pattern
$d Matrix Start Values
$e Prediction Matrix
$f Unbound Issues of Frequently Received Serials
$y Prediction History

** 971 (VAR) SERIALS - PREDICTION (LOCAL DATA) - LMF

$a Delay Codes
$b Prediction Matrix
$c Special Activities Pattern
$d Additional Issues Description
$f Unbound Issues of Frequently Received Serials
$u Claiming Comments
$v Check-in Comments
$w Renewal Comments
$x Payment Comments
$y TPCIX Ordering Comments
$z TPCIX Arrival Comments

** 975 (VAR) SERIALS - RESERVED

** 980 (VAR) SERIALS - ORDERING - LMF

$a Fixed Data
$b Information Source
$c Ordering Notes
$d Recommendation Data
$e Approval Data

** 985 (VAR) SERIALS - ACCOUNTING (VAR) - LMF

0 - Serial is Not New This Year	$a Total Acquisitions Expenditure
1 - Serial is New This Year	$b Total Claims Expenditure
	$c Total Lacunae Expenditure
	$d Total "BINDING" Expenditure
	$e Total "OTHER" Expenditure
	$m Total Acquisitions Encumbrance
	$n Total Claims Encumbrance
	$o Total Lacunae Encumbrance
	$p Total "BINDING" Encumbrance
	$q Total "OTHER" Encumbrance
	$z Accounting Comments