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SERVICE INTEGRATION FOR DEINSTITUTIONALIZATION (SID) REPORT OF A THREE-YEAR RESEARCH AND DEMONSTRATION PROJECT. VOLUME 3. AUTOMATED INFORMATION SYSTEM

VIRGINIA SERVICE INTEGRATION FOR DEINSTITUTIONALIZATION PROJECT

PREPARED FOR
SOCIAL AND REHABILITATION SERVICE

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THE SID REPORT

VOLUME 3

AUTOMATED INFORMATION SYSTEM

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All human error is impatience,
a premature renunciation of method,
a delusive pinning down of a delusion.

Franz Kafka

SERVICE INTEGRATION FOR DEINSTITUTIONALIZATION

A Report of a Three-Year Research and Demonstration Project

This is Volume 3 of Eight Volumes:

Volume 1: Summary

Volume 2: Implementation Procedures

Volume 3: Automated Information System

Volume 4: Findings

Volume 5: Cost/Benefit Analysis

Volume 6: Legal Issues

Volume 7: Plan for Extension

Volume 8: Addendum

May 15, 1975

Preface

The SID information system documentation consists of the following parts:

1) System Narrative - a complete prose description of every aspect of the system other than technical details of program mechanisms
2) Appendices - containing card and record formats, documentation reports, and other types of information discussed and referred to elsewhere in the documentation
3) Printouts - containing sample printouts of reports discussed and referred to in the System Narrative
4) Listings - containing the following computer listings referred to in the System Narrative:

   a) Edit-Update Control Report
   b) tables
   c) contents of data set MHH.SID.UPD.DISK

5) Program Narratives - discussions of technical details of a few selected programs
6) Program Listings - compiler listings of all COBOL programs with compiler produced sorted cross references and program flow cross references produced by a SID program (see COBOL Program Flow Cross Reference in the System Narrative); also included is the listing of an assembler language program (ISAM) used in the system but not written by SID personnel
7) DYL-250 OS Users Manual - describing the use of DYL-250 (called DYL250 in the computer), a computer program leased from DYLAKOR Computer Systems, Inc.; DYL-250 is an integral part of the system

One wishing to learn about the system should read the System Narrative. The Narrative references parts 2) - 4) at the appropriate places. System maintenance personnel should also read parts 5) - 7).

Information presented in the System Narrative is organized into sections, each beginning on a new page. A section may contain sub-sections, each identified by the symbol "§". The COBOL Program Index gives the primary page number of the description of each COBOL program. The Job Index gives the primary page number of the description of each Job.

Job Stepnames are denoted in the System Narrative by preceding them by "//". For example, the first Step of Job MHH01UPD is named "SAVETEXT"; where this Step is discussed, it is written "//SAVETEXT".

Introduction

The SID information system consists of the following major components:

1) data entry forms
2) disk files storing the client and resource information gathered on the forms
3) tape files storing three levels of backup copies of the disk files
4) tables storing auxiliary information used by programs
5) documentation reports describing and performing error checking on the form and file structures as defined in some of the tables
6) a mechanism which ensures that only valid information enters the data files
7) a mechanism which enters information into the data files and deletes information from some of them (the indexed-sequential files)
8) a mechanism, based on a language (with macro facility) consisting of Boolean expressions, which retrieves records from a given data file based on any combination of characteristics of the data stored in that file
9) a mechanism based on that mentioned in 8) which deletes records from the data files (the sequential files) from which the mechanism mentioned in 7) does not delete information
10) a mechanism which, while copying backup tape files to their respective indexed-sequential disk files, generates specified dummy records, thus reducing overflow usage during updating
11) a mechanism which block prints all or specified information from records retrieved from any data file via the mechanism mentioned in 8)
12) a mechanism which retrieves records from some files containing client information based on any combination of characteristics of data stored in the file containing client Assessment and Prescription information
13) a mechanism which checks for missing and inconsistent information in the file containing client Assessment and Prescription information (by far most of the information stored in the system and the most likely to be incomplete or inconsistent)
14) reports containing information about individual clients, both at particular stages in the SID process and since they entered the process
15) reports containing information about all clients or subsets of clients retrieved via the mechanism mentioned in 8)
16) reports containing information about individual agencies in the resource information files, including information about the services offered by each and their branch offices, as well as an alphabetical table of contents of the files and indices by locality and services offered
17) a mechanism which stores and prints some information retrieval requests entered at the computer terminal in Planning District #6
18) a program which prints a partial cross reference of COBOL programs, indicating the locations of various types of branch statements

Programs used in the System are of two types. COBOL programs have 6-

character names with the format SIDnnn, where nnn is numeric. Each COBOL program begins execution by printing an Identification Page. This page begins with the program name, and may also contain other information as discussed below. Errors encountered during program execution which "should not" ever be encountered are indicated by DISPLAYing numbered error messages to SYSOUT. System maintenance personnel should consult the program listing to determine such errors.

Other programs used in the system are:

1) ISAM - an assembler language program the source listing of which is included with the COBOL program listings in Programs
2) DYL250 - a program leased from DYLAKOR Computer Systems, Inc.
3) IEFBR14 - an IBM utility which does nothing, but rather allows for dummy Job Steps for the purpose of allocating and deleting data sets
4) IEHPROGM - an IBM utility for cataloging and renaming data sets

COBOL source program modules are stored on the computer via a system called Librarian (see Physical Environment, § Librarian, in the System Narrative). Librarian modules are obtained via the catalogued procedure ADPLIBU. The only uses (other than compiling programs) made of Librarian in the system are:

1) saving the source modules to tape (see 3) above)
2) producing COBOL program flow cross references (see 18) above)

The particular features of Librarian are not necessary to the system, thus little more will be said about Librarian.

Another catalogued procedure used in the system is the IBM procedure SORTD, which performs all sorting and merging.

Each Report begins with the Report name and other pertinant information printed in a box of asterisks called the Report Box. Client and resource information Reports print a trailer line at the bottom of each page. The programs which print these Reports each have a mechanism which begins a new page before the bottom of the current page is reached if there is not enought room to print a specified number of lines on the current page.

Appendix DD contains a copy of a paper to be presented at the Fourteenth Annual Technical Symposium sponsored by the Washington, D.C. Chapter of the Association for Computing Machinery and the Institute for Computer Sciences and Technology, National Bureau of Standards, on June 19, 1975, and to be published in the Proceedings of that Symposium. The paper presents some of the features of the system.

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APPENDICES (one copy submitted; others available upon request)

PRINTOUTS (bound separately)

LISTINGS (one copy submitted; available on tape)

PROGRAM LISTINGS (one copy submitted; available on tape)

PROGRAM NARRATIVES (bound with Appendices)

DYL-250 OS USERS MANUAL (one copy submitted; available from publisher)

Forms

Client and Resource information enters the SID Information System (System) via SID Forms (Appendix A). Each page is identified in the lower left corner by its Form Number (taking as values the numbers 1-89) followed by the parenthesized date of its last modification. A composite Form-page Identifier appears in the lower right corner. This Identifier is composed of the Form Number followed by a period followed by either the page number within the Form (not used in the System) or an underline (see Transaction File). The symbol "⊕" appears after the date on the first page of each computerized Form. The letter "L" follows the Form-page Identifier on the last page of each Form.

For example, the bottom lines of the two pages of Form #3 are:

SID Form #3 (12-73) ⊕ 3.1
SID Form #3 (7-74) 3.2 L

The bottom line of Form #19 is:

SID Form #19 (7-74) ⊕ 19.___ L

Each Form consists of one or more Items, each identified by its Item Number (taking as values the numbers 1-99) followed by a period.

Each Item consists of zero or more Responses, each identified by its Response Letter or Double-letter (Response; taking as values the alphabetic letters and double-letters and, where necessary, other symbols) followed by a period. Each Item with Responses falls into one of three categories:

1) only one Response may be checked off at a time
2) one or more Responses may be checked off at a time
3) the Item (Structured Item) has more than one Group of Responses, and only one Response from each Group may be checked off at a time (e.g., Form #4, Item 6, has four Groups of Responses: a-c, d-g, h-j and k-m)

A hand-written Text String (Text) may be associated with an Item or Response. Each Text String is identified by its Textid Number (Textid; taking as values the numbers 0-15) enclosed within "[ ]". The Textid is zero when absent. The exact or maximum length of a Text String is indicated either by marks on the line on which the Text String is written or by a parenthesized number under the line. The maximum length is 318 when absent. Some Text Strings (Formatted Text Strings) have several fields (e.g., dates of the form mmyy or Item-Response's on Form #20 of the form iirr), while others (Unformatted Text Strings) may be considered as one entity (e.g., money fields).

Each Form-Item-Response (F-I-R) and Form-Item-Response-Textid (F-I-R-T) defines two basic characteristics of its datum: what it looks like and where it is stored. The former includes length, value and format requirements;

the latter includes which Master File and which locations in the Records of that File (see Master Files). For exact descriptions of all F-I-R and F-I-R-T characteristics, see Tables File, Edit Table, Update Table and Edit-Update Control Report.

Some Formatted Text Strings are concatenations of several short pieces of text. These Text Strings are recognized by their having only one (or an absent, hence with value zero) Textid. The concatenations are performed from left to right, top to bottom.

For example, Form #2, Item 5, Text zero, has the format:

hhhmmhhhmm

#2-#7 #8

where hhh represents the 3-digit number of hours, and mm represents the 2-digit number of minutes. Form #2, Item 18, Response c, Text 2, has the format:

mmddyymmddyy

from to

where mm, dd and yy represent, respectively, the month, day and year (all 2-digit). Form #5, Item 7, Responses c and d, Text 4, have the format:

dd

problem in the past (0, 1, 2 or 3) | currently present (0, 1, 2 or 3)

The second date in a 2-date concatenation may be all 9's (some single dates may also be all 9's: see Tables File and Edit Table). For dates on the Assessment Forms (see Master Files, § Client File), such a date means "present". For dates on the Prescription Search "Agency Able to Serve" Forms (see Master Files, § Prescription Search File) which indicate the time period during which the service is to be provided, such a date means "indefinite". There is no special interpretation for other dates.

The Agency codes on the Prescription Search, Prescription Element "Provider Status" Report and Problem Report Forms (see Master Files, § Prescription Search File, § Prescription Element Report File and § Problem Report File) may have the following special values:

values	meaning
99990	family or relative of Client
P9990	

values	meaning
99999 P9999	Client
99991 P9991	other person

Some Items on Client File Forms (see Master Files, § Client File) have an associated Information Source Letter (Source; taking as values the alphabetic letters and the blank) written within a Source Box: /___/. The Source indicates the source (e.g., Client's spouse) of the information entered via that Item. Only Sources are associated with Items numbered 90 and above. Those Sources with Item Numbers 91 and above (Group Sources), when non-blank, indicate the information source for those Items (Group Items), having Sources, which follow their respective Group Source and precede the next Group Source or the end of the Form. Those Sources with Item Number 90 (Form Sources), when non-blank, indicate the information source for all Items, having Sources, on their Forms. Non-blank Form (Group) Sources override all Sources on their Forms (the Sources of their associated Group Items) when printed in the Assessment Summary Report (see Individual Client Reports, § Assessment Summary Report), but all Sources are stored in the Client Record (see Master Files, § Client File, and Master File Update). A Structured Item with an associated Source has its Source associated with only the first Group of Responses.

Forms containing Client information have a place for the Client Number in the upper right corner. Forms containing Resource information have a place for the Agency Number in the upper right corner. In addition, Form #34 has places for the Service Numbers to the left of the Items 1, and Form #35 has a place for the Branch Number in the upper right corner.

Master Files

Eight Master Files contain the Responses, Sources, some Text, and control information in the System (Appendix B). The remaining Text is stored in the Text File (see Text File). Each Master File is described below, its Name followed by its Master File Number (Master Number) and distinct Card Color in parentheses. The Card Colors simplify the preparation of runs which may process any Master File, but only one at a time.

§ Client File (0; pink)

Each Client Record contains the Client Number, the Assessment Forms (#2-#8), the Prescription Forms (#1, #9-#12) and Forms #14, #15, #17, #23, #26, #27, #29, #32, #36 and #49. Forms #10 and #11 share the same locations; therefore, a given Record cannot contain both. For the same reason, Forms #27 and #36 cannot both be in the same Record. Form #11, Items 20-33, share the same locations; therefore, a given Record can contain only one of these Items.

The Client File is an indexed-sequential file, the key being a 10-byte field whose leftmost eight bytes contain the Client Number, and whose rightmost two bytes contain the Series Number (Series). The first Record for a Client has Series Number zero; each successive Record for a Client has Series Number one greater than that of the Client's immediately previous Record. The Series Number is thus a Record counter (beginning at zero) for each Client; the terms "Record" and "Series" may be used interchangeably when they refer to the Client File.

The following Control fields are contained in each Client Record:

field	descriptior
Inverse Series	(last Series this Client) - (this Series) i.e., for a Client with three Records, the Series 0, 1 and 2 have Inverse Series 2, 1 and 0, respectively
Assessment Number	the first Assessment for a Client has Assessment Number zero; each successive Assessment for a Client has Assessment Number one greater than that of the Client's immediately previous Assessment
Inverse Assessment Number	(last Assessment Number this Client) - (this Assessment Number)
Prescription Number	the first Prescription for a Client has Prescription Number zero; each successive Prescription for a Client has Prescription Number one greater than that of the Client's immediately previous Prescription

field	description
Inverse Prescription Number	(last Prescription Number this Client) - (this Prescription Number)
Prescription Number This Assessment	the first Prescription for an Assessment has Prescription Number This Assessment zero; each successive Prescription for an Assessment has Prescription Number This Assessment one greater than that of the Assessment's immediately previous Prescription
Inverse Prescription Number This Assessment	(last Prescription Number This Assessment for this Assessment) - (this Prescription Number This Assessment)
Prescription Number Out	the first "out" Prescription for a Client has Prescription Number Out zero; each successive "out" Prescription for a Client has Prescription Number Out one greater than that of the Client's immediately previous "out" Prescription
Inverse Prescription Number Out	(last Prescription Number Out this Client) - (this Prescription Number Out)
Prescription Number In	the first "in" Prescription for a Client has Prescription Number In zero; each successive "in" Prescription for a Client has Prescription Number In one greater than that of the Client's immediately previous "in" Prescription
Inverse Prescription Number In	(last Prescription Number In this Client) - (this Prescription Number In)
S-trans	= "S" if the System has been told (via an "S" Transaction (see Transaction File)) that this Record contains a new Assessment = space otherwise
P-trans	= "P" if the System has been told (via a "P" Transaction) that this Record contains a new Prescription = space otherwise

In addition to the Forms listed above, each Client Record containing a Prescription contains Items 1, 2 and 3 and the Sequence Number (see § Address History File) of the first Form #30 corresponding to that Prescription entered into the System, and Item 1, Texts 1 and 2, and Item 3 of the last Form #30 corresponding to that Prescription entered into the System. Furthermore, each Client Record (not necessarily containing a Prescription)

contains Item 1, Texts 1 and 2, and Item 3 of the Client's last Form #30 entered into the System, and the same information from the Client's last Form #30 dated before 1975 entered into the System. For all Items 3 mentioned in this paragraph, the Text is stored in the Client Record only if the Response is Y.

§ Address History File (1; blue)

Each Address History Record contains the Client Number, Form #30, the Number of the Prescription the Form corresponds to, and the Sequence Number. The first Record for a Client has Sequence Number zero; each successive Record for a Client has Sequence Number one greater than that of the Client's immediately previous Record.

The Address History File is a sequential file, sorted as follows:

ascending - Client Number
descending - Prescription Number
descending - date of move (Item 2)

§ Prescription Search File (2; green)

Each Form #40 is blocked into four Rows of Items (Rows), with Item Numbers 1-7, 11-17, 21-27 and 31-37, and Row Numbers 0-3, respectively.

Each Prescription Search Record contains the Client Number, a Form #40 Row or one of Forms #41-#43, the Number of the Prescription the Form corresponds to, the Service Plan Code, the Expiration Code and the Sequence Number. The Service Plan Code

= "U" if the Record contains a Form #40 Row (Unable)
= "H" if Form #41 (Housing)
= "I" if Form #42 (Income)
= "O" (oh) if Form #43 (Other)

The Expiration Code is initially blank (Unexpired); it may subsequently be set to a non-blank (Expired) to indicate that the Agency named in the Record is no longer providing the indicated service (see Prescription Search Record Expiration). The first Record for a Client has Sequence Number zero; each successive Record for a Client has Sequence Number one greater than that of the Client's immediately previous Record.

The Prescription Search File is a sequential file, sorted as follows:

ascending - Client Number
descending - Prescription Number
ascending - Item-Response (Form #40, Items 1, 11, 21 and 31; Forms #41-#43, Item 1)
ascending - Service Plan Code
ascending - Expiration Code
descending - date of contact (Form #40, Items 3, 13, 23 and 33; Forms #41-#43, Item 5)

§ Prescription Element Report File (3; top-pink)

Forms #19 and #20 are blocked into three Rows, with Item Numbers 10-19, 20-29 and 30-39, and Row Numbers 1-3, respectively.

Each Prescription Element Report Record contains the Client Number, a Form #19 or #20 Row, the Number of the Prescription the Form corresponds to, the Status Code and the Sequence Number. The Status Code

= "C" if Form #19 (Client)
= "P" if Form #20 (Provider)

The first Record for a Client has Sequence Number zero; each successive Record for a Client has Sequence Number one greater than that of the Client's immediately previous Record.

The Prescription Element Report File is a sequential file, sorted as follows:

ascending - Client Number
descending - Prescription Number
ascending - Status Code
descending - reporting period (Items 10, 20 and 30, Text zero)
ascending - Item-Response (Items 11, 21 and 31)

If D, E, F and G are dates such that (D,E) and (F,G) are reporting periods, then (D,E) is later than (F,G), and hence precedes (F,G) in a descending direction sort, if

D is later than F

or

D = F and E is later than G.

§ Agency File (4; white)

Each Agency Record contains the Agency Number and Form #33.

The Agency File is an indexed-sequential file, the key being a 5-byte

field containing the Agency Number.

§ Service File (5; top-purple)

Each Service Record contains the Agency Number, the Service Number and Form #34.

The Service File is an indexed-sequential file, the key being a 10-byte field whose leftmost five bytes contain the Agency Number, and whose rightmost five bytes contain the Service Number.

§ Branch File (6; top-green)

Each Branch Record contains the Agency Number, the Branch Number and Form #35.

The Branch File is an indexed-sequential file, the key being a 10-byte field whose leftmost five bytes contain the Agency Number, and whose rightmost five bytes contain the Branch Number.

§ Problem Report File (7; top-blue)

Form #21 is blocked into four Rows, with Item Numbers 1-6, 10-17, 20-27 and 30-33, and Row Numbers 0-3, respectively.

Each Problem Report Record contains the Client Number, a Form #21 Row, the Number of the Prescription the Form corresponds to, the Report Code and the Sequence Number. The Report Code

= "P" if Row 0 (Problem)
= "Q" if Row 1 or 2 (Query)
= "R" if Row 3 (Resolution)

The first Record for a Client has Sequence Number zero; each successive Record for a Client has Sequence Number one greater than that of the Client's immediately previous Record.

The Problem Report File is a sequential file, sorted as follows:

ascending - Client Number
descending - Prescription Number
descending - date reported (Items 2, 11, 21 and 31)
ascending - Form-Item-Response (Items 1, 10, 20 and 30)
ascending - Report Code

Text File

Text stored in the Text File (Appendix C; see Dummy F-I-R-T's) is blocked into up to nine 44-byte Text Segments (Segments).

Each Text Record contains the Master Number, Form Number, Item Number (that of the corresponding Item in the first Row if the Form is blocked into Rows), Response, Textid, Continuation Number, a Text Segment and:

if Master File is Client File,	Client and Series Numbers
if Master File is sequential,	Client, Prescription and Sequence Numbers
if Master File is Agency File,	Agency Number
if Master File is Service File,	Agency and Service Numbers
if Master File is Branch File,	Agency and Branch Numbers

If a Text String is contained in one Segment, the Continuation Number is zero; otherwise, the Continuation Number of the nth Segment is n, for n = 1, ..., 9.

The Text File is an indexed-sequential file, the key being a 24-byte field composed as follows:

positions within key	description
1	Master Number
	if Master File is Client File:
2 - 9	Client Number
10 - 11	Series Number
	if Master File is sequential:
2 - 9	Client Number
10 - 11	Prescription Number
	if Master File is Agency File:
2 - 6	Agency Number
7 - 11	zero
	if Master File is Service File:
2 - 6	Agency Number
7 - 11	Service Number
	if Master Number is Branch File:
2 - 6	Agency Number
7 - 11	Branch Number
12 - 13	Form Number
	if Master File is indexed-sequential:
14 - 17	zero

positions within key	description
	if Master File is sequential:
14 - 17	Sequence Number
18 - 19	Item Number
20 - 21	Response
22 - 23	Textid
24	Continuation Number

Control File

Each Control Record contains the Client Number, the Continuation Number, the next Sequence Number for each sequential Master File for the Client, and the following fields (Appendix D):

field	description
Last Prescription Number	= space if the Client has no Prescriptions ≠ space if it contains the Client's last Prescription Number
Last Prescription Number This Assessment	= space if the Client's last Assessment has no Prescriptions ≠ space if it contains the Prescription Number This Assessment of the Client's last Assessment's last Prescription
Last Prescription Number Out	= space if the Client has no "out" Prescriptions ≠ space if it contains the Prescription Number Out of the Client's last "out" Prescription
Last Prescription Number In	= space if the Client has no "in" Prescriptions ≠ space if it contains the Prescription Number In of the Client's last "in" Prescription

The Continuation Number is zero; its purpose is to allow for multiple Records per Client (containing other information) as future needs dictate.

The Control File is an indexed-sequential file, the key being a 9-byte field whose leftmost eight bytes contain the Client Number, and whose rightmost byte contains the Continuation Number.

Dummy F-I-R-T's

It is desirable to be able to access information which does not enter the System on Forms (e.g., the Client File Control fields), which does not enter the Master File it is in on Forms associated with that Master File (e.g., the Form #30 information contained in Client Records) or which is not accessible in the desired format through the F-I-R-T by which it enters the System (e.g., 6-digit dates are stored in the standard (for printing) format mmddyy but must be viewed as the two components mmdd and yy for comparing (see Record Selection), since the most significant part (yy) is in the least significant position).

Such information is accessed through Dummy F-I-R's and F-I-R-T's. Each Master File has an associated Dummy Form, with Form Number = 90 + Master Number, whose Items identify various data in that File's Records (Appendix E). All Dummy F-I-R's and F-I-R-T's may be referenced during Record selection (see Record Selection), but only those so indicated in Appendix E may be referenced in Transactions (see Transaction File), and those only when the Transaction's Update Action Code is "0" and the edit program has PARM= 'DUMMY' (see Transaction File and Transaction File Edit, § Edit).

The Text File is considered to be a Master File (with Master Number 8 and Card Color top-yellow) for the purpose of Record selection; hence the existence of Form #98.

Transaction File

Information entering the System is keyed onto a tape as a series of Transactions (Transaction Tape File), each containing a Master Key, Update Action Code (Action), F-I-R, possibly a Source, and zero or more Textids and Text associated with the F-I-R (Appendix F). A Transaction (Continued Transaction) may be continued onto one and only one Continuation Transaction, roughly doubling the number of positions used for entering Text.

Transactions may also be keyed to delete Records from indexed-sequential Master Files and Items from Records of indexed-sequential Master Files and, in addition, Forms from Client Records.

Forms whose Form-page Identifiers have the page number within the Form following the period (e.g., Form #3) are considered to have 2-digit Form Numbers. Forms whose Form-page Identifiers have an underline following the period (e.g., Form #19) are considered to have 3-digit Form Numbers for the purposes of keying and editing Transactions and updating the Master Files (see below, Transaction File Edit and Master File Update, respectively). The third digit (Page Number) on such Forms is supplied by writing any digit above the Form-page Identifier's underline.

Text stored in the Text File is normally printed in Reports with each Segment on a separate line. The appearance of the symbol "_" in such Text in the Transaction File causes the character following it to begin a new Segment, and thus a new line when printed. Note that this is accomplished by the update program's replacing the "_" with enough blanks to complete the Segment which it is in (unless it is the first character in a Segment, in which case it is ignored), thereby increasing the length of the Text String (see Master File Update).

Following is the Transaction format:

positions	size	description
1 - 10	10	Master Key
11	1	Action
		if Form has a 2-digit Form Number:
12 - 13	2	Form Number (right just., zero filled)
14 - 15	2	Item Number (right just., zero filled)
16 - 17	2	Response (left just., space filled)
18	1	Source
		if Form has a 3-digit Form Number:
12 - 14	3	Form Number (right just., zero filled): e.g., Form #19 with Form-page Identifier 19.1 is keyed as 197
15 - 16	2	Item Number (right just., zero filled)
17 - 18	2	Response (left just., space filled)

positions	size	description
19	1	Continuation: space or digit for single Transaction; digit for Continuation Transaction (see Transaction File Edit, § Sort)
20 - 180	161	Text: a Text Field is a Textid immediately followed by its associated Text String immediately followed by the symbol "|"; an arbitrary number of Text Fields may be keyed in one Transaction (and its Continuation) by keying the first beginning in position 20 (of the single or Continued Transaction) and each successive Text Field beginning immediately following the "|" terminating the previous one; the order of the Textids is irrelevant; note that the "|" cannot be keyed as a character in a Text String
180	1	Continued: the symbol ">" in this position indicates that the Transaction is Continued; the ">" may appear within a Text Field or immediately following the "|" terminating one; the Continuation Transaction must be identical to the Continued Transaction in positions 1-18 and must have a digit in position 19 (see above); the Text Field being keyed resumes in position 20 of the Continuation Transaction

The exceptions to the afore described identification of information by F-I-R-T are Items 4-23 of Form #8. For purposes of keying and editing Transactions and updating the Client File, the string of characters checked off for each of these Items is considered to be a Text String whose Response is blank and Textid is zero.

A series of Transactions (Card Transaction File) may be punched into cards instead of tape if all of the Transactions' lengths are less than or equal to 80. Continuation Transactions cannot be punched into cards, however, since there is no position 180.

The Master Key and Action tell the System which Record is affected by the Transaction and what the effect is, respectively. Following is a brief description (see Master File Update for the complete description) of the Actions, their associated Master Key composition rules (L8, R2, L5 and R5 stand for the left 8, right 2, left 5 and right 5 Master Key positions, respectively) and F-I-R, F-I-R-T and Source keying rules. The letters "F", "I", "R", "T" and "S" (Source) in the appropriate columns indicate the information (when present) to be keyed for that Action; the digit "0" appearing in a column denotes a Transaction field to be keyed as zero. Note that the lowest level at which information may be deleted from a (indexed-sequential Master File) Record is that of the Item. Transactions with Actions "D", "O", "S" and "P" (D Transactions, etc.) may be applied to Records cre-

ated (by N and I Transactions) earlier in the same update run.

Client File (Client and Series Numbers are right just., zero filled):

Action	Master Key	description	F I R T S
N	L8: Client Number R2: zero	create Client's iNitial Record	F I R T S
I	L8: Client Number R2: zero	create new Record Identical to Client's immediately previous Record	F I R T S
D	L8: Client Number R2: Series Number	Delete Record (last Series this Client)	0 0
		or all Forms in Record (not last Series this Client)	0 0
		or Form in Record	F 0
		or Item in Record	F I
O (oh)	L8: Client Number R2: Series Number	change Old Record	F I R T S
S	L8: Client Number R2: Series Number	Record contains new ASsessment	
P	L8: Client Number R2: Series Number	Record contains new Prescription	

Sequential Master Files (Client and Prescription Numbers are right just., zero filled):

Action	Master Key	description	F I R T
N	L8: Client Number R2: Prescription Number	create New Record	F I R T

Agency File (Agency Number is right just., zero filled):

Action	Master Key	description	F I R T
N	L5: Agency Number R5: zero	create New Record	F I R T
D	L5: Agency Number R5: zero	Delete Record or Item in Record	F O F I
O (oh)	L5: Agency Number R5: zero	change Old Record	F I R T

Service File (Agency and Service Numbers are right just., zero filled):

Action	Master Key	description	F I R T
N	L5: Agency Number R5: Service Number	same as for Agency File	s a m e
D	L5: Agency Number R5: Service Number	same as for Agency File	s a m e
O	L5: Agency Number R5: Service Number	same as for Agency File	s a m e

Branch File (Agency and Branch Numbers are right just., zero filled):

Action	Master Key	description	F I R T
N	L5: Agency Number R5: Branch Number	same as for Agency File	s a m e
D	L5: Agency Number R5: Branch Number	same as for Agency File	s a m e
O	L5: Agency Number R5: Branch Number	same as for Agency File	s a m e

Transaction File Edit I

This section begins the description of Job MHH01EDT.

§ Card Transaction File

If a Card Transaction File is used, DYL250 creates a Scratch Disk Transaction File from the Card Transaction File, each Transaction being padded with blanks to length 180 (//DYL250).

§ Sort

Before editing (see § Edit), SORTD sorts the Tape or Scratch Disk Transaction File, into ascending order on positions 1-19, to a scratch disk Sorted Transaction File (//SORTTRAN). This orders the Transactions on the following fields:

Master Key
Action
Form Number
Item Number
Response
Source
Continuation

Transactions may thus be keyed in any order. The final order of Transactions identical in positions 1-19 is unpredictable. The (input) Transaction File is not affected by the sort.

If several Text Fields are to be keyed for a given Master Key, Action and F-I-R, they may be keyed in separate single Transactions if their individual lengths allow; alternately, if their combined length allows, they may be keyed in one Transaction or in a Continued Transaction and its Continuation (Pair). The Continuation field, being the least significant field on which the Transactions are sorted, is used to keep Pairs intact in the Sorted Transaction File. The Continued Transaction (or the first if there is more than one Pair in the Transaction File identical in positions 1-18) may have either a blank or a digit in this field. Its Continuation must have a higher value (always a digit) in this field. No other Transactions (either single or part of a Pair) identical in positions 1-18 may have a Continuation field whose value is either equal to or between the values of the Continuation fields of a Pair. Note that the Continuation field may also be used to order two Transactions or Pairs such that the Text Fields in the latter override those with the same Textids in the former (see Master File Update).

For example, two Pairs and one single Transaction identical in positions 1-18 may have Continuation fields (parenthesized values are those of a Pair): (blank, 2), 5 and (7,8).

Since the Transactions are applied to the Master Files in the order in-

to which they are sorted, it is constructive to investigate the order of the Sorted Transaction File. All references below to Transactions are to those in the Sorted Transaction File.

When updating an indexed-sequential Master File, a series of consecutive Transactions with the same Master Key, all with Action N or all with Action I (Client File only), creates one new Record. All Transactions after the first in such a series are applied to the new Record as if they have Action O.

Client File Transactions are ordered (on Series and Action) as follows:

Series	Action	
00	D	
00	I	) Series must be
00	N	) keyed as zero
00	O	
01	D	
01	O	
02	D	
02	O	
.		
.		
.		

One example of the importance of understanding this order is that of creating a Series 1 for a Client with Assessment date 01/01/74, deleting Form #5 and then adding Items 1 and 2 of Form #5. An <u>incorrect</u> way to key these Transactions is:

R2	Action	Form	Item	Resp	Text
00	I	02	06		00010174I
01	D	05	00		
00	I	05	01	A	
00	I	05	02	D	

because the sorted order is:

R2	Action	Form	Item	Resp	Text
00	I	02	06		00010174I
00	I	05	01	A	
00	I	05	02	D	
01	D	05	00		

and thus Items 1 and 2 of Form #5 are added to the Series 1 before Form #5 is deleted from the Record, thereby deleting the two Items just added. A <u>correct</u> way to key these Transactions is:

R2	Action	Form	Item	Resp	Text
00	I	02	06		00010174
01	D	05	00		
01	O	05	01	A	
01	O	05	02	D	

which is (coincidentally) already in sorted order. Here Form #5 is deleted before Items 1 and 2 of that Form are added to the Record.

Agency File Transactions precede Service and Branch File Transactions with the same Agency Number. Therefore, Service and Branch Records for a given Agency may be created during the same update run which creates the Agency Record (Service and Branch Records may be created only for agencies on the Agency File (see Master File Update)).

For sequential Master Files, a series of consecutive Transactions create one new Record if they have the same Master Key (Client Number and Prescription Number) and (2- or 3-digit) Form Number and, furthermore, if the Form is blocked into Rows, their Items belong to the same Row. Thus up to ten pages of a 3-digit Form Number Form may be keyed with the same Master Key on a Transaction File, and if the Form is blocked into n Rows, up to 10n Records can be created with the same Master Key.

Tables File

Auxiliary information used by various programs is contained in nine Tables. All Tables are contained in the Tables File. Each Tables Record contains the 3-digit agency identification number ("agency" here refers to an agency of the Commonwealth of Virginia; the agency number of the Department of Mental Health and Mental Retardation is 720; hence all Tables Records have agency identification number 720), the 2-digit Table Number, the remaining Record identification information (differs for each Table; 30 bytes) and the non-key information stored in the Record (differs for each Table; 160 bytes).

The Tables File structure and update and print program are those used by the Commonwealth of Virginia, Division of Automated Data Processing (DADP), with corrections and other suitable modifications. Although all Tables in the SID Information System have agency identification number 720, this number has been retained should it be desired at a later date to use the DADP tables system, which contains tables for several state agencies.

The Tables File is an indexed-sequential file, the key being a 35-byte field composed as follows:

positions within key	description
1 - 3	agency identification number: 720
4 - 5	Table Number (right just., zero filled)
6 - 35	remaining Record identification information

The general Tables Record format is:

positions	size	description
1	1	delete character
2 - 36	35	key
37 - 48	12	unused
49 - 208	160	non-key information

The Table Names and Numbers are:

1 - Response Table
2 - Edit Table
3 - Update Table
4 - Behavioral Repertoire Print Table
5 - SID Staff Table
6 - Service Table
7 - Boolean Expression Macro Table
8 - Error Report Table
9 - Edit "Missing F-I-R and F-I-R-T" Table

Each Table is described in its own section.

SID Staff Table

The remaining Record identification information for the SID Staff Table (Appendix C, Listings) is:

positions within key	description
6 - 20	SID staff member's name in the format: last name followed by a space followed by the first initial
21 - 35	blank

There is a SID Staff Record for each SID staff member to whom at least one Client is assigned.

The non-key information stored in the SID Staff Record has the following format:

positions	size	field
49	1	Location
50	1	unused
51 - 56	6	Date Hired
57 - 88	32	unused
89	1	Status
90	1	unused
91 - 96	6	Date Terminated
97 - 208	112	unused

Following are the field descriptions:

field	description
Location	= "6" if staff member's location is PD#6 = "P" if Portsmouth
Date Hired	date hired
Status	= blank if staff member is active = "T" if terminated = "D" if fictitious (used for exemplification purposes)
Date Terminated	if Status = "T": date terminated

Edit Table

The remaining Record identification information for the Edit Table (Appendix H, Listings) is:

positions within key	description
6 - 7	Form Number (right just., zero filled)
8 - 9	Item Number (right just., zero filled)
10 - 11	Response (left just., space filled)
12 - 35	blank

The existence of an Edit Record for a F-I-R defines the F-I-R as existing for the purpose of editing Transactions with that F-I-R (see Transaction File Edit, § Edit). Associated with each Edit Record is an Update Record (see Update Table) with the same F-I-R, and vice versa.

The non-key information stored in the Edit Record has the following format:

positions	size	fields
49 - 52	4	Edit Code and Edit Length for Text zero:
49	1	Edit Code for Text zero
50 - 52	3	Edit Length for Text zero (right just., zero filled)
.		
.		
.		
109 - 112	4	Edit Code and Edit Length for Text 15
113 - 168	56	unused
169 - 170	2	Text Subroutine Number for Text zero (right just., zero filled)
.		
.		
.		
199 - 200	2	Text Subroutine Number for Text 15 (right just., zero filled)
201 - 205	5	unused
206 - 207	2	General Subroutine Number
208	1	Action Edit Code

The Action Edit Code specifies the valid Actions for the F-I-R. Actions S and P are valid only in Transactions which are blank in positions 12-180; hence they are invalid for all existing F-I-R's. The Action Edit Codes are:

Action Edit Code	valid Actions
D	D
I	DINO
J	INO
N	N
O (øh)	D NO
P	NO

Action Edit Code	valid Actions	
U	O	(with the edit program having PARM='DUMMY')
T	none	(the corresponding Update Record is used internally by the update program (see Update Table and Master File Update))

An Update Record whose corresponding Edit Record's Action Edit Code is D, I or O is called a Delete Record; one whose Edit Record's Action Edit Code is T is called an Internal Delete Record. Note that Edit and Update Record pairs with Action Edit Code I and O provide the information for editing and updating from, respectively, both Transactions which delete information from the System and those which enter information into the System.

Action Edit Codes are determined by the following conditions:

Action Edit Code	Edit Record's...
D	Form is for an indexed-sequential Master File and 1) Item Number is zero (e.g , Form #0, Item 0, and Form #1, Item 0) or 2) Item has Responses and Response is blank (e.g., Form #2, Item 15)
I	Form is for the Client File and Item Number is not zero and Item has no Responses (e.g., Form #2, Item 2)
J	Form is for the Client File and Item Number is not zero and Item has Responses and Response is not blank (e.g., Form #2, Item 15, Response a)
N	Form is for a sequential Master File and if Item has Responses, Response is not blank (e.g., Form #30, Item 1 and Form #30, Item 4, Response e)
O	Form is for the Agency, Service or Branch File and Item Number is not zero and Item has no Responses (e.g., Form #35, Item 3)
P	Form is for the Agency, Service or Branch File and Item Number is not zero and Item has Responses and Response is not blank (e.g., Form #33, Item 4, Response c)
U	F-I-R is valid in a Transaction only when the edit program has PARM='DUMMY' (e.g., Form #90, Item 2)

Action Edit Code	Edit Record's...
T	Form is for a sequential Master File and Item has Responses and Response is blank (e.g., Form #40, Item 24)

Each Edit Record with Action Edit Code other than D and T contains the following (non-key) information (fields other than Action Edit Code are described in detail below):

1) Action Edit Code
2) fields indicating the existence of associated Text Strings (Edit Lengths)
3) fields indicating the length, value and format requirements of associated Text Strings (Edit Codes, Edit Lengths and Text Subroutine Numbers)

Each Edit Record with Action Edit Code N, furthermore, also contains information instructing the edit program to check for the Transaction File's containing Transactions which are meant to create several Records with the same Master Key, but whose (2- or 3-digit) Form Numbers are the same and, if the Form is blocked into Rows, whose Items belong to the same Row. Such Transactions are sorted together and thus create only one Record; the Records are said to have collided (this information is contained in one Text Subroutine Number for each Form or, where applicable, Row, and every General Subroutine Number (in an Edit Record with Action Edit Code N) for the Form).

For example, the following Transactions (not intended to create a meaningful Record):

Form	Item	Resp	Text
19.7	11		0116 |
19.7	13		00093074|
19.7	16	A	
19.7	17	C	
19.7	11		0135 |
19.7	13		00110574|
19.7	17	D	

may be sorted into this order (the order of Transactions with the same F-I-R is unpredictable):

	Form	Item	Resp	Text
1)	19.7	11		0116 |
2)	19.7	11		0135 |
3)	19.7	13		00110574|
4)	19.7	13		00093074|
5)	19.7	16	A	
6)	19.7	17	C	
7)	19.7	17	D	

and one Record will be created, containing the information from Transactions 2), 4), 5) and 7). Since Transactions 1) and 2) contain the same F-I-R-T, the latter overrides the former (see Master File Update). Similarly, Transaction 4) overrides 3). Since Transactions 6) and 7) contain the same F-I-R, and since only one Response is allowed for this Item (see Update Table and Edit-Update Control Report), Transaction 7) overrides 6).

The edit attempts to detect Record collisions by checking for multiple occurrences of a particular F-I-R-T for each Form and, where applicable, Row. These F-I-R-T's (Collision Checking F-I-R-T's) are identified below. If two Records collide, but the Collision Checking F-I-R-T for that Record is not duplicated, the edit cannot detect the error.

Each Edit Record with Action Edit Code D or T contains (other than its key) only the Action Edit Code.

The following field descriptions refer only to fields in Records with Action Edit Code other than D and T.

The existence of an Edit Length for a Text String defines the Text as being associated with the F-I-R. Length, value and format requirements of F-I-R-T's are specified by the Edit Codes, Edit Lengths and some Text Subroutine Numbers. The remaining Text Subroutine Numbers identify the Collision Checking F-I-R-T's. Exact meanings for some Edit Codes differ for different associated Edit Lengths. The Edit Codes are:

Edit Code	description
blank	if Edit Length = zero, maximum Text length allowed ≠ zero, Text length must be ⩽ Edit Length
L	if Text is blank, Text length must be ⩽ Edit Length is non-blank, Text length must = Edit Length (Length)
N	Text must satisfy Edit Code L and be either Numeric or blank
Z	Text must satisfy Edit Code L and be numeric (used for Unformatted Text Strings whose locations (see Update Table) are set to Zero initially and when deleted, or which are maintained by the update program and can never be blank
T	Text must satisfy Edit Code N and, if non-blank, have one of the following formats, depending on the Edit Length (h stands for an hours field digit and m for a minutes field digit):

Edit Code — description

Edit Length	format
4	hhmm
5	hhhmm
8	hhmmhhmm
10	hhhmmhhhmm

where $0 \leqslant mm \leqslant 59$
(Time)

D Text must satisfy Edit Code N and, if non-blank, have one of the following formats, depending on the Edit Length (m stands for a month field digit, d for a day field digit and y for a year field digit):

Edit Length	format
4	mmyy
6	mmddyy
8	mmyymmyy
12	mmddyymmddyy

where each mmyy and mmddyy forms a valid Date, with these exceptions:

1) dd may be zero
2) mm may be zero, and if it is, its associated dd (if any) must be zero
3) in 2-date concatenations, the second date may be all 9's
4) in 2-date concatenations, the second date must be $\geqslant$ the first
5) all dates must be $\leqslant$ the date the Transaction is edited
6) see description of Text Subroutine 6 below.

F Text must satisfy Edit Code D except that dates may be $>$ the date the Transaction is edited (negates exception 5) above)
(Future)

Y Text must satisfy Edit Code N and have the format mmddyyyy, which forms a valid (4-digit Year) date, with exceptions 1), 2) and 5) above and, in addition, the following exception:

7) yyyy must be within 150 years of the date the Transaction is edited

The Text Subroutine Numbers which further specify length, value and format requirements of F-I-R-T's are (a blank Text String satisfies the requirements of its Text Subroutine Number by default):

Text Subroutine Number	description
1	Text must be N/A or have the format ddl, where 00 ≤ dd ≤ 99, and l is either D, W, M, Y or -; Text equal to N/A are changed by the edit program to 00- (durations)
2	Text must have the format dd, where each d is one of 0-3 (illness severity indicators on Form #5)
3	Text must be one of 1-4 (job performance ratings on Form #7)
4	Text must be either Y or N (vocational training completion indicators on Form #7)
5	each Text character must be either 0-4 or blank (Behavioral Repertoire rating codes)
6	Text, if not satisfying Edit Code-Edit Length D-4, must be all 9's (see Edit Code D description above) (D-4 dates which may be all 9's)
7	Text must be T (illness treatment indicator on Form #5)
8	Text must have the format dd, where 01 ≤ dd ≤ 17 (grade level attainment on Form #6)
9	Text must have the format iirr, where 11-ii-rr is an existing F-I-R whose Edit Record has Action Edit Code J (continued institutionalization Prescription elements)
11	Text must be one of 1-5 (percentage level indicators on Form #43)
16	Text must have the format iirr, where 1) ii must be ≥ 08 2) 10-ii-rr is an existing F-I-R 3) if 08 ≤ ii ≤ 11, rr is non-blank 4) if the Form Number of the Transaction the Text is in is greater than 40, a) if the Form Number is 41, 08 ≤ ii ≤ 10 b) if 42, ii = 11 c) if 43, ii ≥ 12 (community placement Prescription elements)

Text Subroutine Number	description
17	Text must have the format ff||rr, where ff must be either 10 or 11, and 1) if ff = 10, ||rr must satisfy Text Subroutine Number 16 2) if ff = 11, ||rr must satisfy Text Subroutine Number 9 (Prescription elements)
18	Text must be either 530, 660, 678, 740, 790 or 820 (SID area city FIPS codes)
19	Text must be either 015, 017, 091, 163 or 165 (SID area county FIPS codes)
20	Text must satisfy Text Subroutine Number 18 or be either 550, 650, 710 or 810 (SID area and remaining PD#20 city FIPS codes)
23	Text must have the format hhmm|hhmm| or the format hhmm|hhmm|hhmm|hhmm|, where h stands for an hours field digit, m stands for a minutes field digit, hhmm is a valid clock time, and | is either A or P (clock times on Forms #33 and #35)
24	Text must have the format ddd, where 000 $\leqslant$ ddd $\leqslant$ 100 (percentages)
25	Text must be one of WSH LTSH SSVTC BON AIR BEAUMONT HANOVER PINECREST BARRETT NAT BR JVI CSH CATAWBA DEJAR SEVTC Text may be apdded to the right with blanks to the maximum length specified by its Edit Length (SID institutions)
26	Text must be one of the staff names on the SID Staff Table; Text may be padded to the right with blanks to the maximum length specified by its Edit Length (SID staff)
27	Text must have the format bbb..., where b has the format dd, where d is numeric (Branch Number lists on Form #34)

Text Subroutine Number	description
29	Text must be one of: BA BAA EC CH BA CSC Text may be padded to the right with blanks to the maximum length specified by its Edit Length (SID staff positions)

The Text Subroutine Numbers which identify Collision Checking F-I-R-T's are 10, 12, 13, 14, 15, 21, 22 and 28.

The General Subroutine Number is described under SID105 Program Narrative.

See Edit Text Subroutines, Edit General Subroutines and Edit Codes Reports for lists of the F-I-R-T's associated with each Text Subroutine Number, the F-I-R's associated with each General Subroutine Number, and the F-I-R-T's associated with each non-blank Edit Code, respectively.

Edit Text Subroutines, Edit General Subroutines and Edit Codes Reports

This section describes Job MHH01TGC.

All three Reports described in this section are located in Appendix I. The Edit Text Subroutines Report lists the F-I-R-T's associated with each Edit Text Subroutine. The Edit General Subroutines Report lists the F-I-R's associated with each Edit General Subroutine. The Edit Codes Report lists the F-I-R-T's (with their Edit Lengths) associated with each non-blank Edit Code.

§ Extract

SID300 creates three scratch disk files, copying to each the above mentioned information from the Edit Table for one of the above mentioned Reports (//SID300). The size of each extract file prints on the Identification Page.

§ Sort

In each of three Steps (//SORTT, //SORTG and //SORTC, respectively), SORTD sorts one of the extract files created by SID300, into the order in which it is printed, to a new scratch disk file.

§ Print

SID301 then prints the Reports, which fit on 8½ x 11 paper (//SID301).

Edit "Missing F-I-R and F-I-R-T" Table

The remaining Record identification information for the Edit "Missing F-I-R and F-I-R-T" Table (Appendix J, Listings) is:

positions within key	
6 - 7	Form Number (right just., zero filled)
8 - 9	Item Number (right just., zero filled)
10 - 35	blank

The existence of an Edit "Missing F-I-R and F-I-R-T" Record for a given Form-Item (always an Assessment Form) identifies the Item as one which, in a Transaction File containing at least one (Series zero) N Transaction with an Assessment Form Number for a given Master Key, must have a Response and/or one or more Text Fields with the specified Textids for that Master Key, depending on the non-key information stored in the Record. The edit program issues a warning concerning such responses and Textids which are missing (see Transaction File Edit, § Edit).

The non-key information stored in the Record has the following format:

positions	size	field
49	1	Response Required
50	1	Text Required for Text zero
.		
.		
.		
65	1	Text Required for Text 15
66 - 208	143	unused

Following are the field descriptions:

field	description
Response Required	= space if the Response is not required = "*" if it is required
Text Required	for Text tt: = space if Text tt is not required = "*" if it is required

This section completes the description of Job MHH01EDT.

§ Edit

Before the Master Files are updated (see Master File Update), SID105 edits the Sorted Transaction File (//SID105, Printouts). The edit is designed to allow only valid information to be entered into the System; it cannot, however, ensure that only correct information is entered. In this context, "valid" means information that is identified by an existing F-I-R or F-I-R-T and, if Text, satisfies the length, value and format requirements of its F-I-R-T. "Correct" means information that is both filled in correctly on the Forms and keyed exactly as it appears on the Forms.

For example, the following Transactions each contain invalid information:

	Form	Item	Resp	Text
1)	05	01	M	
2)	02	06		01010174|
3)	02	06		0001011974|
4)	08	10		00 0 16|
5)	02	06		00013274|

The errors are:

1) 05-01-m is not an existing F-I-R
2) 02-06- -01 is not an existing F-I-R-T
3) the length for 02-06- -00 must be six
4) each character of 08-10- -00 must be either 0-4 or blank
5) January 32, 1974, is an invalid date

On the other hand, if Response a is checked off for Form #5, Item 1, but the F-I-R 05-01-B is keyed, the edit cannot detect the error; the keyed information is valid, but not correct.

Five types of messages are issued by the edit program. The description of a message consists of its meaning and the subsequent program action. A message may be merely informative, it may describe an error condition, or it may describe a possible error condition.

The first type of message prints on the Identification Page and describes the PARM and errors in the Edit "Missing F-I-R and F-I-R-T" Table:

message	meaning	program...
DUMMY FIRTS ACCEPTED	0 Transactions with Dummy F-I-R's and F-I-R-T's accepted (except those indicated otherwise in Appendix E)	continues

message meaning	program...
*** INVALID PARM FIELD - JOB ABORTED *** PARM neither null nor 'DUMMY'	terminates
*** TABLE ENTRIES EXCEED 75 *** there are more than 75 Records in the Edit "Missing F-I-R and F-I-R-T" Table	terminates

There is a place in the Edit Report Box for writing in the Transaction File Tape Number (see Physical Environment, § Data Sets). The Edit Report consists of two lists: Bad Transactions and Clean Transactions. Each Transaction containing invalid information is printed in the Bad Transaction list followed by one or more error messages. A Summary Matrix for each Master Key prints following its Bad Transactions or following the previous Summary Matrix if there are no Bad Transactions for the Master Key. The columns of the Matrix summarize the (horizontally computed) total number of Transactions and the numbers of N and I Transactions, O Transactions, D-Item Transactions, D-Form Transactions, D-Record Transactions and S and P Transactions, respectively. The rows summarize the (vertically computed) number of Transactions rejected as Bad, the number of Clean Transactions and the total number of Transactions. Transactions with Actions other than D, I, N, O, S and P are counted in the first column only. A Summary Matrix (Edit Summary) for the entire Transaction File prints at the end of the Bad Transaction list.

The following error messages are printed for Bad Transactions. Those beginning "TEXT-" refer to Text Fields and are followed by the position (ppp), counting from left to right, of the erroneous Text Field (not the Textid). The three actions the program can take after detecting an error are indicated by letter codes as follows:

C - continue to process as if there is no error
X - proceed to the next Text Field
T - proceed to the next Transaction

Text editing is performed in two stages:

1) the Text String is checked against its Edit Code-Edit Length
2) the Text String is checked against its Text Subroutine Number (if present)

Some error messages associated with Text Subroutine Numbers are triggered by the issuance of a message associated with the F-I-R-T's Edit Code-Edit Length without further checking against the Text Subroutine Number; such error messages are so indicated. The messages are listed in the order in which they print when more than one message is issued for a Transaction:

message	meaning	act	trig?
NO CONTINUE	Transaction position 180 has ">", but next Transaction either 1) is not identical in positions 1-18 or 2) does not have a digit in position 19	C	
MASTER KEY	1) Master Key is zero or 2) Form not one of #33-#35 and Master Key not numeric or 3) Form #33: Master Key position 1 neither "P" nor numeric or positions 2-5 not numeric or positions 6-10 not zero 4) Forms #34 and #35: Master Key position 1 neither "P" nor numeric or positions 2-10 not numeric	C	
ACTION - S,P	Action is S or P and Transaction positions 12-180 not blank	T	
SOURCE	Source not one of A-Z and blank	C	
F - I - R	non-existent F-I-R	T	
SERIES	F-I-R's Action Edit Code is I or J and Transaction's Action is I or N and the R2 part of the Master Key is not zero	C	
ACTION	Action does not satisfy the F-I-R's Action Edit Code	C	
INVALID CTN	position 19 of single or Continued Transaction is neither blank nor 0-9	C	
TEXT-ID ppp	the Textid does not exist for this F-I-R	X	
VERT BAR	last Text Field not terminated with "|"	T	
TEXT-'_' ppp	"_" appears in a Text String stored in a Master File (the F-I-R-T of such a Text String has a non-blank Edit Code or a non-blank Update Record Text Locations field (see Update Table))	C	
TEXT-'_' TOO LONG ppp	usage of "_" causes Text length to exceed 396 (= 9 x 44 (see Text File))	C	

message	meaning	act	trig?
TEXT-SPACES ppp	Text stored in Text File is all spaces (the F-I-R-T of such Text has a blank Edit Code and a blank Update Record Text Iterations field (see Update Table))	C	
TEXT-LEN ppp	Text exceeds its maximum length requirement	C	
TEXT-LENEQ ppp	Text does not satisfy Edit Code L	C	
TEXT-NUM ppp	Text does not satisfy Edit Codes N or Z	C	
TEXT-DATE ppp	Text does not satisfy Edit Codes D, F or Y or Text Subroutine 6	C	---
TEXT-TIME ppp	Text does not satisfy Edit Code T	C	
TEXT-DUR ppp	Text does not satisfy Text Subroutine 1	X	yes
TEXT-ILLS ppp	Text does not satisfy Text Subroutine 2	X	yes
TEXT-RTNG ppp	Text does not satisfy Text Subroutine 3	X	yes
TEXT-YN ppp	Text does not satisfy Text Subroutine 4	X	yes
TEXT-FORM8 ppp	Text does not satisfy Text Subroutine 5	X	no
TEXT-TRMT ppp	Text does not satisfy Text Subroutine 7	X	yes
TEXT-GRD ppp	Text does not satisfy Text Subroutine 8	X	yes
TEXT-F-I-R ppp	Text does not satisfy Text Subroutines 9, 16 or 17	X	yes
TEXT-PCT ppp	Text does not satisfy Text Subroutine 11	X	yes
TEXT-FIPS ppp	Text does not satisfy Text Subroutines 18, 19 or 20	X	yes
TEXT-CLOCK ppp	Text does not satisfy Text Subroutine 23	X	yes
TEXT-% ppp	Text does not satisfy Text Subroutine 24	X	yes
TEXT-INSTIT ppp	Text does not satisfy Text Subroutine 25	X	yes
TEXT-BA ppp	Text does not satisfy Text Subroutine 26	X	yes
TEXT-BRANCH ppp	Text does not satisfy Text Subroutine 27	X	no

message	meaning	act	trig?
TEXT-POS ppp	Text does not satisfy Text Subroutine 29	X	yes
DUP FORM ff.p ITEM ii DUP FORM ff ITEM ii	duplicate Collision Checking F-I-R-T	X	---

Clean Transactions are written to a Clean Transaction (disk) File and print after the Bad Transaction list. The Clean Transaction File provides the input to the Master File update program. To the left of each Clean Transaction prints its position in the Clean Transaction File. This number may be used during the update to skip Transactions (see Master File Update). The first Record in the Clean Transaction File, preceding the first Clean Transaction and not printed or numbered, contains only the 2-digit Rerun Number (in positions 1-2). This number is initialized to zero by the edit. Its use is explained under Master File Update.

The third type of message relates to conditions characteristic of the entire Transaction File. Both of these messages are warnings which print after the Edit Summary. The edit program continues processing after issuing either of these messages:

message	condition and reason for warning
*** ERRONEOUS DUMMY PARAMETER ***	PARM='DUMMY', but no 0 Transactions for Dummy F-I-R's and F-I-R-T's processed; since Dummy F-I-R's and F-I-R-T's provide a non-standard way of entering (or deleting by spacing or zeroing) data, it should be explicitly stated (through the PARM) that they are being used only when they are
*** WARNING - KEYTAPE MAY NEED TO BE CORRECTED AND RE-EDITED BEFORE UPDATE RUN ***	at least one Transaction for a sequential Master File has been rejected as Bad (with an error message other than "SERIES - S,P" and "F - I - R" (when either of these two are issued, the edit program does not know which Master File the Transaction is intended for)); since Records on such Files cannot be changed, all creating Transactions must be on the same Clean Transaction File

The fourth type of message relates to possible error conditions concerning one or more Clean Transactions. These warnings print before the Summary Matrix for the Master Key of the Transaction they concern. The edit program continues processing after issuing any or all of these messages:

message	condition and reason for warning
*** WARNING - NO FORM ff.p - ITEM ii ***	Collision Checking F-I-R-T missing from new sequential Master File Record; collision checking cannot be performed
*** WARNING - NO FORM ff - ITEM ii ***	
*** WARNING - ff.p-ii-rr MAY HAVE VERTICAL BAR MISPUNCHED ***	a Text String contains a "(" or "=" followed by a 2-digit number in the interval 00-15; these two symbols are next to the "|" on the keytape (not keypunch) machine (upper shift) and are the most likely to be hit when the "|" is missed (if the "|" is missed but not followed by another Text Field, the error message "VERT BAR" is issued)
*** WARNING - ff-ii-rr MAY HAVE VERTICAL BAR MISPUNCHED ***	
*** WARNING - BOTH I AND N ACTION CODES ***	both I and N Transactions processed for the same Master Key; they cannot both be correct
*** WARNING - ff.p-ii-rr DUPLICATE ***	Transactions for the same Master Key have the same F-I-R; identical Textids in the latter override those in the former
*** WARNING - ff-ii-rr DUPLICATE ***	

The fifth type of message is a warning which prints before the Summary Matrix for a Master Key for each F-I-R and F-I-R-T, indicated in the Edit "Missing F-I-R and F-I-R-T" Table, which is missing (in neither a Bad nor a Clean Transaction) under the conditions described in the section which describes that Table:

*** WARNING - MISSING RESP FOR ff-ii ***
*** WARNING - MISSING TEXT tt FOR ff-ii ***

A Transaction File may be edited as many times as necessary before its Clean Transaction File is used as input to the update (it may also be edited afterwards, but this is not normal procedure; such an edit resets the Rerun Number to zero). Bad Transactions may be corrected in place or re-keyed, allowing the Bad Transactions to remain. Erroneous Clean Transactions may be blanked out or otherwise invalidated, or they may be skipped during the update (see Master File Update).

Update Table

The remaining Record identification information for the Update Table (Appendix K, Listings) is the same as for the Edit Table.

The existence of an Update Record for a F-I-R defines the F-I-R as existing for the purpose of updating the Master File with which the Form is associated from Transactions with that F-I-R (see Master File Update).

The non-key information stored in the Update Record has the following format:

positions	size	fields
49	1	Master Number
50 - 53	4	Response Location (right just., zero filled)
54	1	Response Length
55	1	Number of Responses
56 - 57	2	Substitute Response (left just., space filled)
58 - 61	4	Source Location (right just., zero filled)
62 - 63	2	unused
64 - 72	9	Text Locations and Delete Fill for Text zero:
64 - 67	4	First Location for Text zero (right just., zero filled)
68 - 71	4	Last Location for Text zero (right just., zero filled)
72	1	Delete Fill for Text zero
.		
.		
.		
199 - 207	9	Text Locations and Delete Fill for Text 15
208	1	Text File Use

There are four basic types of Update Records, corresponding to four update program actions: entering information, deleting Forms and Records, internally deleting Items and deleting Items. The first, second and fourth of these actions are explicitly evoked by Transactions; the third is performed when an old Response in a Record is overridden by a new one, necessitating the deletion of Text associated with the old Response. Each type of Update Record is described below.

§ Entering Information

Each Update Record whose corresponding Edit Record's Action Edit Code is other than D and T (this includes Delete Records used for entering and deleting Items which have no Responses) contains the following (non-key) information (the fields are described in detail below):

1) a field specifying the Master File with which the Form is associated (Master Number)
2) fields specifying whether associated Text Strings are stored in the Master Record or in the Text File (Text Locations)

3) fields specifying the Master Record locations in which the Response, Source and Text Strings (those stored in the Master Record) are stored (Response Location, Response Length, Source Location and Text Locations)
4) if a Response Location is specified, a field specifying the Response length (Response Length)
5) if the Response or Substitute Response is non-blank, a field specifying the number of Responses which may be entered for this Item or for this Group of Responses (Number of Responses)
6) a substitute Response (normally not present) to be stored in the Master Record (though not in the Text File key for associated Text stored in the Text File) instead of the Response (Substitute Response)
7) for Text Strings stored in the Master Record, fields specifying whether they are replaced with spaces or zeroes when deleted (Delete Fills); deleting information from a Master Record leaves the locations assigned to the deleted information with the same contents they had when the Record was created
8) if the Record's corresponding Edit Record's Action Edit Code is I, O or N, a field specifying whether any Text is stored in the Text File for this Item (Text File Use)

Following are the descriptions of the fields mentioned above:

field	description
Master Number	contains the Number of the Master File to which the Form corresponds
	if Response Location ≠ space:
Response Length	= space if the Response length is 1
	= "*" if it is 2
Substitute Response	= space if there is no substitute Response
	≠ space if it is stored (left just., space filled) in the Master Record instead of the Response
Response Location	= space if neither the Response nor the Substitute Response is stored in the Master Record
	≠ space if it contains the Master Record Response location or the leftmost of two adjacent Master Record Response locations, depending on the Response Length
	if the Response or Substitute Response is non-blank:
Number of Responses	= space if only one Response may be entered for this Item or this Group of Responses
	= "*" if one or more Responses may be entered for this Item or this Group of Responses

field	description
Source Location	= space if there is no associated Source with this Item or this Group of Responses ≠ space if it contains the Master Record Source location
	for a Textid associated with the F-I-R (by the existence of an associated Edit Length in the F-I-R's Edit Record):
Text Locations	= space if the Text is stored in the Text File ≠ space if the First and Last Locations contain, respectively, the first and last of a contiguous string of Master Record locations in which the Text String is stored (left just., space filled)
	for a Textid whose Text is stored in the Master Record:
Delete Fill	= space if the Text is to be replaced with spaces when deleted = "*" if with zeroes
	if the Record's corresponding Edit Record's Action Edit Code is I, O or N:
Text File Use	= space if the Item has at least one associated Text String stored in the Text File = "*" otherwise

§ Deleting Forms and Records

Each Update Record whose Item Number is zero (the Delete Records Used for deleting Forms and Records) contains the following: (non-key) information (the fields are described in detail below):

1) a field specifying the Master File with which the Form is associated (Master Number)
2) if the Form Number is for the Client File, a field specifying whether any Text is stored in the Text File for this Form (Text File Use)

Following are the descriptions of the fields mentioned above:

field	description
Master Number	contains the Number of the Master File to which the Form corresponds
	if the Form Number is for the Client File:
Text File Use	= space if the Form has at least one associated Text String stored in the Text File = "*" otherwise

§ Internally Deleting Items

When internally deleting an Item from an indexed-sequential Master File, the update program uses the Delete Record which is also used when the program is explicitly instructed to delete the Item by a D Transaction (see § Deleting Items). Internal Delete Records are used when internally deleting Items from sequential Master File Records.

Each Internal Delete Record contains the following (non-Key) information (the fields are described in detail below):

1) a field specifying the Master File with which the Form is associated (Master Number)
2) fields specifying all locations in the Master Record in which Text Strings associated with the Item are stored (Text Locations)
3) for each field mentioned under 2), a field specifying whether the Text String(s) stored in the specified locations are to be replaced with spaces or zeroes when deleted (Delete Fills)
4) a field specifying whether any Text is stored in the Text File for this Item (Text File Use)

Following are the descriptions of the fields mentioned above:

field	description
Master Number	contains the Number of the Master File to which the Form corresponds
	for Text tt:
Text Locations	= space if unused
	≠ space if the First and Last Locations contain, respectively, the first and last of a contiguous string of Master Record locations in which Text is stored (the Text need not have Textid tt, and furthermore, the specified locations may contain several Text Strings)
	for Text tt, the Text Locations for Text tt being used:
Delete Fill	= space if the Text stored in the specified locations is/are to be replaced with spaces when deleted
	= "*" if with zeroes
Text File Use	= space if the Item has at least one associated Text String stored in the Text File
	= "*" otherwise

§ Deleting Items

Each Update Record whose corresponding Edit Record's Action Edit Code is D and whose Item Number is not zero (the Delete Records used for deleting Items which have Responses) contains the following (non-key) information

(the fields are described in detail below):

1) a field specifying the Master File with which the Form is associated (Master Number)
2a) if one Response is allowed for the Item, a field specifying the Master Record Response location(s) (Response Location, Response Length)
2b) if the Item is Structured, fields specifying the Master Record locations in which the first Group of Responses and the remaining Groups of Responses are stored (Response Location and Response Length, and Text Locations, respectively)
2c) if one or more Responses are allowed for the Item, fields specifying the Master Record Response locations (Text Locations)
3) if a Response location is specified under 2a) or 2b), a field specifying the Response length (Response Length)
4) fields specifying the Master Record locations in which the Source and Text Strings (those stored in the Master Record) are stored (Source Location and Text Locations)
5) for each Text Location field mentioned under 2b), 2c) and 4), a field specifying whether the Responses and/or Text Strings stored in the specified locations are to be replaced with spaces or zeroes when deleted (Delete Fills)
6) a field specifying whether any Text is stored in the Text File for this Item (Text File Use)

Following are the descriptions of the fields mentioned above:

field	description
Master Number	contains the Number of the Master File to which the Form corresponds
Response Length	if Response Location ≠ space: = space if the Response length is 1 = "*" if it is 2
Response Location	if one Response is allowed for the Item or if the Item is Structured: contains the Master Record location or the leftmost of two adjacent Master Record locations, depending on the Response Length, of either the Response or the first Group of Responses
Source Location	= space if there is no associated Source with this Item or Group of Responses ≠ space if it contains the Master Record Source location

field	description
	for Text tt:
Text Locations	= space if unused
	≠ space if the First and Last Locations contain, respectively, the first and last of a contiguous string of Master Record locations in which Responses from other than the First Group of Responses and Text are stored (the Text need not have Textid tt, and furthermore, the specified locations may contain Responses and/or several Text Strings)
	for Text tt, the Text locations for Text tt being used:
Delete Fill	= space if the Responses and/or Text stored in the specified locations is/are to be replaced with spaces when deleted
	= "*" if with zeroes
Text File Use	= space if the Item has at least one associated Text String stored in the Text File
	= "*" otherwise

§ Notes About Several Fields

A string of Text locations whose corresponding Delete Fill is "*" are set to zero when their information is deleted. The Delete Fill is also used by the select mechanism (see Record Selection) to prevent the comparing of Master Record fields which are always numeric with blanks. The Delete Fill is therefore set to "*" for those Dummy F-I-R-T's which cannot be referenced in Transactions (and therefore cannot be deleted), but whose locations are maintained by the update program and are always numeric (in particular, which are never blank; e.g., Client and Sequence Numbers). All F-I-R-T's with a Delete Fill of "*" should have Edit Code Z, and vice versa.

The Text File Use field prevents the update program from trying to delete Text Records which cannot exist (see Master File Update). This makes the update more efficient.

The Number of Responses field is explained in detail under Master File Update.

Master File Locations Report

This section describes Job MHH01LOC.

The Master File Locations Report (Appendices B and C) lists, for each location in a given Master Record, which (regular and Dummy) F-I-R's and F-I-R-T's and which Sources supply information for that location. Each line of the Report which specifies a F-I-R also indicates its substitute Response, if any. Each line which specifies a F-I-R-T also indicates the value (either blank or zero) specified by its Delete Fill field.

§ Extract

SID295 first checks the PARM. If it is not the case that PARM='n', where n is one of 0-8, the error message

*** INVALID PARAMETER - END OF JOB ***

prints on the Identification Page, the Return Code is set to 16, and the program stops (no further Steps execute).

Otherwise, the program copies the above mentioned information for the Master File with Master Number n from the Update Table to a scratch disk file (//SID295). The Master Number and extract file size are printed on the Identification Page.

§ Sort

SORTD sorts the scratch disk file created by SID295, into the order in which the Report prints, to a new scratch disk file (//SORTXTR).

§ Print

SID296 prints the Report, which fits on 8½ x 11 paper (//SID296).

Text File FIRTs Report

This section describes Job MHH01TFF.

The Text File FIRTs Report (Appendix C) lists the F-I-R-T's which are stored in the Text File.

§ Extract

SID310 copies the necessary information from the Update Table to a scratch disk file (//SID310). The number of records created is printed on the Identification Page.

§ Sort

SORTD sorts the scratch disk file created by SID310, into the order in which the Report prints, to a new scratch disk file (//SQRTXTR).

§ Print

SID311 prints the Report, which fits on 8½ x 11 paper (//SID311).

Edit-Update Control Report

This section describes Job MHH01CTL.

SID815 prints the Edit-Update Control Report, containing the Edit and Update Records for each F-I-R either associated with a specified Master File or whose Form Number is contained within a specified interval (//SIDS15, Listings). Depending on the Message Level, messages print after the appropriate F-I-R's providing the following kinds of information:

1) Edit or Update Record missing (but not both)
2) conflicting information within an Edit-Update Record pair
3) invalid information in a Record pair
4) locations specified also specified for a previously printed F-I-R, F-I-R-T or Source
5) locations zero or larger than the Master Record size
6) conflicting information between Delete or Internal Delete Record and the other Records for the same Item

The program inputs two groups of cards. The Edit-Update Table Description Cards provide the following information to the program and are printed on the Identification Page (card format and sequence rules are given under SID815 Program Narrative):

1) Master Files whose F-I-R's are included in this run and their lengths (Master Files and Lengths Card)
2) valid Edit General Subroutine Numbers (Edit General Subroutine Numbers Card)
3) valid Edit Text Subroutine Numbers (Edit Text Subroutine Numbers Cards)
4) valid Edit Codes (Edit Codes Card)
5) valid Edit Lengths for those Edit Codes with length restrictions (Edit Codes-Lengths Cards)

The F-I-R Specification Cards (Appendix L) specify which F-I-R's are included in each Report and the Message Level. The Master Number Card specifies the Master File whose F-I-R's are to be included in the Report. A Form Number Start Card followed by a Form Number Stop Card specified the Form Number interval of the F-I-R's to be included in the Report. The Master Number Card or the Form Number Stop Card (whichever is used) may be followed by a Message Level Card, specifying the Message Level for the Report whose F-I-R's were just specified and for successive Reports until a new Message Level Card is encountered. The Message Level is initially zero. The valid values and meanings of the Message Level are described below. An arbitrary number of Reports may be printed in one run by including additional Master Number Cards and/or Form Number Start and Stop Cards.

For example, three Reports, the last two of which have Message Level 9, are printed by including the following F-I-R Specification Cards (Master Files 3 and 1 must be specified on the Master Files and Lengths Card):

START=19
STOP=20
START=93
STOP=93
MSGLEVEL=9
MASTER=1

Three error messages concerning the Edit-Update Table Description Cards print on the Identification Page. Each prints after the erroneous Card. The program terminates after issuing any of the messages:

message	meaning
*** INVALID CONTROL CARD OR INVALID CONTROL CARD SEQUENCE ***	format or sequence error
*** MASTER FILES AND LENGTHS NOT NUMERIC ***	non-numeric information contained in at least one field of the Master Files and Lengths Card
*** MASTER FILE LENGTHS GREATER THAN 1993 ***	the sum of the lengths of all Master Files specified on the Master Files and Lengths Card exceeds 1993; this is corrected by making separate runs, each run printing the Report(s) for F-I-R's associated with Master Files the sum of whose lengths does not exceed 1993

After processing the Edit-Update Table Description Cards, the program prints the Report(s) specified by the F-I-R Specification Cards. If there are none, the message

*** F-I-R SPECIFICATION CARDS MISSING ***

prints on the Identification Page, and the program terminates. Upon detecting a format or sequence error, the erroneous card and the first error message above print on the Identification Page (or the page following the previous Report if one or more Reports have already printed), and the program terminates.

The Report indicates at the top either the Master File or Form Number interval of the Report. The date appears above the left side of the message field on each page. The Message Level, if not zero, appears above the right side of the message field on each page. Note the following concerning the printing of the Report:

1) the Response and Substitute Response each occupy the middle two positions of their respective 4-position fields

2) the allowable Actions print as a string of letters (e.g., if the Action Edit Code is J, the Action field is "INO") except for Action Edit Codes U and T, which print as "0 (DUM)" and "INT DLT", respectively
3) the Text information for each F-I-R is listed on the right side of the page, each F-I-R-T on a separate line
4) the Delete Fill field prints as a space or a zero
5) if the Text File Use field equals "*", "TEXT FILE NOT USED" prints below the last, if any, Text information line.
6) Edit and Update Record fields containing invalid information (garbage) print as they are.

When more than one Form is included in the Report, each begins on a new page. When no Forms are included in the Report, one of the following messages prints in the message field:

NO FORMS IN SPECIFIED INTERVAL
NO FORMS FOR SPECIFIED MASTER FILE

The description of each message which may print in the Report follows. Messages which are warnings include in their descriptions some conditions under which the situation referred to is not erroneous. Messages referring to Text information include the corresponding Textid (tt). All messages may print with Message Level zero; no messages print with Message Level 9; the other valid values of the Message Level are explained in the description of the appropriate messages:

message meaning	error/ warning
NO UPDATE F-I-R has Edit Record but no Update Record	error
NO EDIT F-I-R has Update Record but no Edit Record	error
RESPONSE LENGTH CONFLICT rightmost position of Response or Substitute Response is non-blank, but Response Length indicates a length of two	error
RESP BLANK - LOC SPECIFIED Response and Substitute Response are blank, but Response Location specified	error
TEXT EDIT CODE-LENGTH CONFLICT tt Edit Code but no Edit Length or Edit Code-Length not as specified on Edit Codes-Lengths Card	error

message meaning	error/ warning
TEXT LENGTH-LOC CONFLICT tt Edit Length zero (no length check) for Text stored in Master Record	error
Edit Length ≠ number of locations specified; if two Text Strings of unequal length share the same locations, the shorter has a smaller Edit Length but must have all locations specified so that the "unused" ones are spaced out if the shorter Text String replaces the longer one (e.g., Form #30, Item 1, Texts 1 and 5)	warning
EDITED TEXT NEEDS LOC-FROM-TO tt Text has non-blank Edit Code but is stored on Text File	error
MASTER # CONFLICT THIS FORM a previously printed F-I-R with the same Form Number has a different Master Number	error
TEXT tt LOC-FROM-TO NEEDS EDIT LENGTH Text has locations specified but no Edit Length	error
INV ACTION EDIT CODE - NON-BLANK RESP Action Edit Code allows Action D, but Response is non-blank	error
TEXT tt LOC-FROM GREATER THAN LOC-TO the leftmost location of the Text String is to the right of the rightmost location	error
TEXT tt EDIT CODE - DLT FILL CONFLICT an Edit Code which allows a blank Text String has a corresponding Delete Fill indicating zero, or the converse	error
TEXT SUB BUT NO LENGTH tt Text has Edit Text Subroutine Number but no Edit Length	error
UNASSIGNED MASTER FILE Master Number not specified on Master Files and Lengths Card	error
UNASSIGNED EDIT SUBROUTINE Edit General Subroutine Number not specified on Edit General Subroutine Numbers Card	error
UNASSIGNED TEXT SUBROUTINE tt Edit Text Subroutine Number not specified on Edit Text Subroutine Numbers Card	error

message meaning	error/ warning
UNASSIGNED TEXT EDIT CODE tt Edit Code not specified on Edit Codes Card	error
UNASSIGNED ACTION EDIT CODE invalid Action Edit Code; Dummy F-I-R's and F-I-R-T's which exist for Record selection (see Record Selection) but which may not be referenced in Transactions have no Action Edit Code (e.g., Form #90, Item 1, Text zero)	warning
GARBAGE IN RESP LOC Response Location not blank or numeric	error
GARBAGE IN SRC LOC Source Location not blank or numeric	error
GARBAGE IN TEXT tt LOC-FROM-TO Text Locations not blank or numeric	error
GARBAGE IN RESP LENGTH Response Length not blank or "*"	error
GARBAGE IN TEXT tt LENGTH Edit Length not blank or numeric	error
GARBAGE IN # RESP Number of Responses not blank or "*"	error
GARBAGE IN TEXT tt DLT FILL Delete Fill not blank or "*"	error
GARBAGE IN TEXTFILE-USE FIELD Text File Use not blank or "*"	error

message meaning	error/ warning
RESP LOC = THAT OF ff-ll-rr RESP LOC = SRC LOC OF ff-ll-rr RESP LOC = TEXT LOC OF ff-ll-rr SRC LOC = RESP LOC OF ff-ll-rr SRC LOC = THAT OF ff-ll-rr SRC LOC = TEXT LOC OF ff-ll-rr TEXT tt LOC = RESP LOC OF ff-ll-rr TEXT tt LOC = SRC LOC OF ff-ll-rr TEXT tt LOC = THAT OF ff-ll-rr locations specified for current Response, Source or Text (subject Locations; to the left of the "=") also specified for the Response, Source or Text of a different previously printed (this run) F-I-R (excluding those with Action Edit Code D and T); the first message prints only if the current Number of Responses specifies ">1"; the Response location is, in addition to that specified, the next larger one if the Response Length specifies 2; if the Subject Location is specified for the Response, Source or Text in more than one previously printed Edit-Update Record pair, the F-I-R of the last such Record is indicated in the message; Message Levels 1, 2 and 3 inhibit the printing of these messages when the Response, Source or Text (of a previously printed Record pair) for which the Subject Locations are also specified belongs to the same Form, Row or Item, respectively; some conditions under which this situation is not erroneous are: 1) several Forms share the same locations (e.g., Forms #10 and #11) 2) several Items share the same locations (e.g., Form #11, Items 20-32) 3) several Rows may create the Master Record (e.g., Form #19) 4) a Group of Responses whose F-I-R's Number of Responses fields specify ">1" (see Master File Update for the explanation of this setting) (e.g., Form #4, Item 6, Responses k-m)	warning

message meaning	error/ warning
RESP LOC TOO BIG SRC LOC TOO BIG RESP LOC TOO SMALL SRC LOC TOO SMALL TEXT LOC-FROM TOO BIG tt TEXT LOC-TO TOO BIG tt TEXT LOC-FROM TOO SMALL tt TEXT LOC-TO TOO SMALL tt location is zero or exceeds Master File size specified on Master Files and Lengths Card; the Response location is, in addition to that specified, the next larger one if the Response Length indicates 2	error
EXTRA DELETE RECORD LOCS: this message prints after the last F-I-R for a given Item; following the message is a list of locations which are specified in the Text Locations fields of the Delete or Internal Delete Record for the Item, but which are absent from all other Records for the Item; the situation is not erroneous if the Delete or Internal Delete Record is specifying locations which will be used by the Item if more Responses are added later; when they are added, the Delete or Internal Delete Record will not have to be changed, and in the meantime, the Delete or Internal Delete Record defines the locations reserved for the Item; this information is reflected in the Filler list at the end of the run (see below)	warning
MISSING DELETE RECORD LOCS: this message prints after the last F-I-R for a given Item; following the message is a list of locations which are absent from the Delete or Internal Delete Record for the Item, but which are specified in at least one Record for the Item	error
TEXT FILE FLAG ERRONEOUSLY SET FOR FORM TEXT FILE FLAG ERRONEOUSLY SET FOR ITEM these messages print after the last F-I-R for a given Form or Item, respectively; the Delete Record for the Form or the Delete or Internal Delete Record for the Item has its Text File Use field equal to "*", but at least one Text String for the Form or Item is stored in the Text File	error

message meaning	error/ warning
TEXT FILE FLAG SHOULD BE SET FOR FORM TEXT FILE FLAG SHOULD BE SET FOR ITEM these messages print after the last F-I-R for a given Form or Item, respectively; the Delete Record for the Form or the Delete or Internal Delete Record for the Item has its Text File Use field equal to a blank, but no Text for the Form or Item is stored in the Text File	error

After the last Report has printed, a list of those locations, for each Master File specified on the Master Files and Lengths Card, which are not specified anywhere in the Update Table (Filler) is printed. Note that this list is constructed by looking at all Update Records, not just those printed. The Filler for each Master File prints on a separate page with the date.

This section describes Job MHH01UPD.

Each update run can update either the Client File, one sequential Master File, or the three Master Files containing Resource information: the Agency, Service and Branch Files.

§ First Level Backup Tapes

In the first Step, DYL250 creates the Text File First Level Backup Tape File (//SAVETEXT). In the next one to three Steps, DYL250 creates First Level Backup Tape Files for whichever other Files (Master Files and possibly the Control File) are modified during the run. In addition, if a sequential Master File is being updated, a disk file (New File) is allocated, in the Step which creates the Backup Tape File for that Master File, which later in the Job is the output file from the merging of the old Master File and the scratch file containing the newly created Records, after which the New File becomes the Master File (see below). The New File is allocated in this Step because it must be placed on the same disk which the Master File is on (see Physical Environment, § Data Sets), and if there is no space, the Job terminates before modifying any files (except the Text File First Level Backup Tape File).

In particular, after the Text File First Level Backup Tape File has been created, the following First Level Backup Tape Files are created, depending on which Master Files are being updated, respectively:

Master Files being updated	Backup Tape Files created	Stepname
Client	Client	SAVECLNT
	Control	SAVECTL
Address History	Address History	SAVEADHS
	Control	SAVECTL
	Client	SAVECLNT
Prescription Search	Prescription Search	SAVEPSCH
	Control	SAVECTL
Prescription Element Report	Prescription Element Report	SAVELRPT
	Control	SAVECTL
Agency, Service and Branch	Branch	SAVEBNCH
	Service	SAVESVCE
	Agency	SAVEAGCY
Problem Report	Problem Report	SAVEPROB
	Control	SAVECTL

These Backup Files can be used to Rebuild the Files modified during the update run should it be desired to cancel the effects of the run (see Master

Files, Text File and Control File Build/Rebuild's). Should it be desired to cancel the effects of the several previous (consecutive) runs of Jobs which modify the Files (for the others, see Sequential Master File Record Deletion and Prescription Search Record Expiration), the Second Level Backup Tape Files must be used (see Master Files, Text File and Control File Second Level Backup Tape Files).

§ Update

SID120 directly updates the Text File, the Control File and the indexed-sequential Master Files, and writes new sequential Master File Records to a scratch disk file, beginning a four or five Step process which updates the sequential Master Files (//SID120, Printouts). The PARM specifies, by taking as its value one of the 6-character Master File Abbreviations listed below, which Master Files are to be updated:

Master Files to be updated	Master File Abbreviation
Client	CLIENT
Address History	ADRHST
Prescription Search	PRSRCH
Prescription Element Report	PRLRPT
Agency, Service and Branch	ALL-AG
Problem Report	PROBRP

If the Clean Transaction File has been processed by a previous update run (i.e., without an intervening edit), the Rerun Number must also be specified in the PARM by immediately following the Master File Abbreviation with

,RERUN=dd

where dd ($00 \leqslant dd \leqslant 99$) specifies the number of times the update has been rerun using this Clean Transaction File (all such updates not necessarily, and normally not, being of the same Master Files). The Rerun Number need not be specified when zero (i.e., no previous update with this Clean Transaction File (since last edit)).

For example, if a Client File update is being run on a Clean Transaction File which has been the input to one previous update run (not necessarily a Client File update), then SID120 has PARM='CLIENT,RERUN=01'.

If only certain input Transactions are to be processed by the update, then from one to five Interval Cards are included (Appendix M). These specify the intervals containing the numbers (the Transaction position numbers printed on the Edit Report Clean Transaction list), interval end points included, of the Transactions to be processed. If more than five intervals are desired, several update runs must be made, each run specifying up to five intervals (note that the Rerun Number in the PARM must be increased by one for each successive run).

The Interval Cards must be ordered such that the upper end of each interval is less than the lower end of the following interval. The intervals may contain numbers which exceed the number of Transactions in the Clean Transaction File. If no Interval Cards are included, the effect is the same as including the Card

INTERVAL=(0001,9999)

The following error messages print on the Identification Page; the Return Code is set to 100 and the Job terminates after issuing any of them:

message	meaning
*** INVALID PARM LENGTH - END OF JOB ***	PARM length neither 6 nor 15
*** INVALID MASTER FILE ABBREV - END OF JOB ***	first six positions of PARM not one of Master File Abbreviations
*** ",RERUN=" NOT SPECIFIED - END OF JOB ***	in PARM of length 15, Master File Abbreviation not immediately followed by ",RERUN="

After the PARM has been determined to be valid, the program prints the Interval Cards (if any) on the Identification Page. One of the following messages prints after an erroneous Card, after which the Return Code is set to 100 and the Job terminates:

message	meaning
*** TOO MANY INTERVALS - END OF JOB ***	more than five Interval Cards
*** INTERVALS OVERLAP - END OF JOB ***	upper end of second from last Interval Card printed $\geq$ lower end of last Card printed
*** "INTERVAL=" NOT SPECIFIED - END OF JOB ***	Interval Card does not begin "INTERVAL="
*** INVALID INTERVAL DELIMITERS - END OF JOB ***	"(", "," or ")" not in appropriate positions of Interval Card
*** INVALID INTERVAL - END OF JOB ***	lower or upper end of interval not numeric or lower end $>$ upper end

The Rerun Number in the Clean Transaction File is then compared with the program's Rerun Number (either zero or that specified in the PARM). If they are different, the error message

*** INVALID RERUN NUMBER - END OF JOB ***

prints on the Identification Page, the Return Code is set to 100, and the Job terminates; otherwise, the Rerun Number in the Clean Transaction File is increased by one.

There is a place in the Update Report Box for writing the Transaction File Tape Number (see Physical Environment, § Data Sets). The Rerun Number also prints in the Report Box. If Interval Cards are included, the message

*** REMINDER - INTERVAL CARDS MUST BE REMOVED FROM DECK ***

prints below the Report Box.

Depending on the Master Files being updated, the Return Code is set as follows:

Master Files being updated	Return Code
Client	0
Address History	10
Prescription Search	20
Prescription Element Report	30
Agency, Service and Branch	40
Problem Report	70

As the Clean Transaction File is processed, each Transaction is printed, possibly followed by one or more messages. These include purely informative messages as well as those pertaining to Transactions which, although valid, cannot be applied to the Master Files due to the context of the update run (e.g., the PARM value or the presence or absence of certain Records in the Master File being updated).

The following messages print immediately after Transactions which are not processed; i.e., the condition is detected before any Records are modified as a result of the Transaction, and the program proceeds to the next Transaction after printing the message:

message	meaning
SKIPPED	Transaction skipped due to Interval Cards' specifications
ACTION	Transaction's Action is S or P and Client File not being updated

message	meaning
WRONG MASTER	Transaction's Form Number is associated with a Master File not being updated

The remainder of this sub-section concerns only processed Transactions.

When updating an indexed-sequential Master File, the first Transaction in a series of consecutive Transactions with the same Master Key, all with Action N or all with Action I, tells the program to create a new Record. If the Action is I, the program first adds one to the Inverse Series of the Client's previous Records. If the new Record is a Client Record created by an N Transaction, it is initialized as follows:

1) the Client Number is moved into the Record
2) the Series Number is set to zero
3) the Control fields and the last Form #30 for the Client fields are set to spaces
4) the Inverse Series is set to zero
5) the rest of the Record is set to spaces, except that money fields are set to zero

At this time, the Client's Control Record is created.

If the new Record is a Client Record created by an I Transaction, it is initialized as follows:

1) the entire Record is set to be identical to the Client's previous Last Record (PLR)
2) the Control fields are set as follows:

   a) the S- and P-trans fields are set to spaces
   b) the Assesement Number and its Inverse are set to the values of these two fields, respectively, of the PLR
   c) the Prescription Number, Prescription Number This Assessment, Prescription Number Out, Prescription Number In and their Inverses are set to the values of these fields, respectively, of the PLR
   d) the Inverse Series is set to zero

3) the Series is set to the Series of the PLR plus one

At this point, all Text Records associated with the PLR are duplicated, with Series set to the Series of the newly created Record.

If the new Record is an Agency, Service or Branch Record, it is first initialized to spaces, after which the Agency Number, Agency and Service Numbers, or Agency and Branch Numbers, respectively, are moved into the Record.

When updating a sequential Master File, the first Transaction in a series of consecutive Transactions with the same Master Key and (2- or 3-digit) Form Number and, if the Form is blocked into Rows, whose Items belong to the same Row, tells the program to create a new Record. This Record is initialized as follows:

1) the entire Record is set to spaces
2) the Client and Prescription Numbers are moved into the Record
3a) for a Prescription Search Record, the Service Plan Code is set (the Expiration Code is set when the Record is set to spaces)
3b) for a Prescription Element Report Record, the Status Code is set
3c) for a Problem Report Record, the Report Code is set
4) money fields are set to zero
5) the Sequence Number is moved into the Record

At this time, the Sequence Number in the Control Record is increased by one.

The following error messages pertain to errors detected while attempting to create a new Record. The messages print after each N or I Transaction, after which the program proceeds to the next Transaction; a new Record is not created, and the Transaction's information is not stored:

message	meaning
ALREADY HAVE SERIES 0	attempt to create a Client Record with Action N, but Client already has a Record
NO PREV SERIES	attempt to create a Client Record with Action I, but Client has no previous Records
ALREADY ON FILE	attempt to create an Agency, Service or Branch Record, but one already exists with the same Agency Number, Agency and Service Numbers, or Agency and Branch Numbers, respectively
NO MASTER RECORD	attempt to create a sequential Master File Record, but there is no Series zero Client Record with the same Client Number, or attempt to create a Service or Branch Record, but there is no Agency Record with the same Agency Number
BAD PRESCR NO	attempt to create a sequential Master File Record, but there is no Client Record with the same Client and Prescription Numbers

After a new Record is created, the Responses, Sources and Text Strings contained in the creating Transaction and all successive N or I Transactions (whichever is the Action of the creating Transaction) are stored (see below).

Each C, D, S and P Transaction refers to a Record which already exists, although the Record may have been created during the same run (see example under Transaction File Edit, § Sort). The following error message prints after Transactions with these Actions:

message	meaning
NOT ON FILE	the Record specified by the Transaction's Master Key does not exist

Information from N, I and O Transactions is stored as follows:

1) if the Update Record (for the Transaction's F-I-R) specifies a Source Location, the Source is stored in that location of the Master Record
2) if the Update Record specifies a Response Location, the (1- or 2-byte, depending on the Response Length) Response or, if present, Substitute Response, is stored in that location (or that location and the next one, depending on the Response Length)
3) if the new Response differs from the old one, and the Update Record's Number of Responses specifies "1", all locations specified in the Delete or Internal Delete Record's Text Locations are spaced or zeroed, depending on the Delete Fills, in the Master Record, and all Text associated with the Item is deleted from the Text File;
   Note: the Number of Responses field's only purpose (aside from affecting the generation of an Edit-Update Control Report error message) is to delete unreferenced Text from the Files at the moment it becomes unreferenced; when an Item's Response is changed (this can occur even when updating a sequential Master File if there are two consecutive Transactions for the same Item but with different Responses; hence the existence of Internal Delete Records), and the new Response's Number of Responses specifies "1", all Text associated with the old Response must be deleted; since the lowest level at which information may be deleted is that of the Item, all Text associated with the Item is deleted, as well as any Responses whose locations are specified in the Delete or Internal Delete Record's Text Locations; therefore, each of a Group of Responses, none of which have associated Text, have their Number of Responses specifying ">1"; this allows the change of Response without rexeying the entire Item; each of a Group of Responses, at least one of which has associated Text, have their Number of Responses specifying "1"; although this is not true for the Item, it causes the deletion of old Text when the Response changes
4) the Transaction's Text Fields are processed from left to right:

a) Text stored in the Master Record are padded to the right with spaces if they are shorter than the number of specified locations (F-I-R-T's with Delete Fill specifying zero always have Edit Codes requiring exact length)
b) Text stored in the Text File are Segmented in such a way that no Segment begins with a space and no string of non-spaces is contained in two Segments, unless the Text can be stored in no other way; Text already in the Text File with the same key are replaced; Text associated with Forms blocked into Rows have their Item Numbers set to the corresponding Item Number in the first Row

If Form #32 information is entered into a Client Record which had no Form #32 information prior to the update run, this information is also entered into each of the Client's previous Records which does not have Form #32 information (Text Records associated with the Form #32 are not duplicated to correspond to the previous Records).

For each Address History Record created, the appropriate Form #30 information is entered into the appropriate Client Records (see Master Files, § Client File).

D-Item Transactions delete all information, both in the Master Record and in the Text File, associated with the specified Item.

D-Form Transactions delete all information, both in the Master Record and in the Text File, associated with the specified Form. In addition, if the Form is #1, the Prescription Number, Prescription Number This Assessment, Prescription Number Out, Prescription Number In, their Inverses, the P-trans field, Forms #14, #15 and #17, and the Form #30 information corresponding to the Record's Prescription (but not the last Form #30 information for the Client) are deleted.

D-Record Transactions for the Agency, Service and Branch Files, and for the Client File for Records with Inverse Series zero, delete the Record as well as all associated Text Records. D-Record Transactions for Client Records with non-zero Inverse Series delete all Forms in the Record, as well as those articles deleted when Form #1 is deleted (see above), and all associated Text Records.

One of the following messages prints after each D-Record Transaction for the Client File:

message	meaning
SPACED AND ZEROED	Forms deleted from Record
DELETED	Record deleted

If a Client Record is deleted, some of the Control Fields in the Cli-

ent's remaining Records (e.g., Inverse Series) become incorrect and must be corrected via Dummy F-I-R-T's (the correcting Transactions may be in the same Transaction File, or they may be included in a prior or later run). If there is at least one Client Record deleted during an update run, the message

*** REMINDER - CONTROL FIELDS MUST BE RESET FOR REMAINING SERIES OF DELETED CLIENT RECORDS ***

prints after the statistics at the end of the Report (see below).

S and P Transactions may refer only to Client Records whose Inverse Series are zero. In addition, S Transactions may not refer to Records to which P Transactions have been applied during a previous update run, and P Transactions may not be applied to Records which do not have exactly one of Form #9, Items 3 and 4, entered. Each S Transaction evokes the following actions:

1) the S-trans field is set to "S"
2) if the Assessment Number is blank, it is set to zero; otherwise it is increased by one
3) the Last Prescription Number This Assessment (in the Client's Control Record) is set to spaces
4) if the Prescription Number This Assessment is not blank, it, its inverse, and the Last Prescription Number This Assessment (in the Control Record) are set to zero (i.e., if there is a Prescription in the Record, it is now the first Prescription for this (new) Assessment)
5) the Inverse Assessment Number is set to zero

Each P Transaction evokes the following actions (if both S and P Transactions are applied to a Record during the same update run, the actions evoked by the S Transaction are performed before those evoked by the P Transaction):

1) the P-trans field is set to "P"
2) the Form #30 information corresponding to the (old) Prescription is deleted
3) the Inverse Prescription Number and Inverse Prescription Number This Assessment are set to zero
4) the Prescription Number fields in the Control Record are set as follows:

   a) if the Last Prescription Number is blank, it is set to zero; otherwise it is increased by one
   b) if the Last Prescription Number This Assessment is blank, it is set to zero; otherwise it is increased by one

c) if the Client Record has Form #9, Item 3, entered, then if the Last Prescription Number Out is blank, it is set to zero; otherwise it is increased by one
d) if the Client Record has Form #9, Item 4, entered, then if the Last Prescription Number In is blank, it is set to zero; otherwise it is increased by one

5) the Prescription Number fields in the Client Record are set as follows:

a) the Prescription Number is set to the Last Prescription Number
b) the Prescription Number This Assessment is set to the Last Prescription Number This Assessment
c) if Form #9, Item 3, has been entered, the Prescription Number Out is set to the Last Prescription Number Out, and its Inverse is set to zero
d) if Form #9, Item 4, has been entered, the Prescription Number In is set to the Last Prescription Number In, and its Inverse is set to zero

Each S Transaction causes the Inverse Assessment Number in each of the Client's previous Records with a non-blank Assessment Number to be increased by one. Each P Transaction evokes the following actions in each of the Client's previous Records with a non-blank Prescription Number:

1) the Inverse Prescription Number is increased by one
2) if the Assessment Number is the same as that in the Record specified in the P Transaction, the Inverse Prescription Number This Assessment is increased by one
3) if Form #9, Item 3, has been entered in both this (previous) Record and the Record specified in the P Transaction, the Inverse Prescription Number Out is increased by one
4) if Form #9, Item 4, has been entered in both this Record and the Record specified in the P Transaction, the Inverse Prescription Number In is increased by one

The following error messages print after S or P Transactions:

message	meaning
2ND P-TRANS	a P Transaction refers to a Record to which a P Transaction has been applied during a <u>previous</u> update run
2ND S-TRANS	an S Transaction refers to a Record to which an S Transaction has been applied during a <u>previous</u> update run

message	meaning
PREV P-TRANS	an S Transaction refers to a Record to which a P Transaction has been applied during a previous update run
INVERSE SERIES NOT ZERO	an S or P Transaction refers to a Record whose Inverse Series is not zero
PR IN OR OUT?	a P Transaction refers to a Record in which either both or neither of Form #9, Items 3 and 4, have been entered

The update program proceeds to the next Transaction after issuing any of these messages, ignoring the erroneous Transaction.

When a Record is created or changed, a working copy is constructed or modified, respectively, in the computer's main memory. After all Transactions which refer to this Record have been processed, the Record (Primary Record) is written to the appropriate disk file (the Master File being updated if it is indexed-sequential; a scratch file when the Master File being updated is sequential). The following purely informative messages print after the Primary Record has been written to disk, and thus appear after the first processed Transaction which does not refer to the Primary Record, unless there are no more Transactions, in which case they print after the last Transaction. (The name Primary Record is chosen since after it is written to disk, other Records in the same or another Master File may be processed before the next Transaction is processed (e.g., S and P Transactions initiate actions on previous Client Records, and Form #30 information is moved into Client Records during Address History File updates).):

message	meaning
ASSMT: aa	as a result of an S Transaction, aa is the new Assessment Number of the Primary Record
PRESCR: pp	as a result of a P Transaction, pp is the new Prescription Number of the Primary Record
PR THIS ASSMT: pp	as a result of a P Transaction, pp is the new Prescription Number This Assessment of the Primary Record
SERIES: ss	a new Client Record has been created with Series Number ss
SEQ: ss	a new sequential Master File Record has been created with Sequence Number ss
NEW AGENCY	a new Agency Record has been created
NEW SRVICE	a new Service Record has been created

message	meaning
NEW BRANCH	a new Branch Record has been created

The last page of the Update Report contains statistics describing the update run. For each Master File updated and the Text File, the number of new Records, the number of deleted Records, and the File size change print. If the Master File is indexed-sequential, the following three numbers describing the overflow structure of the file also print:

1) the number of full cylinder overflow areas (an area is the per cylinder overflow allocation)
2) the number of unfilled tracks remaining in independent overflow
3) the number of COBOL READ and WRITE statements that accessed overflow records that were not the first in the chain of such records

These last three numbers print for the Text File only if the File has been accessed randomly during the run. After these statistics print, the numbers of times the Text File was COBOL OPENed randomly and sequentially print (the OPEN mode changes only when necessary).

If a sequential Master File is being updated, but no new Records have been created, the Return Code is increased by one.

If indexed-sequential Master Files are being updated, the update part of the Job is finished. Otherwise, the new sequential Master File Records, which have just been written to a scratch disk file, must be merged with the Records currently in the Master File, as described in the next sub-section.

§ Sequential Master Files

If a sequential Master File is being updated, but no new Records have been created, //DLMHHSID deletes the New File, and none of the other Steps described in this sub-section execute (IEFBR14).

When written to the scratch disk file by SID120, the new Records have length 331. The Record lengths of the sequential Master Files other than the Prescription Search File are less than 331; therefore, in the first Step after //SID120 when updating the Address History, Prescription Element Report or Problem Report File, DYL250 copies the scratch disk file created by SID120 to a new scratch disk file with the proper Record length (//LRCLADHS, //LRCLLRPT or //LRCLPROB, respectively).

Next, SORTD sorts the new Address History, Prescription Search, Prescription Element Report or Problem Report Records, into their proper order (see Master Files), to a new scratch disk file (//SORTADHS, //SORTPSCH, //SORTLRPT or //SORTPROB, respectively).

Then, SORTD merges the scratch disk file containing the sorted Address History, Prescription Search, Prescription Element Report or Problem Report

Records with the appropriate Master File to the New File (//MRGADHST, //MRGPRSCH, //MRGPLRPT or //MRGPROBR, respectively). The Master File is deleted at the end of this Step.

In the final Step of the update process for sequential Master Files, IEHPROGM renames the New File with the name of the appropriate Master File and catalogues the new Master File, telling the operating system which disk the file is on (//RENMADRS, //RENMPSCH, //RENMLRPT or //RENMPROB, respectively). The New File thus becomes the Master File (this explains why the New File must be allocated on the same disk as the Master File).

§ Overflow Statistics

The remaining Steps print the following overflow statistics for the various indexed-sequential files whose overflow structures may have been modified during the run:

1) the number of records (including dummy records) residing in the prime data area
2) the number of records residing in an overflow area
3) the number of tracks remaining in the independent overflow area
4) the number of full cylinder overflow areas (an area is the per cylinder overflow allocation)

If the Client File is being updated, ISAM prints these statistics for the Client File (//CLNTSTAT) and the Control File (//CTLSTAT).

If the Agency, Service and Branch Files are being updated, ISAM prints these statistics for these Files (//AGCYSTAT, //SVCESTAT and //BNCHSTAT, respectively).

If a sequential Master File is being updated, ISAM prints these statistics for the Control File (//CTLSTAT).

Independent of the Master Files being updated, ISAM prints these statistics for the Text File (//TEXTSTAT).

It is sometimes desirable to obtain a particular subset of the Records in a given Master File. Although this can be done by supplying DYL250 with the appropriate Parameter Cards, preparing Parameter Cards is a tedious and error prone process. The SID Information System, therefore, provides a 2-Step select mechanism for selecting Record subsets from the Master Files (including the Text File):

1) a Boolean Expression (after George Boole), which is a true statement about each Record desired, is supplied to the DYL250 Parameter Card generation program, which generates, using its PARM and information in the Edit and Update Tables, the equivalent DYL250 Parameter Cards (to a scratch disk file)
2) DYL250 inputs the specified Master File and the just generated Parameter Cards, Accepts the Records thus described, and performs the specified actions with the Accepted and Rejected Records (e.g., print or write to an output file)

The set of Boolean Expressions is a language, and forming the correct Boolean Expression to Accept a given subset of Records from a Master File is a programming task, of sorts, in that language. The rules for correctly forming Boolean Expressions are described in several ways in the System documentation. The SID195 Program Narrative contains the formal description. The informal description, with examples, is presented in this section. Note that a Boolean Expression may be correctly formed and yet not describe the desired subset of Records. Such a Boolean Expression is syntactically correct but semantically incorrect, which is to say that it is legal but does not mean what its author intends. The rules described below and in the SID195 Program Narrative, when followed, produce legal Boolean Expressions, which may yet be semantically incorrect. Hints are given in this and later sections concerning how to ensure that each Boolean Expression describes the intended subset.

§ Boolean Expressions

This sub-section begins the description of the formation rules for Boolean Expressions. Later sub-sections describe how to punch Boolean Expressions into cards.

There are six Relations:

Relation	meaning
EQ	equal to
NE	not equal to
LT	less than
LE	less than or equal to
GT	greater than
GE	greater than or equal to

A Simple Boolean Expression states that the value contained in a string

of contiguous Record locations specified by a F-I-R or F-I-R-T (the Subject of the Relation (Subject), appearing to the left of the Relation) has the specified Relation to the value of either 1) a Constant or 2) another string of contiguous Record locations specified by a F-I-R or F-I-R-T (either 1) or 2) is the Object of the Relation (Object), appearing to the right of the Relation). If the Object is a F-I-R (F-I-R-T), so must be the Subject. A Constant is either a string of characters (none of which may be a single quote (')) enclosed within single quotes, or one of the two self-explanatory literals: SPACE and ZERO.

Examples of Simple Boolean Expressions are:

Simple Boolean Expression	Records Accepted
02-09-A EQ 'A'	Client Records of male Clients (note that this Boolean Expression is equivalent to 02-09-B EQ 'A', since 02-09-A and 02-09-B specify the same location)
02-09-A EQ 02-10-A	Client Records of white male and black female Clients, and Clients with neither sex nor race entered
02-03- -00 EQ SPACE	Client Records with no institution
30-07-A -00 GT 30-08-A -00	Address History Records in which, of the total cost/fee, the Client or his family/guardian pays more than a third party payor

The two binary operators AND and OR may be used to form more complex Boolean Expressions. If E and F are Simple Boolean Expressions, then the following table indicates the values (true or false, depending on the values of E and F) of the Boolean Expressions formed by connecting E and F (the operands) with AND and OR:

	E	F	E AND F	E OR F
1)	t	t	t	t
2)	t	f	f	t
3)	f	t	f	t
4)	f	f	f	f

For example, if E is false and F is true (line 3) of the table), then E AND F is false, but E OR F is true. Simply stated, AND and OR have their usual English meanings.

Examples of Boolean Expressions using AND and OR are:

Boolean Expression	Records Accepted
90-01- -00 LT '00001000' AND 02-20-A EQ 'C'	Client Records of Clients who 1) have Client Number less than 1000 and 2) have escaped during the past six months (note than the Boolean Expression describes each Record; it is not a general statement about all Records Accepted; i.e., it does not Accept Records with Client Number less than 1000 and Records of Clients who have escaped during the past six months)
33-19-A -00 GT ZERO OR 33-20-A -00 GT ZERO	Agency Records of Agencies with federal or state (or both) funds (note than space is less than zero in the collating sequence; hence Records Accepted are non-blank and non-zero in at least one of these fields)

A Boolean Expression with several AND's and OR's is evaluated by first applying the AND's to their operands, and then applying the OR's to their operands. For example, if E, F and G are Simple Boolean Expressions, then

E AND F OR G

is evaluated by first determining the value of E AND F (call this H), and then evaluating H OR G, treating H as a Simple Boolean Expression. Parentheses may be used in the usual mathematical way to alter the application of this rule. For example,

E AND (F OR G)

is evaluated by first determining the value of F OR G (call this J), and then evaluating E AND J, treating J as a Simple Boolean Expression. In

(E AND F) OR G

the parentheses are redundant, but legal. This points out

Hint 1: when unsure of the order of evaluation of a Boolean Expression, explicitly state the desired order of evaluation using parentheses

More examples of Boolean Expressions using AND and OR are:

Boolean Expression	Records Accepted
90-01- -00 GT '00008000' AND (02-07- -00 EQ ZERO OR 02-08- -00 EQ SPACE)	Client Records which 1) have Client Number greater than 8000 and 2) are missing either the birthdate or social security number (or both) (note that the Delete Fill field for the birthdate specifies zero)

Boolean Expression	Records Accepted
90-03- -01 LT '74' OR 90-03- -01 EQ '74' AND 90-03- -00 LT '0930'	Client Records which have Assessment date less than 09/30/74 (see Dummy F-I-R-T's for reason why Dummy F-I-R-T's are necessary for this comparison)

The unary operator NOT may also be used to form more complex Boolean Expressions. If E is a Simple Boolean Expression, then if E is true . . (false), NOT E is false (true). NOT, therefore, also has its usual English meaning. A Boolean Expression with NOT and binary operators is evaluated by first applying the NOT's to their operands, then applying the AND's to their operands, and then applying the OR's to their operands. For example,

NOT E AND F is equivalent to (NOT E) AND F

and

NOT E OR F AND NOT G is equivalent to (NOT E) OR (F AND (NOT G))

Examples of Boolean Expressions using NOT are:

Boolean Expression	Records Accepted
NOT (98-01- -00 EQ ZERO AND 98-03- -00 LT '00005000')	the parenthesized Boolean Expression Accepts Text Records 1) associated with Client Records and 2) with Client Number less than 5000 the entire Boolean Expression, therefore, Accepts Text Records 1) associated with a Master File other than the Client File or 2) associated with the Client File and with Client Number greater than or equal to 5000
NOT 02-09-A EQ 'A'	this is equivalent to 02-09-A NE 'A', which Accepts Client Records of female Clients and Clients for whom race has not been entered (note that 02-09-A NOT EQ 'A' is an incorrectly formed expression, since NOT must precede a Boolean Expression)

The operator NOT is not necessary, since each Relation's negation is also a Relation. NOT can, however, be particularly useful if, for example, a rather complicated Boolean Expression E is used to select a subset of a Master File, and the complement of that subset (all other Records) is desired in a separate run. The complement is selected by the Boolean Expression NOT (E). Note that the parentheses are necessary for NOT to apply to the entire Boolean Expression E (unless E is a Simple Boolean Expression); without them, NOT applies, by the rules above, to the first available oper-

and in E.

§ Arithmetic in Boolean Expressions

An Integer is a string of consecutive digits. The value of an Integer may be added to or subtract i from the value of a F-I-R-T with Edit Code N or Z before the Simple Boolean Expression of which it is a part is evaluated. This is specified by following the F-I-R-T with one of the arithmetic signs "+" or "-", respectively, and following the arithmetic sign with the Integer.

Examples of Boolean Expressions in which arithmetic is performed are:

Boolean Expression	Records Accepted
02-18-A EQ 'C' AND 02-19-A EQ 'C' AND 02-18-C -01 - 2 GE 02-19-C -01	Client Records of Clients who have been released on both leaves and passes during the past six months (as of the Assessment date in the Record) and whose number of leaves exceeds the number of passes by at least two
90-03- -01 + 1900 LT 90-04- -01 + 20 OR 90-03- -01 + 1900 EQ 90-04- -01 + 20 AND 90-03- -00 LT 90-04- -00	Client Records of Clients whose age at Assessment was less than 20 (note that the Assessment year is stored as two digits, but the birth year is stored as four digits; hence the addition of 1900)

If the value of a F-I-R-T upon which arithmetic is performed is spaces (possible only if Edit Code is N), the arithmetic is bypassed, and the Simple Boolean Expression of which the F-I-R-T is a part evaluates to false. As a result,

NOT (02-18-C -01 - 2 GE 02-19-C -01)

is not equivalent to

02-18-C -01 + 2 LT 02-19-C -01

since the first is true if the value of 02-18-C -01 is spaces (the parenthesized part being false), but the second is false under the same condition.

§ Punching Boolean Expressions

The following rules govern the punching of Boolean Expressions into cards.

Each F-I-R consists of the following articles punched in the given order with no intervening spaces:

2-digit Form Number
-
2-digit Item Number
-
2-character Response

Each F-I-R-T consists of a F-I-R immediately followed by:

-
2-digit Textid

The following articles are classified as Tokens:

F-I-R
F-I-R-T
Relation
Constant (if not SPACE or ZERO, including its enclosing quote.)
AND
OR
NOT
(
)
+
- (when used as an arithmetic sign)
Integer

A Boolean Expression may be punched into cards in any manner so long as each Token is completely contained on one card. An arbitrary number of spaces (including none) may separate Tokens on a card.

If it is desired to select all of the Records in a Master File, a Master Number Card (Appendix X) may be used instead of a Boolean Expression. For example, all Problem Report Records are Accepted by the following card:

MASTER=7

§ Boolean Expression Macros

Some Boolean Expressions, such as those which select Client Records of Clients who were initially residents of particular institutions, are frequently used. Other Boolean Expressions are long and/or complicated. An example of this kind of Boolean Expression is one which selects Client Records of all Clients on whom data is gathered for the SID Cost/Benefit Analysis. It is convenient to be able to associate names with such Boolean Expressions and use the names instead of the Boolean Expressions during Record

selection.

Still other Boolean Expressions can be grouped in such a manner that each Boolean Expression in a given group is identical with all other Boolean Expressions in the same group except for small differences. Such a group is the group of Boolean Expressions which select Client Records of Clients whose age at Assessment was less than a specified number. In the above example, changing both instances of the number 20 to 30 produces another member of this group. It is convenient to be able to associate a name with a template of each such group - a "Boolean Expression" identical to those in the group, but with special names in place of the Tokens which vary - and use, during Record selection, that name together with the values to be assumed by each special name, instead of the Boolean Expressions.

To this end, a Boolean Expression Macro (Macro) is a Boolean Expression, with one exception, which is stored in the Boolean Expression Macro Table (see Boolean Expression Macro Table) as a series of card images and is identified by its associated Boolean Expression Macro Name (Macro Name). A Macro Name is a string of characters of length one through 25 whose first character is alphabetic, whose first three characters (if there are three) are not "NOT", and none of whose characters are blank or "(". A Macro may be either used independently or inserted into another Boolean Expression during Record selection by using its Name. The one exception to the formation rules for Boolean Expressions is that certain Tokens may be formal parameters (the special names mentioned above) which are replaced by specified values (actual parameters) when the Macro is used.

A Macro may have no formal parameters, in which case it is a complete Boolean Expression. Or, it may have from one to nine formal parameters. If a given Macro has n formal parameters, they are denoted by &1, ..., &n, for n = 1, ..., 9. A given formal parameter may occur any number of times in a given Macro.

A Macro which has at least one operator should be enclosed in parentheses to avoid it's interacting unfavorably with adjacent operators in another Boolean Expression into which it may be inserted. A Macro may not reference a Macro.

Examples of Macros are:

Macro	comments
02-02- -02 EQ '015'	no formal parameters
02-18-C -01 - &1 GE 02-19-C -01	the actual parameter supplied for &1 should be an Integer
90-01- -00 EQ &1 OR 90-01- -00 EQ &2	the actual parameters supplied for &1 and &2 should each be a Constant whose value is a Client Number

Macro	Comments
02-11-A &1 'A'	the actual parameter supplied for &1 should be a Relation

Boolean Expression Macro Table

A Macro may be contained in up to ten Boolean Expression Macro Table Records: a Primary Record and up to nine Continuation Records. The Primary Record contains control information and 1½ card images. Each Continuation Record contains two card images.

The remaining Record identification information for the Boolean Expression Macro Table (Appendix O, Listings) is:

positions within key	description
6 - 30	Macro Name (left just., space filled)
31 - 34	blank
35	Continuation Number: blank for the Primary Record n for the nth Continuation Record

The non-key information stored in the Boolean Expression Macro Record has the following format:

positions	size	field
		Primary Record:
49	1	Number of Continuation Records
50	1	Number of Formal Parameters
51	1	Parameter Type for &1
.	.	.
.	.	.
.	.	.
59	1	Parameter Type for &9
60 - 88	29	unused
89 - 128	40	Card Image ½
129 - 208	80	Card Image 1
		Continuation Record n:
49 - 128	80	Card Image 2n
129 - 208	80	Card Image 2n + 1

Following are the field descriptions:

field	description
Number of Continuation Records	the number of Continuation Records
Number of Formal Parameters	the number of formal parameters
Parameter Type	for &n: = "R" if actual parameter must be a F-I-R = "T" if a F-I-R-T = "F" if a F-I-R or F-I-R-T = "I" if an Integer = "C" if a Constant = "L" if a ReLation

field	description
Card Image	contains part or all of Macro

A Macro may be contained in the Records in any manner so long as each Token is completely contained in one Card Image, and the Macro fills the Card Images in the following order: ½, 1, 2, ..., 19.

§ Using Macros

This sub-section augments the formation rules for Boolean Expressions to include the use of Macros. The next sub-section describes how to punch Boolean Expressions which use Macros.

A Macro Name, with its associated actual parameters if the Macro has formal parameters, may be used by itself. Or, one may occur anywhere in a Boolean Expression where a Boolean Expression may begin, namely, at the beginning of the Boolean Expression or following any of the following Tokens:

NOT
AND
OR
((when used for altering the order of application of operators; see below for other use)

§ Punching Boolean Expressions Using Macros

The following articles are also classified as Tokens:

Macro Name

A Macro with no formal parameters is used by specifying its Macro Name.

A Macro with formal parameters is used by specifying its Macro Name followed by a parenthesized list of actual parameters, separated by commas and ordered such that the nth actual parameter is the value to be assumed by the nth formal parameter. In particular, a Parameter List is a "(" followed by a list of actual parameters, each except the last immediately followed by ",", and the last immediately followed by ")". If an actual parameter ends in card column 80, the delimiter ("," or ")") which follows need not be in column 1 of the next card. Each actual parameter may be preceded by spaces. A Macro with formal parameters, then, is used by specifying its Macro Name, possibly followed by spaces, followed by a Parameter List.

When a Macro Name is encountered by the DYL250 Parameter Card generation program (see § DYL250 Parameter Card Generation), and after its actual parameters, if any, are processed, the Macro's Card Images are processed, after which processing resumes with the card following the one containing the Macro Name or the ")" terminating the Parameter List, depending on whether the Macro has formal parameters. For this reason, a Macro Name of a Macro which has no formal parameters must be the last Token on its card, and the ") terminating the Parameter List of a Macro which has formal parameters must be the last Token on its card.

Examples of Boolean Expressions using Macros are:

Boolean Expression cards
Records Accepted

90-01- -01 EQ ZERO AND BATH-FIPS
each Series zero Client Record with a home county of Bath

90-07- -00 EQ '01' AND CSH
AND ASSMT-AGE-INTERVAL (20,40)
each next-to-last Series Client Record for Clients whose Client Numbers fall within the interval defined by CSH, and whose ages as of their respective Assessment dates are between 20 and 40, inclusive

03-08-A EQ 'C' AND CLIENT-LIST4 ('00000025', '00000030', '00000035', '00000040')
each Client Record for Clients whose Numbers are 25, 30, 35 and 40 which specifies that the Client has property or assets

GENERAL-AGE-LESS-THAN (90-05- -00, 90-05- -01, 10)
AND 90-01- -01 EQ ZERO
the first Client Record for each Client who was less than 10 upon entering the institution

These examples illustrate that Boolean Expressions which use Macros are easier to write, easier to read, usually shorter than equivalent Boolean Expressions which do not use Macros, and less likely to contain hard-to-detect typographical errors. Thus, we have

Hint 2: use Macros whenever possible

§ A Note About Constants

Restrictions and other information concerning Boolean Expressions are discussed under § DYL250 Parameter Card Generation. Two conveniences, however, are mentioned here:

1) a Constant may be shorter that a F-I-R-T with Edit Code N or Z to which it is compared; leading zeroes are supplied by the DYL250 Parameter Card generation program
2) a Constant may be shorter that a F-I-R or a F-I-R-T with Edit Code other than N and Z to which it is compared; following blanks are supplied by the DYL250 Parameter Card generation program (a warning message is issued, however)

For example,

90-01- -00 EQ '25' is equivalent to 90-01- -00 EQ '00000025'

and

02-03- -00 EQ 'WSH' is equivalent to 02-03- -00 EQ 'WSH

although a warning is issued since the length of the value of 'WSH' (which is three) is not the same as the number of locations specified by 02-03- -00 (which is nine).

§ Jobs Using the Select Mechanism

Since the various Jobs which use the select mechanism utilize different features, it will be helpful to present an overview of these Jobs before discussing the DYL250 Parameter Card generation program. For each such Job, Steps other than those comprising the select mechanism are discussed more completely in the Job's own section. All Jobs discussed in the remainder of this sub-section use the select mechanism.

As is mentioned above, the select mechanism is a 2-Step process:

1) SID195 inputs a Boolean Expression and generates, using its PARM and information in the Edit and Update Tables, the equivalent DYL250 Parameter Cards (to a scratch disk file) (//SID195)
2) DYL250 inputs the specified Master File and the just generated Parameter Cards, Accepts the Records thus described, and performs the specified actions with the Accepted and Rejected Records (e.g., print or write to an output file) (//DYL250)

In all Jobs using the select mechanism, if any error messages are issued by SID195 (see § DYL250 Parameter Card Generation), //DYL250 (and possibly other Steps) does not execute.

The various features which may be used by a given Job fall into two categories:

1) actions performed by SID195
2) actions performed by DYL250 as specified by the generated Parameter Cards

In each Job, SID195 inputs a Description Card which prints at the top of the DYL250 Parameter Card Generation Report, and in some Jobs is written to a scratch disk file for use by a later Step.

There are four valid values of SID195's PARM. When the PARM is null, DYL250 writes the Accepted Records to a scratch disk file. Each Job which uses this PARM prints a Report, using the Client File as input to DYL250, and the Accepted Records scratch disk file as input to the Report program. These Jobs are (some of the Jobs also have versions not using the select mechanism):

Jobname	Report
MHH01ASD	Assessment Digest

Jobname	Repor.
MHHO1PRD	Prescription Digest
MHHO1FED	Fulfillment of Institutional Prescriptions Digest
MHHO1BRS	Behavioral Repertoire Statistics
MHHO1ERR	Errors in Client Information
MHHO1CPS	Client Processing Summary
MHHO1CSU	Client Status Update
MHHO1CRS	Cumulative Resource Search Results

PARM='DELETE' is used in MHHO1DLT, which deletes the Accepted Records from the specified sequential Master File. At the beginning of the Job, a disk file (New File) is allocated. DYL250 prints the Accepted Records and writes them to a scratch disk file, which then provides the input to a program which deletes the Text Records associated with the deleted sequential Master File Records. DYL250 also writes the Rejected Records (those to remain in the File) to the New File, which later in the Job becomes the Master File. The Master File is deleted at the end of //DYL250.

PARM='EXPIRE' is used in MHHO1EXP, which expires the Accepted Records in the Prescription Search File. DYL250 moves the substitute Response of 92-99- into the Response location specified by that F-I-R in each Accepted Record, prints each Accepted Record and writes both the Accepted and Rejected Records to the same scratch disk file, which is later in the Job sorted, into the proper order for the Prescription Search File, to the Prescription Search File. The Records must be sorted since the Expiration Code, which is one of the fields upon which the File is sorted, is changed during this run.

PARM='PRINT' is used in the four Jobs which allow reformatting (to contain only specified information) and printing of the Accepted Records. In these Jobs, the presence of just a Boolean Expression causes each thus described Record to be Accepted, and therefore printed, without reformatting (i.e., in its entirety). If the Boolean Expression is followed by a card containing "PRINT: " starting in column 1, each Accepted Record contains only the information identified in the Text Locations fields of the Update Record of Item 1 of the Dummy Form of the Master File to whose Records the Boolean Expression refers (which is therefore the only information which prints).

For example, the cards

```
MASTER=1
PRINT:
```

cause the Acceptance of each Address History Record; each Accepted Record is printed after it is reformatted to include only the Client Number, Prescription Number, date of move and Sequence Number.

The "PRINT: " card may be followed by a list of F-I-R Cards and F-I-R-T Cards (Appendix P), in which case the Accepted Records contain, in

addition to the information included as a result of the "PRINT: " card, the values contained in the locations specified by the F-I-R and F-I-R-T Cards, separated by "|"'s (which is the information which prints).

For example, the cards

```
90-01-  -01 EQ ZERO AND WSH
PRINT:
02-08-  -00
02-11-A
```

cause the Acceptance of each Series zero Client Record for Clients whose Client Numbers fall within the interval defined by WSH; each Accepted Record is printed after it is reformatted to include only the Client Number, Series Number, social security number and marital status.

In MHH01BLK, DYL250 prints the (possibly reformatted) Accepted Records.

In MHH01SBK, DYL250, instead of printing the (possibly reformatted) Accepted Records, writes them to a scratch disk file, which is then sorted (into the specified order) and printed. There are two MHH01SBK's. In the Manual MHH01SBK, the user must supply the SORTD Control Statements. In the Automatic MHH01SBK, SID195 generates the SORTD Control Statements (to a scratch disk file) using information on the F-I-R and F-I-R-T Cards. If n F-I-R's and F-I-R-T's are to be sorted on, each corresponding Card must contain a unique number from 1 to n specifying the order of its F-I-R or F-I-R-T in the sort. Each such Card also indicates whether its F-I-R or F-I-R-T is to be sorted into ascending or descending direction.

For example, used in the Automatic MHH01SBK, the cards

```
90-01-  -01 EQ ZERO
PRINT:
02-01-  -00
90-04-  -00 02
90-04-  -01 01
```

cause the printing of the Client Number, Series Number, last name, birth mmdd and birth yyyy from each Series zero Client Record, sorted into ascending direction on birthdate.

With Jobs MHH01BLK and MHH01SBK, we have

Hint 3: the meaning of a Boolean Expression can be checked by using it in MHH01BLK or MHH01SBK, printing F-I-R's and F-I-R-T's referenced in the Boolean Expression, and seeing that:

1) all and only expected values of the F-I-R's and F-I-R-T's are included in the printout

2) the number of Records Accepted is approximately that expected

For example, if it is desired to select all Client Records for male Clients from either Augusta or Bath counties, using the following cards in MHH01BLK:

```
02-09-A  EQ 'A' AND AUGUSTA-FIPS
OR BATH-FIPS
PRINT:
02-09-A
02-02-  -02
```

should produce a printout with females from Bath county, showing that the Boolean Expression is erroneous. It should be

```
02-09-A  EQ 'A' AND (AUGUSTA-FIPS
OR BATH-FIPS
)
```

MHH01BL2 and MHH01SB2 are designed to select and print Records from sequential Master Files and the Text File based on characteristics of the Client stored in the Client File. In each, the Boolean Expression must refer to Client Records, it is always followed by the cards

```
PRINT:
90-06-  -00
```

and DYL250, instead of printing the Accepted Records (which contain the Client, Series and Prescription Numbers), writes them to a scratch disk file. This scratch disk file provides the input to the intermediate DYL250 Parameter Card generation program (SID196), which generates a second set of DYL250 Parameter Cards (to a scratch disk file) to Accept, possibly reformat, and print the Records from either a specified sequential Master File or the Text File which have the same Client Number, Client and Prescription Numbers (sequential Master File only), or Client and Series Numbers (Text File only) as the previously Accepted Client Records.

In MHH01BL2, a second execution of DYL250 inputs the specified sequential Master File or the Text File and the just generated second set of Parameter Cards, Accepts the Records thus described, and (possibly reformats and) prints them.

MHH01SB2 is similar to MHH01BL2, except that the second execution of DYL250, instead of printing the (possibly reformatted) Accepted Records, writes them to a scratch disk file, which is then sorted (into the specified order) and printed.

Some of the above mentioned Jobs (as well as others not discussed here) are run at the computer terminal in Planning District #6. There are two

differences between a Job run at this field office and its counterpart run at the central office:

1) the Job Name begins "MHH06" instead of "MHH01"
2) for each Job, SID195 writes the date, Description Card, Boolean Expression, the cards which may follow when PARM='PRINT', and a message indicating the presence or absence of syntax errors to a cumulative Spy File (there is a Spy File for each Job, considering both MHH06SBK's as one Job); a Spy File may be printed to obtain a list of each run of its corresponding Job (see Printing the Spy Files)

These Jobs are:

MHH06ASD
MHH06PRD
MHH06FLD
MHH06BRS
MHH06BLK
MHH06SBK

§ DYL250 Parameter Card Generation

This sub-section describes the DYL250 Parameter Card generation program (SID195) and the DYL250 Parameter Card Generation Report (Printouts). Select mechanism features are included in and excluded from Jobs in two ways:

1) the PARM
2) JCL

Those affected by the PARM are described below. Those affected by JCL are invisible to the program; hence all such features are discussed below as if they are always present.

For example, the Description Card scratch disk file is not used in every Job using the select mechanism. The program, however, always writes information to this file. The use or non-use of this file is specified in the JCL of each Job.

The program first writes the date to the Spy File. It then checks the PARM. If the PARM is non-null, the appropriate one of the following messages prints on the Identification Page:

PRINT ACCEPTED RECORDS
DELETE ACCEPTED RECORDS
EXPIRE ACCEPTED RECORDS
*** BAD PARAMETER - END OF JOB ***

If the last (error) message is issued, the program

1) sets the Return Code to 8
2) writes "*** BAD INPUT ***" to the Spy File

and then stops. These two actions are taken immediately before the program stops whenever an error message has been issued during the run, although not necessarily immediately after the message has been issued (see below).

The program next prints the DYL250 Parameter Card Generation Report. The Description Card is read. If there is none, its value is taken to be spaces. The Description Card is printed below the Report Box and written to the Description Card scratch disk file and the Spy File.

Beginning the first part of the Report, the Boolean Expression is printed, as it is processed, below a line indicating card positions 1, 10, 20, ..., 80, and is written to the Spy File. Processing a Boolean Expression consists of constructing the list of Select Cards which describe the Records which the Boolean Expression describes. The position markers are useful in locating syntax errors (see below). Each Macro Card Image is printed, with "MACRO" appearing just to the left, as it is processed. If the last Card Image of the last Boolean Expression Macro Record for a Macro is blank, it is not printed.

Restrictions on the formation of Boolean Expressions (e.g., maximum Integer length) are described in the descriptions of the messages which the program issues. Both warning and error messages are issued concerning conditions encountered in Boolean Expressions. These print just after the line containing the condition evoking the message. Each, except where otherwise noted, is followed on the next line by the card column at which the program was processing when the condition was detected. After issuing a warning, the program continues processing as if the condition did not exist. The Return Code is set to 4 upon program termination whenever there has been at least one warning message but no error messages issued. The warning messages are:

message	meaning
WARNING - NO EDITING PERFORMED ON THIS F-I-R-T	F-I-R-T's Edit Code is blank and it has no Text Subroutine Number; comparisons with such a F-I-R-T may not be meaningful
WARNING - ONLY FIRST 99 CHARACTERS COMPARED	Subject F-I-R-T in a comparison in which the Object is also a F-I-R-T has length greater than 99; only the first 99 characters are compared
WARNING - F-I-R-T LENGTHS DIFFER, MINIMUM USED	lengths of two F-I-R-T's being compared differ, the minimum length is used (if the preceding message has also been issued, the length of the Subject is taken to be 99)

CONTINUED

1 OF 3

message	meaning
WARNING - RESPONSE LENGTHS DIFFER, MINIMUM USED	lengths of two F-I-R's being compared differ; the minimum length is used
WARNING - ONLY FIRST 20 CHARACTERS COMPARED	Subject F-I-R-T in a comparison in which the Object is a Constant has length greater than 20; only the first 20 characters are compared
WARNING - LENGTH OF CONSTANT NOT AS SPECIFIED	length of the Constant differs from that of the Subject of the comparison
WARNING - PROPER LEFT SEGMENT OF F-I-R-T COMPARED	length of the Constant is less than that of the F-I-R-T, with Edit Code either D, Y, T or F, to which it is compared; the comparison is made only with the beginning of the F-I-R-T with length equal to that of the Constant (these Edit Codes imply some structure to the F-I-R-T; hence padding the Constant with blanks or zeroes probably would not be meaningful)
WARNING - PROPER LEFT SEGMENT OF CONSTANT COMPARED	length of the Constant is greater than that of the F-I-R or F-I-R-T to which it is compared; the comparison is made only with the beginning of the Constant with length equal to that of the F-I-R or F-I-R-T

There are three basic types of error conditions in Boolean Expressions. The first involves actual parameters. After issuing messages concerning these errors, the program continues processing until either all of the actual parameters have been processed or too many actual parameters have been encountered. The program then stops. These error messages are:

message	meaning
END QUOTE NOT FOUND	end quote of quoted Constant not found; program looks for following delimiter starting with next card
THIS PARAMETER MUST BE A CONSTANT	corresponding formal parameter has Parameter Type C
THIS PARAMETER MUST BE AN INTEGER	corresponding formal parameter has Parameter Type I
THIS PARAMETER MUST BE A RELATION: EQ NE LT LE GT GE	corresponding formal parameter has Parameter Type L

message	meaning
THIS PARAMETER MUST BE A F-I-R	corresponding formal parameter has Parameter Type R
THIS PARAMETER MUST BE A F-I-R-T	corresponding formal parameter has Parameter Type T
THIS PARAMETER MUST BE A F-I-R OR F-I-R-T	corresponding formal parameter has Parameter Type F

The second type of error condition includes most errors, other than those of the first type, which do not cause the program to lose track of where it is in processing the Boolean Expression. After issuing messages concerning these errors, the program continues processing until either a terminating error or the end of the input is encountered, at which time it stops. These error messages are:

message	meaning
MORE THAN ONE MASTER FILE SPECIFIED	F-I-R or F-I-R-T is for a Master File other than that of the first F-I-R or F-I-R-T processed
RESP NOT STORED FOR THIS F-I-R	F-I-R not stored in the Master File
ARITHMETIC ATTEMPTED ON NON-NUMERIC F-I-R-T	an arithmetic operation has been attempted on a F-I-R-T with Edit Code other that N and Z (although F-I-R-T's with Edit Codes D, Y, T and F are numeric, their structures make the results of arithmetic operations probably meaningless)
F-I-R-T TOO LONG FOR ARITHMETIC	F-I-R-T length exceeds 15; must be at most 15 for arithmetic operation
INTEGER TOO LONG FOR ARITHMETIC	Integer length exceeds 15; must be at most 15 for arithmetic operation
SUBJECT OF RELATION NOT NUMERIC F-I-R-T	arithmetic is performed on the Object of a Relation, but the Subject F-I-R-T has Edit Code other than N and Z
LEFT F-I-R-T TOO LONG TO COMPARE	arithmetic is performed on the Object of a Relation, but the Subject F-I-R-T's length exceeds 15

message	meaning
OBJECT OF RELATION NOT NUMERIC F-I-R-T	arithmetic is performed on the Subject of a Relation, but the Object F-I-R-T has Edit Code other than N and Z
RIGHT F-I-R-T TOO LONG TO COMPARE	arithmetic is performed on the Subject of a Relation, but the Object F-I-R-T's length exceeds 15
END QUOTE NOT FOUND	end quote of quoted Constant not found; program looks for next Token starting with next card
CONSTANT HAS LENGTH ZERO	a Constant has length zero
CONSTANT NON-NUMERIC	Subject F-I-R-T of a Relation has Edit Code Z and Object Constant is Constant is not numeric, or Subject F-I-R-T of a Relation has Edit Code N, D, T, Y or F and Object Constant is neither numeric nor blank
INVALID END OF INPUT	end of Boolean Expression reached, but another Token expected

The third type of error condition includes errors which cause immediate termination. These error messages are:

message	meaning
EXPECTING "PRINT: " CARD	a card other than a "PRINT: " card follows a Master Number Card
INVALID MASTER NUMBER	invalid Master Number specified on a Master Number Card
MACRO NAME LENGTH EXCEEDS 25	a Macro Name's length exceeds 25
EXPECTING "NOT", (, F-I-R, F-I-R-T OR MACRO	one of the listed Tokens expected but not found
MACRO REQUIRES PARAMETER LIST	a Macro with formal parameters has been used without a Parameter List

message	meaning

TOO MANY MACRO PARAMETERS
more actual parameters supplied with a Macro than there are formal parameters

PARAMETER LENGTH EXCEEDS 22
actual parameter's length exceeds 22; since the length of the value of a Constant must not exceed 20, a length of 22 allows a maximum length Constant with quotes

INVALID MACRO PARAMETER LIST DELIMITER
actual parameter is followed by a character other than "," and ")"

TOO FEW MACRO PARAMETERS
fewer actual parameters supplied with a Macro Name than the Macro has formal parameters

NON-BLANKS FOLLOW MACRO NAME OR PARAMETER LIST
a non-blank follows the Macro Name or Parameter List ")" on the same card

"&" VALID ONLY AS PART OF MACRO FORMAL PARAMETER
"&" encountered, but not in Macro

NO EDIT RECORD
F-I-R (or the F-I-R part of a F-I-R-T) does not exist

RESP NEEDED FOR THIS FORM-ITEM
the Form-Item has Responses, but no Response specified

EXPECTING CONSTANT, F-I-R OR F-I-R-T
one of the listed Tokens expected but not found

INVALID TEXTID
F-I-R-T does not exist

TEXT STORED IN TEXT FILE FOR THIS F-I-R-T
F-I-R-T not stored in the Master File

DYL250 ALLOWS ONLY 99 SELECT CARDS
Boolean Expression too long; uses too many Select Cards

OPERAND STACK OVERFLOW
Boolean Expression "badly" structured

message	meaning

EXPECTING INTEGER
"+" or "-" (the latter used as arithmetic minus) not followed by an Integer

EXPECTING RELATION: EQ NE LT LE GT GE
Relation expected but not found

ATTEMPT TO COMPARE RESPONSE TO TEXT
the Subject of a Relation is a F-I-R, but the Object is a F-I-R-T

ATTEMPT TO COMPARE TEXT TO RESPONSE
the Subject of a Relation is a F-I-R-T, but the Object is a F-I-R

EXPECTING "AND", "OR",) OR END OF INPUT
one of the listed Tokens or the end of the Boolean Expression expected but not found

OPERATOR STACK OVERFLOW
Boolean Expression "badly" structured

UNMATCHED)
a ")" has no corresponding "("

UNMATCHED (
a "(" has no corresponding ")"

Either a "PRINT: " card or the end of the input marks the end of the Boolean Expression. If there is a "PRINT: " card, it is printed and written to the Spy File. If neither a Boolean Expression nor a Master Number Card has been included, the error message

NEITHER BOOLEAN EXPRESSION NOR MASTER NUMBER CARD INCLUDED

prints (not followed by a card column), and the program stops.

If a "PRINT: " card is not included, whatever actions are to be performed by DYL250 with the Accepted Records will be performed with the entire Records.

If a "PRINT: " card is included, processing continues as follows. If it is not the case that PARM='PRINT', the error message

INVALID "PRINT: " CARD

prints (not followed by a card column), and the program stops. Otherwise, as is described hereupon, Parameter Cards are constructed which reformat

each Accepted Record to contain only specified information. All references to Accepted Record in the remainder of the discussion of the print cards refers to the reformatted Accepted Record. One additional Select Card is constructed (enabling the separation by "|"'s of the values of the specified F-I-R's and F-I-R-T's to be printed), the Accepted Records' lengths are set to 200 (two print lines of 100 characters each), and Format Cards are constructed which set each Accepted Record to contain, as a contiguous string of characters beginning in location 1, the information identified in the Text Locations fields of the Update Record of Item 1 of the Dummy Form of the Master File to whose Records the Boolean Expression refers, the rest of the Record being blank. Each F-I-R and F-I-R-T Card is then printed, written to the Spy File, and processed. This processing consists of constructing two Format Cards for each F-I-R and F-I-R-T Card, and checking and storing sort information, if present. The first of these Format Cards moves the F-I-R's or F-I-R-T's value into the next available locations in the Accepted Record. The second moves a "|" into the location following that value (unless there are no more locations on the current line, in which case this Format Card is not constructed, and the value is not followed by a "|"). The maximum number of Format Cards allowed is 25. If the second Format Card constructed for a F-I-R or F-I-R-T would exceed this number, it is not constructed. If there are no more F-I-R and F-I-R-T Cards, the last F-I-R's or F-I-R-T's value is not followed by a "|". If there are more, then the next one will exceed this limit (see below). The first available location is the second location after the information which is moved into the Record as a result of the "PRINT: " card; the immediately following location remains blank. If a value is too long to fit on the remainder of the print line currently being filled, it begins on the next line, under the first available location. If more than two lines are required to contain all of the specified values, the Records' lengths are increased by a multiple of 100 to accommodate them.

The following error messages may be issued during the processing of the print cards. The first prints after the "PRINT: " card; the rest print after F-I-R and F-I-R-T Cards. The program proceeds to the next Card after issuing any of these messages, and stops after processing the last card. The first list is of messages after which the card column prints as noted above:

message	meaning
DYL250 ALLOWS ONLY 99 SELECT CARDS	the Select Card constructed as a result of the "PRINT: " card is the 100th
EXPECTING F-I-R OR F-I-R-T	card does not contain F-I-R or F-I-R-T starting in column 1

message	meaning
NO EDIT RECORD	F-I-R (or the F-I-R part of a F-I-R-T) does not exist
RESP NEEDED FOR THIS FORM-ITEM	the Form-Item has Responses, but no Response is specified
RESP NOT STORED FOR THIS F-I-R	F-I-R not stored in the Master File
INVALID TEXTID	F-I-R-T does not exist
TEXT STORED IN TEXT FILE FOR THIS F-I-R-T	F-I-R-T not stored in the Master File

The second list is of messages which are not followed by a card column:

message	meaning
EXTRANEOUS INFORMATION ON PRINT CARD	unused print card locations are not blank
SORT ORDER EXCEEDS 23	the sort order is not numeric or exceeds 23; at most 23 F-I-R's and F-I-R-T's may be sorted on (this number currently exceeds the number of F-I-R and F-I-R-T Cards which may be included as a result of the Format Card limit)
DUPLICATE SORT ORDER	the sort order is the same as that of a previous F-I-R or F-I-R-T Card
INVALID SORT DIRECTION	sort direction neither blank, "A" or "D"
F-I-R OR F-I-R-T TOO LONG TO PRINT	the F-I-R's or F-I-R-T's value, starting on a new print line (under the first available location), extends past the end of the print line and cannot, therefore, be printed
DYL250 ALLOWS ONLY 25 FORMAT CARDS	the print cards use too many Format Cards

As is noted above, after the last card (either Boolean Expression or print) has been processed, if there were any errors during the run, the program stops. Otherwise, the following error checking is performed:

1) if n F-I-R or F-I-R-T Cards specify sort information, but there is a number between 1 and n, inclusive, which was not specified as a sort order, the error message

   GAP IN SORT ORDER

   prints (not followed by a card column), and the program stops
2) if PARM='DELETE', but the Master File to whose Records the Boolean Expression refers is not sequential, the error message

   PARAMETER REQUIRES SEQUENTIAL FILE

   prints (not followed by a card column), and the program stops
3) if PARM='EXPIRE', but the Master File to whose Records the Boolean Expression refers is not the Prescription Search File, the error message

   PARAMETER REQUIRES PRESCRIPTION SEARCH FILE

   prints (not followed by a card column), and the program stops

If PARM='EXPIRE', a Select Card is constructed to move the substitute Response of 92-99- into the Response location specified by that F-I-R in each Accepted Record. If this Select Card would be the 100th, the error message

DYL250 ALLOWS ONLY 99 SELECT CARDS

prints (not followed by a card column), and the program stops.

At this point, if PARM='DELETE' or 'EXPIRE', the Return Code is set to 10 times the Master Number of the Master File to whose Records the Boolean Expression refers.

The second part of the DYL250 Parameter Card Generation Report is now printed. The program prints and writes to the Parameter Card scratch disk file the DYL250 Parameter Cards constructed during the run: a Control Card, up to 99 Select Cards and up to 25 Format Cards, in that order.

If sort information was specified on F-I-R or F-I-R-T cards, the third part of the Report is printed. The program prints and writes to the SORTD Control Statement scratch disk file the SORTD Control Statements constructed during the run: a SORT card, possibly with continuation cards, and an END card, in that order.

The program then writes "*** GOOD INPUT ***" to the Spy File and stops.

Sequential Master File Record Deletion

This section completes the description of Job MHH01DLT.

§ First Level Backup Tapes

In the first Step, DYL250 creates the First Level Backup Tape File for the sequential Master File from which Records are being deleted (//SAVEADHS, //SAVEPSCH, //SAVELRPT or //SAVEPROB, respectively). Also in this Step, a disk file (new File) is allocated which later in the Job receives the Records which are not deleted from the Master File, after which the New File becomes the Master File (see below). The New File is allocated in this Step for the same reason that the New File is allocated in the corresponding Step of MHH01UPD when a sequential Master File is being updated (see Master File Update, § First Level Backup Tapes and § Sequential Master Files). In the second Step, DYL250 creates a Control File First Level Backup Tape File (//SAVECTL). In the third Step, DYL250 creates the Text File First Level Backup Tape File (//SAVETEXT).

These Backup Files can be used to Rebuild the (Master and Text) Files modified during the run should it be desired to cancel the effects of the run (see Master Files, Text File and Control File Build/Rebuild's). (Also see Physical Environment, § Data Sets, for the reason a Control File Backup Tape File is created in this Job.) Should it be desired to cancel the effects of the several previous (consecutive) runs of Jobs which modify the Files (for the others, see Master File Update and Prescription Search Record Expiration), the Second Level Backup Tape Files must be used (see Master Files, Text File and Control File Second Level Backup Tape Files).

§ Record Selection

The next two Steps are described under Record Selection, § Jobs Using the Select Mechanism.

§ Final Steps

If any error messages are issued by SID195, //DLMHHSID deletes the New File, and all remaining Steps except the last are skipped (IEFBR14).

Otherwise, SID125, SID126, SID127 or SID128 inputs the deleted Address History, Prescription Search, Prescription Element Report or Problem Report Records, respectively, and deletes all associated Text Records (//SID125, //SID126, //SID127 or //SID128, respectively). The numbers of Records deleted from the Master File and the Text File, and the File size changes (these two numbers for a given File are the same, except for the sign) print on the Identification Page.

In the next Step, IEHPROGM renames the New File with the name of the Master File and catalogues the new Master File, telling the operating system which disk the file is on (//RENMADHS, //RENMPSCH, //RENMLRPT or //RENMPROB, respectively). The New File thus becomes the Master File.

Finally, ISAM prints the overflow statistics for the Text File (see Master File Update, § Overflow Statistics) (//TEXTSTAT).

Prescription Search Record Expiration

This section completes the description of Job MHH01EXP.

§ First Level Backup Tapes

In the first Step, DYL250 creates the Prescription Search File First Level Backup Tape File (//SAVEPSCH). In the second Step, DYL250 creates a Control File First Level Backup Tape File (//SAVECTL).

The first of these Files can be used to Rebuild the Prescription Search File should it be desired to cancel the effects of the run (see Master File Files, Text File and Control File Build/Rebuild's). (Also see Physical Environment, § Data Sets, for the reason a Control File Backup Tape File is created in this Job.) Should it be desired to cancel the effects of the several previous (consecutive) runs of Jobs which modify the Files (for the others, see Master File Update and Sequential Master File Record Deletion), the Second Level Backup Tape Files must be used (see Master Files Text File and Control File Second Level Backup Tape Files.)

§ Record Selection

The next two Steps are described under Record Selection, § Jobs Using the Select Mechanism.

§ Sort

Finally, if no error messages are issued by SID195, SORTD sorts the Records, into the proper order for the Prescription Search File, to the Prescription Search File. (//SORTPSCH).

Master Files, Text File and Control File
Second Level Backup Tape Files

This section describes Job MHH01SV2 for the Master Files, Text File and Control File. The Job creates the Second Level Backup Tape Files for the Master Files, Text File and Control File.

These Backup Files can be used to Rebuild the Files should it be desired to cancel the effects of the several previous (consecutive) runs of Jobs which modified the Files since the last run of this MHH01SV2 (see Master Files, Text File and Control File Build/Rebuild's).

DYL250 creates the Backup Files in the order in which they are listed:

Backup Tape File created	Stepname
Client	SAV2CLNT
Address History	SAV2ADHS
Control	SAV2CTL
Branch	SAV2BNCH
Service	SAV2SVCE
Agency	SAV2AGCY
Prescription Search	SAV2PSCH
Prescription Element Report	SAV2LRPT
Problem Report	SAV2PROB
Text	SAV2TEXT

System Third Level Backup Tape Files

This section describes Job MHH01SV3. The Job creates the Third Level Backup Tape Files for the Master Files, Text File, Control File, Tables File and Librarian modules (see Physical Environment, § Librarian).

These Backup Files are intended to be used in an emergency should it be necessary to reconstruct the Information System.

The first twelve Steps create the Backup Files, and the last twelve Steps read the Backup Files, ensuring that they have been properly created and printing record counts of each Backup File. In addition, the Step which reads the Backup File for the Librarian modules prints the module identification information (see Physical Environment, § Librarian).

The Backup Files are created and then read in the order in which they are listed. All Steps execute DYL250 except the Step which creates the Backup File for the Librarian modules, which executes ADPLIBU:

Backup Tape File	creation Stepname	read Stepname
Client	OUT1	IN1
Text	OUT2	IN2
Tables	OUT3	IN3
Librarian	OUT4	IN4
Address History	OUT5	IN5
Control	OUT6	IN6
Branch	OUT7	IN7
Service	OUT8	IN8
Agency	OUT9	IN9
Prescription Search	OUT10	IN10
Prescription Element Report	OUT11	IN11
Problem Report	OUT12	IN12

Master Files, Text File and Control File Build/Rebuild's

This section describes Jobs MHH01BLD, one for each Master File, one for the Text File and one for the Control File. The MHH01BLD for a given file copies either the First or Second Level Backup Tape File for that File to the File.

In addition, the MHH01BLD's for indexed-sequential Files are supplied with cards which describe all or part of the keys of dummy records to be generated and written to the File. The programs corresponding to each of these Jobs each have two valid PARM values. If PARM='BUILD', the specified dummy records are written to the File. If PARM='REBUILD', the Records in the specified Backup Tape File are merged with the generated dummy records to the File (if two records have the same key, the actual Record is retained, and no dummy record is generated with that key; the dummy record is said to have been overridden). In the first instance, the program is Building the File, and the Initial File Build Report is printed; otherwise, the program is Rebuilding the File, and the File Rebuild Report is printed. The Report Box for each of these Reports also contains the File name.

§ MHH01BLD for the Client File

SID801 first checks the PARM (//SID801, Printouts). If it is invalid, the error message

*** INVALID PARM FIELD - MUST BE BUILD OR REBUILD ***

prints on the Identification Page, and the program terminates.

Otherwise, the appropriate Report is printed while the appropriate Records are written to the Client File. The keys of the dummy Client Records are specified by a list of L8R2 Cards (Appendix Q1). Each L8R2 Card specifies a Client Number interval and a Series Number interval. From each Card, keys are generated containing every possible Client Number-Series Number pair. The Cards must be ordered such that the first key generated from a Card is greater than the last key generated from the previous Card.

The Report consists of a list of the L8R2 Cards. The following error messages may print after a Card, after which the program terminates:

message	meaning
*** CARD FIELDS NOT NUMERIC ***	a field is not numeric
*** FROM-CLIENT > TO-CLIENT ***	beginning of the Client Number interval is greater than the end of that interval

message	meaning
*** FROM-SERIES > TO-SERIES ***	beginning of the Series Number interval is greater than the end of that interval
*** FROM-CLIENT-SERIES <= PREVIOUS TO-CLIENT-SERIES ***	the first key generated from the last Card is less than or equal to the last key generated from the previous Card

If no error messages are issued, the File has been successfully Built/Rebuilt, and the following statistics print, after which the program stops:

1) number of Records from tape
2) number of dummy records overridden
3) number of Records written to the Client File

§ MHH01BLD's for the Sequential Master Files

For each sequential Master File, DYL250 copies the specified Backup Tape File to the Master File (//DYL250).

§ MHH01BLD for the Agency File

SID825 first checks the PARM (//SID825, Printouts). If it is invalid, the error message

*** INVALID PARM FIELD - MUST BE BUILD OR REBUILD ***

prints on the Identification Page, and the program terminates.

Otherwise, the appropriate Report is printed while the appropriate Records are written to the Agency File. The keys of the dummy Agency Records are specified by a list of L5 Cards (Appendix Q2). Each L5 Card specifies an Agency Number interval. From each Card, keys are generated containing every Agency Number. The Cards must be ordered such that the first key generated from a Card is greater than the last key generated from the previous Card.

The Report consists of a list of the L5 Cards. The following error messages may print after a Card, after which the program terminates:

message	meaning
*** INVALID CARD FIELDS ***	a field is not a valid Agency Number (numeric or "P" followed by four digits), or one field begins with "P" but not the other
*** FROM-LEFT5 > TO-LEFT5 ***	beginning of the Agency Number interval is greater than the end of that interval
*** FROM-LEFT5 <= PREVIOUS TO-LEFT5 ***	the first key generated from the last Card is less than or equal to the first key generated from the previous Card

If no error messages are printed, the File has been successfully Built/Rebuilt, and the following statistics prints, after which the program stops:

1) number of Records from tape
2) number of dummy records overridden
3) number of Records written to the Agency File

§ MHH01BLD for the Service File

SID830 first checks the PARM (//SID830, Printouts). If it is invalid, the error message

*** INVALID PARM FIELD - MUST BE BUILD OR REBUILD ***

prints on the Identification Page, and the program terminates.

Otherwise, the appropriate Report is printed while the appropriate Records are written to the Service File. The keys of the dummy Service Records are specified by a list of Service File L5R5 Cards (Appendix Q3). Each Service File L5R5 Card specifies an Agency Number interval and a Service Number interval. From each Card, keys are generated containing every possible Agency Number-Service Number pair. The Cards must be ordered such that the first key generated from a Card is greater than the last key generated from the previous Card.

The Report consists of a list of the Service File L5R5 Cards. The following error messages may print after a Card, after which the program terminates:

message	meaning
*** INVALID CARD FIELDS. ***	an Agency Number field is not a valid Agency Number (numeric or "P" followed by four digits), or one Agency Number field begins with "P" but not the other, or a Service Number field not numeric
*** FROM-LEFT5 > TO-LEFT5 ***	beginning of the Agency Number interval is greater than the end of that interval
*** FROM-RIGHT5 > TO-RIGHT5 ***	beginning of the Service Number interval is greater than the end of that interval
*** FROM-LEFT5-RIGHT5 <= PREVIOUS TO-LEFT5-RIGHT5 ***	the first key generated from the last Card is less than or equal to the last key generated from the previous Card

If no error messages are printed, the File has been successfully Built/Rebuilt, and the following statistics print, after which the program stops:

1) number of Records from tape
2) number of dummy records overridden
3) number of Records written to the Service File

§ MHH01BLD for the Branch File

SID835 first checks the PARM (//SID835, Printouts). If it is invalid, the error message

*** INVALID PARM FIELD - MUST BE BUILD OR REBUILD ***

prints on the Identification Page, and the program terminates.

Otherwise, the appropriate Report is printed while the appropriate Records are written to the Branch File. The keys of the dummy Branch Records are specified by a list of Branch File L5R5 Cards (Appendix Q4). Each Branch File L5R5 Card specifies an Agency Number interval and a Branch Number interval. From each Card, keys are generated containing every possible Agency Number-Branch Number pair. The Cards must be ordered such that the first key generated from a Card is greater than the last key generated from the previous Card.

The Report consists of a list of the Branch File L5R5 Cards. The following error messages may print after a Card, after which the program terminates:

message	meaning
*** INVALID CARD FIELDS ***	an Agency Number field is not a valid Agency Number (numeric or "P" followed by four digits), or one Agency Number field begins with "P" but not the other, or a Branch Number field is not numeric
*** FROM-LEFT5 > TO-LEFT5 ***	beginning of the Agency Number interval is greater than the end of that interval
*** FROM-RIGHT5 > TO-RIGHT5 ***	beginning of the Branch Number interval is greater than the end of that interval
*** FROM-LEFT5-RIGHT5 <= PREVIOUS TO-LEFT5-RIGHT5 ***	the first key generated from the last Card is less than or equal to the last key generated from the previous Card

If no error messages are printed, the File has been successfully Built/Rebuilt, and the following statistics print, after which the program stops:

1) number of Records from tape
2) number of dummy records overridden
3) number of Records written to the Branch File

§ MHH01BLD for the Text File

SID805 first checks the PARM (//SID805, Printouts). If it is invalid, the error message

*** INVALID PARM FIELD - MUST BE BUILD OR REBUILD ***

prints on the Identification Page, and the program terminates.

The keys of the dummy Text Records are specified in part by two consecutive lists of cards. The first consists of from one to nine consecutive F-I-R-T Tables. Each F-I-R-T Table is identified by a F-I-R-T Table Header Card (Appendix Q5) which specifies the F-I-R-T Table Number. The first Table must have Number 1, and the Tables must be Numbered consecutively. Each F-I-R-T Table Header Card is followed by up to 50 F-I-R-T Cards (Appendix Q5) specifying the F-I-R-T's in that Table. The F-I-R-T Cards in a given Table must be in ascending order.

After determining the validity of the PARM, the program prints the Report Box for the appropriate Report, then reads and stores the F-I-R-T Tables. During this process, the following error messages may print, after

first two are preceeded by the erroneous Card:

message	meaning
*** INVALID F-I-R-T HEADER ***	F-I-R-T Table Header Card does not begin "F-I-R-T" or specifies an invalid F-I-R-T Table Number
*** F-I-R-T HEADERS NOT CONSECUTIVE ***	F-I-R-T Table Numbers are not consecutive
*** MORE THAN 50 F-I-R-T CARDS ENTERED FOR TABLE n ***	specified F-I-R-T Table has more than 50 F-I-R-T Cards
*** F-I-R-T ffiirrtt <= PREVIOUS F-I-R-T ffiirrtt ***	the two specified F-I-R-T's are not in ascending order

The second list of cards consists of an arbitrary number of Master File and Key Tables. Each Master File and Key Table is identified by a Master File Header Card (Appendix Q5) which specifies a Master File Number, a F-I-R-T Table number, and whether the Master Key for this Master File is composed of left 8 and right 2 parts (Client File and sequential Master Files) or left 5 and right 5 parts (Agency, Service and Branch Files). The Master File Number of each Table must be greater than or equal to that of the immediately preceeding Table. The program does not check to ensure that the specified Master Key format is correct for the specified Master Number. Each Master File Header Card is followed by an arbitrary number of L8R2-Seq Cards or L5R5-Seq Cards (Appendix Q5), depending on the Master File's specified Master Key format. Each L8R2-Seq Card specifies intervals containing the left 8 and right 2 parts of the Master Key part of the Text File key, and a Sequence Number interval. Each L5R5-Seq Card specifies intervals containing the left 5 and right 5 parts of the Master Key part of the Text File key, and a Sequence Number interval. The contents of each Master Key part are not checked to ensure that they are consistent with the specified Master Number (e.g., a non-zero Sequence Number should only be used with a sequential Master File, but the program allows its (erroneous) use with indexed-sequential Master Files). The intended contents of the Master Key parts are the same as those specified under Transaction File.

After processing the F-I-R-T Tables, the appropriate Report is printed while the appropriate Records are written to the Text File. From each L8R2-Seq and L5R5-Seq Card, keys are generated containing the Master Number of the Master File and Key Table, a Continuation Number of zero, and every possible combination of left 8 and right 2 Master Key part, or left 5 and right 5 Master Key part, respectively, and F-I-R-T in the specified F-I-R-T Table. The L8R2-Seq and L5R5-Seq Cards must be ordered such that the first key generated from a card is greater than the last key generated from the

previous card.

The Report consists of a separate list for each Master File and Key Table, containing the Master Number, the specified F-I-R-T Table and the L8R2-Seq or L5R5-Seq Cards. After each list, the following statistics concerning that list print:

1) number of Records from tape
2) number of dummy records overridden
3) number of Records written to the Text File

The following error messages may print, after which the program terminates:

message	meaning
*** INVALID MASTER FILE HEADER ***	Master File Header Card does not begin "MASTER FILE", specifies an invalid Master Number, specifies a non-existent F-I-R-T Table Number, or specifies neither "L8R2" nor "L5R5"
*** MASTER < PREVIOUS MASTER ***	Master File Header Card's Master Number is less than that of the previous Master File Header Card
*** INVALID CARD FIELDS ***	for an L8R2-Seq or L5R5-Seq Card, a field is not numeric, or a left 5 field is not a valid Agency Number (numeric or "P" followed by four digits)
*** FROM-LEFT8 > TO-LEFT8 ***	beginning of the left 8 interval is greater than the end of that interval
*** FROM-LEFT5 > TO-LEFT5 ***	beginning of the left 5 interval is greater than the end of that interval
*** FROM-RIGHT2 > TO-RIGHT2 ***	beginning of the right 2 interval is greater than the end of that interval
*** FROM-RIGHT5 > TO-RIGHT5 ***	beginning of the right 5 interval is greater than the end of that interval

message	meaning
*** FROM-SEQ > TO-SEQ ***	beginning of the Sequence Number interval is greater than the end of that interval
*** FROM-LEFT8-RIGHT2-SEQ <= PREVIOUS TO-LEFT8-RIGHT2-SEQ ***	the first key generated from the last L8R2-Seq Card is less than or equal to the last key generated from the previous Card
*** FROM-LEFT5-RIGHT5-SEQ <= PREVIOUS TO-LEFT5-RIGHT5-SEQ ***	the first key generated from the last L5R5-Seq Card is less than or equal to the last key generated from the previous Card

If no error messages have been printed, the File has been successfully Built/Rebuilt, and the following statistics print, after which the program stops:

1) total number of Records from tape
2) total number of dummy records overridden
3) total number of Records written to the Text File

§ MHH01BLD for the Control File

SID820 first checks the PARM //SID820, Printouts. If it is invalid, the error message

*** INVALID PARM FIELD - MUST BE BUILD OR REBUILD ***

prints on the Identification Page, and the program terminates.

Otherwise, the appropriate Report is printed while the appropriate Records are written to the Control File. The keys of the dummy Control Records are specified by a list of L8 Cards (Appendix Q6). Each L8 Card specifies a Client Number interval. From each Card, keys are generated containing a Continuation Number of zero and every Client Number. The Cards must be ordered such that the first key generated from a Card is greater than the last key generated from the previous Card.

The Report consists of a list of the L8 Cards. The following error messages may print after a Card, after which the program terminates:

message	meaning
*** CARD FIELDS NOT NUMERIC ***	a field is not numeric

message	meaning

*** FROM-CLIENT > TO-CLIENT ***
beginning of the Client Number interval is greater than the end of that interval

*** FROM-CLIENT <= PREVIOUS TO-CLIENT ***
the first key generated from the last Card is less than or equal to the last key generated from the previous Card

If no error messages are issued, the File has been successfully Built/Rebuilt, and the following statistics print, after which the program stops:

1) number of Records from tape
2) number of dummy records overridden
3) number of Records written to the Control File

Printing Master Records

This section completes the descriptions of Jobs MHH01BLK and MHH01SBK, and continues the descriptions of Jobs MHH01BL2 and MHH01SB2.

§ MHH01BLK

This Job is completely described under Record Selection, § Jobs Using the Select Mechanism and § DYL250 Parameter Card Generation.

§ MHH01SBK

The first two Steps of each MHH01SBK are described under Record Selection, § Jobs Using the Select Mechanism and § DYL250 Parameter Card Generation. If no error messages are issued by SID195, the last two Steps execute. In the Manual MHH01SBK, SORTD sorts the scratch disk file containing the Records which were to have been printed, as specified by user supplied SORTD Control Statements, to another scratch disk file (//SORTBLK), after which DYL250 prints the sorted Records (//DYL2502). Note that these Records may be complete Master Records, if the Boolean Expression is not followed by a "PRINT: " card, or reformatted Records otherwise. These two Steps are the same in the Automatic MHH01SBK, except that SORTD obtains the SID195-generated SORTD Control Statements from a scratch disk file.

§ MHH01BL2

The first two Steps of MHH01BL2 are described under Record Selection, § Jobs Using the Select Mechanism and § DYL250 Parameter Card Generation. If no error messages are issued by SID195, the last two Steps execute. SID196, with PARM='PRINT' (the only allowable value), inputs the Accepted (reformatted Client) Records scratch disk file and is supplied with a list of cards specifying the Master File (sequential or Text) from which Records are to be selected, and whether those selected are to have the same Client Numbers, Client and Prescription Numbers (sequential Master Files only), or Client and Series Numbers (Text File only) as the previously Accepted Client Records (//SID196) (see Intermediate DYL250 Parameter Card Generation). The first card specifies the latter information, and is one of the following, respectively (starting in column 1):

```
BY CL
BY PR
BY SR
```

The second card specifies the former information, and is a Master Number Card (Appendix N) with Master Number either 1, 2, 3, 7 or 8.

The Master Number Card may be followed by no cards, just a "PRINT: " card, or a "PRINT: " card followed by one or more F-I-R and F-I-R-T Cards (Appendix P). SID196 generates DYL250 Parameter Cards (to a scratch disk file) to select the appropriate Records and print them according to the rules for printing Records in MHH01BLK. Finally, if no error messages are

issued by SID196, DYL250 prints the (possibly reformatted) Accepted Records (//DYL2502).

§ MHH01SB2

The first two Steps of MHH01SB2 are described under Record Selection, § Jobs Using the Select Mechanism and § DYL250 Parameter Card Generation. If no error messages are issued by SID195, the next two Steps execute. These two Steps are identical to the last two Steps of MHH01BL2 (see § MHH01BL2), except that in //DYL2502, instead of printing the (possibly reformatted) Accpeted Records, DYL250 writes them to a scratch disk file. If no error messages are issued by SID195 or SID196, the last two Steps execute.

There are two MHH01SB2's: the Manual MHH01SB2 and the Automatic MHH01SB2. In the Manual MHH01SB2, SORTD sorts the scratch disk file containing the Records which were to have been printed, as specified by user supplied SORTD Control Statements, to another scratch disk file (//SORTBLK), after which DYL250 prints the sorted Records (//DYL2503). Note that these Records may be complete (sequential Master File or Text File) Records, if the Master Number Card supplied to SID196 is not followed by a "PRINT: " card, or reformatted Records otherwise. These two Steps are the same in the Automatic MHH01SB2, except that SORTD obtains the SID196-generated SORTD Control Statements (generated from the same information on the F-I-R and F-I-R-T Cards as is used in the Automatic MHH01SBK) from a scratch disk file.

Intermediate DYL250 Parameter Card Generation

This section describes the intermediate DYL250 Parameter Card generation program (SID196) and the Intermediate DYL250 Parameter Card Generation Report (Printouts). It therefore also completes the descriptions of Jobs MHH01BL2 and MHH01SB2. Features included in and excluded from Jobs by JCL are invisible to the program; hence such features are discussed below as if they are always present.

The program first checks the PARM. If PARM='PRINT' is not specified, the error message

*** BAD PARAMETER - END OF JOB ***

prints on the Identification Page, and the program

1) sets the Return Code to 8
2) writes "*** BAD INPUT ***" to the Spy File

and then stops. These two actions are taken immediately before the program stops whenever an error message has been issued during the run, although not necessarily immediately after the message has been issued.

The program next reads the firstcard. If there are no cards, or if the card is incorrectly formatted, the appropriate one of the following error messages prints on the Identification Page (in the second situation, the card prints before the message), and the program stops:

*** NO CARD INPUT - END OF JOB ***
*** BY CLIENT, PRESCRIPTION OR SERIES? - END OF JOB ***

The Accepted (reformatted Client) Records are then processed. If the first card is "BY CL" starting in column 1, each unique Client Number is stored, with consecutive Numbers being stored by saving just the interval endpoints. If the first card is "BY PR" or "BY SR" starting in column 1, each unique Client Number is stored with its Prescription or Series Number, respectively, with consecutive Client Numbers for the same Prescription or Series Number being stored by saving just the interval endpoints. In the second of these cases, if a Record has a blank Prescription Number, the message

*** PRESCRIPTION NUMBER BLANK - RECORD SKIPPED ***

prints, followed by the Client and Series Numbers, on the Identification Page, and the Record is skipped. In all cases, if the number of Select Cards required to describe the Client, Prescription and Series Numbers (depending on the case) exceeds 99, the error message

*** DYL250 ALLOWS ONLY 99 SELECT CARDS ***

prints on the Identification Page, and the program stops.

After the Accepted Records have been processed, the program prints the Intermediate DYL250 Parameter Card Generation Report. The Description Card prints below the Report Box. The first part of the Report contains a list of the accumulated Client Numbers, by Prescription or Series Number if appropriate. If there are none, an error message so indicates, and the program stops. The equivalent Select Cards are constructed in memory during the printing of this part.

The second part of the Report contains the input cards. If the Master Number Card is missing or incorrectly formatted, or if the Master Number is not one of 1, 2, 3, 7 and 8, the appropriate one of the following error messages prints, and the program stops:

EXPECTING "MASTER=" CARD
INVALID MASTER NUMBER

If the Master File is sequential and the first card starts with "BY SR", or the Master File is the Text File and the first card starts with "BY PR", the error message

SELECT BY PR OR SR CONFLICTS WITH MASTER FILE

prints, and the program stops.

If the Master Number Card is followed by a "PRINT: " card, and this card possibly followed by F-I-R and F-I-R-T Cards, these are processed just as they are by the DYL250 Parameter Card generation program, with the same error messages being issued. In any case, the third and fourth parts of the Intermediate DYL250 Parameter Card Generation Report are identical to the second and third parts, respectively, of the DYL250 Parameter Card Generation Report. If there are no error messages issued, the DYL250 Parameter Cards to select and print the specified Records are written to the Parameter Card scratch disk file, and if sort information was specified on F-I-R and F-I-R-T Cards, the SORTD Control Statements are written to the SORTD Control Statement scratch disk file.

The program then writes "*** GOOD INPUT ***" to the Spy File and stops.

Errors in Client Information Report I

This section describes Job MHH01ERR.

While the edit ensures that each individual datum which enters the System is valid, it cannot ensure that all information which should be entered into the System is in fact entered, or that several given data items which are entered are consistent. To this end, the Errors in Client Information Report identifies missing and inconsistent information in Client Records.

What constitutes missing and inconsistent information is specified in two ways:

1) through Error Specification Statements
2) through specific checks in the program

The Error Specification Statements are contained in the Error Report Table.

Error Report Table

The remaining Record identification information for the Error Report Table (Appendix R, Listings) is:

positions within key	description
6 - 10	Key Number (right just., zero filled)
11 - 35	blank

The Error Report Table is processed sequentially only. Key Numbers are numbers picked to order the Records as desired, and should have gaps between them to allow for easy insertion of new Records between any two existing Records.

The non-key information stored in the Error Report Record has the following format:

positions	size	field
49 - 128	80	Error Specification Statement
129 - 208	80	unused

The Error Specification Statement field contains an Error Specification Statement. Sequence and format rules for these Statements are described under Errors in Client Information Report, § Error Specification Statements.

§ Error Specification Statements

Error Specification Statements are grouped into three Error Specification Lists, each of which consists of a List Header Statement followed by one or more List Element Statements. The Lists are stored consecutively in the Error Report Table and are assumed to be syntactically correct. The F-I-R's and F-I-R-T's referenced in the Error Specification Statements must have Client File Form Numbers. The List Header Statements each begin in the first position of the Error Specification Statement field of the Error Report Record.

The first Error Specification List is the Missing List. The Missing List Header Statement is "MISSING:". Each Missing List Element Statement specifies a F-I-R or F-I-R-T (with formats, respectively, ff-ii-rr and ff-ii-rr-tt beginning in the first position of the Error Specification Statement field) whose locations must be non-blank or non-zero, depending on the Delete Fill if the Statement specifies a F-I-R-T. For example, following is a Missing List:

```
MISSING:
02-01-  -00
02-09-A
```

The second Error Specification List is the If-then List. The If-then List Header Statement is "IF-THEN:". Each If-then List Element Statement specifies a conditional error of the form

IF P THEN Q

meaning that if P is true, then Q's being true is an error. P can be either "TRUE" or a Simple Boolean Expression with a Constant Object. If P is "TRUE", then P is true. Q can be either a Simple Boolean Expression with a Constant Object, or of the form

E AND F

where E and F are Simple Boolean Expressions with Constant Objects. If P is "TRUE", then Q must be the latter. The values of all Constants used in If-then List Element Statements must have lengths less than or equal to 20. For example, following is an If-then List:

```
IF-THEN:
IF 01-01-  -00 NE SPACE THEN 01-05-  -00 EQ SPACE
IF 01-01-  -00 NE SPACE THEN 09-03-A  EQ SPACE AND 09-04-A  EQ SPACE
IF TRUE THEN 09-03-A  NE SPACE AND 09-04-A  NE SPACE
```

Note that when P is "TRUE", Q states an unconditional error situation.

The third Error Specification List is the Form #8 List. The Form #8

List Header Statement is "FORM8:". Each Form #8 List Element Statement is a Simple Boolean Expression whose Subject and Object are both F-I-R's with Form Number 8 and the same Item Number (4-23). For example, following is a Form #8 List:

```
FORM8:
08-15-C  LT 08-15-B
```

§ First Part of the Report

The Errors in Client Information Report is a 2-part Report, with each part printed in a separate Step. The first of these Steps processes the Error Specification Statements and checks the Client Records for these and other errors. This part of the Report consists of a list of the Error Specification Statements followed by a list of the tables constructed from them (see below). One copy of this part prints per run. The second of these two Steps reports the errors. This part of the Report consists of a list of the Clients assigned to a given SID staff member (in the Clients' last Series) for whom errors have been detected, followed by an error list for each such Client. One copy of this part prints for each staff member on the SID Staff Table.

There are two MHH01ERR's: MHH01ERR for All Client Records and MHH01ERR for Selected Client Records. In the latter, the first two Steps are described under Record Selection, § Jobs Using the Select Mechanism, the Accepted (Client) Records scratch disk file provides the input to the third Step (//SID275), and SID275 has PARM='S'. If any error messages are issued by SID195, //SID195 is the only Step executed. In the former, the Client File provides the input to the first Step (//SID275), and SID275 has PARM='A'. Other than the PARM and the input Client Records file, the two Jobs are identical beginning with //SID275.

SID275 prints the first part of the Report (//SID275, Printouts). The program first inputs the SID Staff Table. If there are more than 30 Records in the Table, the error message

```
*** BA TABLE OVERFLOW ***
```

prints on the Identification Page, the Return Code is set to 8, and the program terminates.

The PARM is then checked, and the appropriate one of the messages

```
*** INVALID PARM - MUST BE A OR S ***
ALL RECORDS PROCESSED
SELECTED RECORDS PROCESSED
```

prints on the Identification Page. If the first (error) message prints, the Return Code is set to 8, and the program terminates.

Otherwise, the first part of the Report prints. The Error Specification Statements are read from the Error Report Table, processed, and printed below a line indicating positions 1, 10, 20, ..., 80. This processing consists of constructing a table, corresponding to each Error Specification List, containing locations, lengths, and other necessary information obtained from the Edit and Update Tables. The respective table size upper limits are 100, 50 and 30. During this processing, one of the following self-explanatory error messages may print (the last followed by the card column), after which the Return Code is set to 8, and the program terminates:

```
TABLE ENTRIES EXCEED 100
TABLE ENTRIES EXCEED 50
TABLE ENTRIES EXCEED 30
SYNTAX ERROR
```

After all Error Specification Statements have been successfully processed, the tables constructed from them print, and Client Record checking begins.

For each Client Record (in the Client File or the Accepted Records scratch disk file, depending on the PARM), the following error checking is performed:

1) that specified in the Missing List
2) that specified in the If-then List
3) the following checks encoded in the program (described here by pseudo If-then List Element Statements):

   a) IF 09-03-A NE SPACE THEN 10-08-A IS NUMERIC
      (10-08-A shares its location with the first digit of 11-03- -00; hence if 10-08-A is numeric, then Form #11 is in the Record)
   b) IF 09-04-A NE SPACE THEN 10-08-A IS ONE OF 'A' - 'Z'
      (if 10-08-A is alphabetic, then Form #10 is in the Record)
   c) IF TRUE THEN 02-07- -00 GT 02-12- -00
   d) IF TRUE THEN 02-07- -00 GT 02-06- -00
   e) IF 11-03- -00 NE SPACE AND IS NOT NUMERIC THEN 10-08-A EQ 10-09-A
   f) IF 11-03- -00 NE SPACE AND IS NOT NUMERIC THEN 10-08-A EQ 10-10-A
   g) IF 11-03- -00 NE SPACE AND IS NOT NUMERIC THEN 10-09-A EQ 10-10-A
   h) IF 09-03-A NE SPACE THEN 90-38- -00 EQ SPACE

4) that specified in the Form #8 List

5) the following check encoded in the program:

```
IF TRUE THEN 03-04-  -00 EQ ZERO OR
             03-04-  -00 NE 03-05-  -00 + 03-06-A -00 + 03-07-A -00
```

For each Client for whom at least one error is detected, a Record is written to the scratch disk Name File containing the Client's name and Number and the name and location (PD#6 or Portsmouth) of the staff member to whom the Client is assigned by the Client's last Series.

For each error detected, a Record is written to the scratch disk Errors File containing the Client's name and Number, Series Number, the staff member's name and location, and the necessary information describing the error.

After the Client Records have been processed, a Record is written to the Name File, for each staff member whose Clients had no errors, indicating this status.

§ Sorts

The two scratch disk files created by SID275 are now sorted.

SORTD first sorts the Error File to the scratch disk Sorted Error File, ordering the Records in ascending direction on the following fields (//SORTXTRT):

staff member's location
staff member's name
Client Number
Series Number
type of error (see § Second Part of the Report for the order in which the errors print)
F-I-R or F-I-R-T (or the first one) involved in the error

SORTD then sorts the Name File to the scratch disk Sorted Name File, ordering the Records in ascending/direction on the following fields (//SORTNAME):

staff member's location
staff member's name
Client Number

§ Second Part of the Report

SID276 prints the second parts of the Report, which fit on 8½ x 11 paper (//SID276, Printouts).

One copy of the Report prints for each SID staff member with at least one Record in the Name File. Reports for Portsmouth staff members precede those for PD#6 staff members; within a location the Reports print in alpha-

betic order on the staff members' names. The first page(s) of each Report contains the staff member's name and a list of the Client Numbers and names of the Clients assigned to that staff member for whom error lists follow. This information is obtained from the Sorted Name File. If the staff member has no Clients with errors, this is indicated, and the Report is finished.

Otherwise, the succeeding pages contain error lists for the Clients listed on the first page(s), printed in that order. The error list for each Client begins on a new page. This information is obtained from the Sorted Error File.

Each error list contains the Client's name and Number, and one or more sections. Each section contains the error messages for one type of error for a given Series, and is preceded by the Series Number and a header. The sections are ordered first in ascending direction on Series Number, and then on error type. The error types correspond to the itemization of error checking listed under § First Part of the Report. In the order in which they print, the error types and their section headers are:

1) MISSING INFORMATION
2 and 3) CONFLICTING INFORMATION
4) BEHAVIORAL REPERTOIRE
5) COST OF INSTITUTIONALIZATION

Each section is in two parts. The left part describes the errors; the right part provides formats in which to correct the errors. Corrections can thereby be keyed directly from the Report in most cases.

MISSING INFORMATION lines describing, respectively, a missing F-I-R with a non-blank Response, a missing F-I-R with a blank Response and a substitute Response, and a missing F-I-R-T have the format:

ERROR	CORRECTION
F ff, I ii, NO R	R _____ / /
F ff, I ii, NO R	ATTACH I
F ff, I ii, R rr, NO T	T(tt) _____ / / (=nn)

The first line describes a missing F-I-R and provides a format for entering the Response. The second line describes a missing F-I-R and indicates that it should be entered (attached). The third line describes a missing F-I-R-T and provides a format for entering the Text String. The first and third lines provide a place for entering the Item's Source (/ /); this part is present only when the Item has an associated Source. nn is the Text's Edit Length. "=" indicates that the length must be exact; it does not print when the Edit Code is blank.

CONFLICTING INFORMATION lines describing errors detected as a result of

If-then List Elements have the general format:

ERROR		CORRECTION
F ff, I ii, R rr, T tt WITH		DLT I/CHNG T _____ / / (=nn)
F ff, I ii, R rr	AND	DLT I/CHNG R _____ / /
F ff, I ii, R		DLT I/ATTACH I

Each line of the general format may specify either a F-I-R or F-I-R-T. In this example, the first line specifies a F-I-R-T, the second line specifies a F-I-R with a non-blank Response, and the third line specifies a F-I-R with a blank Response and a substitute Response. In general, the top line specifies the F-I-R or F-I-R-T in P; this line does not print if P is "TRUE". If Q is a Simple Boolean Expression, only the first two lines print, without the "AND". If Q is of the form E AND F, the second and third lines specify the F-I-R or F-I-R-T in E and F, respectively. The corrections which may be specified consist of either deleting Items, changing Responses and Text Strings, or entering Items (attached).

CONFLICTING INFORMATION lines describing errors detected as a result of checks encoded in the program have the formats:

	ERROR		CORRECTION
a)	F 9, I 3	WITH	DLT I & F 9, I 4, R _____
	F 11		DLT F & ATTACH F 10
b)	F 9, I 4	WITH	DLT I & F 9, I 3, R _____
	F 10		DLT F & ATTACH F 11
c)	F 2, I 7, R , T 0	AND	DLT I/CHNG T _____ / / (=18)
	F 2, I 12, R , T 0		DLT I/CHNG T _____ / / (= 6)
d)	F 2, I 7, R , T 0	AND	DLT I/CHNG T _____ / / (= 8)
	F 2, I 6, R , T 0		DLT I/CHNG T _____ / / (= 6)
e)	F 10, I 8, R rr	AND	DLT I/CHNG R _____
	F 10, I 9, R rr		DLT I/CHNG R _____
f)	F 10, I 8, R rr	AND	DLT I/CHNG R _____
	F 10, I 10, R rr		DLT I/CHNG R _____
g)	F 10, I 9, R rr	AND	DLT I/CHNG R _____
	F 10, I 10, R rr		DLT I/CHNG R _____

	ERROR		CORRECTION
h)	F 9; I 3 F 10, I 11	WITH	DLT I R __, __, __, ...

The corrections which may be specified consist of the following:

a) either delete Form #9, Item 3, and enter Form #9, Item 4; or delete Form #11, and enter Form #10 (attached)
b) either delete Form #9, Item 4, and enter Form #9, Item 3; or delete Form #10, and enter Form #11 (attached)
c) delete Items or change Text Strings
d) delete Items or change Text Strings
e) delete Items or change Responses
f) delete Items or change Responses
g) delete Items or change Responses
h) delete Form #9, Item 3, or enter Form #10, Item 11

The remaining notation is as described for the MISSING INFORMATION lines.

Since Items 4-23 of Form #8 are similar, the BEHAVIORAL REPERTOIRE lines are described by an example describing an error detected as a result of the Form #8 List given as an example under § Error Specification Statements:

ERROR			CORRECTION	
	R		R	
F 8, I 15,	A	0	A	_____
	B	2	B	_____
	C	1 LT B	C	_____
	D		D	_____
	E	4	E	_____

The error is described by listing the value of the Item and indicating which character (the Subject of the Boolean Expression) has the specified (erroneous) Relation to which other character (the Object). All such errors detected for a given Item are described next to the same list. The correction is made by entering the entire Item.

COST OF INSTITUTIONALIZATION lines have the general format:

ERROR		CORRECTION			
F 3, I 4 - 7 message		I	R		/ /
I 4 TOTAL COST	$ dddd.cc	4		TOTAL T(00)	$____.__
I 5 VA. PAYS	$ dddd.cc	5		VA. T(00)	$____.__
I 6 CL/FAM PAYS	$ dddd.cc	6	_____	CL/FAM T(00)	$____.__
I 7 3RD PY PAYS	$ dddd.cc	7	_____	3RD PY T(00)	$____.__
DISCREPANCY	$-dddd.cc				

There are three messages which may print in the designated place; these and the exact format are determined as follows:

1) if Items 4-7 are all zero, the message is "NO COST INFORMATION", and only the correction parts of the next four lines print
2) if only Items 5-7 are zero, the message is "BREAKDOWN OF COST NOT AVAILABLE", and the next four lines print
3) otherwise, the message is "BREAKDOWN DOES NOT SUM TO TOTAL", and the next five lines print

The error description parts of the four lines after the message contain the corresponding costs. The fifth line contains the discrepancy; the "-" prints after the "$" only when the discrepancy is negative. The discrepancy is computed so that the sum of the last four lines equals the total cost. Corrections may be made by entering the erroneous cost Text Strings. If Item 4 is entered, its associated Source is entered in the designated place. If Items 6 or 7 are entered, one of their respective Responses is entered under the "R", since these Text Strings are associated only with the Items' Responses. If more than one Response has already been entered for the Item, they will remain in the Client Record since all of the Number of Responses fields in the Update Records for these F-I-R's specify ">1".

Response Table

The remaining Record identification information for the Response Table (Appendix S, Listings) is the same as for the Edit Table.

The non-key information stored in the Response Record has the following format:

positions	size	field
49 - 208	160	Response Description

The Response Description contains the Response description associated with the F-I-R, except where noted otherwise. Its length is usually less than or equal to 80, thereby allowing it to fit on one print line. Some F-I-R's, however, have Response Descriptions longer than 80. These are formatted to fit on several print lines, as specified in the appropriate Report programs.

Individual Client Reports I

This section describes the Jobs which print individual Client Reports. These Jobs and Reports are:

Jobname	Report
MHHO1ASM	Assessment Summary
MHHO1ASM	Behavioral Repertoire
MHHO1PRS	Prescription Summary
MHHO1FUL	Fulfillment of Institutional Prescription
MHHO1CLS	Client Status
MHHO1RSR	Resource Search Results

The Behavioral Repertoire Statistics Reports (MHHO1BRS), which contain individual and group Behavioral Repertoire statistics for a specified subset of Clients, is discussed under Aggregate Client Reports, § Behavioral Repertoire Statistics Reports.

All of these Reports fit on 8½ x 11 paper.

§ Assessment Summary Report

This sub-section begins the description of Job MHHO1ASM. SID235 prints both the Assessment Summary Report and the Behavioral Repertoire Report (//SID235, Printouts). The contents of the latter is discussed under § Behavioral Repertoire Report.

SID235's PARM may have three values:

PARM	description
A	print both Reports from all Series of specified Clients
L	print both Reports from last Series of specified Clients
S	print both or just the Behavioral Repertoire Report from specified Series of specified Clients

The program first checks the PARM, printing one of the following self-explanatory messages on the Identification Page:

```
*** PARAMETER MUST BE ONE OF L,A,S - END OF JOB ***
ALL SERIES PRINTED
SPECIFIED SERIES PRINTED
LAST SERIES PRINTED
```

If the first (error) message prints, the program terminates.

Clients for whom Reports are to be printed are specified by Client Number Cards (Appendix T). If PARM='A' or 'L', a list of Client Number Cards is supplied in the order in which the Reports are to be printed. If

PARM='S', one or more consecutive lists of Client Number Cards, each (except possibly the first) preceded by a Series Number Card (Appendix T), are supplied. Each Series Number Card specifies the Series from which the Reports are to be printed for the Clients whose Client Number Cards follow. If the first list is not preceded by a Series Number Card, the Series is taken to be zero. The Reports print in the order of the Client Number Cards. If a "B" is in the designated column of the Series Number Card, only the Behavioral Repertoire Report prints for the following Client Number Cards; otherwise, both Reports print. These Cards are assumed to be syntactically correct.

The program consists of a loop with two main elements:

1) read the next Client Report from which Reports are to be printed
2) print the Reports

If a Record from which a Report is to be printed is not in the Client File, the following error message prints, followed by the Client and Series Numbers in Master Key format, either on the Identification Page or on the page following the previous Report:

*** RECORD NOT ON FILE ***

If only the Behavioral Repertoire Report is to be printed from a Record, it is printed and the program proceeds to the next Client Record; otherwise, the Assessment Summary Report is printed, followed by the Behavioral Repertoire Report.

The page following the last Report contains the following statistics:

1) if PARM='A' or 'L', the number of Client Number Cards which produced Reports
2) the number of Reports printed (counting an Assessment Summary Report and a Behavioral Repertoire Report from the same Series and produced by the same Client Number Card as one Report)

Following is the description of the Assessment Summary Report. The following rules hold except where otherwise noted:

1) missing Items are denoted by an absence of information (other than the header identifying the Item)
2) missing Text File Text is denoted by the message "*** NO TEXT ***" in place of the Text

If the Assessment Number is blank or zero, the Report is entitled "Assessment Summary"; otherwise, it is entitled "Reassessment Summary".

The beginning of the Report is formatted as follows:

CLIENT:	last name, first name initial address city county zip code social security number race; sex; marital status
CLIENT NO.:	cccccccc
SERIES:	ss (is)
ASSESSMENT NO.:	aa (ia)
INSTITUTION:	institution
SID STAFF:	SID staff member assigned
DATE OF BIRTH:	mm/dd/yyyy
DATE ENTERED:	mm/dd/yy (nn YEARS AGO)
DATE ASSESSED:	mm/dd/yy (nnn YEARS OLD)

If any of the race, sex or marital status is blank, a string of zeroes prints in the appropriate place; otherwise, the Response description prints. ss, is, aa and ia stand for, respectively, the Series, Inverse Series, Assessment and Inverse Assessment Numbers. The YEARS AGO and YEARS OLD numbers are both computed as of the Assessment date. If any of the dates are missing, the corresponding computations produce garbage.

In the remainder of the Report, Sources print between "/ /" in the right-hand margin. Non-blank Form (Group) Sources print instead of all sources on their Forms (the Sources of their associated Group Items). Dates with value all 9's print as "PRESENT".

The remainder of the Report consists of six sections, containing information from Forms #2-#7, respectively. Each section is preceded by an over- and underlined header. Each Item or logically connected group of Items is identified by an underlined header. For each of the last four sections, if the corresponding Form is entirely missing, a message so indicates, and no further information prints in that section.

The REASONS FOR INSTITUTIONALIZATION section begins with the Text for the admitting diagnosis, current diagnosis, main presenting symptoms/problems, specific offense, and precipitating circumstances leading to institutionalization.

The Response descriptions for the type of admission and the admission status (only Text if Response is f) then print. If either is missing, a message so indicates.

The committee and correspondent information then prints. For each, the Response description prints if Response is a or b, and the Text prints if

Response is c.

The leave, pass and escape information next prints. For each, the Response description prints if Response is a or b, and the Text prints if Response is c. If any are missing, a message indicates this.

Finally, information concerning the institution's plans to move the Client prints. The Response description prints if Response is a or b, and the Text prints if Response is c. If the Item is missing, a message so indicates.

The SERVICE HISTORY AND ELIGIBILITY section prints next.

If the Client received no services during the year prior to this institutionalization, this Item (including its header) is skipped. Otherwise, the Response description (or Text zero if Response is i) and Texts 1 and 2 print for each Response entered.

The services the Client received during the past five years of institutionalization print just as those of the previous Item.

The previous institutionalizations next print.

The total cost of institutionalization then prints, followed by the three Items providing the breakdown of this cost. With the amount the Client or family pays print the Response descriptions (or the Text if Response is e) for each Response entered. With the amount a third party payer pays print the Response descriptions (if Response is a or b), the Response descriptions and Text (if Response is c-e), and the Text (if Response is f) for each Response entered. For these two Items, if no Response has been entered (and hence no amount), the Item does not print. If the sum of the amounts paid by the Commonwealth of Virginia, the Client or family, and a third party payer does not equal the total cost, a message indicates this.

Next prints the Response description for property or assets. If Response is c, the Text also prints.

Finally, the information concerning probable eligibility for assistance prints. The Response description prints for each of Responses a-n entered; the Text prints for each of Responses o and p entered.

The RESIDENCE HISTORY AND PERSONAL/FAMILY RESOURCES section contains first the information concerning the prior living situation. With whom the Client lived and the type of housing are described by the Response descriptions (and the Text if Response is c or g, and e, respectively).

Correspondence information then prints. The Response description prints if Response is a or b. Otherwise, from one to three sets of Text print, comprising, respectively, Texts 1-5, 6-10 and 11-15. If Text 6 is

missing, the latter two sets are assumed not to have been entered; if Text 11 is missing, the last set is assumed not to have been entered. If Response is d, a message indicates that more correspondents are written on the Form than can be entered into the System.

Visit information prints just as does the previous Item.

Spouse information then prints. The Response description prints for the first Group of Responses. If Response is blank, a or b, no more information prints for the Item. Otherwise, the Text associated with Response c prints, followed by the Response description for the spouse's willingness to have the Client return home. If this Response is blank, a message indicates so. If the Response is blank, d or e, no more information prints for the Item. Otherwise, the Response description for the conditions attached to the spouse's willingness prints. If this Response is blank, a message indicates this. If the Response is i, the associated Text prints. Finally, the Response description for the spouse's income prints. If the Response is blank, a message so indicates.

Next prints the children information. If the Response for the first Group of Responses is a or b, the Response description for the Group prints. If this response is blank, a or b, no more information prints for the Item. Otherwise, if there are no children 18 or older, Text 1 prints, and no more information prints for the Item. If there is at least one child 18 or older, Text 2 prints. Then prints the Response description for the children's willingness to have the Client return home. If this Response is blank, a message indicates so. If the Response is blank, d or e, no more information prints for the Item. Otherwise, the Text associated with the Response prints. If the Response is g, a message indicates that more willing children are written on the Form than can be entered into the System. The Responce description for the conditions attached to the child's willingness next prints. If this Response is blank, a message indicates this. If the Response is j, the associated Text prints. Finally, the Response description for the child's income prints. If the Response is blank, a message so indicates.

Parent information then prints. The Response description for the first Item prints. If Response is blank, a or b, no more parent information prints. Otherwise, the Text associated with the Response prints. The Response description for another parent or guardian then prints. If Response is blank, a message indicates so. If Response is c or d, the associated Text prints. Next print the Response descriptions for the father's, mother's and guardian's marital status. Then prints the Response description for the parent's or guardian's willingness to have the Client return home. If this Response is blank, a message indicates so. If the Response is blank, a or b, no more parent information prints. Otherwise, the Text associated with the Response prints. If the Response is d, a message indicates that more willing parents or guardians are written on the Form than can be entered into the System. Next prints the Response description for

the conditions attached to the parent's or guardian's willingness. If the Response is blank, a message so indicates. If the Response is g, the associated Text prints. Finally, the Response description for the parent's or guardian's income prints. If this Response is blank, a message indicates this.

Next prints the information concerning others willing to have the Client live in their home. The Response description for the first Group or Responses prints. If the Response is blank, a or b, no more information prints for the Item. Otherwise, the Text associated with the Response prints. If the Response is d, a message indicates that more willing "other" persons are written on the Form than can be entered into the System. The Response description for the conditions attached to this person's willingness next prints. If this Response is blank, a message so indicates. If the Response is g, the associated Text prints. Finally prints the Response description for this person's income. If the Response is blank, a message indicates so.

Finally, the information concerning living situation preference prints. If it is not affirmative that the Client has a preference, the first Item's Response description prints, and no more preference information prints. Otherwise, the Response description for with whom the Client prefers to live prints. If Response is f, the associated Text also prints. Finally, the Client's preference as to city, county and state prints. If none of this information is present, a message so indicates. If one but not both of the city and county is present, the absent one does not evoke the missing Text message.

The PRESENT PHYSICAL CONDITION AND PHYSICAL HISTORY section begins with the Response description for general physical condition.

Then prints the Response description for overall appearance.

Next prints the Response description for each Response entered for deformities.

The Response description for mobility then prints.

Then the Response description for intelligence prints.

The Response description for relationship with others prints, unless Response is f, in which case the Text prints.

Items with three difference formats provide the information concerning medical problems and diseases. The first format is that of the Items beginning with the Item providing central nervous system information and ending with Response d of the Item providing behavioral information. For each of these Items, the body system affected is named in the Response Description field of the Response Record for that Form-Item. Each of these Items for

which information has been entered prints as follows. If Response is a or b, a message so indicates, and no more information prints for the item. Otherwise for each of Responses c and d entered, Texts 3 and 4 print. If Text 3 is missing, "NOT GIVEN" prints in its place. If the "currently present" indicator is one of 1-3, Text 5 prints.

The second format comprises Responses e-k of the Item providing behavioral information. If Response a or b has been entered, this part of the Item has already printed (see above), and no more information prints for the Item. Otherwise, for each of Responses e-k entered, the Response description and Text 4 print. If the "currently present" indicator is one of 1-3, Text 5 prints.

The third format is that of the Item providing "other" information. If Response is a or b, a message so indicates, and no more information prints for the Item. Otherwise, for each of Responses c-e entered, Texts 3 and 4 print. If Text 3 is missing, "NOT GIVEN" prints in its place. If the "currently present" indicator is one of 1-3, Text 5 prints.

Next the current treatment regimen information prints. If Response is a or b, the Response description prints. If Response is blank, a or b, the next Item is skipped. Otherwise, the Text associated with Response c prints, and the Response description for the next Item prints. If the Response for the latter Item is blank, a message indicates this. If this Response is c, the Text also prints.

Next prints the information about medications. If Response is a or b, the Response description prints. Otherwise, the Text associated with Response c prints.

The information concerning employment limitations prints just as does the preceding Item.

The information concerning diet prints just as does the preceding Item.

The information concerning personal physician prints just as does the preceding Item.

Finally, the previous hospitalizations print.

The EDUCATIONAL HISTORY section begins with regular schooling information. If Response is a or b, the Response description prints. If Response is blank, a or b, the next Item is skipped. Otherwise, the Text associated with Response c prints, and the Response description for the next Item prints. If the Response for the latter Item is blank, a message so indicates. If this Response is c, the Text also prints.

The information concerning attendance at a special ungraded class then prints. If Response is a or b, the Response description prints. Otherwise, the Text associated with Response c prints.

The information concerning attendance at a special school outside the institution prints just as does the preceding Item.

The information concerning attendance at a school in an institution prints just as does the preceding Item.

The information concerning attendance at school in this institution then prints. The Response description for the first Group of Responses prints. If this Response is blank, a or b, no more information prints for the Item. Otherwise, the information concerning the attitude to the schooling prints. If this Response is d-g, the Response description prints. If the Response is h, the Text prints. If the Response is blank, a message indicates this.

Finally, the information concerning the desire to continue education prints. If the Response for the first Group of Responses is a-c, the Response description prints. If this Response is blank or a-c, no more information prints for the Item. Otherwise, the educational area information prints. If this Response is e-h, the Response description prints. If the Response is i, the Text prints. If the Response is blank, a message indicates so.

The last section is the EMPLOYMENT HISTORY AND PRESENT EMPLOYABILITY section.

First prints the self-support information. If Response is a-d, the Response description prints. If Response is c, the Text also prints. If Response is e, only the Text prints.

If the self-support Response is not d, the motivation Response description prints, unless the latter Response is f, in which case the Text prints.

Next the information concerning jobs outside the institution prints. If the Response for the first group of Responses is a or b, the Response description prints. If the Response is blank, a or b, no more information prints for the Item. Otherwise, the jobs print.

The information concerning jobs in the institution prints just as does the previous Item.

The information concerning vocational training outside the institution prints just as does the previous Item.

The information concerning vocational evaluation then prints. If the Response for the first Group of Responses is a or b, the Response description prints. If this Response is blank, a or b, no more information prints for the Item. Otherwise, if the Response for the second Group of Responses is d-h, the Response description prints. If this Response is i, the Text prints. If the Response is blank, a message so indicates.

The information concerning vocational training inside the institution prints just as does that concerning vocational training outside the institution.

Next prints the information concerning job preferences. If the Response for the first Group of Responses is a-c, the Response description prints. If this Response is blank or a-c, no more information prints for the Item. Otherwise, the job preferences print.

The Response description for the possession of a driver's license prints. If Response is blank, a or b, the next Item is skipped. Otherwise, the Response description for car access prints. If the latter Response is blank, a message indicates this.

Finally, the Response description for ability to use public transportation prints. If Response is blank or a-c, the next Item is skipped. Otherwise, the Response description for willingness to use public transportation prints. If the latter Response is blank, a message so indicates.

Behavioral Repertoire Print Table

The remaining Record identification information for the Behavioral Repertoire Print Table (Appendix U, Listings) is:

positions within key	description
0 - 9	Key Number (right just., zero filled)
10 - 35	blank

The Behavioral Repertoire Print Table is processed sequentially only. Key Numbers are picked to order the Records as desired.

The non-key information stored in the Behavioral Repertoire Print Record has the following format:

positions	size	field
49 - 130	82	Behavioral Repertoire Print Line
131 - 208	78	unused

The Behavioral Repertoire Print Line field contains a Behavioral Repertoire Report print line.

§ Behavioral Repertoire Report

This sub-section describes only the content of the Behavioral Repertoire Report. Other information concerning Job MHHO1ASM is presented under § Assessment Summary Report.

If Form #8 is entirely missing, no Report prints; otherwise, the beginning of the Report is formatted as follows:

CLIENT: last name, first name initial

CLIENT NO.: cccccccc
SERIES: ss (is)
ASSESSMENT NO.: aa (ia)

INSTITUTION: institution
RATER: rater
POSITION: rater's position

DATE OF RATING: mm/dd/yy (nnn YEARS OLD)

ss, is, aa and ia are the same as for the Assessment Summary Report. The YEARS OLD number is computed as of the rating date. If the birth date or the rating date are missing, this computation produces garbage.

Following this information prints an explanation of the rating codes.

The Report prints on three pages. The remainder of the first page contains the rating codes from the first three groups of adaptive behaviors. The second page contains the rating codes for the remaining adaptive behaviors. The last page contains the rating codes for the maladaptive behaviors.

The last page also contains the Form #8 comments. If there are none, "NONE" prints in their place.

Finally, the numbers of adaptive and maladaptive behaviors rated print, followed by the arithmetic mean for each of these categories.

§ Prescription Summary Report

This sub-section describes Job MHHO1PRS. SID240 prints the Prescription Summary Report (//SID240, Printouts).

SID240's PARM may have three values:

PARM	description
A	print Report from all Series of specified Clients

PARM	description
L	print Report from last Series of specified Clients
S	print Report form specified Series of specified Clients

The program first checks the PARM, printing one of the following self-explanatory messages on the Identification Page:

*** PARAMETER MUST BE ONE OF L,A,S - END OF JOB ***
ALL SERIES PRINTED
SPECIFIED SERIES PRINTED
LAST SERIES PRINTED

If the first (error) message prints, the program terminates.

Clients for whom Reports are to be printed are specified by Client Number Cards (Appendix T). If PARM='A' or 'L', a list of Client Number Cards is supplied in the order in which the Reports are to print. If PARM='S', one or more consecutive lists of Client Number Cards, each (except possibly the first) preceded by a Series Number Card (Appendix T), are supplied. Each Series Number Card specifies the Series from which the Reports are to be printed for the Clients whose Client Number Cards follow. If the first list is not preceded by a Series Number Card, the Series is taken to be zero. The Reports print in the order of the Client Number Cards. These Cards are assumed to be syntactically correct.

The program consists of a loop with two main elements:

1) read the next Client Record from which the Report is to be printed
2) print the Report

If a Record from which the Report is to be printed is not in the Client File, the following error message prints, followed by the Client and Series Numbers in Master Key format, either on the Identification Page or on the page following the previous Report:

*** RECORD NOT ON FILE ***

The page following the last Report contains the following statistics:

1) if PARM='A' or 'L', the number of Client Number Cards which produced Reports
2) the number of Reports printed

Following is the description of the Prescription Summary Report. The following rules hold except where otherwise noted:

1) missing Items are denoted by an absence of information (other than the header identifying the Item)

2) missing Text File Text is denoted by the message "*** NO TEXT ***" in place of the Text

The beginning of the Report is formatted as follows:

CLIENT:	last name, first name initial
CLIENT NO.:	cccccccc
SERIES:	ss (is)
ASSESSMENT NO.:	aa (ia)
PRESCRIPTION NO.:	pp (ip)
PRS NO. THIS ASSMT:	qq (iq)
INSTITUTION:	institution
SID STAFF:	SID staff member assigned
TEAM CHAIRPERSON:	team chairperson
LENGTH A&P:	hhh HR, mm MIN
MAN HOURS A&P TEAM:	hhh HR, mm MIN
DATE PRESCRIBED:	mm/dd/yy

ss, is, aa, ia, pp, ip, qq and iq stand for, respectively, the Series Number, Inverse Series Number, Assessment Number, Inverse Assessment Number, Prescription Number, Inverse Prescription Number, Prescription Number This Assessment and Inverse Prescription Number This Assessment.

The Response description for the Prescription history then prints, unless Response is g, in which case the Text prints.

The type of Prescription prints next. If neither of Form #9, Items 3 and 4, is entered, a message so indicates, and the Report is terminated.

Next prints the Response description for the reason for the Prescription decision (Form #9, Item 3 or 4), unless Response is e, in which case the Text prints.

If Form #12 has been entered, the information concerning why the Client is still in the institution prints. The Response description prints for each of Responses a-o entered; the Text prints if Response p has been entered.

The Prescription elements print beginning on the next page. The first part of the remainder of this sub-section describes the remainder of the Report if the Prescription is community placement. The latter part describes the remainder of the Report if the Prescription is continued institutionalization. If the Response for Item 4 of Form #9 is blank, the program assumes the Prescription to be "out"; otherwise, "in". Therefore, if both Items 3 and 4 of Form #9 have been entered, the Prescription is assumed to be "in".

The community placement Prescription elements print as follows. The housing elements print first. (The Response descriptions used here are those associated with Form #30, Item 3.) For each entered, if Response is not u, the Response description prints. The Text then prints. If there is no Text, the message indicating so prints only if Response is either f, j, n, q or u.

Then the income source possibilities print. For each of Responses a-i entered, the Response description prints, followed by the Text. If there is no Text, no message prints. If Response j has been entered, the associated Text prints.

The other Prescription elements then print, grouped into areas as they are on the Form. For each entered, if it is not one of the last two Items in its area, the Response description and the associated Text print; otherwise, Texts zero and 1 both print.

The Client release information then prints. If no Address History Record has been entered corresponding to this Prescription, a message prints indicating either that the Client has not yet been released, or the Prescription Number of the last (previous) Prescription ("in" or "out") which has a corresponding Address History Record, and the Report is finished. Otherwise, the Report finishes with information from the first Address History Record corresponding to the Prescription, printing in the format:

DATE OF RELEASE: mm/dd/yy

PLACED IN: type of facility
Text if Response is f, j, n, q, u, v or w

ADDRESS: address
city, county zip code

COMMENTS
Text

If the type of facility Response is blank, a string of zeroes prints; otherwise, the Response description prints. If there is no comments Text, "NONE" prints instead.

The continued institutionalization Prescription elements print as follows. First the projected date of reassessment prints.

Next prints the name of the institution to which the Client has been prescribed. If neither a participating institution (Form #11, Item 4) nor a non-SID institution (Form #11, Item 10) has been entered, a message so indicates, and the Report is terminated. If both have been entered, the Client is assumed to have been prescribed to a participating institution, and the remainder of the Report prints accordingly. The first part of the re-

mainder of this sub-section describes the remainder of the Report if the Client has been prescribed to a participating institution. The latter part describes the remainder of the Report if the Client has been prescribed to a non-SID institution.

If the Client has been prescribed to a participating institution, the Response description and the associated Text print for each entered Prescription element with a single-character Response. For each of Responses aa and bb entered, Texts zero and 1 both print. Finally, the comments print. If there are none, "NONE" prints instead.

If the Client has been prescribed to a non-SID institution, the institution's address, city and state print after its name. If the state is missing, no message prints.

The financing information then prints.

Finally, for each Prescription element entered, the associated Texts print.

§ Fulfillment of Institutional Prescription Report

This sub-section describes Job MHH01FUL. SID250 prints the Fulfillemnt of Institutional Prescription Report (//SID250, Printouts).

SID250's PARM may have three values:

PARM	description
A	print Report from all Series of specified Clients
L	print Report from last Series of specified Clients
S	print Report from specified Series of specified Clients

The program first checks the PARM, printing one of the following self-explanatory messages on the Identification Page:

*** PARAMETER MUST BE ONE OF L,A,S - END OF JOB ***
ALL SERIES PRINTED
SPECIFIED SERIES PRINTED
LAST SERIES PRINTED

If the first (error) message prints, the program terminates.

Clients for whom Reports are to be printed are specified by Client Number Cards (Appendix T). If PARM='A' or 'L', a list of Client Number Cards is supplied in the order in which the Reports are to be printed. If PARM='S', one or more consecutive lists of Client Number Cards, each (except possibly the first) preceded by a Series Number Card (Appendix T), are sup-

plied. Each Series Number Card specifies the Series from which the Reports are to be printed for the Clients whose Client Number Cards follow. If the first list is not preceded by a Series Number Card, the Series is taken to be zero. The Reports print in the order of the Client Number Cards. These Cards are assumed to be syntactically correct.

The program consists of a loop with two main elements:

1) read the next Client Record from which the Report is to be printed
2) print the Report

If a Record from which the Report is to be printed is not in the Client File, the following error message prints, followed by the Client and Series Numbers in Master Key format, either on the Identification Page or on the page following the previous Report:

*** RECORD NOT ON FILE ***

The page following the last Report contains the following statistics:

1) if PARM='A' or 'L', the number of Client Number Cards which produced Reports
2) the number of Reports printed

Following is the description of the Fulfillment of Institutional Prescription Report. Throughout, missing Text File Text is denoted by the message "*** NO TEXT ***" in place of the Text.

The beginning of the Report is formatted as follows:

CLIENT: last name, first name initial

CLIENT NO.: cccccccc
SERIES: ss (is)
ASSESSMENT NO.: aa (ia)
PRESCRIPTION NO.: pp (ip)
PTS NO. THIS ASSMT: qq (iq)

INSTITUTION: institution
SID STAFF: SID staff member assigned

DATE LAST ASSESSMENT: mm/dd/yy
DATE THIS ASSESSMENT: mm/dd/yy

ss, is, aa, ia, pp, ip, qq and iq are the same as for the Prescription Summary Report (see § Prescription Summary Report). The dates are from Form #29.

There follows a description of the degree of fulfillment codes.

CLIENT:	last name, first name initial
CLIENT NO.:	cccccccc
INSTITUTION:	institution
SID STAFF:	SID staff member assigned (Form #2)
TERMINATED:	mm/dd/yy reason if Response is not g Text if Response is c or g
CURRENT HOUSING:	type of facility Text if Response is f, j, n, q, u, v or w
CURRENT ADDRESS:	address city, county state zip code
TOTAL NO. ASSESSMENTS:	nn
TOTAL NO. PRESCRIPTIONS:	nn

If the Client has been terminated, the termination information prints, and the current housing and address information does not print; otherwise, the termination information does not print, and the current housing and address information prints only if the Client has at least one Address History Record. If the termination reason Response is blank, a string of zeroes prints; otherwise, the Response description prints. The current housing and address information is obtained from the Client's first (latest) Address History Record. If the type of facility Response is blank, "*** NO HOUSING ***" prints; otherwise, the Response description prints. If both the city and county are missing, "*** NO TEXT ***" prints in place of each.

The remainder of the Report is divided into a section for each of the Client's Assessments. Each section begins with the Assessment Number, Assessment date and Behavioral Repertoire date. Sections are separated by lines of nine asterisks.

Each section is divided into a sub-section for each of the Assessment's Series with a Prescription. Each sub-section summarizes the Prescription in that Series. Sub-sections are separated by lines of three asterisks.

There are six Types of sub-sections:

Type	name	criteria
1	continued institutionalization in a non-SID institution	Client prescribed in and participating institution Response (Form #11, Item 4) is blank

Type	name	criteria
2	continued institutionalization in the same institution	Client prescribed in and participating institution Response's description is the same as the Assessment's institution
3	continued institutionalization in a participating institution	Client prescribed in and participating institution Response's description is different from the Assessment's institution
4	community placement ongoing	Client prescribed out, Form #15 recommendation not entered, and Inverse Series is zero
5	community placement unsuccessful	Client prescribed out, Form #15 recommendation not entered, and Inverse Series not zero
6	community placement successful	Client prescribed out and Form #15 recommendation entered

If the Response for Item 3 of Form #9 is non-blank, the program assumes the Prescription to be "out". Therefore, if both Items 3 and 4 of Form #9 have been entered, the Prescription is assumed to be "out".

Type 1 sub-sections have the following general format:

```
PRESCR. NO.  pp (SER ss)   CONTINUED INSTITUTIONALIZATION
                                TRANSFER TO institution
    PRESCRIBED:            mm/dd/yy
    RECOMMENDATION:        mm/dd/yy
    TRANSFERRED:           institution
                           mm/dd/yy
        MOVED:             type of facility     (NOT CURRENT HOUSING)
                                Text if Response is f, j, n, q, u, v or w
                           mm/dd/yy
                    .
                    .
                    .
    PROBLEM REPORTS:       mm/dd/yy     Prescription element
                                    .
                                    .
                                    .
```

pp and ss stand for, respectively, the Prescription Number This Assessment and Series Number. The institution in the TRANSFER TO line is obtained from Form #11, Item 10. The PRESCRIBED date is from Form #1. The RECOMMENDATION date is from Form #23. If the last (earliest) Address History Record for the Prescription has type of facility Response w, it provides the informa-

tion for the TRANSFERRED line, and the remaining Address History Records for the Prescription provide the information for MOVED lines; otherwise, all Address History Records for the Prescription provide the information for MOVED lines. In a TRANSFERRED line, the institution is the type of facility Text. In a MOVED line, if the type of facility Response is blank, a string of zeroes prints; otherwise, the Response description prints. "(NOT CURRENT HOUSING)" prints only if the Client has not been terminated and the type of facility Response is different from that of the current housing. Each Problem Report Record for the Prescription with Report Code "P" provides the information for a PROBLEM REPORTS line. In such lines, the Prescription element is either a Response description or Text (whichever is appropriate).

Type 2 sub-sections have the following general format:

```
PRESCR. NO.  pp (SER ss)  CONTINUED INSTITUTIONALIZATION
    PRESCRIBED:           mm/dd/yy
    RECOMMENDATION:       mm/dd/yy
        MOVED:            ...
                    .
                    .
                    .
    TO BE REASSESSED:     mm/dd/yy
    PROBLEM REPORTS:      ...
                           .
                           .
                           .
```

pp, ss, and the PRESCRIBED and RECOMMENDATION dates are as in the Type 1 sub-section. All Address History Records for the Prescription provide information for MOVED lines, which are as in the Type 1 sub-section. The TO BE REASSESSED date is from Form #11. PROBLEM REPORTS lines are as in the Type 1 sub-section.

Type 3 sub-sections have the following general format:

```
PRESCR. NO.  pp (SER ss)  CONTINUED INSTITUTIONALIZATION
                               TRANSFER TO institution
    PRESCRIBED:           mm/dd/yy
    RECOMMENDATION:       mm/dd/yy
    TRANSFERRED:          ...
        MOVED:            ...
                    .
                    .
                    .
    TO BE REASSESSED:     mm/dd/yy
    PROBLEM REPORTS:      ...
                           .
                           .
                           .
```

pp, ss, and the PRESCRIBED and RECOMMENDATION dates are as in the Type 1 sub-section. The institution in the TRANSFER TO line is obtained from Form #11, Item 4. If the last (earliest) Address History Record for the Prescription has type of facility Response v, it provides the information for the TRANSFERRED line, and the remaining Address History Records for the Prescription provide the information for MOVED lines; otherwise, all Address History Records for the Prescription provide the information for MOVED lines. The TRANSFERRED and MOVED lines are otherwise as in the Type 1 sub-section. The TO BE REASSESSED date is as in the Type 2 sub-section. PROBLEM REPORTS lines are as in the Type 1 sub-section.

Type 4 sub-sections have the following general format:

```
PRESCR. NO.  pp (SER ss)  COMMUNITY PLACEMENT
    PRESCRIBED:           mm/dd/yy
    RESOURCE SEARCH:      ONGOING
    PLACED:               type of facility     (NOT CURRENT HOUSING)
                               Text if Response is f, j, n, q, u, v or w
                          mm/dd/yy
        MOVED:            ...
                    .
                    .
                    .
```

pp, ss, and the PRESCRIBED date are as in the Type 1 sub-section. The last (earliest) Address History Record for the Prescription provides the information for the PLACED line, and the remaining Address History Records for the Prescription provide the information for MOVED lines. The type of facility and "(NOT CURRENT HOUSING)" print in the PLACED line just as they do in the MOVED lines in the Type 1 sub-section; the MOVED lines also print as they do in that sub-section.

Type 5 sub-sections have the following general format:

```
PRESCR. NO.  pp (SER ss)  COMMUNITY PLACEMENT
    PRESCRIBED:           mm/dd/yy
    RESOURCE SEARCH:      UNSUCCESSFUL
                          mm/dd/yy
    PLACED:               ...
        MOVED:            ...
                    .
                    .
                    .
```

pp, ss, and the PRESCRIBED date are as in the Type 1 sub-section. The RESOURCE SEARCH date is the date of the next (i.e., immediately previously printed) Prescription. The PLACED and MOVED lines are as in the Tyep 4 sub-section.

Type 6 sub-sections have the following general format:

```
PRESCR. NO.  pp (SER ss)  COMMUNITY PLACEMENT
    PRESCRIBED:           mm/dd/yy
    RESOURCE SEARCH:      SUCCESSFULLY COMPLETED
    RECOMMENDATION:       mm/dd/yy
    PLACED:               ...
        MOVED:            ...
                    .
                    .
                    .
    FOLLOW-UP REPORTS:
        CLIENT REPORTS:   mm/dd/yy TO mm/dd/yy     nn ELEMENTS
                                          .
                                          .
                                          .
        PROVIDER REPORTS: mm/dd/yy TO mm/dd/yy     nn ELEMENTS
                                          .
                                          .
                                          .
        PROBLEM REPORTS:  mm/dd/yy     Prescription element
                                    .
                                    .
                                    .
```

pp, ss, and the PRESCRIBED date are as in the Type 1 sub-section. The RECOMMENDATION date is from Form #15. The PLACED nad MOVED lines are as in the Tyep 4 sub-section. All Prescription Element Report Records for the Prescription are tabulated in the CLIENT REPORTS and PROVIDER REPORTS lines; FOLLOW-UP REPORTS prints even if there are none. The PROBLEM REPORTS lines are as in the Type 1 sub-section.

If a given Prescription is summarized in two or more (consecutive) sub-sections, its Address History, Prescription Element Report and Problem Report Records are printed in the first sub-section printed, and not in the latter. (This situation may occur when a successfully placed Client has a new Behavioral Repertoire completed; this with the current non-Form #8 Assessment information becomes a new Assessment which has the same Prescription as the previously last Assessment.)

§ Resource Search Results Report

This sub-section describes Job MHH01RSR. SID285 prints the Resource Search Results Report (//SID285, Printouts).

Clients for whom the Report is to be printed are specified by one or more consecutive lists of Client Number Cards (Appendix T), each preceded by an Assessment Number Card or a Prescription Number Card (Appendix T). Each Assessment Number Card specifies that, for the Clients specified by the following Client Number Cards, the Report is to be printed for each "out" Prescription associated with that Assessment. Each Prescription Number Card specifies that, for each Client specified by the following Client Number Cards, the Report is to be printed for that Prescription. The Reports print in the order of the Client Number Cards. The entire group of Cards must be ordered such that the Client Numbers are in non-descending order and, if several identical Client Number Cards are included, the Reports produced by them are printed in descending order on Prescription Number. These Cards are assumed to be syntactically correct.

The program consists of a loop with two main elements:

1) read the next Client Record from which the Report is to be printed
2) print the Report

The following error messages may print either on the Identification Page or on the page following the previous Report:

message	meaning
*** BY ASSESSMENT OR PRESCRIPTION? ***	Client Number Card not preceded by Assessment Number or Prescription Number Card; the Client Number prints after the message, or card with columns 5-8 blank does not have "A " or "P " in columns 1-2; the card prints after the message
*** CLIENT NUMBER OUT OF ORDER ***	Client Number Card out of order; the Client Number prints after the message

message	meaning
*** CLIENT NOT ON FILE ***	Client is not in the Client File; the Client Number prints after the message
*** PRESCRIPTION NUMBER OUT OF ORDER ***	the Report for a given Client has just printed, and the next Report is to be for the same or a later Prescription; the Client and Prescription Numbers print after the message in the format ccccccccpp
*** CLIENT PRESCRIPTION NUMBER NOT ON FILE ***	Client does not have specified Prescription; the Client and Prescription Numbers print after the message in the format ccccccccpp
*** CLIENT ASSESSMENT NUMBER NOT ON FILE ***	Client does not have specified Assessment; the Client and Assessment Numbers print after the message in the format cccccccaa
*** NO PRESCRIPTIONS THIS ASSESSMENT ***	specified Assessment has no Prescriptions; the Client and Assessment Numbers print after the message in the format cccccccaa
*** NO COMMUNITY PLACEMENT PRESCRIPTION ***	Client Record does not have Form #9, Item 3, entered; the Client and Series Numbers print after the message in Master Key format

On the page following the last Report print the following statistics:

1) the number of Client Number Cards which produced Reports by Assessment
2) the number of Client Number Cards which produced Reports by Prescription
3) the number of Reports printed

Following is the description of the Resource Search Results Report. Except where otherwise noted, missing Text File Text is denoted by the message "*** NO TEXT ***" in place of the Text.

The Report prints information from all of the Client's Prescription Search Records corresponding to the specified Prescription, presented in the order associated with the File (inverse chronological).

The beginning of the Report is formatted as follows (the information is obtained from the Client Record containing the specified Prescription):

CLIENT:	last name, first name initial
CLIENT NO.:	cccccccc
SERIES:	ss (is)
ASSESSMENT NO.:	aa (ia)
PRESCRIPTION NO.:	pp (ip)
PRS NO. THIS ASSMT:	qq (iq)
INSTITUTION:	institution
SID STAFF:	SID staff member assigned; position
DATE THIS ASSESSMENT:	mm/dd/yy
DATE THIS PRESCRIPTION:	mm/dd/yy

ss, is, aa, ia, pp, ip, qq and iq are the same as for the Prescription Summary Report (see § Prescription Summary Report).

The remainder of the Report is divided into three sections, containing information from the Prescription Search Records for housing, income and other Prescription elements, respectively. Each section is identified by an over- and underlined header. If no elements have been entered for any of these categories, a message so indicates, and no other information prints in that section. Otherwise, in each section, date and provider information from each Prescription Search Record belonging to that category prints in the following format:

CONTACTED: mm/dd/yy
provider name
agency name
address
city or county. state

If there is no information for any line other than the first, that line does not print. If both the city and county have been entered, the city does not print. To the right of this information for each Record prints the following information:

1) if the Service Plan Code is "U", the why unable Response description; if Response is blank, a string of zeroes prints instead
2) if the Service Plan Code is not "U", either the interval during which the service is to be provided or, if the second date is all 9's, just the beginning date; if the Record has Expired, this is noted under the date(s)

In the HOUSING section, to the left of the above described information from the first Prescription Search Record for a given housing choice prints the description of the housing choice from the Client Record as follows:

1) if housing choice Response is not u, the Response description

2) the Text associated with that Response; if Response is not one of f, j, n, q and u, the missing Text message does not print in place of missing Text

After all housing Prescription Search Records have printed, the following information prints:

1) type of housing found and which choice it is
2) number of Agencies contacted
3) number of contacts made

A note follows explaining the second of these items (see below).

In the INCOME section, to the left of the above described information from the first Prescription search Record for a given income element prints, from the Client Record, the income element Response description and, if Response is j, the associated Text (the description of the income element). After all income Prescription Search Records have printed, the following information prints:

1) income sources established
2) number of Agencies contacted
3) number of contacts made

In the AUXILIARY section, to the left of the above described information from the first Prescription Search Record for a given other element prints, from the Client Record, the other element Response description or Text, whichever is appropriate (the description of the other element). After all "other" Prescription Search Records have printed, the following information prints:

1) number of other elements prescribed
2) number of other elements searched
3) number of other elements filled
4) number of Agencies contacted
5) number of contacts made
6) percent of prescribed other elements filled
7) percent of searched other elements filled
8) average number of contacts made per other element searched

In all three sections, if Prescription Search Records exist for unprescribed elements, a message so indicates under the description of the element. If Prescription Search Records do not exist for prescribed elements, the description of the element prints as described above, and "NOT SEARCHED" prints to the right. The number of Agencies contacted is determined by counting the number of different Agency codes in the Prescription Search Records, except that each code 99991 and P9991 (see Forms) is counted as a separate Agency (note that blank codes and codes 99990 and P9990 are considered to be the same Agency, even though they might represent different Agencies or people).

Aggregate Client Reports

This section describes the Jobs which print aggregate Client Reports. These Jobs and Reports are:

Jobname	Report
MHH01ASD	Assessment Digest
MHH01PRD	Prescription Digest
MHH01FLD	Fulfillment of Institutional Prescriptions Digest
MHH01BRS	Behavioral Repertoire Statistics (2 Reports)
MHH01BAC	Broker Advocate Caseload
MHH01CPS	Client Processing Summary
MHH01CSU	Client Status Update
MHH01CRS	Cumulative Resource Search Results

All of these Reports exclude Clients with Numbers greater than or equal to 10,000,000, except the Behavioral Repertoire Statistics Reports, since these Reports include individual as well as aggregate data. Thus information can be stored in the System for "sample" Clients (used for exemplification purposes) without contaminating aggregate data.

§ Assessment Digest Report

This sub-section completes the description of Job MHH01ASD. The first two Steps are described under Record Selection, § Jobs Using the Select Mechanism. In the third Step, SID255 prints the Assessment Digest Report, which fits on 8½ x 11 paper (//SID255, Printouts). If any error messages are issued by SID195, //SID195 is the only Step executed.

The program first prints the date, Report name and Description Card on the Identification Page, followed by a list of the Client and Series Numbers, last name, first name and initial of each Client included in the Report. If several Series are input for a given Client, only the last such is processed.

Printing first in the Report is the number of Clients processed and the Description Card. After these the Report is divided into seven sections, corresponding approximately to the Assessment Forms. Each section is identified by an over- and underlined header. Except where otherwise noted, information is presented as a series of blocks printed in two columns per page, with the left column being filled before the right is begun. Each block itemizes a particular characteristic of the information in the Client Records. Each begins with a header line and a number of entry lines. The entries are defined in such a way that each Client for whom the information tabulated in that block has been entered is described by exactly one entry. Except where otherwise noted, each entry prints even if it describes no Clients. The last entry is followed by a line totalling the entries in that block. Each entry line contains the number of Clients whom that line describes and the percentage that number is of the total number. The totals line totals both of these numbers (the percentage totals may be slightly different from 100.0 due to round off in the percentages being totalled).

In some blocks, the totals line is followed by the mean, standard deviation and range of the information tabulated in that block (the number of Clients included in these calculations is also indicated). The standard deviation is computed by the formula:

$$\text{standard deviation} = \sqrt{\frac{n\Sigma x^2 - (\Sigma x)^2}{n(n-1)}}$$

Blocks whose headers are indented tabulate information only for those Clients who are counted in certain entries of the immediately preceding unindented block. Those indented in the Report are also indented in the lists of block headers below. Those blocks which include the mean, standard deviation and range are also indicated.

The following blocks are included in the BACKGROUND DATA section:

block header	mean, s.d. and range	description (if needed)
INSTITUTION OF RESIDENCE	no	
CITY OF RESIDENCE	no	
COUNTY OF RESIDENCE	no	
AGE AT ASSESSMENT	yes	
SEX	no	
RACE	no	
MARITAL STATUS	no	
IN INSTITUTION THIS TIME	yes	length of time in
TYPE ADMISSION	no	
ADMISSION STATUS	no	
COMMITTEE ASSIGNED	no	
INSTITU. HAS PLANS TO MOVE	no	
PRIOR INSTITUTIONALIZATIONS	yes	number

In the first three blocks, only those entries which describe Clients print. In each of the CITY and COUNTY blocks, if no entires describe Clients, the block does not print. If a client is counted in the COUNTY block, he is not counted in the CITY block. If both of these blocks print, they print together and with one totals line.

The FAMILY RESOURCE DATA section includes the following blocks:

block header	mean, s.d. and range	description (if needed)
PARENT/GUARDIAN INFORMATION	no	
PAR/GUAR WILLINGNESS	no	
MARITAL STATUS/FATHER	no	
MARITAL STATUS/MOTHER	no	
MARITAL STATUS/GUARDIAN	no	
SPOUSE INFORMATION	no	
SPOUSE WILL	no	willingness

block header	mean, s.d. and range	description (if needed)
CHILD(REN) INFORMATION	no	
ADULT CHILD WILL	no	
OTHER INTERESTED PARTIES WILL	no	
CLIENT'S LIVING PREFERENCE	no	
PREVIOUSLY LIVED WITH	no	
PREVIOUSLY LIVED IN	no	

The PHYSICAL CONDITION DATA section begins with the following blocks:

block header	mean, s.d. and range
GENERAL PHYSICAL CONDITION	no
OVERALL APPEARANCE	no
MOBILITY	no
INTELLIGENCE	no
RELATIONS WITH OTHERS	no
SPECIFIC TREATMENT REGIMEN	no
CONTINUE TREAT. REGIMEN	no
RECEIVES MEDICATION	no
EMPLOYMENT LIMITS/PHYS	no
SPECIAL DIET REQUIRED	no

At this point, a specially formatted page prints, listing, for each body system from Items 7-23 of Form #5:

1a) the number of Clients who have had at least one problem in the past with that body system
1b) the percentage this number is of the total of these numbers
2a) the number of Clients currently having at least one problem with that body system
2b) the percentage this number is of the total of these numbers
3a) the number of Clients currently having at least one problem with that body system which is being treated
3b) the percentage this number is of the number in 2a)

A totals line totals the first five of these numbers, and computes the sixth "total" as the percentage the total of the numbers in 3a) is of the total of the numbers in 2a). Two notes below this line explain certain information on the page.

The following blocks are included in the EDUCATIONAL HISTORY DATA section:

block header	mean, s.d. and range	description (if needed)
REGULAR SCHOOLING	yes	grade completed

block header	mean, s.d. and range	description (if needed)
SPECIAL UNGRADED CLASS	yes	grade completed
SPECIAL SCHOOL OUTSIDE INST.	no	
SCHOOL IN INSTITUTION	no	
WANTS TO CONTINUE EDUCATION	no	

The EMPLOYMENT HISTORY DATA section includes the following blocks:

block header	mean, s.d. and range	description (if needed)
EMPLOYMENT CAPABILITY	no	
MOTIVATION	no	
JOBS IN INSTITUTION	yes	number
VOC. EVAL. IN INSTITUTION	no	
VOC. TRG. IN INSTITUTION	no	
JOB PREFERENCE IN COMM.	no	
HAS DRIVER'S LICENSE	no	
HAS ACCESS TO CAR	no	
ABLE TO USE PUB. TRANS.	no	
WILLING TO USE PUB. TRANS	no	
CLIENT HAS PROP/ASSETS	yes	statistics computed on value

The COST OF INSTITUTIONALIZATION section is specially formatted. It includes cost breakdown information for each institution with an entry in the first block of the first section, formatted as follows:

INSTITUTION: institution

PAYER	N	%
1 - COMMONWEALTH OF VA.	nnn	ppp.p
2 - CLIENT/FAMILY	.	.
3 - THIRD PARTY	.	.
1 AND 2	.	.
1 AND 3		
2 AND 3		
1, 2 AND 3		
BREAKDOWN NOT AVAILABLE		
TOTAL		

WITH nnnn CLIENTS, AVERAGE COST PER CLIENT MONTH = $ d,ddd.cc

	MEAN	%
COMMONWEALTH PAYS	$ d,ddd.cc	ppp.p
CLIENT/FAMILY PAYS		.
THIRD PARTY PAYS		.
UNACCOUNTED FOR	$ -d,ddd.cc	ppp.p
TOTAL	$ d,ddd.cc	ppp.p

Clients who have no cost information entered (neither total nor breakdown)

are not included. In the UNACCOUNTED FOR line, the "-" prints after the "$" only when this number is negative; this number is computed so that the sum of the first four average breakdown lines equals the average.

The MAN HOURS section is also specially formatted. It includes the man hours information for each institution with an entry in the first block of the first section, from each Client having this information entered. This information is formatted as follows:

INSTITUTION: institution

HOURS SPENT COMPILING INFORMATION FOR

	N	MEAN		%
FORMS 2 THROUGH 7	nnn	hh HRS.	mm MIN.	ppp.p
FORM 8	nnn	hh HRS.	mm MIN.	ppp.p
ALL ASSESSMENT FORMS (2 - 8)		hh HRS.	mm MIN.	ppp.p

§ Prescription Digest Report

This sub-section complete description of Job MHHOlPRD. The first two Steps are described under Record Section, § Jobs Using the Select Mechanism. In the third Step, SID260 prints the Prescription Digest Report, which fits on 8½ x 11 paper (//SID260, Printouts). If any error messages are issued by SID195, //SID195 is the only Step which executes.

The program first prints the date, Report name and Description Card on the Identification Page, followed by a list of the Client and Series Numbers, last name, first name and initial of each Client included in the Report. If several Series are input for a given Client, only the last such containing a Prescription is processed. If none of the Series input for a Client has a Prescription, the Client is not included in the Report

Printing first in the Report is the number of Clients processed and the Description Card. After these the Report is divided into three sections. Each section is identified by an over- and underlined header. Except where otherwise noted, information is presented as a series of blocks printed in two columns per page, with the left column being filled before the right is begun. Each block itemizes a particular characteristic of the information in the Client Records. Each begins with a header line and a number of entry lines. The entries are defined in such a way that each Client for whom the information tabulated in that block has been entered is described by either exactly or at least one entry, depending on the information being tabulated. Except where otherwise noted, each entry prints even if it describes no Clients. The last entry is followed by a line totalling the entries in that block. Each entry line contains the number of Clients whom that line describes and the percentage that number is of the total number. The totals line totals both of these numbers (the percentage totals may be slightly different from 100.0 due to round off in the percentages being totalled).

In some blocks, the totals line is followed by the mean, standard deviation and range of the information tabulated in that block (the number of Clients included in these calculations is also indicated). The standard deviation is computed by the same formula used in the Assessment Digest Report (see § Assessment Digest Report).

The following blocks are included in the GENERAL DATA section:

INSTITUTION OF RESIDENCE
CITY OF RESIDENCE
COUNTY OF RESIDENCE
PRESCRIPTION DECISIONS
PRESCRIPTION HISTORY
REASON STILL IN INSTI

In the first three blocks, only those entries which describe Clients print. In each of the CITY and COUNTY blocks, if no entries describe Clients, the block does not print. If a Client is counted in the COUNTY block, he is not counted in the CITY block. If both of these blocks print, they print together and with one totals line.

If Form #9, Item 3, has been entered, the Prescription is assumed to be "out", and Form #9, Item 4, is not checked. Otherwise, if Form #9, Item 4, has been entered, the Prescription is assumed to be "in". If both have not been entered, the Client is skipped.

The COMMUNITY PLACEMENT PRESCRIPTION DATA section tabulates data for "out" Prescriptions, and includes the following blocks:

REASON FOR DECISION
IDEAL HOUSING PRESC
2ND CHOICE HOUSING PRESC
3RD CHOICE HOUSING PRESC
INCOME SUGGESTIONS
JOB TRG/PLACEMENT PRESC
PHYSICAL HEALTH PRESC
SOC/PSYCH HEALTH PRESC
EDUCATION PRESC
SUMMARY: OTHER AREAS PRESC

The INCOME SUGGESTIONS block includes mean, standard deviation and range. The SUMMARY: OTHER AREAS PRESC block summarizes the four previous blocks. This block includes mean, standard deviation and range calculations for each of the four previous blocks as well as for itself.

The CONTINUED INSTITUTIONALIZATION PRESCRIPTION DATA section tabulates data for "in" Prescriptions to a participating institution. This section prints only one column per page. The first block is

REASON FOR DECISION

Thereafter prints a block for each institution to which Clients have been prescribed. Each block header is the name of the institution, and each ..r entry line describes a Prescription element. Each block includes the mean, standard deviation and range.

§ Fulfillment of Institutional Prescriptions Digest Report

This sub-section completes the description of Job MHHO1FLD. The first two Steps are described under Record Selection, § Jobs Using the Select Mechanism. In the third Step, SID265 prints the Fulfillment of Institutional Prescriptions Digest Report, which fits on 8½ x 11 paper, (//SID265, Printouts). If any error messages are issued by SID195, //SID195 is the only Step executed.

The program first prints the date, Report name and Description Card on the Identification Page, followed by a list of the Client and Series Numbers, last name, first name and initial of each Client included in the Report. If several Series are input for a given Client, only the last such containing Form #29 is processed. If none of the Series input for a Client has Form #29, the Client is not included in the Report.

Printing first in the Report is the number of Clients processed and the Description Card. After these print, a section prints for each prescribed institution (Form #11, Item 4). Each section contains the following information for each of that institution's Prescription elements:

1) the number of times prescribed
2b) the number of times completely filled
2b) the percentage this number is of the number in 1)
3a) the number of times partially filled
3b) the percentage this number is of the number in 1)
4a) the number of times unfilled
4b) the percentage this number is of the number in 1)
5a) the number of times "other"
5b) the percentage this number is of the number in 1)

The last line of each section contains the totals of the numbers in 1), 2a) 3a), 4a) and 5a), and the computed percentages these totals represent of the total of the numbers in 1).

§ Behavioral Repertoire Statistics Reports

This sub-section completes the description of Job MHHO1BRS. The first two Steps are described under Record Selection, § Jobs Using the Select Mechanism. In the third Step, SID245 prints the Behavioral Repertoire Statistics Reports, which fit on 8½ x 11 paper (//SID245, Printouts). If any error messages are issued by SID195, //SID195 is the only Step which exe-

cutes. SID245's PARM may have two values. If the PARM is null, a Behavioral Repertoire Individual Statistics Report prints for each Client processed, followed by one Behavioral Repertoire Group Statistics Report. If PARM='NOIND', only the Group Report prints

The program first checks the PARM. If it is invalid, the error message

*** BAD PARAMETER - END OF JOB ***

prints on the Identification Page, and the program terminates.

Otherwise, the program prints the date, Report name, whether or not Individual Reports are to be printed, and the Description Card on the Identification Page, followed by a list of the Client and Series Numbers, last name, first name and initial of each Client included in the Reports. If several Series are input for a given Client, only the last Series is processed.

Each Individual Report prints on one page; pages are numbered consecutively throughout the entire list of Reports. The beginning is formatted as follows:

CLIENT: last name, first name initial

CLIENT NO.: cccccccc
SERIES: ss (ls)
ASSESSMENT NO.: aa (la)

INSTITUTION: institution
RATER: rater
POSITION: rater's position

DATE OF RATING: mm/dd/yy (nnn YEARS OLD)

ss, ls, aa and la are the same as for the Assessment Summary Report (see Individual Client Reports, § Assessment Summary Report). The YEARS OLD number is computed as of the rating date. If the birth date or the rating date are missing, this computation produces garbage.

The remainder of the Report consists of the following numbers for each of Items 4-23 of Form #8, and for all adaptive behaviors and all maladaptive behaviors:

1) the number of behaviors actually rated
2) the total number of behaviors
3) the mean rating

The Group Report prints on four pages. If individual Reports have been printed, the Group Report's first page is numbered one greater than the last Individual Report.

Printing first is the number of Clients processed and the Description Card. The rest of the first page contains the following numbers for each of Items 4-23 of Form #8, and for all adaptive behaviors and all maladaptive behaviors:

1) the number of behaviors actually rated
2) the total number of behaviors
3) the mean rating
4) the standard deviation of the ratings

The standard deviation is computed by the same formula used in the Assessment Digest Report (see § Assessment Digest Report).

The last three pages contain these four numbers for each of Items 4-23 of Form #8, and the numbers in 1), 3) and 4) for each behavior.

§ Broker Advocate Caseload Reports

This sub-section describes Job MHH01BAC. SID280 prints the Broker Advocate Caseload Reports (//SID280, Printouts).

The program first reads and stores information from each SID Staff Record whose Status is not "D". If there are more than 30 such Records, the error message

*** BA TABLE OVERFLOW - END OF JOB ***

prints on the Identification Page, and the program terminates.

Otherwise, the Client and Address History Files are processed, and the following Broker Advocate Caseload Reports are printed:

1) for each location (PD#6 and Portsmouth), one for each institution with at least one Client, counting the juvenile offender institution as one
2) one for each location, combining and printing immediately after those for the location mentioned in 1)
3) one for both locations, combining those mentioned in 2)

Each report mentioned in 1) contains caseload figures for each SID staff member in that location (as determined by the SID Staff Record's Location field) with at least one Client in that institution. Each Report mentioned in 2) contains caseload figures for each staff member in that location. Each Report mentioned in 1) and 2) also contains a totals column.

The Report mentioned in 3) contains only a totals column.

The staff member and institution to which a Client is assigned is determined by Form #2 information in the Client's last Series. If this Record's staff member is not in the SID Staff Table with Status not "D", the error message.

*** BA NOT ON FILE - CLIENT SKIPPED ***

prints followed by the Client Number and the Record's staff member, on the Identification Page, and no information about this Client is included in the Report. If this Record's institution is not one of the participating institutions, the error message

*** INVALID INSTITUTION - CLIENT SKIPPED ***

prints, followed by the Client Number and the Record's institution, on the Identification Page, and no information about this Client is included in the Report. If the first of these messages is issued for a Client, the institution is not checked.

The Report first prints the location and institution(s). If the institutions are those for juvenile offenders, only those with at least one Client included in the Report are printed.

The information for each staff member is printed in a column, with up to six columns printed per page. The totals column (not one of the six) prints on the last page.

Each staff member column begins with the date hired and either the termination date or the number of months on the project.

The Report's remaining information appears in both the staff member and totals columns. The next group of information is:

1) the total number of Clients
2) the number of active Clients
3) the number of terminated Clients

A Client is considered to be terminated if the last Series has any Form #32 information.

Then prints the total number of Assessments. This is the last information printed for terminated Clients.

Next print six groups of information categorized as follows:

1) Initial Assessment
2) re-Assessment with no previous Prescriptions

3) re-Assessment while Prescribed in and living in
4) re-Assessment while Prescribed in and living out
5) re-Assessment while Prescribed out and living in
6) re-Assessment while Prescribed out and living out

Each group contains the following information:

1) the number of Assessments
2) the number of current Prescriptions based on Assessments belonging to this category
3) the number of current "out" Prescriptions based on Assessments belonging to this category
4) the number of current "in" Prescriptions based on Assessments belonging to this category

Next print the totals of the numbers in 3) and 4).

Then print the number of Clients currently living out on an "out" Prescription with a Form #15 recommendation, and the parenthesized percentage this number is of the total number currently prescribed "out".

Finally, the number of Clients who had been living out on an "out" Prescription with a recommendation, but are currently living in prints.

§ Client processing Summary Report

This sub-section completes the description of Jobs MHH01CPS. There are four MHH01CPS's. In the last Step of each, SID305 prints the Client Processing Summary Report (//SID305, Printouts). The four Jobs differ as follows:

which MHH01CPS	description
for All Clients	in the only Step, SID305, with PARM='A', inputs the Client and Address History Files, and the report includes information as of the report date.
for Selected Clients	the first two Steps are described under Record Selection, § Jobs Using the Select Mechanism; in the third Step, SID305, with PARM='S', inputs the Accepted (Client) Records scratch disk file and the Address History File, and the report includes information as of the report date.

which MHH01CPS	description
with Cutoff	in the first Step, SID304 inputs a Cutoff Date Card and the Client and Address History Files, and creates modified scratch disk Client and Address History Files reflecting the situation as of the cutoff date (//SID304); in the second Step, SID305, with PARM='U', inputs the just created scratch disk Client and Address History Files, and the report includes information as of the cutoff date
for Selected Clients with Cutoff	the first step is as described for MHH01CPS with Cutoff; the second and third Steps are described under Record Selection, § Jobs Using the Select Mechanism, with //DYL250 inputting the just created scratch disk Client File; in the fourth Step, SID305, with PARM='V', inputs the Accepted (Client) Records scratch disk file and the just created scratch disk Address History file, and the report includes information as of the cutoff date

In the MHH01CPS's for Selected Clients, if any error messages are issued by SID195, no further Steps execute. In these Jobs, if any Series is Accepted from given Client, all Series must be Accepted

The first part of the remainder of this sub-section describes SID304. The program first inputs a Cutoff Date Card (Appendix V). If there is none, or if columns 1-6 are not numeric, the appropriate one of the following error messages prints on the Identification Page, the Return Code is set to 16, and the program terminates (no further Steps execute):

*** NO DATE CARD - END OF JOB ***
*** INVALID DATE - END OF JOB ***

Otherwise, the date is assumed to be valid, and it is written to the Cutoff Date scratch disk file.

SID304 then performs the following actions for each group of Client and Address History Records with the same Client Number:

1) the program reads the Client Records backwards (i.e., from last Series to first Series) until it determines which is the last record on or before the cutoff date, as follows:

   a) if the Prescription date is on or before the cutoff date, this is the last Record on or before the cutoff date
   b) otherwise, if the Assessment date is on or before the cutoff date, this is the last Record on or before the cutoff date

2) if all of the Client's Records are after the cutoff date, the program proceeds to the next Client

3) otherwise, the program reads the Client Records forwards (beginning with Series zero), writing only those on or before the cutoff date (the retained Records) to a scratch disk (indexed-sequential) Client File, modifying each as follows to reflect the situation as of the cutoff date:

   a) the Inverse Series is decremented so that the retained Records' Inverse Series range from the Series Number of the last retained Record to zero, respectively
   b) if the Prescription date is after the cutoff date, the Prescription Number, Prescription Number This Assessment, Prescription Number Out, Prescription Number In, their Inverses and the P-trans are set to spaces (i.e., the Record is set so that SID305 will not know that it contains a Prescription)
   c) if the Record has an Inverse Prescription Number, it is decremented so that the retained Records' Inverse Prescription Numbers range from the Prescription Number of the last retained Record with a Prescription to zero, respectively
   d) if the Form #15 recommendation date is after the cutoff date, it is set to spaces
   e) if the termination date is after the cutoff date, Form #32 is set to spaces

4) if any Client Records containing Prescriptions have been retained, all of the Client's Address History Records for previous Prescriptions, and those for the last retained Prescription with date on or before the cutoff date, are written to a scratch disk Address History File

Finally, the program prints on the Identification Page the numbers of Client and Address History Records written to the scratch disk files, respectively.

The remainder of this sub-section describes SID305. The program first checks the PARM. If it is invalid, the error message

*** INVALID PARAMETER - END OF JOB ***

prints on the Identification Page, and the program terminates.

Otherwise, depending on the PARM, the appropriate one of the following messages prints on the Identification Page:

ALL CLIENTS PROCESSED
SELECTED CLIENTS PROCESSED

possibly followed by the message

CUTOFF DATE USED

Note that if PARM='U' or 'V', SID305 thinks that it is processing all of the Client Records, and the appropriate Inverses and dated information have been modified accordingly by SID304

Most of the information included in the Report is presented in seven lines, each corresponding to a different location-institution, considering the juvenile offender institutions as one. A Client's location-institution is determined by Form #2 information in the Client's Series zero (in particular, if city is "740" (Portsmouth), the location is Portsmouth; otherwise, PD#6).

If PARM='A' or 'U', each line includes the number of A&P Team meetings for the location-institution. This number is determined by considering a meeting to have occurred during any week which includes three or more Prescription dates for Clients belonging to the location-institution. Two Prescription dates are considered to belong to the same week if the latest Mondays on or before them are the same. These computed numbers can be modified by including Location-Institution Meeting Cards (Appendix V) (this is necessary, for example, if only one or two Clients were prescribed at a given meeting). If PARM='U', it is the user's responsibility to ensure that only meetings on or before the cutoff date are represented by Location-Institution Meeting Card.

After checking the PARM and if PARM='A' or 'U', the Location-Institution Meeting Cards are printed on the Identification Page and processed. If a Card is invalid, the error message

*** BAD CARD - END OF JOB ***

prints on the Identification Page, and the program terminates.

At this point, the Client and Address History Records are processed (as determined by the PARM), and the Client Processing Summary Report is printed. The following error messages may print on the Identification Page:

message	meaning
*** MISSING SERIES - INVALID REPORT ***	PARM='S' or 'V' and all of the Client's Records (or all on or before the cutoff date) have not been selected by the Boolean Expression; the program proceeds to the next Client; following the message is the Client Number; the Report is marked as invalid (since the Client Records which are input before the error is detected are processed, the Report is not equivalent to the Report for the same group of Clients minus the erroneous one)

message	meaning
*** INSTITUTION NOT INCLUDED IN REPORT - CLIENT SKIPPED ***	the Client's institution is not one of those included in the Report; the Client is skipped; following the message is the Client Number
*** LOCATION NOT SPECIFIED - CLIENT SKIPPED ***	the Client's city and county are blank; the Client is skipped; following the message is the Client Number
*** LOCATION-INSTITUTION NOT PRINTED - CLIENT SKIPPED ***	the Client's location-institution is not one of those for which a Report line prints; the Client is skipped; following the message is the Client Number
*** MAN HOURS BLANK ***	Record contains a Prescription (as determined by the P-trans field) and the A&P Team man hours field (Form #1) is blank; following the message are the Client and Series Numbers in Master Key format
*** PRESCRIPTION DATE BLANK ***	PARM='A' or 'U', Record contains a Prescription (as determined by the P-trans field) and the Prescription date is blank; following the message are the Client and Series Numbers in Master Key format
*** BAD PRESCRIPTION DATE ***	PARM='A' or 'U', Record contains a Prescription (as determined by the P-trans field) and the (non-blank) Prescription date is not within the interval 5/73 to 6/75; following the message are the Client and Series Numbers in Master Key format

The description of the report follows. If the Report is invalid, a message to the right of the Report Box so indicates.

If PARM='S' or 'V', the Description Card prints next. If it is blank, a message in its place indicates that it is missing (if the actual card is missing from //SID195, its value is set to spaces by SID195 (see Record Selection, § DYL250 Parameter Card Generation)).

Reminder: If PARM='U' or 'V', the word "current" throughout this discussion means as determined by the information passed by SID304

Next printing are three groups, each including the lines for the location-institution's to which belong one of the following kinds of Clients: mentally ill, mentally retarded and juvenile offenders. Each group has a sub-total line, and there is a grand total line for all groups.

Following are the descriptions of the information presented in each

line; Clients with no Prescriptions are not included in the Report:

label	description
NO.CL A&P'D	the number of Clients with at least one Prescription
NO. RE-A'S	the number of re-Assessments performed for Clients living in
CURRENT PR STATUS	the numbers of Clients currently prescribed in and out, and the percentages these numbers are of the NO.CL A&P'D number
NO. TERM	the number of Clients terminated (as of the last Series)
CURRENT OUTCOME STATUS	the numbers of Clients currently living in and out (not including terminations), and the percentages these numbers are of the NO.CL A&P'D number minus the NO. TERM number
WAS OUT NOW IN	the number of Clients who had been living out on an "out" Prescription with a Form #15 recommendation, but are currently living in (not including terminations) (identical to the identically labelled line in the Broker Advocate Caseload Report (see § Broker Advocate Caseload Reports)
OUT/TEAM REC PENDING	the number of Clients currently living out, but without a recommendation (not including terminations)
A&P TEAM	
NO. MTGS	the number of meetings held by this A&P Team as computed from Prescription dates and modified by Location-Institution Meeting Cards; Prescription dates which are either blank or invalid (see the two error messages above) are not used in this computation; this column prints only if PARM='A' or 'U'
MAN HOURS	the number of man hours expended by this A&P Team; blank man hours (see error message above) are represented in this total by the average of the others
PERSN. COST	the product of the man hours and the average hourly pay for the A&P Team, using the following figures:

label description

A&P Team		pay
PD#6	WSH	$8.88
PD#6	LTSH	8.38
PORT	LTSH	9.45
PORT	SSVTC	9.45
PORT	CSH	9.45
PORT	7TS	7.20

Following the grand totals line is a partial breakdown of the terminations and three notes explaining the figures presented in the Report.

§ Client Status Update Report

This sub-section completes the description of Job MHH01CSU. There are two MHH01CSU's: MHH01CSU for All Clients and MHH01CSU for Selected Clients. In the latter, note the following:

1) the first two Steps are described under Record Selection, § Jobs Using the Select Mechanism
2) the Accepted (Client) Records scratch disk file provides the input to the third Step (//SID315)
3) SID315 has PARM='S'
4) if any error messages are issued by SID195, //SID195 is the only Step which executes
5) if any Series are Accepted for a given Client, all Series must be Accepted

In the former, the Client File provides the input to the only Step (//SID315), and SID315 has PARM='A'. In each Job, SID315 also processes the Address History and Prescription Search Files.

SID315 prints the Client Status Update Report (printouts). The program first checks the PARM. If it is invalid, the error message

*** INVALID PARM - MUST BE A OR S ***

prints on the Identification Page, and the program terminates.

Otherwise, depending on the PARM, the appropriate one of the following messages prints on the Identification Page:

ALL CLIENTS PROCESSED
SELECTED CLIENTS PROCESSED

For specified Clients (see below), the Report presents Prescription and termination information as of a Specified Date. The program accordingly inputs, prints on the Identification Page and processes a list of cards specifying the date and the Clients included in the Report. If the expected

cards are not present, the error message

*** EXPECTING MORE CARDS - END OF JOB ***

prints on the Identification Page, and the program terminates. If a card is incorrectly formatted or out of order, the error message

*** BAD CARD - END OF JOB ***

prints on the Identification Page, and the program terminates.

The first card is the Meeting Date Card (Appendix W), which contains the Specified Date. The Specified Week includes the seven days on or after the latest Monday on or before the Specified Date. The Specified Date and Week determine the following:

1) Prescriptions written during the Specified Week are called Current Prescriptions
2) the latest Prescription for each Client written before or during the Specified Week are called Latest Prescriptions
3) Form #15 recommendations, terminations, and Address History and Prescription Search Records for Current Prescriptions dated after the Specified Date are ignored

The Clients included in the Report are specified by two kinds of cards. Following the Meeting Date Card are one or two Geographic Area Cards (appendix W) specifying the (Series zero, Form #2) locations of Clients to be included (in particular, if city is "740" (Portsmouth), the location is Portsmouth; otherwise, PD#6). Following these Cards are from one to 15 Institution Cards (Appendix W) specifying the (Series zero, Form #2) institutions of the Clients to be included. These specifications are, if PARM='S', in addition to whatever selection has been done by the select mechanism.

If PARM='A', the number of A&P Team meetings at which were written Latest Prescription is presented in the Report. This number is determined as it is in the Client Processing Summary Report (see Client Processing Summary Report). This computed number can be modified by including, as a separate list of cards permanently included in the deck, Location-institution-Date Meeting Cards (Appendix W). Each of these represents an A&P Team meeting not included in the computed number (e.g., a meeting at which only one or two Clients were prescribed). These Cards are printed on the Identification Page as they are read and processed. If a Card is not relevant to the Report (i.e., the date is later than the specified week or its location or institution is not specified by a Geographic Area or Institution Cards), the message

*** MEETING CARD DOES NOT APPLY ***

prints after the card.

At this point, the Client, Address History and Prescription Search Records are processed, and the Client Status Update Report is printed. The following error messages may print on the Identification Page (others are presented below):

message	meaning

*** MISSING SERIES - INVALID REPORT ***
PARM='S' and the Client's Series zero has not been selected by the Boolean Expression; the program proceeds to the next Client; following the message is the Client Number; the Report is marked as invalid

*** LOCATION NOT SPECIFIED - CLIENT SKIPPED ***
the Client's city and county are blank; the Client is skipped; following the message is the Client Number

*** INSTITUTION NOT SPECIFIED - CLIENT SKIPPED ***
the Client's institution is blank; the Client is skipped; following the message is the Client Number

*** MISSING SERIES - POTENTIAL INVALID REPORT ***
PARM='S' and a non-zero Series for the Client has not been selected by the Boolean Expression; the program proceeds to the next Client; following the message is the Client Number

*** PRESCRIPTION DATE BLANK - CLIENT SKIPPED ***
the Record contains a Prescription (as determined by the P-trans field) and the Prescription date is blank; the Client is skipped; following the message are the Client and Series Numbers in Master Key format

*** BAD PRESCRIPTION DATE - CLIENT SKIPPED ***
the Record contains a Prescription (as determined by the P-trans field) and the (non-blank) Prescription date is not within the interval 5/73 to 6/75; the Client is skipped; following the message are the Client and Series Numbers in Master Key format

*** MAN HOURS BLANK ***
the Record contains a Prescription (as determined by the P-trans field) and the A&P Team man hours field (Form #1) is blank; following the message are the Client and Series Numbers in Master Key format

The description of the beginning of the Report follows. If the Report is invalid, a message to the right of the Report Box so indicates.

If PARM='S', the Description Card prints next. If it is blank, a message in its place indicates that it is missing (if the actual card is missing from //SID195, its value is set to spaces by SID195 (see Record Selection, § DYL250 Parameter Card Generation)).

Next prints the date on the Meeting Date Card.

Then print the following:

1) the types of Clients actually included in the Report (MI, MR and/or JO), as determined from the Clients' institutions
2) the locations of Clients actually included in the Report
3) the institutions of Clients actually included in the Report

These can differ from those specified on the input cards if MHHO1C3U for Selected Clients is used.

The following A&P Team information (as of the Specified Week) then prints:

1) if PARM='A', the number of meetings, as computed from all Prescription dates and modified by Location-Institution-Date Meeting Cards; Prescription dates which are either blank or invalid (see the two error messages above) are not used in this computation
2) the number of man hours expended; blank man hours (see error message above) are represented in this total by the average of the others
3) the product of the man hours and the average hourly pay for the corresponding A&P Team, using the same figures as are used in the Client Processing Summary Report (see § Client Processing Summary Report)

Then prints an area in which may be manually entered the numbers of consents and refusals of information release authorization, as well as the total of these two numbers.

Next print the numbers of Clients prescribed out and in during the Specified Week and the total of these two numbers. Also printing are the corresponding figures for all Latest Prescriptions as well as the percentages these numbers are of the total.

Then print the corresponding figures for Clients whose Prescriptions are based on re-Assessments and were written while the Client was living in, except that the percentages are based on the to-date total described in the previous paragraph.

The rest of the Report is divided into two sections: CLIENT OUTCOME TO DATE and RESOURCE GAPS TO DATE. The following error messages may print on the Identification Page concerning errors detected while tabulating information for the first of these sections:

message	meaning
*** BAD DATA - LIVING OUT - CLIENT SKIPPED FROM THIS POINT ***	the Client does not belong to any of the categories of the first part of the section (see below); the Client is not included in this section or the next; following the message are the Client and Series Numbers in Master Key format
*** BAD DATA - LIVING IN - CLIENT SKIPPED FROM THIS POINT ***	the Client does not belong to any of the categories of the second part of the section (see below); the rest of this description is similar to that of the first message listed here
*** BAD DATA - TERMINATED - CLIENT SKIPPED FROM THIS POINT ***	the Client does not belong to any of the categories of the third part of the section (see below); the rest of this description is similar to that of the first message listed here

The CLIENT OUTCOME TO DATE section is divided into three categorized parts, tabulating Client terminations and the Latest Prescriptions not followed by terminations for non-terminated Clients. (Clients terminated and then reinstated can have early Prescriptions followed by a termination. If the Client has had no further Prescriptions before or during the Specified Week, the latest of these early Prescriptions is not tabulated in this section. In this case, the total number of Latest Prescriptions (see above) does not equal the total number of Clients tabulated in this section.) This tabulation includes the number of Clients and the percentage this number is of the total number of Clients included in this section, and is printed for each category, with sub-totals for each part and a grand total following the last part.

The first part tabulates Prescriptions for non-terminated Clients living out, and is categorized as follows, respectively:

1) prescribed out with recommendation
2) prescribed out without recommendation

The second part tabulates Prescriptions for non-terminated Clients living in, and is categorized as follows, respectively:

1) prescribed in and the Client has not moved on this Prescription or the type of facility Response in the last Address History Record for this Prescription is not v
2) prescribed in and the type of facility Response in the last Address History Record for this Prescription is v
3) prescribed out with no recommendation
4) prescribed out with recommendation and the Client has not moved on this Prescription

5) prescribed out with recommendation, moved out and then returned to an institution

Following the last category in this part is the parenthesized number of Clients who had been living out on any "out" Prescription with a recommendation, but are currently living in (identical to the WAS OUT NOW IN number in the Broker Advocate Caseload and Client Processing Summary Reports (see, respectively, § Broker Advocate Caseload Reports and § Client Processing Summary Report).

The third part tabulates terminations, each of the following categories counting only Clients with a Latest Prescription, respectively:

1) deceased while living out (termination Response is a and last moved out)
2) deceased while living in (termination Response is a and has not moved or last moved in)
3) Client or representative refuses to further cooperate with SID (termination Response is b or c)
4) either of the following (the number for each of these sub-categories is parenthesized):

   a) moved from SID area (termination Response is d)
   b) transferred to a non-SID institution (last Address History Records's type of facility Response is w)

5) moved by institution, not under Prescription (termination Response is f)
6) other (termination Response is g)

Following the last category in this part are the following two parenthesized numbers, tabulated for Clients who have no Latest Prescription:

1) released by institution before Prescription written (termination Response is e)
2) deceased (termination Response is a)

The following messages (the first two are error messages; the third a warning) may print on the Identification Page concerning situations detected while tabulating information for the second section:

message meaning
*** IDEAL NOT PRESCRIBED - HOUSING PART OF "RESOURCE GAPS TO DATE" SKIPPED ***
ideal housing is not prescribed; the Client is not included in the first part of the section; following the message are the Client and Series Numbers in Master Key format

message	meaning

*** IDEAL PRESCRIBED DOES NOT MATCH IDEAL SEARCHED - HOUSING PART OF "RESOURCE GAPS TO DATE" SKIPPED ***

there is at least one Prescription Search Record for ideal housing whose type of housing code does not belong to the same category (see below) as the ideal housing prescribed; the rest of this description is similar to that of the first message listed here

*** WARNING - IDEAL PRESCRIBED DOES NOT MATCH IDEAL SEARCHED ***

the immediately previous error message is not issued and there is at least one Prescription Search Record for ideal housing whose type of housing code is not the same as that prescribed, but does belong to the same category; the Client is included in this part of the section

The RESOURCE GAPS TO DATE section tabulates housing and income Prescription information from Latest Prescriptions which are "out". The section is divided into two categorized parts, the first concerning housing information, the second, income.

In the housing part, information for each category (some of which include more than one type of housing code) as well as for the totals, is tabulated on one line as follows (the numbers here correspond to column numbers in the Report):

1) the number of times prescribed as ideal
2) the number of times prescribed as ideal and there is a Prescription Search Record for ideal housing with Service Plan Code "H" for this category

3A) the number of times prescribed as ideal, there is not a Prescription Search Record for ideal housing with Service Plan Code "H", and there is a Prescription Search Record for 2nd or 3rd choice housing with Service Plan Code "H"

3B) the number of times there is a Prescription Search Record for 2nd or 3rd choice housing with Service Plan Code "H" for this category

4) the number of times prescribed as ideal, there is not a Prescription Search Record for ideal housing with Service Plan Code "H", and there are not Prescription Search Records for 2nd or 3rd choice housing

5) the number of times prescribed as ideal, there are only Prescription Search Records (for any housing choices) with Service Plan Code "U", and at least one of these is for ideal housing

6) the number of times prescribed as ideal, there are no Prescription Search Records for ideal housing, there is at least one Prescription Search Record for 2nd or 3rd choice housing, and all such Records have Service Plan Code "U"

The rightmost two columns of each line are not numbered in the Report and

contain, respectively, the numbers of Clients living out (in this type of facility) on an "out" Prescription with recommendation, and those doing so without a recommendation. Following the totals line are two notes concerning the information presented in this part.

In the income part, information for each category (some of which include more than one suggested income Response), as well as for the totals, is tabulated on one line as follows, respectively:

1) the number of times (at least one Response belonging to) this category is prescribed
2) the number of times there is a Prescription Search Record with Service Plan Code "I" for this prescribed category
3) the number of times at least one Response belonging to this category is prescribed, and there is no Prescription Search Record with Service Plan Code "I" for the category
4) the number of times there is a Prescription Search Record with Service Plan Code "U" for this prescribed category
5) the number of times there is a Prescription Search Record with Service Plan Code "I" for this prescribed category for a Client counted in the unnumbered columns of the housing part of this section

Following the totals line is a note concerning the information presented in this part.

§ Cumulative Resource Search Results Report

This sub-section completes the description of Job MHH01CRS. The first two Steps are described under Record Selection, § Jobs Using the Select Mechanism. If any error messages are issued by SID195, //SID195 is the only Step which executes. In the third Step, SID320 processes the Accepted (Client) Records scratch disk file and the Prescription Search File, and prints the Cumulative Resource Search Results Report (//SID320, Printouts). The input Client Records should include exactly one "out" Prescription for each Client selected.

The following messages may print on the Identification Page (others are presented below):

message	meaning
*** BAD SELECT - JOB ABORTED ***	two Prescriptions for a Client have been selected by the Boolean Expression; the program terminates; following the message is the Client Number

message	meaning
*** WARNING - LOCATION NOT SPECIFIED ***	the Client's city and county are blank; following the message are the Client and Series Numbers in Master Key format
*** WARNING - INSTITUTION NOT SPECIFIED ***	the Client's institution is blank; following the message are the Client and Series Numbers in Master Key format

If the first (error) message is issued, the program terminates.

The description of the beginning of the Report follows. The Description Card prints below the Report Box. If it is blank, a message in its place indicates that it is missing (if the actual card is missing from //SID195, its value is set to spaces by SID195 (see Record Selection, § DYL250 Parameter Card Generation)).

Next prints the length of time the project has been operational (since May 11, 1973), based on the date of the Report.

Then print the following:

1) the types of Clients included in the Report (MI, MR and/or JO), as determined from the institutions of the Clients for whom the second warning message above has not been issued
2) the locations of Clients included in the Report and for whom the first warning message above has not been issued (in particular, if city is "740" (Portsmouth), the location is Portsmouth; otherwise, PD#6)
3) the institutions of Clients included in the Report and for whom the second warning message above has not been issued

The number of Clients included in the Report then prints.

The rest of the Report is divided into three sections: HOUSING SEARCH RESULTS, INCOME SEARCH RESULTS and AUXILIARY ELEMENT SEARCH RESULTS. The following messages may print on the Identification Page concerning situations detected while tabulating information for the first of these sections (the first four are error messages; the last three, warnings):

message	meaning
*** HOUSING NOT PRESCRIBED - "HOUSING SEARCH RESULTS" SKIPPED ***	no housing has been prescribed for the Client; the Client is not included in this section; following the message are the Client and Series Numbers in Master Key format

message / meaning
*** IDEAL PRESCRIBED DOES NOT MATCH IDEAL SEARCHED - "IDEAL HOUSING" SKIPPED ***
ideal housing prescribed and all Prescription Search Records (at least one) for ideal housing have type of housing code belonging to a category (see below) other than that of the ideal housing prescribed; the Client is not included in the first part of the section; following the message are the Client and Series Numbers in Master Key format
*** 2ND PRESCRIBED DOES NOT MATCH 2ND CHOICE SEARCHED - "SECOND CHOICE HOUSING" SKIPPED ***
2nd choice housing prescribed and all Prescription Search Records (at least one) for 2nd choice housing have type of housing code belonging to a category other than that of the 2nd choice housing prescribed; the Client is not included in the second part of the section; following the message are the Client and Series Numbers in Master Key format
*** 3RD PRESCRIBED DOES NOT MATCH 3RD CHOICE SEARCHED - "THIRD CHOICE HOUSING" SKIPPED ***
3rd choice housing prescribed and all Prescription Search Records (at least one) for 3rd choice housing have type of housing code belonging to a category other than that of the 3rd choice housing prescribed; the Client is not included in the third part of the section; following the message are the Client and Series Numbers in Master Key format
*** WARNING - IDEAL PRESCRIBED DOES NOT MATCH IDEAL SEARCHED ***
ideal housing prescribed, the second error message above is not issued, and there is at least one Prescription Search Record for ideal housing whose type of housing code is not the same as that prescribed, but does belong to the same category; the Client is included in this part of the section
*** WARNING - 2ND PRESCRIBED DOES NOT MATCH 2ND CHOICE SEARCHED ***
2nd choice housing prescribed, the third error message above is not issued, and there is at least one Prescription Search Record for 2nd choice housing whose type of housing code is not the same as that prescribed, but does belong to the same category; the Client is included in this part of the section
*** WARNING - 3RD PRESCRIBED DOES NOT MATCH 3RD CHOICE SEARCHED ***
3rd choice housing prescribed, the fourth error message above is not issued, and there is at least one Prescription Search Record for 3rd choice housing whose type of housing code is not the same as that prescribed, but does belong to the same category; the Client is included in this part of the section
Each section tabulates Prescription information for the appropriate

type of Prescription element. The first section is divided into three categorized parts, corresponding to ideal, 2nd and 3rd choice housing. The second section is just categorized. The third section is divided into four categorized parts, corresponding to job training/placement, physical health, social/psychological health and education Prescription elements. Each part has a totals line, and the latter two sections have totals lines.

Each category and totals line includes the following information, respectively:

1) the number of times (at least one Response belonging to) this category is prescribed
2) the number of times there is a Prescription Search Record with Service Plan Code not "U" for this prescribed category
3) the number of times there is no Prescription Search Record for this prescribed category
4a) the number of times there is at least one Prescription Search Record for this prescribed category with Service Plan Code "U" and why unable Response a
4b) the same as 4a) except that the why unable Response is b
4c) the same as 4a) except that the why unable Response is c
4d) the same as 4a) except that the why unable Response is d
4e) the same as 4a) except that the why unable Response is blank or e
5) the percentage the number in 2) is of the number in 1)
6) the percentage the difference of the numbers in 1) and 3) is of the number in 1)
7) the number of Prescription Search Records for this prescribed category and the average number of Prescription Search Records per search
8) the total of the numbers of Agencies contacted per search and the average of this number per search

The number of Agencies contacted per search is determined by counting the number of different Agency codes in the Prescription Search Records for a given Prescription, except that each code 99991 and P9991 (see Forms) is counted as a separate Agency (note that blank codes and codes 99990 and P9990 are counted as the same Agency, even though they might represent different Agencies or people). A note to this effect prints after the first part of the first section.

The remaining Record identification information for the Service Table (Appendix X, Listings) is:

positions within key	
6 - 10	Service Number (right just., zero filled)
11 - 35	blank

There should be a Service Record for each Service whose Number is used in a Service File key.

The non-key information stored in the Service Record has the following format:

positions	size	field
49 - 98	50	Service Name
99 - 206	108	unused
207 - 208	2	Service Group Number (right just., zero filled)

Following are the field descriptions:

field	description
Service Name	Service name
Service Group Number	the Number of the Service Group to which the Service belongs

§ Listing Services by Group Number

This sub-section described Job MHH01SRV. In the first Step, DYL250 copies to a scratch disk file the Service Group Number, Service Number and Service name from each Service Record (//XTRACT). Then, SORTD sorts this scratch disk file, into ascending order first on Service Group Number and then on Service Number, to a new scratch disk file (//SORT). Finally, DYL250 prints this new scratch disk file (//PRINT).

This section describes Job MHHOlARI. The Job prints the following (Printouts):

1) a table of contents, listing alphabetically the Agency and Branch names in the Agency and Branch Files, respectively
2) Resource Directory Reports for specified Agencies
3) an area index, listing alphabetically by city, county, and finally by name, the Agency and Branch names in the Agency and Branch Files, respectively, with their intake telephone numbers
4) a service index, listing the Agency and Branch names in the Agency and Branch Files, respectively, with their intake telephone numbers, in ascending order on the following information, respectively:

   a) Service Group Number
   b) Service name
   c) city
   d) county
   e) name

   the Service Group Numbers and Service names are obtained from the Service Table Records with the same Service Numbers as in the Agencies' Service File Records

Note the following about the items in 1), 3) and 4):

1) Agency and Branch Records with Agency Number 88888 are excluded; thus information can be stored in the System for a "sample" Agency (for exemplification purposes) without affecting the aggregate lists
2) each Branch name is followed by a parenthesized reference to its Agency name
3) Branch Records without corresponding Agency Records are not included

Also note that in 3) and 4), if an Agency or Branch has both city and county entered, it is listed only under the county.

§ Table of Contents

SID289 processes the Agency and Branch Files and creates a scratch disk file containing the information for the table of contents.

SORTD then sorts this scratch disk file, into the order in which the table of contents prints, to a new scratch disk file (//SORTTBL). SID290 then prints the table of contents (//SID290).

§ Resource Directory Reports

Agencies for which the Resource Directory Report is to be printed are

specified by a list of Agency Number Cards (Appendix Y). The Reports print in the order of the Cards. These Cards are assumed to be syntactically correct.

SID290 continues as follows after printing the table of contents (still //SID290). The program consists of a loop with two main elements:

1) read the next Agency Number Card
2) print the Report

If an Agency for which the Report is to be printed is not in the Agency File, the following error message prints, followed by the Agency Number, either on the Identification Page or on the page following the previous Report:

*** AGENCY NOT ON FILE ***

Following is the description of the Resource Directory Report. The following rules hold except where otherwise noted:

1) missing Items are denoted by an absence of information (other than the header identifying the Item)
2) missing Text File Text is denoted by the message "*** NO TEXT ***" in place of the Text

Each Report begins with the MAIN FACILITY section containing mostly information from the Agency Record. The Report Box contains only the Agency name. There is then a BRANCH OFFICE(S) section containing information from each of the Agency's associated Branch Records, and a SERVICE(S) PROVIDED section containing information from each of the Agency's associated Service Records. The Agency Number prints below the Agency name in the trailer line of each page; Branch and Service pages are so indicated in their trailer lines.

The beginning of the MAIN FACILITY section is formatted as follows:

MAILING ADDRESS:	P.O. box if present else address	
	county if present else city, state	zip code
LOCATION:	address	
	county if present else city, state	zip code
CHIEF ADMINISTRATOR:	chief administrator	
	title	
ADMINISTRATIVE PHONE:	(aaa) xxx-dddd	
INTAKE PHONE:	(aaa) xxx-dddd	

Information in the remainder of the section is presented in two columns per page, with the left column being filled before the right is begun. Each Item or logically connected group of Items is identified by an underlined header.

First print the Service names corresponding to each of the Agency's Service File Records whose service provided by Response is a-c. If a Service Number is not in the Service Table, a string of zeroes prints in place of the Service name.

Then prints information concerning the areas served. In this discussion, the following abbreviations are used:

abbreviation	description
PD	Planning Districts served Response
CO	counties served Response
CI	cities served Response

The information for these Items prints as follows:

1) if PD is a-d or f, the Response description or Text (whichever is appropriate)
2) if PD is a, b or d, the Text if CO i has been entered
3) if PD is blank, c, e or f, the Response description or Text for each entered CO
4) if PD is b, the Response description or Text for each entered CI among f-i
5) if PD is a or d, the Text if CI i has been entered
6) if PD is c, the Response description or Text for each entered CI not f
7) if PD is e or f, the Response description or Text for each entered CI

Next print the business hours. If Response is a, the proper information prints; otherwise, the Text prints for each of Responses b-j entered.

The service hours print next. If Response is a or b, the proper information prints; otherwise, the Text prints for each of Responses c-k entered.

Agency authorization prints as follows. The Response description prints for each of Responses a-e entered. The Text prints for each of Responses c-f entered (the missing Text message prints only for Response f).

The administrative affiliation information prints just as does the previous Item.

Then prints the financial policy information. The Response description prints for each of Responses a-g entered. The Text prints for each of Responses g and h entered (the missing Text message prints only for Response h).

Third party payment participation information prints just as does the previous Item.

For each of the accessibility of facility Items, the appropriate information prints.

Information concerning the Agency's transportation system next prints. The Response description prints, followed by the Text if Response is c.

Staffing level information prints next. For each entered Response, the Text prints.

For the next four Items, if Response is blank, the header does not print. The Response description for nursing home classification prints.

The Response description for nursing home licensure prints.

The Response description for home for adults licensure prints.

The Response description for counseling agency licensure prints.

Finally, the comments print. If there are none, the header does not print.

Each BRANCH OFFICE(S) section begins on a new page. The beginning of each is formatted just as is the beginning of the MAIN FACILITY section, except that the information is obtained from the Branch Record.

Information in the remainder of the section is printed in two columns per page, with the left column being filled before the right is begun. Each Item or logically connected group of Items is identified by an underlined header.

First print the Service names corresponding to each of the Agency's Service File Records whose service provided by Response is b, or whose service provided by Response is c or d and the Branch Number is included in the Text String.

Business hours information prints just as it does in the MAIN FACILITY section.

Service hours information prints just as it does in the MAIN FACILITY section.

Financial policy information prints just as it does in the MAIN FACILITY section.

Third party payment participation information prints just as it does in the MAIN FACILITY section.

Accessibility of facility information prints just as it does in the MAIN FACILITY section.

Transportation system information prints just as it does in the MAIN FACILITY section.

Staffing level information prints just as it does in the MAIN FACILITY section.

Finally, comments print just as they do in the MAIN FACILITY section.

Each SERVICE(S) PROVIDED section begins on a new page. The beginning of each contains the description of the Service. Information in the remainder of the section is printed in two columns. Each Item or logically connected group of Items is identified by an underlined header.

First prints the service provider information. The Response description prints. Then, if Response is c or d, the Branch names corresponding to the Branch Numbers in the Text String print; if a Branch Record is not in the Branch File, the Branch Number prints in place of the Branch name.

The eligibility requirements information then prints. If there are no eligibility restrictions, this is so indicated. Otherwise, for each of these Items, the appropriate information prints (Text if Response is c).

Next the appointment information prints. If Response is a-f, the Response description prints. If Response is g, the Text prints.

Then the waiting list information prints. If Response is a or b, the Response description prints. If Response is c or d, the Text prints.

The Response description for the capacity of the Service prints.

Next the lag time information prints. If Response is a-j, the Response description prints. If Response is k, the Text prints.

Finally, the name and position of the contact person prints.

After the Resource Directory Reports have been printed, SID290 processes the Agency, Branch and Service (only for the service index) Files and creates two scratch disk files, containing the information for the area and service indices.

§ Index Sorts

SORTD then sorts the area index scratch disk file, into the order in which the area index prints, to a new scratch disk file (//SORTAREA). Then SORTD sorts the service index scratch disk file, into the order in which the service index prints, to a new scratch disk file (//SORTSERV).

§ Index Prints

Finally, SID291 reads the two sorted index scratch disk files and

prints the indices (//SID291).

CONTINUED

2 OF 3

Tables File Update and Print

This section describes Job MHH01TAB. The Job updates and prints the Tables File, as instructed by Tables File Update Cards, which have the following general format:

positions	size	field
1 - 35	35	Key
36 - 38	3	unused
39	1	Transaction Code
40	1	Card Number
41 - 80	40	Non-key Information

As is described above (see Tables File), the non-key information in each Record occupies 160 bytes. For the purposes of updating and printing this information, the 160-byte field is considered to consists of four 40-byte fields, numbered 1-4 from left to right. When non-key information is to be inserted into or deleted from a Record, the appropriate 40-byte field must be specified in its entirety. That is, if part of a field is to be changed, the remainder must be duplicated. When a Tables Record is printed by this Job, each of these fields (except 3 and 4 if both are blank) prints as a contiguous 40-byte string. Note that on the printout, fields 1 and 2, and fields 3 and 4, are separated by two columns. The beginning of each field begins under the letter "D" in one of the words "DATA".

The field descriptions follow:

field	description
Transaction Code	= 1 to delete the Record = 2 to add the Record = 3 to change the Record = 5 to print all or part of the Table
Card Number	if Transaction Code is 2 or 3: = i if this Card contains the information for the ith 40-byte field
Non-key Information	if Transaction Code is 2 or 3: contains the information for the 40-byte field specified by Card Number
Key	if Transaction Code is 1-3, contains the Tables Record key if Transaction Code is 5, contains "720tt" if Table tt is to be printed contains "720ttff" if Form ff of Table tt is to be printed

Appendix Z contains the Non-key Information field formats for each Table's Tables File Update Cards.

§ First Level Backup Tape

In the first Step, DYL250 creates the Tables File First Level Backup Tape File (//SAVETABL). This Backup File can be used to Rebuild the Tables File should it be desired to cancel the effects of the run (see Tables File Rebuild). Should it be desired to cancel the effects of the several previous (consecutive) runs of Job MIHO1TAB, the Tables File Second Level Backup Tape File must be used (see Tables File Second Level Backup Tape File).

§ Sort

In the next Step, SORTD sorts the Tables File Update Cards, into ascending order first on positions 1-35 and then on positions 39 and 40, to a scratch disk file (//SORTCRDS).

§ Update and Print

SID810 processes the just created scratch disk file, performs the specified operations and prints the Tables File update and print lists (//SID810, Printouts).

The update list prints as the Cards are processed. A new page is begun for each Table with Cards included in the run. The actions specified by Cards with Transaction Codes 1-3 are performed when these Cards are encountered. When a Tables Record is deleted, added or changed, it is printed with one of the following indicators to its left, respectively:

```
* D *
* A *
* C *
```

When Cards with Transaction Code 5 are encountered, a message indicating so prints, and the information from the Key field is saved.

After all Cards have been processed, the Tables and Forms of Tables specified on Cards with Transaction Code 5 print, each beginning on a new page. Thus, in a given run, all modifications are made to the Tables before they are printed.

The following error messages, each followed by the relevant Cards, may print on the update list:

message	meaning
ERROR INVALID CARD NUMBER	Transaction Code is 2 or 3 and Card Number is not 1-4

message	meaning
ERROR INVALID TRANS CODE	Transaction Code is not 1-3 or 5
ERROR DUPLICATE TRANSACTION	Transaction identical to previous Transaction
ERROR TRANSACTION OUT OF SEQUENCE	Transaction's Card Number is not greater than that of previous Transaction with same Key and Transaction Code
ERROR INVALID TRAN CARD IN TRANSACTION	Transaction has a different Transaction Code from that of previous Transaction with the same Key
ERROR DELETE TRANS - NO RECORD ON MASTER	attempt to delete a Record not in the File
ERROR CHANGE TRANS - NO RECORD ON MASTER	attempt to change a Record not in the File
ERROR CHANGE TRANS - DATA ALREADY ON MASTER	attempt to change a 40-byte field with identical information (this message is issued since there is no good reason for performing this action)
ERROR ADD TRANS - RECORD ALREADY IN MASTER	attempt to add a Record already in the File

The following error messages may print on a Table or Table-Form print list:

message	meaning
ERROR PRT TRANS - NO SUCH AGY ID ON MASTER	attempt to print a Table not in the Tables File
ERROR PRT TRANS - NO SUCH AGY ID FORM ON MASTER	attempt to print a Form of a Table, and either the Table is not in the Tables File or the Table does not include this Form

§ Overflow Statistics

Finally, ISAM prints the overflow statistics for the Tables File (see Master File Update, § Overflow Statistics) (//TABLSTAT).

Tables File Second Level Backup Tape File

This section describes Job MHH01SV2 for the Tables File.

In the only Step, DYL250 creates the Tables File Second Level Backup Tape File (//SAV2TABL). This Backup File can be used to Rebuild the Tables File should it be desired to cancel the effects of the several previous (consecutive) runs of Job MHH01TAB since the last run of this MHH01SV2 (see Tables File Rebuild).

Tables File Rebuild

This section describes Job MHH01BLD for the Tables File. The Job copies either the First or Second Level Backup Tape File for the Tables File to the Tables File.

In the only Step, DYL250 copies the specified Backup Tape File to the Tables File (//DYL250).

Printing and Initializing Spy Files

This section describes Job MHH01PD6.

In the first six Steps, DYL250 prints the contents of each Spy File, in the following order:

Spy File for Job ...	Stepname
MHH06ASD	PRNTASD
MHH06PRD	PRNTPRD
MHH06FLD	PRNTFLD
MHH06BRS	PRNTBRS
MHH06BLK	PRNTBLK
MHH06SBK	PRNTSBK

Then //DEALC deletes each Spy File (IEFBR14).

In each of the last six Steps, a Spy File is reallocated, and DYL250 initializes it with two cards, the second blank. These first initializing cards are as follows, the Steps executing in the order listed:

Spy File for Job ...	first initializing card	Stepname
MHH06ASD	Assessment Digests	INITASD
MHH06PRD	Prescription Digests	INITPRD
MHH06FLD	Fulfillment Digests	INITFLD
MHH06BRS	Behavioral Repertoire Statistics	INITBRS
MHH06BLK	Blocks	INITBLK
MHH06SBK	Sorted Blocks	INITSBK

§ Data Sets

Two sets of tapes are used in the System. The first consists of tapes kept in the SID office. Those with volume serial numbers 720001-720010 and 720013-720018 (with Tape Numbers 1-10 and 13-18, respectively) each contain one data set containing a Transaction File. Those with volume serial numbers 720011 and 720012 (with Tape Numbers 11 and 12, respectively) are used alternately as the output tape in Job MIH01SV3, each containing twelve data sets containing the twelve Third Level Backup Tape Files (in the order created). These last two tapes are retained in the SID office as protection against a catastrophe at the computer center.

The second set of tapes is stored at the computer center and contains data sets containing the following First and Second Level Backup Tape Files (those with data set sequence number greater than 1 are created whenever the first data set on the tape is created):

volume serial	data set sequence number	First or Second Level	Backup File for File ...
TST247	1	1	Client
TST247	2	1	Control
TST248	1	1	Text
TST249	1	1	Address History
TST249	2	1	Control
TST249	3	1	Client
TST250	1	1	Prescription Search
TST250	2	1	Control
TST251	1	1	Tables
TST256	1	2	Tables
TST257	1	1	Branch
TST257	2	1	Service
TST257	3	1	Agency
TST307	1	2	Client
TST307	2	2	Address History
TST307	3	2	Control
TST307	4	2	Prescription Search
TST307	5	2	Branch
TST307	6	2	Service
TST307	7	2	Agency
TST307	8	2	Prescription Element Report
TST307	9	2	Problem Report
TST307	10	2	Text
TST442	1	1	Prescription Element Report
TST442	2	1	Control
TST568	1	1	Problem Report
TST568	2	1	Control

The disk data sets are described in Appendix AA. In addition, the contents of MIH.SID.UPD.DISK are contained in the Listings.

§ Librarian

Program source modules are stored in the computer via Librarian. Each module begins with three cards having the following format:

```
col
1     7
      *
      *>>>>>> nnnnnnnn
      *
```

where nnnnnn represents the module's name. Each module's last card is

```
col
1     7
      *------ END OF MODULE
```

A module may request (via an "-INC" card) that another module be inserted into it (i.e., into the former) before a compile. The module identification information printed in //IN4 of Job MHH01SV3 consists of the three cards beginning each module, the last card, and the "-INC" cards. (see System Third Level Backup Tape Files).

§ Computer and Operating System

The SID Information System was developed and operates on an IBM 370/158, using release 21.6 of OS/MVT, release 1.2 of the IBM OS Full American National Standard COBOL compiler, Version 4, and release 3.1 of HASP. Disk data sets reside on 3330 disk packs.

Two APAR's have been applied to the operating system without which the System cannot operate.

The first is APAR P60295 to ISAM module IGG01924. This APAR is to be included in release 21.7 of OS. The problem necessitating this APAR involved SID120's abending with an 0C1 after ISAM module IGG019JV was erroneously deleted.

The second is APAR 23759 to the IBM OS Full American National Standard COBOL compiler, Version 4, release 1.2. This APAR is included in PTF 5734-CB2-C-0009. The problem necessitating this APAR involved SID120's abending with an 0C1 after the beginning of the program was overlaid with an I/O buffer.

Clean Transaction File Data Set Size Maintenance

This section describes Job MMM01CTR. The Job deletes and reallocates specified Clean Transaction File data sets (MMM.SID.CLEANTnn.DISK; see Physical Environment, § Data Sets).

When the size of a Clean Transaction File (including the first record, which contains only the Rerun Number) exceeds the number of records which can fit on a cylinder, the data set is allocated at least one additional cylinder. This increased allocation is retained even when a smaller Clean Transaction File is written to the data set. Thus, this Job is needed to return these data sets to their original allocations.

//DEALC deletes the specified data sets (IEFBR14).

//ALC reallocates the specified data sets (IEFBR14).

COBOL Program Flow Cross Reference

This section describes Job MHH01XRF. The Job prints a cross reference of the PROCEDURE DIVISION paragraph and section names (not included in a DECLARATIVES SECTION) in a specified COBOL program.

§ Obtain COBOL Program

In the first Step, ADPLIBU writes the specified COBOL program Librarian module to a scratch disk file, replacing "-INC" cards with their respective Librarian modules (// IBU).

§ Process COBOL Program

Next SID700 processes the just created scratch disk file, and writes to a new scratch disk file all of the program's PROCEDURE DIVISION paragraph and section name references not included in a DECLARATIVES SECTION, each record containing the following information (//SID700):

1) paragraph or section name
2) line number (corresponding to the COBOL compiler listing card number)
3) usage indicator

The following assumptions are made concerning the COBOL program:

1) the program can be successfully compiled by the IBM OS Full American National Standard COBOL compiler, Version 4
2) PROCEDURE DIVISION and paragraph and section names begin in column 8
3) the program name specified in the PROGRAM-ID paragraph must be of the form SIDxxx, and must not be enclosed within quotation marks
4) NOTE statements do not contain the following verbs (unless they are enclosed within matching quotation marks):

   PERFORM
   GO
   ALTER

5) each word must be completely contained on one line
6) each GO TO ststement is followed by either a period or ELSE (not OTHERWISE)
7) each variable name has length 30 or less

§ Sort

SORTD then sorts the just created scratch disk file, into ascending order first on paragraph or section name and then on line number, to a new scratch disk file (//SORTCR).

§ Print Cross Reference

Finally, SID701 processes the just created scratch disk file and prints the cross reference (//SID701). The first page begins with the program name. Each page also begins with the date. The cross reference consists of a list of the paragraph and section names with their respective line numbers. Adjacent to each line number prints one of the following indicators denoting the usage of the name in that line:

indicator	description
blank	name defined in the specified line
PER	PERFORM in the specified line followed by the name
THR	THRU in the specified line followed by the name
GO	GO TO, with GO in the specified line, followed by the name
ALT	in an ALTER statement, with ALTER in the specified line, the name precedes TO [PROCEED TO]
AGO	GO TO, with GO in the specified line, is somewhere in the program ALTERed TO [PROCEED TO] the name

Job Decks

Appendix BB contains a list of the cards comprising each Job deck. Each list shows where JCL changes and data card insertions are made for each run, if any.

The following special forms are used:

form	description
2941	unlined 8½ x 11 paper
OVER	unlined side of regular paper
TAPE	no carriage tape (regular paper)

The parenthesized JOB card account field begins with the following fields:

"003D[illegible]MHH01"
"SID"
clock time limit in minutes
print line limit in thousands
cards punched limit
special forms for entire Job
number of copies to be printed

The remainder of this section discusses several of the Job decks in greater detail than the Appendix.

There are 17 decks for MHH01EDT. The deck specifying Tape Number nn also specifies Clean Transaction File data set MHH.SID.CLEANTnn.DISK; the deck specifying the Card Transaction File also specifies Clean Transaction File data set MHH.SID.CLEANTCD.DISK.

In MHH01ARI, //SORTAREA, //SORTSERV and //SID291 can be removed if the indices are not to be printed.

In MHH01TGC, all three Reports need not be printed during each run. If the Edit Text Subroutines Report is to be printed, //SID300 includes a regular DD card with ddname SYS031 (else a DD DUMMY card), //SORTT is included (else removed), and //SID301 includes a regular DD card with ddname SYS030 (else a DD DUMMY card). If the Edit General Subroutines Report is to be printed, //SID300 includes a regular DD card with ddname SYS032 (else a DD DUMMY card), //SORTG is included (else removed), and //SID301 includes a regular DD card with ddname SYS031 (else a DD DUMMY card). If the Edit Codes Report is to be printed, //SID300 includes a regular DD card with ddname SYS033 (else a DD DUMMY card), //SORTC is included (else removed), and //SID301 includes a regular DD card with ddname SYS032 (else a DD DUMMY card).

In MHH01PD6, if the contents of each Spy File are to be printed but <u>not</u>

initialized, //DEALC and the Steps which follow are removed.

In MHH01SV2 for the Master Files, Text File and Control File, if only the Text File is to be saved, all Steps except //SAV2TEXT can be removed. Since the Text File Second Level Backup Tape File is the last File on the tape, it can be written without affecting the other Files on the tape. This is done when the Text File is saved and then Rebuilt to clean up the overflow areas.

In MHH01UPD when the Agency, Service and Branch Files are being updated, if no Transactions are present for the Branch File, //SAVEBNCH can be removed, and thus the Job will run more quickly. (The Branch File is not often updated.) Since the Branch File First Level Backup Tape File is the first File on the tape, the corresponding Files for the Agency and Service Files can be written without affecting it.

Also in MHH01UPD, various permanently included Steps which always take the same card (image) input receive this input from the appropriate member of data set MHH.SID.UPD.DISK. This reduces the number of DD * cards otherwise required, thus allowing the Job to run more quickly under HASP. This data set is also used in MHH01DLT and MHH01EXP.

Jobs which use Spy Files are not listed in Appendix BB since they differ in only one card from the corresponding Jobs not using Spy Files. In //SID195 of these Jobs, the

```
//SYS032   DD DUMMY
```

card of the Job not using the Spy File is replaced with the appropriate one of the following cards:

```
//SYS032   DD DSN=MHH.SID.PD6{ASD}.DISK,DISP=MOD
                            {PRD}
                            {FLD}
                            {BRS}
                            {BLK}
                            {SBK}
```

32 SID105
55 SID120
93 SID125
93 SID126
93 SID127
93 SID128
83 SID195
109 SID196
122 SID235
132 SID240
154 SID245
136 SID250
148 SID255
152 SID260
154 SID265
138 SID270
114 SID275
116 SID276
156 SID280
144 SID285
176 SID289
176 SID290
180 SID291
44 SID295
44 SID296
30 SID300
30 SID301
158 SID304
158 SID305
45 SID310
45 SID311
164 SID315
191 SID700
192 SID701
98 SID801
98 SID805
183 SID810
46 SID815
98 SID820
98 SID825
98 SID830
98 SID835

176 MHH01ARI
79, 148 MHH01ASD
122 MHH01ASM
148 MHH01BAC
98 MHH01BLD for the Address History File
98 MHH01BLD for the Agency File
98 MHH01BLD for the Branch File
98 MHH01BLD for the Client File
98 MHH01BLD for the Control File
98 MHH01BLD for the Prescription Element Report File
98 MHH01BLD for the Prescription Search File
98 MHH01BLD for the Problem Report File
98 MHH01BLD for the Service File
186 MHH01BLD for the Tables File
98 MHH01BLD for the Text File
79, 107 MHH01BLK
79, 107 MHH01BL2
79, 148 MHH01BRS
122 MHH01CLS
79, 148 MHH01CPS
79, 148 MHH01CRS
79, 148 MHH01CSU
46 MHH01CTL
190 MHH01CTR
79, 93 MHH01DLT
17 MHH01EDT
79, 111 MHH01ERR
79, 95 MHH01EXP
79, 148 MHH01FLD
122 MHH01FUL
44 MHH01LOC
187 MHH01P06
79, 148 MHH01PRD
122 MHH01PRS
122 MHH01RSR
79, 107 MHH01SBK
79, 107 MHH01SB2
175 MHH01SRV
96 MHH01SV2 for the Master Files, Text File and Control File
185 MHH01SV2 for the Tables File
97 MHH01SV3
182 MHH01TAB
45 MHH01TFF
30 MHH01TGC
54 MHH01UPD
191 MHH01XRF

END