06349-W519-R0-00

(1)

INTEGRATED TECHNICAL DATA SYSTEM

COMPUTER SUBSYSTEM:

COMPUTER PROGRAMS OPERATIONS MANUAL

JUNE 1969

PREPARED FOR

U.S. ARMY MATERIEL COMMAND

CONTRACT NO. DA-49-186-AMC-324 (X)

TRW SYSTEMS GROUP
WASHINGTON OPERATIONS
1735 I STREET N.W. • WASHINGTON, D.C. 20006

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FOREWORD

TRW Systems was awarded a contract (Contract No. DA-49-186-AMC-324(X)) by the U.S. Army Materiel Command to develop an Integrated Technical Data System (ITDS). The ITDS is intended to provide assistance to the Army Systems Manager in performing his management and technical tasks by operating on relevant data to produce, summarize, and condense information. This allows the manager and technical support personnel to (a) determine status and monitor technical progress, (b) identify and predict system technical/management problems and their impact, (c) comprehend and evaluate proposed system changes, and (d) assign and maintain awareness of responsibility for action.

The ITDS is composed of personnel, procedures, equipment and computer programs. The organization of these elements provides a capability for the processing of systems program data, including the following functions:

- Data receipt and indexing
- Validation and verification for authenticity
- Storage
- Manipulation
- Retrieval
- Display and dissemination

The organization is divided into three major subsystems: the Functional Disciplines Subsystem, the Data Operations Subsystem, and the Computer Subsystem. ITDS user documentation, of which this manual is a part, oriented to the above subsystems, with the exception of an overall System User's Guide and a Configuration Management Plan.

Following is a tabulation of ITDS user documentation (title of this document is heavily underscored):

ITDS - Overall

- System User's Guide
- Configuration Management Plan

Functional Disciplines Subsystem:

- Administrative Manual
- Operations Manual
- Personnel Position Descriptions

Data Operations Subsystem:

- Administrative Manual
- Operations Manual
- Equipment Descriptions
- Personnel Position Descriptions

Computer Subsystem:

These twelve manuals, in general, cover administration of the subsystem, operating and maintenance instructions for the programs, computing equipment descriptions, and personnel position descriptions.

- Administrative Manual
- Generalized Processing Program, General Description
- Applications Programs, General Description
- Peripheral Programs, General Description
- Computer Programs Maintenance Manual
- Computer Programs Operations Manual
- Data Processing Center Operator's Manual
- Equipment Description
- Personnel Position Descriptions
- Generalized Processing Program, Programming Documentation
- Applications Programs, Programming Documentation
- Peripheral Programs, Programming Documentation

This document covers the manual procedures necessary to the operation of the ITDS Computer Subsystem. Section 1 contains general introductory information and general procedures for Computer Subsystem operations. Succeeding sections contain manual procedures for individual computer programs.

CONTENTS

ILLUSTRATIONS

1. INTRODUCTION

1.1 PURPOSE

The purpose of this manual is to describe the elementary operational functions to be performed by the Computer Subsystem. The Computer Subsystem has the task of providing data processing support to both the Functional Disciplines Subsystem and the Data Operations Subsystem of ITDS. Each individual function will be displayed as parts of a whole and then be described in detail.

1.2 SCOPE

This document identifies those parts of ITDS that comprise the Computer Subsystem, and contains those manual procedures necessary to support the correct flow of data and programs into and out of the Data Processing Center.

1.3 INTENDED USE

This manual is intended for use by the supporting personnel of the ITDS Data Processing Center as a guide in completing their assigned functions.

2. THE COMPUTER SUBSYSTEM

The Computer Subsystem is composed of four subsections:

a. Computer Subsystem Programs

b. Computer Subsystem Personnel Organization

c. Computer Subsystem Equipment

d. Computer Subsystem Documentation

2.1 COMPUTER SUBSYSTEM PROGRAMS

There are three distinct kinds of Computer Subsystem Programs -- the Generalized Processing Program, Applications Programs, and Peripheral Programs. Each type of program is described in the following paragraphs.

2.1.1 Generalized Processing Program

The Generalized Processing Program provides the ITDS with three primary capabilities:

a. computerized data base management,

b. processing of input,

c. production of output.

2.1.1.1 Computerized Data Base Management

The capabilities of the Generalized Processing Program for dynamic data base management are twofold. First, the program enables the user to create an Integrated Data Base from the raw hardcopy source documents. Second, it permits continual updating and modification of the existing data base so that it will always be current. Data base dictionaries are produced at the time of data base creation, and each time the data base is changed a modification to the system dictionary is also produced.

2.1.1.2 Processing of Input

Two functions are performed in the processing of input data. The first capability of the Generalized processing program is to accept input data either from a remote terminal or on punched cards, magnetic tapes, or disks in bulk form. The second capability consists of the input of the

verified data to the computer for a proofing run using the preprocessor portion of the program. The results of this run are a computer-generated listing that is similar to the original loadsheet, and a magnetic tape that is subsequently used in a data base maintenance run.

2.1.1.3 Production of Output

The primary output mode is responsive to inquiries for information pertinent to a specific data element which identifies a specific document or which has a specific value, quantity, etc., or concerns a general project management question directed toward a specific area or aspect of the project. The utilization of cross-referenced listings and keyword search is used for response to inquiries for identification of specific documents. The generalized processing program responds to inquiries by generating output in two forms, columnar or horizontal, at the remote terminal or on-line high-speed printer. The form of the output is determined by its volume. The output device is determined by the communications terminal user, except when large volume demands automatic routing to the high-speed printer.

2.1.2 Applications Program

Applications-oriented programs perform three basic functions. The first applications system capability is the production of bulk reports that are either periodic (recurring) reports or nonrecurring reports. The second applications system capability is the extraction and the loading of data into the ITDS that have been produced by the Peripheral Programs. Third, they produce exception reports once they have been defined. Definition and production of an exception report follow the same pattern as the periodic reports.

2.1.3 Peripheral Program

Peripheral Programs do not receive their input from the data base but from input sources external to ITDS. The reports generated by the peripheral programs are designed to be of a periodic nature. Other peripheral outputs are used in the process of generating additional inputs for the ITDS data base.

3. OPERATIONS OF THE ITDS COMPUTER SUBSYSTEM

This section describes those operations that are to be performed by the Computer Subsystem. The structure and sequence of Computer Subsystem operations are based upon the ITDS Summary Functional Flow (Figure 3-1). Each summary function in Figure 3-1 is further described and explained in Figures 3-2 through 3-4.

3.1 ITDS SUMMARY FUNCTIONAL FLOW

The ITDS Summary Functional Flow Diagram (Figure 3-1) is the same figure previously presented in ITDS System Description, Part 2: Product Description. Figure 3-1 segments the processing of information by ITDS into three distinct types of operations: (1) input preparation; (2) day-to-day storage, manipulation, and output production; and (3) output processing. Each of these three types of operations is further segmented into the three major functions of ITDS: (1) in-quantity processing; (2) periodic reporting, and (3) exception reporting.

3.1.1 Detail Operations of the Computer Subsystem

3.1.1.1 Preparation of Input (Block 15, Figure 3-2)

The steps to be followed by the Computer Subsystem in the preparation of input are shown in Figure 3-2. The first step in the process is an input/output control function. Detail step 15.1 stipulates that all loadsheets submitted for keypunching are to have a notation entered into a control register to signify receipt of the loadsheet by the Computer Subsystem and the accompanying computer service request form. (Proper completion of the computer service request form is described in ITDS Computer Subsystem: Administrative Manual, Appendix A.) Following the receipt and logging in of loadsheets and the computer service request form, the loadsheets are forwarded by the output control personnel to the keypunch section of the Computer Subsystem. Detail step 15.2 requires that the keypunch section perform the required keypunch operation, and then complete and fill out their portions of the computer service request form. The completed and keypunched loadsheets are then returned to input-output control along with the keypunched and verified Hollerith cards. Detail step 15.3 requires

that the input/output control group forward the keypunched cards and the accompanying computer service request form to computer operations for further computer subsystem processing. The loadsheets from which the cards have been keypunched are then returned to the department that forwarded them to the Computer Subsystem for processing.

3.1.1.2 Perform Data Processing Operations. (Block 17, Figure 3-3)

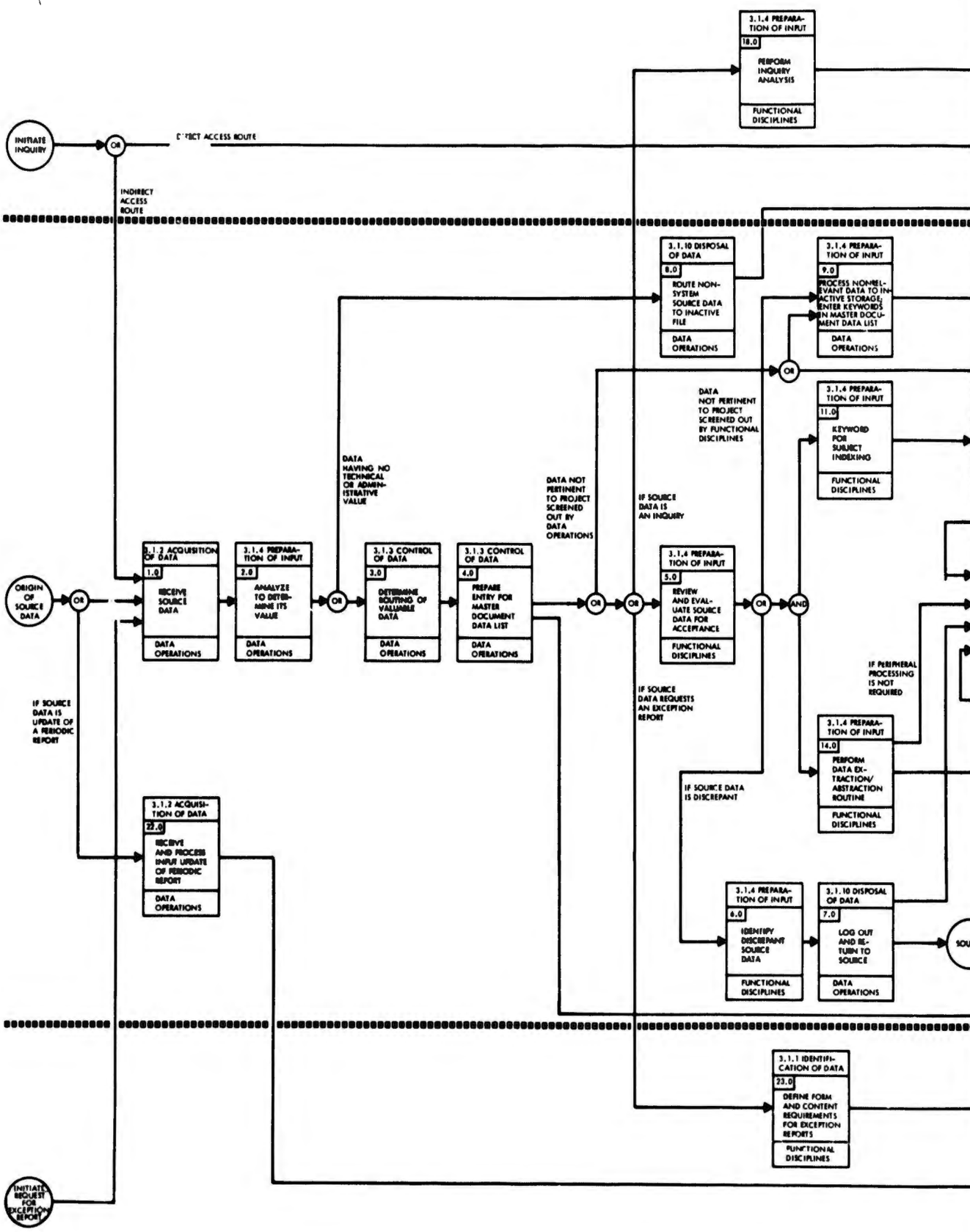
Detail step 17.1 requires that data forwarded from the previous keypunch operations be received along with the computer service request form and assigned a sequence number upon receipt. Detail step 17.5 requires that the supervisory personnel in scheduling and computer operations initiate and monitor the job processing at the required time that the job has been scheduled to be run on the data processing equipment. The other operation performed in step 17.5 is Direct Input Update.

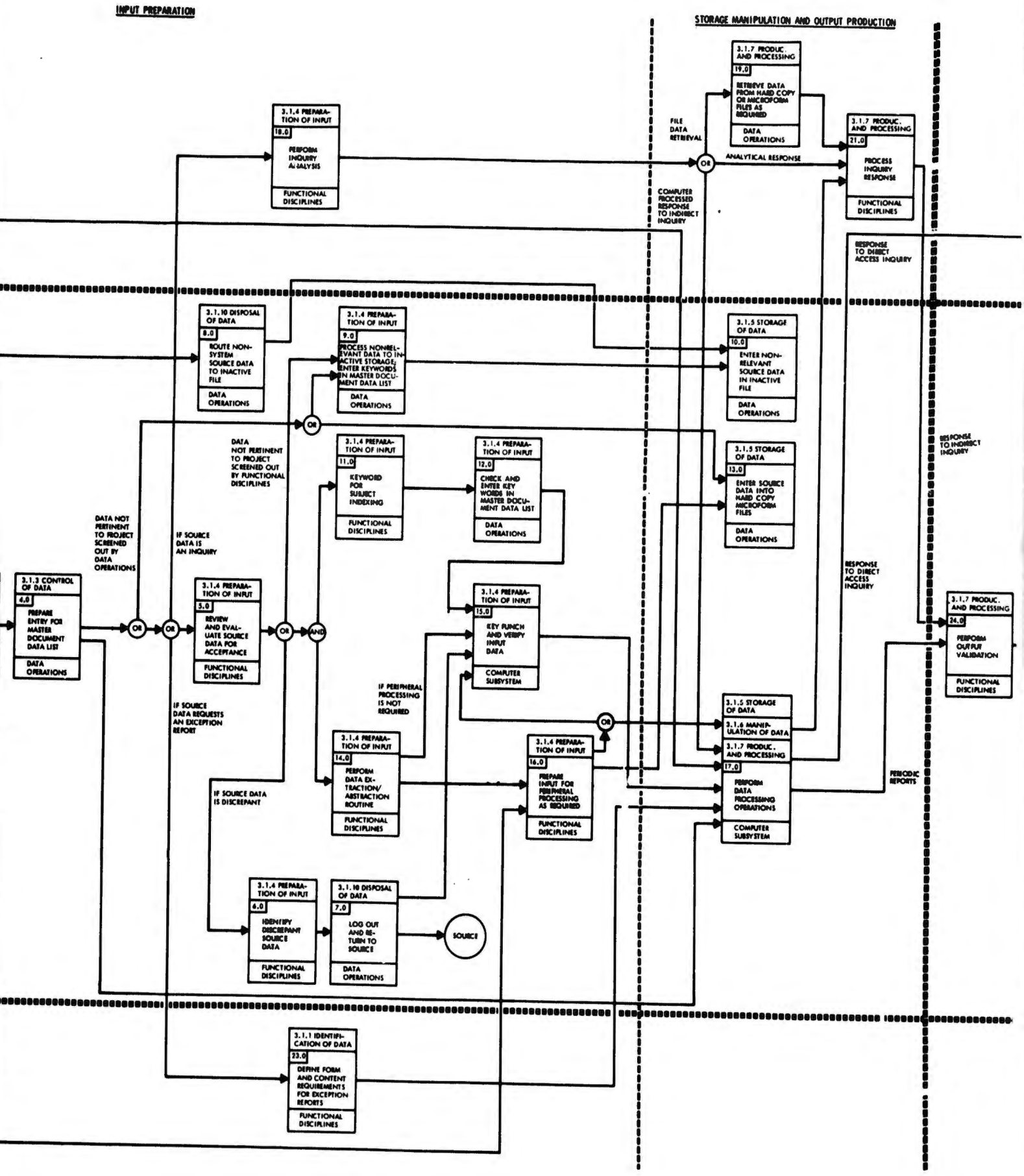
3.1.1.3 Process Inquiry and Generate Output via the Generalized Peripheral, or Applications Programs (Block 20, Figure 3-4)

Detail step 20.1 requires that each remote inquiry to be processed within the Computer Subsystem be received and logged in along with the prepared computer service request form. This is then forwarded to the coordination and control function performed by the scheduling and supervisory personnel in data processing operations. These steps are shown in Figure 3-4 in detail steps 20.2, 20.3, and 20.4. Detail step 20.4 then enters the inquiry into the proper location (whether it be the remote terminal or the computer card reader), receives the required response in relation to the inquiry entered and forwards it to detail step 20.6 for further processing. Detail step 20.5 processes inquiries entered via the direct access route also. These direct access inquiries are replied to in the normal automatic mode without manual intervention. With Computer Subsystem processing completed, detail step 20.6 describes the quality control processing of data, the log-out of the response and the request for the response to the functional disciplines.

A

INPUT PREPARATION




INPUT PREPARATION
STORAGE MANIPULATION AND OUTPUT PRODUCTION
3.1.3 CONTROL OF DATA
4.0
PREPARE ENTRY FOR MASTER DOCUMENT DATA LIST
DATA OPERATIONS
3.1.4 PREPARATION OF INPUT
5.0
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FUNCTIONAL DISCIPLINES
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6.0
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LOG OUT AND RETURN TO SOURCE
DATA OPERATIONS
SOURCE
3.1.10 DISPOSAL OF DATA
8.0
ROUTE NON-SYSTEM SOURCE DATA TO INACTIVE FILE
DATA OPERATIONS
3.1.4 PREPARATION OF INPUT
9.0
PROCESS NONRELEVANT DATA TO INACTIVE STORAGE; ENTER KEYWORDS IN MASTER DOCUMENT DATA LIST
DATA OPERATIONS
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10.0
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FUNCTIONAL DISCIPLINES
3.1.4 PREPARATION OF INPUT
11.0
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FUNCTIONAL DISCIPLINES
3.1.4 PREPARATION OF INPUT
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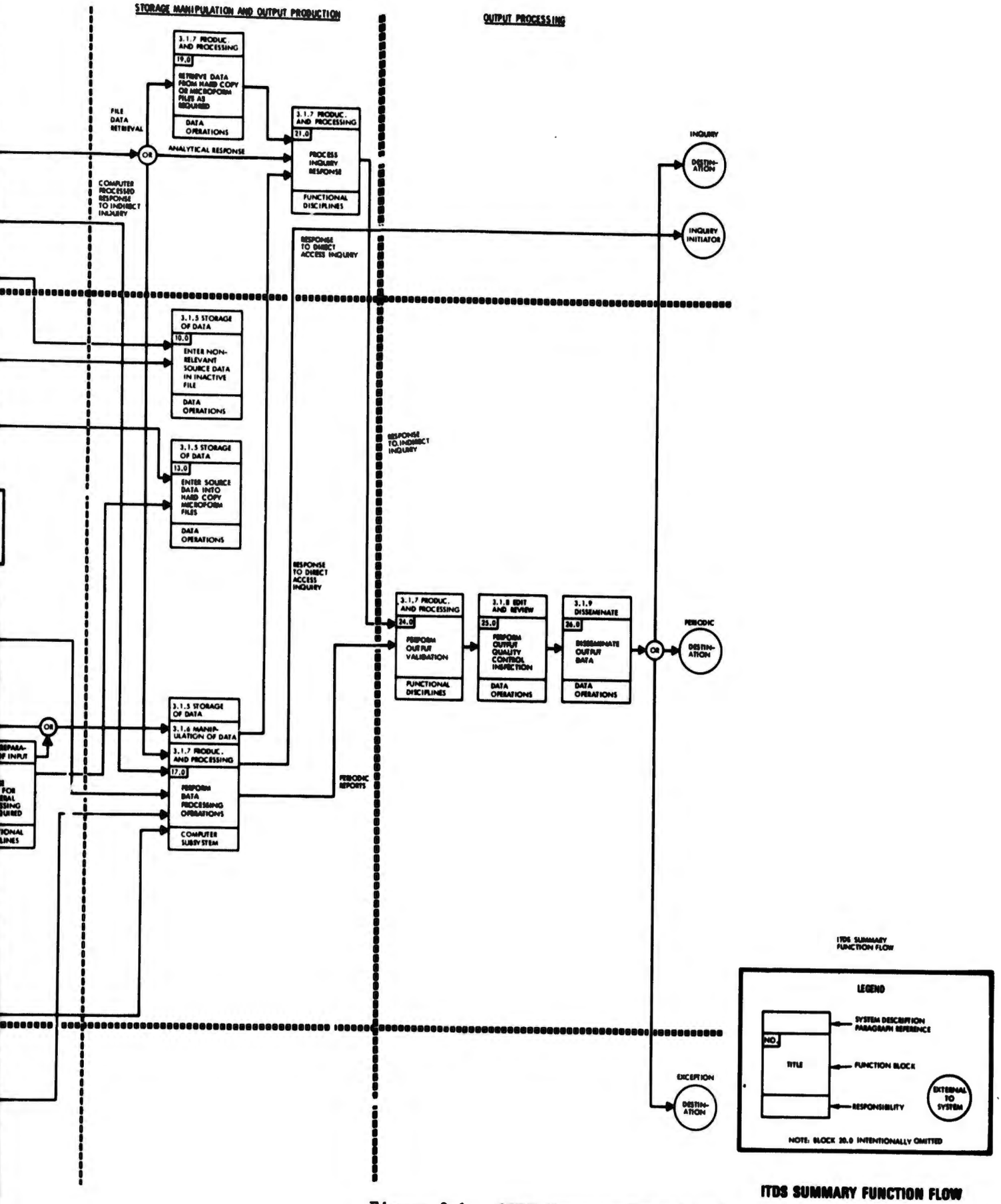
OR
AND
DATA NOT PERTINENT TO PROJECT SCREENED OUT BY DATA OPERATIONS
IF SOURCE DATA IS AN INQUIRY
DATA NOT PERTINENT TO PROJECT SCREENED OUT BY FUNCTIONAL DISCIPLINES
IF SOURCE DATA REQUESTS AN EXCEPTION REPORT
IF SOURCE DATA IS DISCREPANT
IF PERIPHERAL PROCESSING IS NOT REQUIRED
FILE DATA RETRIEVAL
ANALYTICAL RESPONSE
COMPUTER PROCESSED RESPONSE TO INDIRECT INQUIRY
RESPONSE TO DIRECT ACCESS INQUIRY
RESPONSE TO INDIRECT INQUIRY
RESPONSE TO DIRECT ACCESS INQUIRY
PERIODIC REPORTS

Figure 3-



ITDS SUMMARY FUNCTION FLOW

Figure 3-1. ITDS Summary Functional Flow

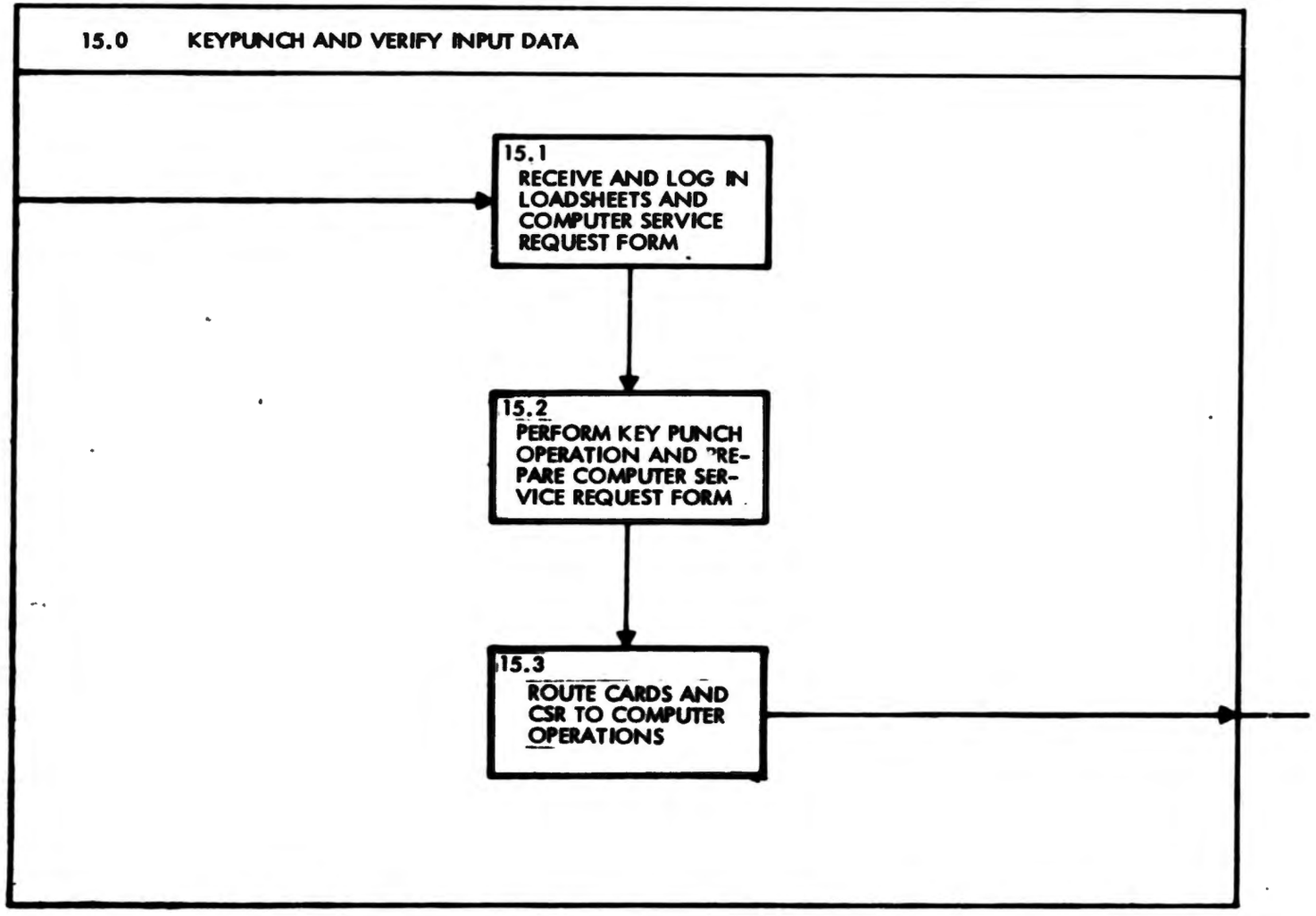


Figure 3-2. Keypunch and Verify Input Data (Summary Function 15.0): Detail Steps 15.1 through 15.3

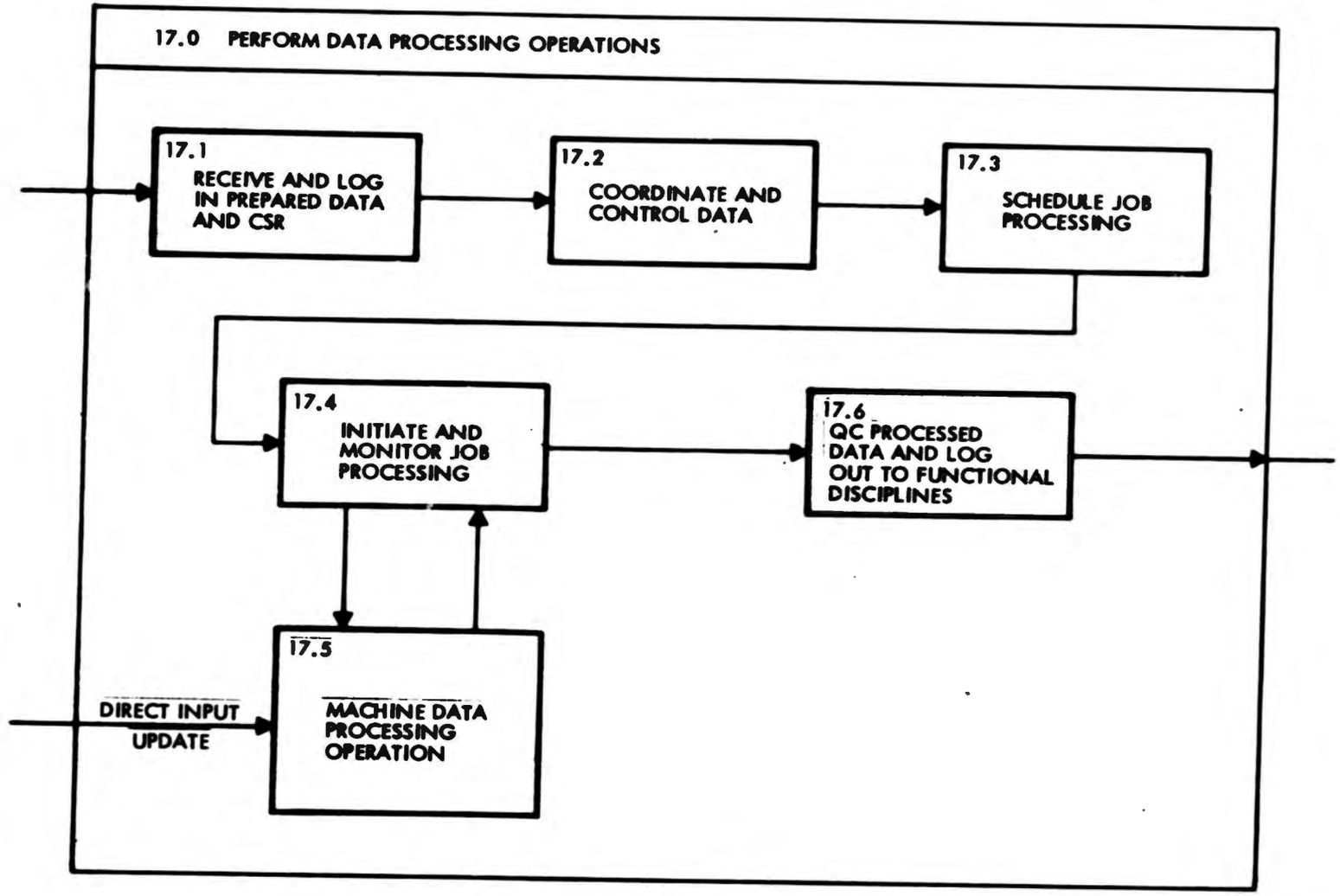


Figure 3-3. Perform Data Processing Operations (Summary Function 17.0): Detail Steps 17.1 through 17.6

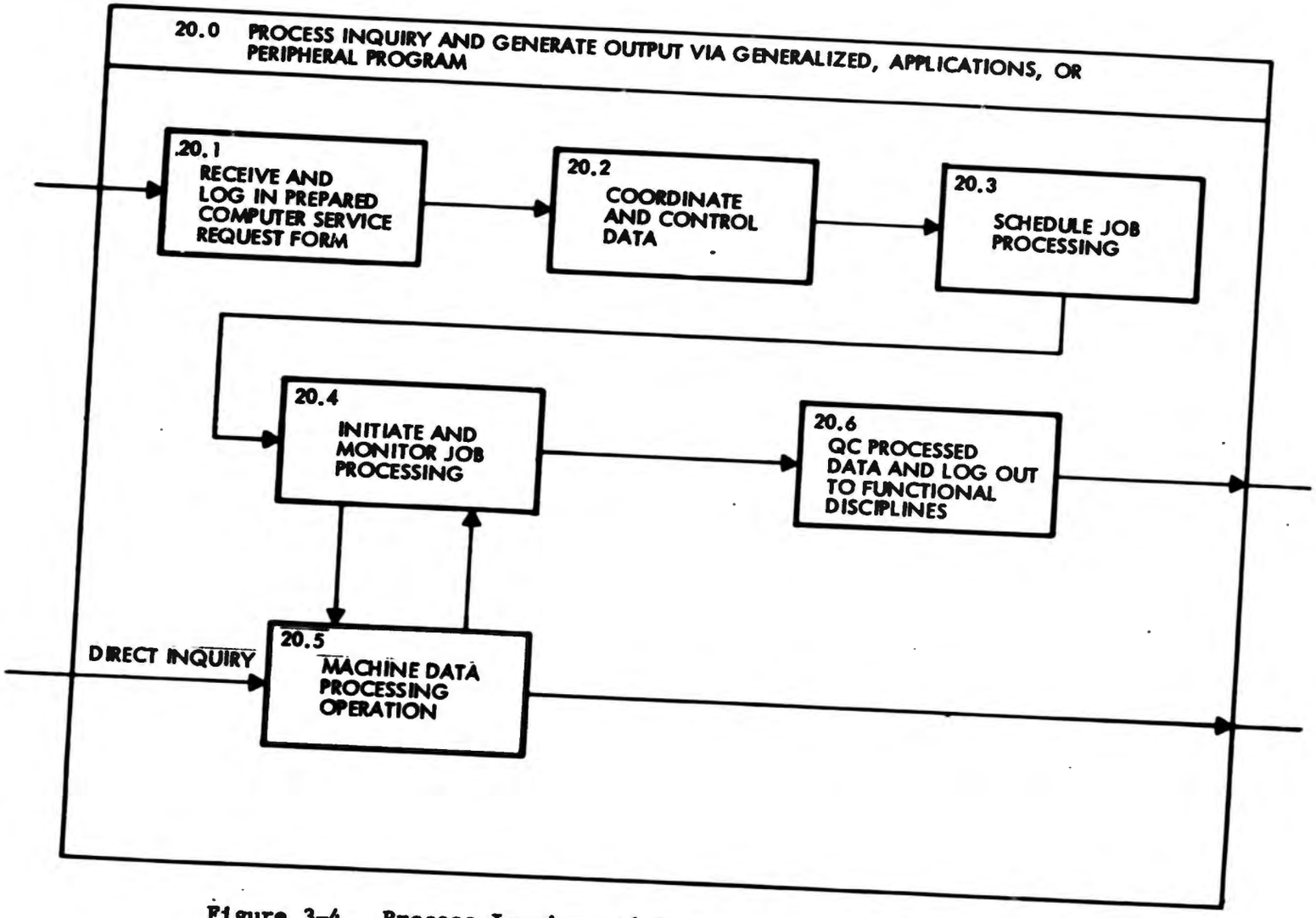


Figure 3-4. Process Inquiry and Generate Output Via Generalized, Applications, or Peripheral Programs (Summary Function 20.0): Detail Steps 20.1 through 20.6

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APPENDIX A
GENERALIZED PROCESSING PROGRAM

1. CORRELATIVE PROCEDURES

1.1 Definition

ITDS correlatives are procedural instructions which are defined by the user in accordance with predetermined formats. They relate values to other values and process methods. They are stored in a dictionary attribute definition item (DICT/CODES "D", "A" and "S", or "N") under CORRELATIVES (AMC 8). While correlatives stored in "A" and "S" DICT/CODE items must be identical, related "DICT/CODE "N" (synonym name attribute item) items may have different correlatives. Once established, the correlative carries out its defined function automatically whenever the defined attribute is properly accessed.

The use of correlatives is at the discretion of the user. However, it is important that extreme care be exercised when adding, changing, or deleting correlatives. This is especially important when an entire attribute definition is deleted in order that secondary references not be disrupted unknowingly.

1.2 Types

The purpose of the correlatives is to permit the association of data within the ITDS data base. There are four types of data association: treatment, internal, vertical, and horizontal.

Treatment correlatives function to control the processing of the values for each attribute. Through these correlatives (Y) the user specifies the storage method of each attribute's values. The number of characters to be output on a retrieval request can also be controlled through treatment correlatives (G or T). Complex attribute relationships can be described for the user's benefit, or other notations regarding an attribute can be entered, although no ITDS action will be invoked (N).

Internal correlatives are employed to relate various attribute values within a data list item. One of these correlatives (D) allows the storage and retrieval of a secondary data list within each item. This is accomplished through the proper correlative by defining one of the attributes as primary (D1) and those which are related to it as secondary (D2).

Another internal correlative (F) allows mathematical functions to be performed using other attribute values as the parameters. When the special attribute in which the correlative is defined is accessed, the correlative function will be performed and the result returned in the output statement. For example, an attribute "variance" might be established within an organization data list. When accessed it would cause the calculation of "total budget" minus "total actual" for the specific organization to occur.

An internal correlative (I) can cause a specified action on a second attribute's value whenever the first attribute's value is updated. For example, whenever a "budget salary" value is added to an organization item, the "total budget" for that organization could be indirectly updated accordingly.

A special attribute can be established with an internal correlative (M) to allow retrieval of several specified attributes together with a single attribute I.D. request. For example the special attribute "Emp Info" can be established in an employee data list, which when requested, results in the retrieval of a specified employee number, name, organization, and title.

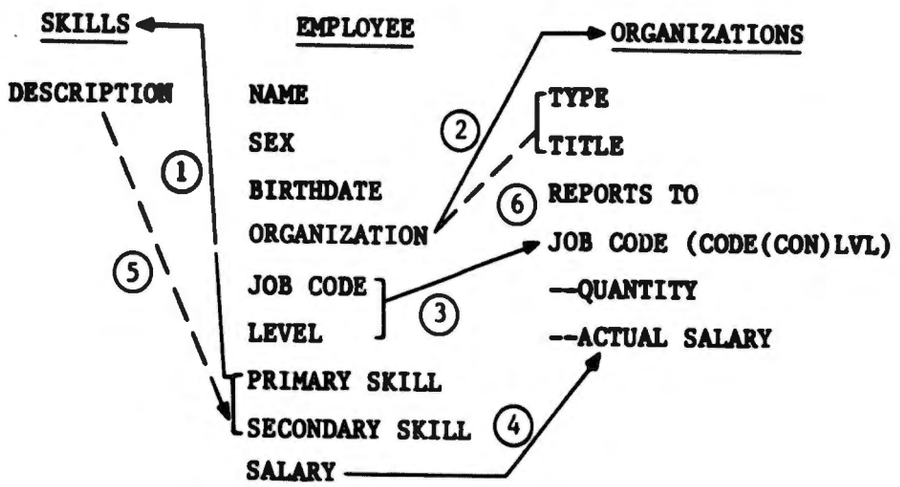
An internal correlative (Y4) will allow a transaction date to be stored in a specified attribute whenever another attribute is affected. For example an update data could be stored in an employee item whenever the particular item was accessed.

A vertical correlative (V) is employed to relate items of a data list to other items within the same data list. This provides an effective method of storing indentured data lists.

Each item can contain attribute values which indicate the "next higher" and "next lower" components. It will then be possible to retrieve an entire indentured structure or any portion of it. An example of indenturing is an organizations data list in which each organization is constructed from several component organizations, each with its own structure. The pertinent values are stored in each organization's item. When a full organization chart or some portion thereof is needed, the proper retrieval request will provide all of the pertinent data which composes the entire area requested.

Horizontal correlatives are used to establish relationships among various data lists, of the same or varying applications, in the data base. The purposes may be as diverse as validating a value before storing it in one data list based on cross-referencing a related attribute value in another data list; to simultaneously update attribute values in a second data list whenever specific attributes in another data list are updated.

There are two basic correlatives involved. One correlative (B) functions for update purposes. It allows such relationships as those illustrated below by lines (1) through (4) :



(1) Before a skill code can be stored in an employee item it must be verified as a valid code in the skills data list.

(2) Before an organization value is stored in an employee item it must be validated in the organizations data list.

③ Whenever a job code and level are entered in an employee item they will be combined and stored as a concatenated value in the appropriate organizations data list item if this is a unique entry.

④ Whenever an employee's salary is updated it will cause an update of actual salary for the proper organizations data list item job code value.

The second correlative (S) is for retrieval purposes. It allows the simultaneous retrieval from other data lists of attributes defined as related to the data list attribute being directly retrieved. This is illustrated by lines ⑤ and ⑥ .

⑤ The description of each skill value will automatically be retrieved with the employee item.

⑥ The organization type and title will simultaneously be available whenever an employee's organization is accessed.

A detailed discussion of each of the correlatives and its format follows.

1.3 Treatment Correlatives

1.3.1 G Correlative (Group Retrieval)

The G correlative is used to select one or more contiguous segments of concatenated attribute values for retrieval. An attribute with a G correlative can not be used in an update except as a limiter, i.e., preceded by the word WITH.

The form of the correlative is:

GM(CON)n

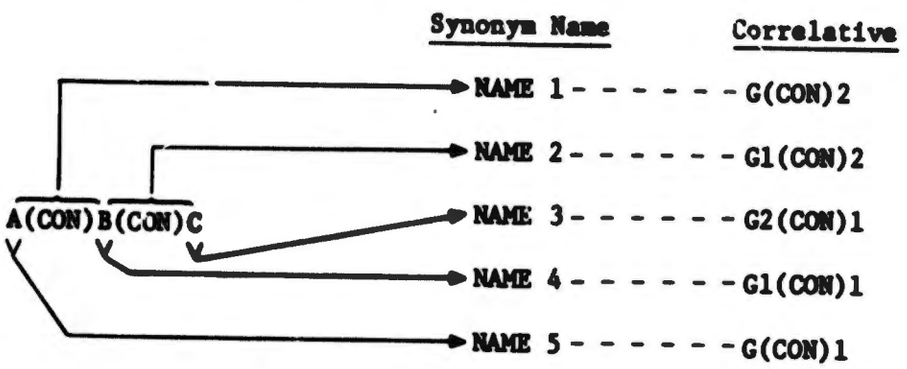
G	constant - the group retrieval correlative identifier.
m	the number of concatenators (CON) which precede the first segment value to be selected. If selection is to begin with the first segment, this parameter may be omitted, e.g., G(CON)n.
(CON)	concatenator - separates the selection parameters. This must be present, even when m is omitted.

n — the number of contiguous concatenated segments to be selected.

This correlative can be used only in a DICT/CODE "N" Synonym Attribute Definition Item. No other correlatives can appear in the same item.

The format of the contiguous group of selected contatenated attribute segments must be defined by the V/TYPE and V/MAX attribute values in the item.

A separate synonym name attribute with the appropriate G correlative must be established for each non-contiguous segment or group of segments to be selected from a concatenated attribute. For example: the concatenated attribute A(CON)B(CON)C may be accessed by each of the following G correlatives, each in a separate synonym name attribute item.



Example

An employee file (see Figure A-1) has the attributes "LOCATION" (consisting of BLDG(CON)ROOM(CON)SQUARE FEET) and TELEPHONE (consisting of
value value value)
NUMBER(CON)MESSAGES), both concatenated, and BLD--RM and MESSAGE CTR
value value

No values are stored for BLD--RM and MESSAGE CTR. They each have a G correlative which will cause retrieval of the necessary values from the LOCATION and TELEPHONE attributes respectively.

User/Name	AMC	G CORRELATIVE	V/TYPE	V/MAX
EMPLOYEE	0			
NAME	1			
ORGANIZATION	2			
LOCATION	3		L(CON)L(CON)R	3(CON)5(CON)(4)
BLDG*ROOM*SQUARE FEET				
TELEPHONE	4		R(CON)R	5(CON)5
(NUMBER*MESSAGES)				
JOB CODE	5			
TITLE	6			
BLD--RM	3	G(CON)2	L(CON)L	3(CON)5
MESSAGE CTR	4	G1(CON)1	R	5

Figure A-1. Employee File

1.3.2 N Correlative (Notation)

The N correlative is used to describe the function, interrelationship, or other characteristics of an attribute for the user's benefit. The systems personnel may make any desired notation following the N, and that data will be stored in the dictionary item for the attribute but will have no effect on ITDS operations.

The form of the correlative is:

Nabcd - - - - - xyz

N	constant - the Notation correlative identifier.
abcd - - -	systems personnel notations concerning the attribute.

The correlative may be used in any DICT/CODE item desired. A corresponding "S" entry is not required if an "A" item has a notation correlative.

Example

The attribute "actual salary" in the organizations data list has a function correlative which prevents direct storage because its values will be indirectly added whenever the "salary" attribute of the employee data list is affected. This is explained in the dictionary attribute definition item for "actual salary."

1.3.3 T Correlative (Text)

The T correlative is used to retrieve an attribute's value(s) as a continuous string of textual information. Its primary use is to retrieve a specified portion of an attribute's value(s) without having to create separately stored attributes for each retrieval format desired.

The form of the correlative consists entirely of the character "T" as the value under CORRELATIVES.

This correlative can be used only in a DICT/CODE "N" Synonym Attribute Definition Item. No other correlatives can appear in the same item. The number of characters specified under V/MAX will control the number of characters retrieved from the attribute being referenced. All internal value delimiters (VM, SVS) will be replaced by blanks in the output.

Examples

1. The attribute "title" in the organizations data list has maximum size of 30 characters. "Org print" is established to retrieve only the first 10 characters of the title when it is used as supplementary information for an item.

   Assume "title" to have an AMC of 2. The "org title print" synonym attribute definition item contains the T correlative:

USER NAME	DICT/CODE	A/AMC	CORRELATIVES	V/MAX
ORG PRINT	(AM) N	(AM) 2	(AM) .... (AM)T	(AM).. (AM) 10 (AM)

   To retrieve the entire title, the attribute "title" is specified in the input statement. To retrieve only the first 10 characters of the title, the attribute "org print" is requested.

2. The attribute "secondary skills" in the employee data list has a maximum size, per value, of 4 characters. However, it may have n values. If it were desired to limit retrieval to only the first three skills which might be stored, a synonym attribute "three skills" could be established with a V/MAX of 14 characters which would

   include $\overset{4}{\text{value}}$ $\overset{1}{(\text{VM})}$ $\overset{4}{\text{value}}$ $\overset{1}{(\text{VM})}$ $\overset{4}{\text{value}}$.

   If an item in the employee data list was stored as follows:

EMPLOYEE	SECONDARY SKILLS
12345 (AM)	(AM)1110(VM)1127(VM)1130(VM)1330(VM)1355(AM)

   and a retrieval request for "three skills" was made, the output would be

EMPLOYEE	THREE SKILLS
12345	1110 1127 1130

1.3.4 Y Correlatives

(See Figure A-2)

Class		Method Description
General	Sub	
1		GENERAL STORAGE
	11	NON-REDUNDANT STORE. Each unique value will be stored only once under the attribute.
	12	REDUNDANT STORE. Each value being entered will be stored under the attribute.
	13	NON STORED. No value can be directly stored under the attribute.
2		SPECIAL STORAGE
	11	SINGLE VALUE REPLACE. The last new value being entered will replace whatever value was stored under the attribute.
	12	SINGLE VALUE IGNORE. The first value being entered will be stored under the attribute; additional values will be ignored.
	13	SINGLE VALUE REJECT. The first value being entered will be stored under the attribute; additional values will cause the input statement to reject.
3		ARITHMETIC POST STORAGE
	11	POSITIVE POST. The value will be arithmetically added to the (existing) attribute value.
	12	NEGATIVE POST. The value will be arithmetically subtracted from the (existing) attribute value.
	13	UNIT POST. Available for use only with the I correlative, this adds a +1 algebraically to the value of the attribute mark count specified by the I correlative as a result of each statement directly updating the attribute bearing the I.

Figure A-2. Y Correlatives (Page 1 of 2)

Class		Method Description
General	Sub	
	14	UNIT SUBTRACT. Available for use only with the I correlative, this adds a -1 algebraically to the value of the attribute mark count specified by the I correlative as a result of each statement directly updating the attribute bearing the I.
	21	POSITIVE POST. Same as Y311 except negative balance not permitted.
	22	NEGATIVE POST. Same as Y312 except negative balance not permitted.
	23	UNIT POST. Same as Y313 except negative balance not permitted.
	24	UNIT SUBTRACT. Same as Y314 except negative balance not permitted.
5		SELECTED STORAGE
	*11	SEQUENCE LOW TO HIGH.
	*12	SEQUENCE HIGH TO LOW.
1	01	SECONDARY - DELETE - IGNORE
	02	
	03	
	01	
	02	
	03	These correlatives are available only to control joint storage in a secondary data list attribute through a B correlative. Each correlative functions as described above with a "1" in the second position except that if a secondary delete action can not be executed, it will be ignored and not messaged AND the primary action will still be executed.

*RESERVED FOR FUTURE USE

Figure A-2. Y Correlatives (Page 2 of 2)

1.3.5 Y Correlative (Method)

The Y correlative must be used in the user data list attribute definition item to specify the storage method for the values of each attribute which is subject to direct updating. Every attribute subject to indirect updating through referencing by another attribute must have the proper Y correlative stored in the definition item of the attribute by which it is referenced. (See "I" and "B" correlatives.)

The form of the correlative is:

Ynnn

Y	constant - the method correlative identifier.
nnn	a three-digit numerical code composed from Figure A-2, above. Each code represents the specific process method to be applied to the values of the attribute it defines. The first digit of the code represents the general class; the second and third are the subclass.

Each DL/ID item is automatically a Y111 and should not have a Y correlative entered by the user.

There can be only one Y correlative reference (direct or indirect) to an AMC in an input statement EXCEPT for post correlatives.

Example

The budget salary for each job code for a given organization is to be accumulated under the attribute "budget salary." The value may be increased or decreased. The value will be added to the proper budget salary entry through a Y311 correlative being stored in the user data list attribute definition item of "budget salary."

1.4 Internal Correlatives

1.4.1 D Correlative (Associative)

The D correlative is used to identify the primary and secondary associative attributes within a data list. There are two D correlatives involved: D1 and D2.

The forms of the correlative are:

D1;AMC2;AMC2;AMC2:-------

D1 — constant - the primary associative attribute identifier.

; — semicolon - the special character used as the separator of the correlative elements.

AMC2 — attribute mark count - the system name (equal to the A/AMC of the item's DICT/CODE "A" attribute definition item) of each of the secondary associative attributes in the data list.

The D1 correlative is stored in the user data list attribute definition item of the primary associative attribute. The attribute can have only a Y111 or Y213 method correlative. A D1 may not be joint stored in a secondary data list as a D2.

D2;AMC1

D2 — constant - the secondary associative attribute identifier.

; — same as D1.

AMC1 — attribute mark count - the system name of the primary associative attribute to which this attribute is related in the data list.

A D2 correlative is stored in the user data list attribute definition item of each of the secondary associative attributes. An attribute with a D2 correlative can be associated with only one D1, and can not be the x of a Y4x correlative. An attribute with A D2 correlative can not function as the BRIDGE portion of a B correlative or the SPAN portion of an S correlative; it can function only as a joint stored D2 in a secondary data list.

The number of D1-D2 relationships allowed in a data list is controlled by the formula:

[(# of characters in AMC) + 1 for each D1 or D2] + 3 for each D1 $\leq$ 100 characters

Example

A group of associated attributes in the organizations data list are job code and job title-quantity-budget salary-actual salary. The appearance of the D correlatives in the various attribute definitions would be:

USER NAME- - - - -	A/AMC - - - - - -	CORRELATIVES
JOB CODE	4	D1;5;6;7;8
JOB TITLE	5	D2;4
QUANTITY	6	D2;4
BUDGET SALARY	7	D2;4
ACTUAL SALARY	8	D2;4

1.4.2 F Correlative (Function)

The F correlative is used to apply a mathematical function to the value(s) stored under another attribute(s) of the same data list item at the time that the attribute containing the F correlative is requested for retrieval.

The form of the correlative is:

$$\text{F FUNCTION;} \left\{ \begin{matrix} \text{Cn.,...n} \\ \text{AMC}_1 \end{matrix} \right\} ; \left\{ \begin{matrix} \text{Cn.....n} \\ \text{AMC}_2 \end{matrix} \right\} \left(\begin{matrix} \text{SUM ONLY} \longrightarrow \\ ;\text{AMC}_3\text{.....;AMC}_n \end{matrix} \right)$$

F	constant - the function correlative identifier.
FUNCTION	the mathematical function to be performed (see Figure A-3).
;	semicolon - the special character used as the separator of the correlative elements.
$AMC_{(1)}$	attribute mark count - the system name (equal to the A/AMC of the item's DICT/CODE "A" attribute definition item) of the attribute(s) whose values are to be used as the formula parameters.
Cn...n	a constant value to be used as one of the formula parameters where n....n equals the entry to be used as the value.

Function		
Symbol	Description	Action
+	ADD	$AMC_1 + AMC_2$ *
-	SUBTRACT	$AMC_1 - AMC_2$ *
x	MULTIPLY	$AMC_1 \times AMC_2$ *
/	DIVIDE	AMC_1 / AMC_2 *
S	SUM	$AMC_1 + AMC_2 + AMC_3 + \ldots\ldots AMC_n$ ◇
C	COUNT	TOTAL NUMBER OF VALUES IN THE AMC SPECIFIED
		* ONLY ONE OF THE ATTRIBUTES CAN HAVE MULTIPLE VALUES.
		* Cn.....n MAY BE SUBSTITUTED FOR EITHER AMC_1 OR AMC_2.
		◇ EACH ATTRIBUTE CAN HAVE MULTIPLE VALUES.
		◇ AMC'S MUST BE ENTERED IN ASCENDING ORDER.

Figure A-3. F Correlative Functions

The attribute which contains the F correlative can have no value stored under it.

The value(s) returned to the user as a result of the function being applied will be:

① a valid result composed of the acceptable characters to the F correlative which are 0 to 9, -, +, ., E (exponent). The output value will be limited to 16 characters.

② a zero (if either or both specified $AMC_{(n)}$ is not present, a zero will be substituted for the missing value so that the function is always executed).

③ a DVC (divide check) if an attempt is made to divide a value by zero.

If multiple attribute values contain decimal points, the decimal will be aligned by the correlative prior to the execution of the arithmetic.

If one attribute contains multiple values the function (+, -, x, ′) will be repeated and a separate result returned for each of the multiple values versus the single value attribute.

In the case of S(sum) only one total value will be returned which will include all values of all specified attributes.

The values for a secondary associative attribute (D2) can be directly retrieved through an attribute definition item containing an F correlative. In this particular case the D1 is not involved.

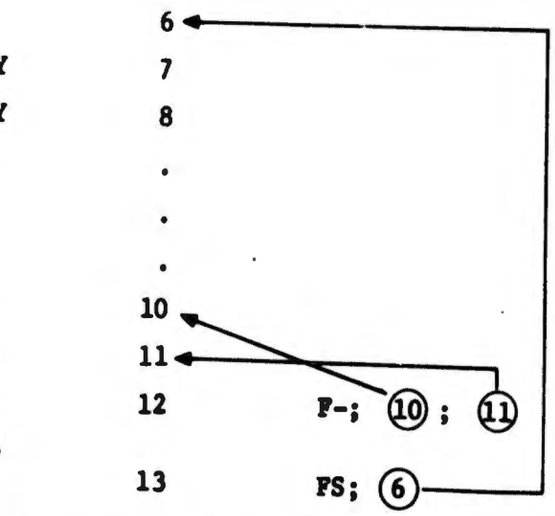
Example

The organizations data list has a "quantity" attribute to provide the number of people within each job code. The attribute "org personnel-count" contains an F correlative with an "S" function to produce the sum of all quantities within any organization specified.

The same data list contains "total budget" and "total actual" attributes for the organization. The attribute "variance" contains an F correlative with a "-" function to provide the variance for any organization item(s) requested.

The user data list attribute definition item entries would include the following entries:

User Name	A/AMC	F Correlatives	D Correlatives
ORGANIZATIONS	0		
.	.		
.	.		
.	.		
JOB CODE	4		D1;5;6;7;8
JOB TITLE	5		D2;4
QUANTITY	6		D2;4
BUDGET SALARY	7		D2;4
ACTUAL SALARY	8		D2;4
.	.		
.	.		
.	.		
TOTAL BUDGET	10		
TOTAL ACTUAL	11		
VARIANCE	12	F-; (10) ; (11)	
ORG PERSONNEL COUNT	13	FS; (6)	



If the values in the item for Organization 2131 appeared as follows:

ORGANIZATIONS	2131		
.			
.			
.			
JOB CODE	1120*HEAD	1120*EMPL	1330*EMPL
.			
.			
QUANTITY	1	2	1
.			
.			
TOTAL BUDGET	+43000.		
TOTAL ACTUAL	+42500.		

Then specifying "org personnel count" would return the following:

```
ORGANIZATIONS              2131
ORG PERSONNEL-COUNT           4
```

while specifying "variance" would return:

```
ORGANIZATIONS              2131
VARIANCE                   +500.
```

1.4.3 I Correlative (Internal Update)

The I correlative is used to cause the value(s) applied to a directly updated attribute to indirectly update the value(s) of another attribute in the same data list item simultaneously.

The form of the correlative is:

IAMC;Ynnn

I	constant - the Internal Update correlative identifier.
AMC	attribute mark count - the system name (equal to the A/AMC of the item's DICT/CODE "A" attribute definition item) of the attribute to be internally updated. One only per I correlative.
;	semicolon - the special character used as the separator of the correlative elements.
Ynnn	The Y correlative for the process method to be applied to the value when it is used to indirectly update the AMC attribute. (Y113 is illegal as an entry.)

The correlative is stored in the attribute definition item of the attribute under which the value(s) will be directly entered.

If more than one attribute is to be indirectly affected by a single attribute, a separate I correlative must be entered for each indirect relationship being defined.

When an attribute indirectly affected through an I correlative is also directly referenced in the input statement, the direct reference is processed first.

The I correlative is only activated when the data list in which it is located functions as a primary, directly addressed, data list.

An I correlative is not allowed in a D1 or D2 relationship unless a synonym name to be used for deletions (without the I) is established for the D1 or D2 attribute carrying the I correlative.

Example

The organizations data list has a "budget salary" attribute value for each job code within each organizations item. This entry is also used to update a "total budget" attribute value for the organization item through an I correlative. The appearance of the user data list attribute definition items involved would be:

User/Name	A/AMC	Correlatives
ORGANIZATIONS	0	
.	.	
.	.	
.	.	
JOB CODE	4	D1;5;6;7;8
.	.	
.	.	
.	.	
BUDGET SALARY	7	D2;4(VM)Y311(VM)I10;Y311(AM)
.	.	
.	.	
.	.	
TOTAL BUDGET	10	Y113

Indirect Positive Post to Total Budget

Direct Positive Post

No Direct Store Allowed

1.4.4 M Correlative (Multiple Retrieval)

The M correlative is used to retrieve the values of a selected number of attributes, and the associated item I.D.(s), of the same data list with the specification of one special attribute I.D.

The form of the correlative is:

MAMC1;.....;AMCn

M	constant - the multiple retrieval attribute.
AMC(1)	attribute mark count - the system name (equal) to the A/AMC of the item's DICT/CODE "A" attribute definition item) of each attribute in the same data list whose values are to be retrieved together.
;	semicolon - the special character used as the separator of the correlative elements.

This correlative can be used only in a DICT/CODE "N" Synonym Attribute Definition Item. No other correlatives and no values can appear in the same attribute. The A/AMC assigned to the attribute can be any number desired.

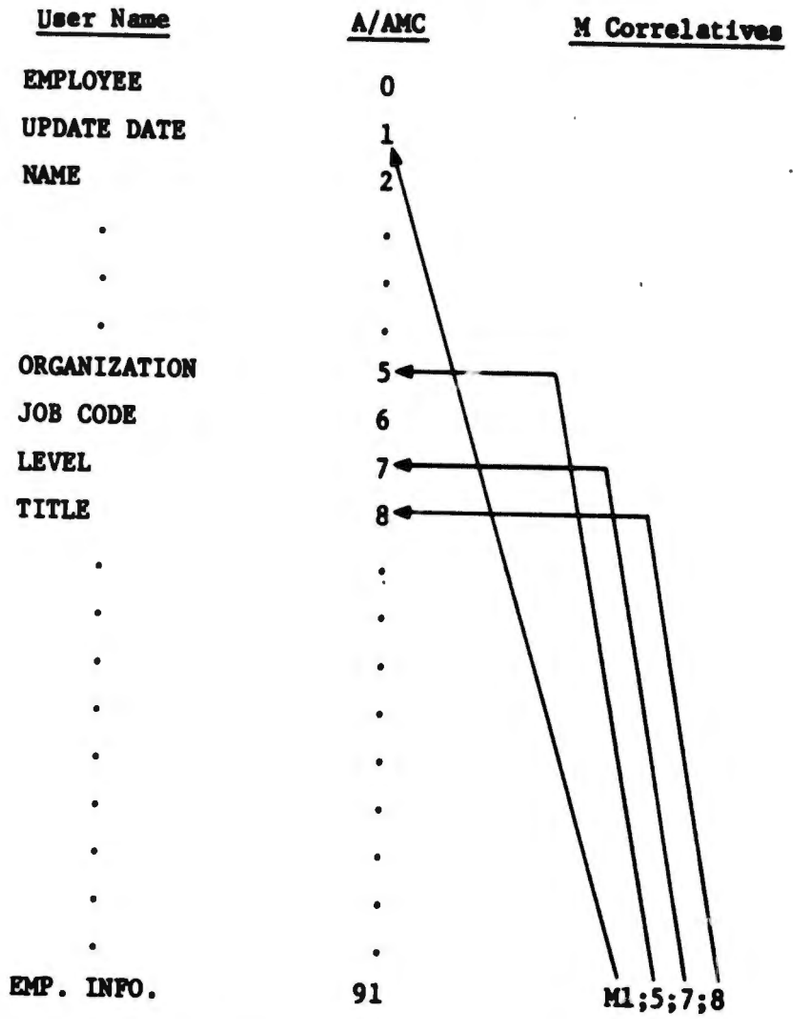
The data list I.D. need not be listed as one of the attributes for retrieval, as its retrieval is automatic.

D2 attributes should not be retrieved without their corresponding D1 attribute being included in the M correlative also.

Example

An employee data list is queried often for information concerning when an individual's data (e.g., his organization, level, and title) was last updated. To relieve the requester of entering each of the attribute I.D.'s

for each request, a special attribute "emp. info." is established which contains an M correlative to accomplish the same results. The appearance in the user data list attribute definition items is:



1.4.5 Y4 Correlative (Dating)

The Y4 correlative is used to store the system date, in an attribute designated for that purpose, whenever a specified attribute is updated.

The form of the correlative is:

Y4AMC

Y4 constant - the dating correlative.

AMC attribute mark count - the system name (equal to the A/AMC of the item's DICT/CODE "A" attribute definition item) of the attribute in which the date is to be stored.

The correlative is stored in the attribute whose updating date is to be controlled.

Example

In an employee data list it is desired to record each time an update of an employee item occurs. The user data list attribute definition items would include the following entries:

User Name	A/AMC	Correlatives
EMPLOYEE	0	Y4 (1)
UPDATE DATE	1	Y211 → Single value replace to be employed in storing the date.

A Y4 can be used only once on an attribute. The date can not be stored again through an I correlative or JS.

The Y4 will be activated ONLY in a directly accessed primary data list.

1.5 Vertical Correlatives

1.5.1 V Correlative (Vertical)

The V correlative is used to indicate the indentured or vertical relationship of attributes within a data list.

The form of the correlative is:

$$VAMC_{NH};AMC_{NL}$$

V	constant - the vertical correlative identifier.
AMC_{NH}	attribute mark count (next higher) - the system name (equal to the A/AMC of the item's DICT/ CODE "A" attribute definition item) of the next higher or "belongs to" attribute in the data list.
;	semicolon - the special character used as the separator of the correlative elements.
AMC_{NL}	attribute mark count (next lower) - the system name of the next lower or "composed of" attribute in the data list.

The correlative is entered in the "DL/ID" DICT/CODE "D" item of the user data list definitions. No entries need to be made in the individual attribute definition items for the data list.

Example

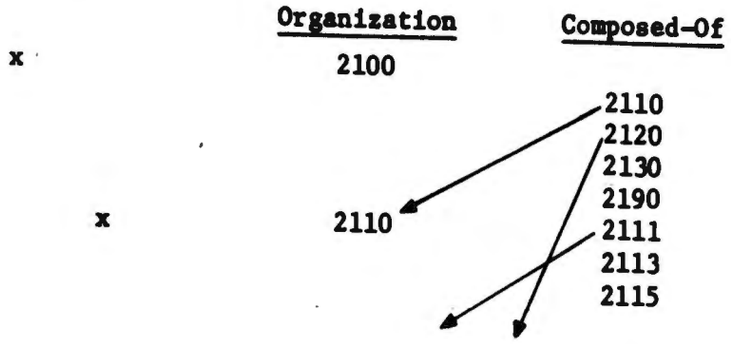
The organizations data list is structured so that a complete organization chart, or any desired portion of it can be retrieved by query. Each organization item will have "reports-to" and "composed-of" attributes which will contain the value of another data list item of higher or lower status respectively.

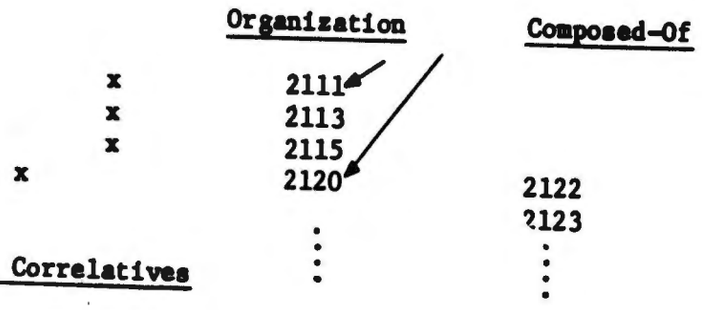
The DL/ID DICT/CODE "D" attribute definition item would contain the V correlative V3;9 if "reports-to" had an A/AMC of 3 and "composed-of had an A/AMC of 9.

Values in several organizations items might appear as follows:

ORGANIZATIONS	TITLE	REPORTS-TO	COMPOSED-OF
2000 (AM)	REPRESENT DIVISION (AM)	1000 (AM)	2100(VM)2300(AM)
2100 (AM)	DEPT. A (AM)	2000 (AM)	2110(VM)2120(VM)2130(VM)2190(AM)
2110 (AM)	GROUP A1 (AM)	2100 (AM)	2111(VM)2113(VM)2115(AM)
2111 (AM)	SECTION (AM)	2110 (AM) .	(AM)
2300 (AM)	DEPT B (AM)	2000 (AM)	2320(VM)2340(VM)2370(AM)
⋮	⋮	⋮	⋮

A retrieval request activating use of the V correlative (using indenturing) to provide the makeup of organization 2100 would output:



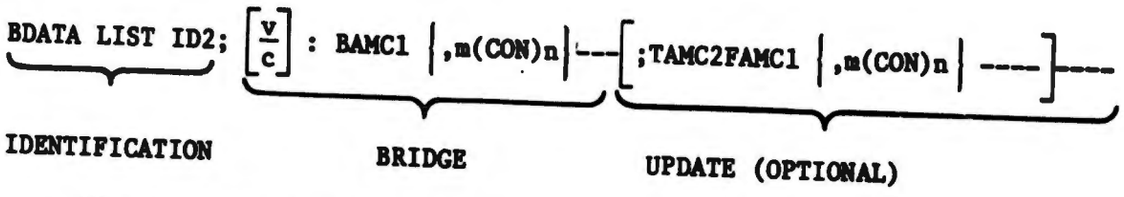


1.6 Horizontal Correlatives

1.6.1 B Correlative (Bridge)

The B correlative is used to allow the attributes of a second data list to be simultaneously updated with the direct updating of the attributes of a first data list. The B(BRIDGE) correlative operates in conjunction with the J(JOINT) correlatives; both must be present and in agreement for the established correlations to be executed.

The form of the B correlative is:



(In the following definitions

Data List 1 = the directly accessed data list in which the correlatives are stored.

Data List 2 = the data list to which the bridge is made.)

BDATA LIST ID2;	IDENTIFICATION SECTION
B	constant - the bridge correlative identifier.
DATA LIST ID2	the user/name of the second data list, the data list to be indirectly affected. Each bridge reference from data list 1 to the same data list 2 requires a separate synonym name* for data list 2. (*Established by a DICT/CODE "D" M/DICT attribute definition item.)
;	semicolon - the special character used as the separator of the correlative elements.

$\left[\frac{V}{C}\right]$: BAMC1 $\left\{,m(CON)n\right\}$

$\left[\frac{V}{C}\right]$	V - verify the attribute value being referenced in data list 1 must be present as an item I.D. in data list 2. C - create - if the attribute value being referenced in data list 1 is not already present an an item I.D. in data list 2, it will be created as one. Either a V or C must be included in the correlative specification.
:	colon - immediately precedes each data list 1 attribute (BAMC1) used in the correlative specification.
BAMC1	bridge attribute mark count - the system name (equal to the A/AMC of the item's DICT/CODE "A" attribute definition item) of the data list 1 attribute whose value will be used as the item I.D. in data list 2. Correlative restrictions appear in the JB definition.
$\left\{,m(CON)n\right\}$	optional segment, used when the BAMC1 attribute is concatenated and only a portion of it is to be used.
,	comma - separates the concatenated value selection criteria from BAMC1.
m	the number of concantenators (CON) which precede the first segment value to be selected. If selection is to begin with the first segment this parameter may be omitted, e.g. (CON)n.
(CON)	Concatenator - separates the selection parameters. This must be present, event when M is omitted.
n	the number of contiguous contatenated segments to be selected.

When the item I.D. being constructed in data list 2 is to be concatenated, the section :BAMC1 {;m(CON)n} must be repeated for each data list 1 attribute to be selected. In such a case only one of the BAMC1's can have multiple values.

If it is desired to verify multiple BAMC1 attributes with the same data List ID2, a separate B correlative with a synonym data List ID2 must appear for each attribute to be verified.

[;TAMC2,Ynnn;FAMC1 {,m(CON)n}....]... UPDATE SECTION (OPTIONAL)

;	semicolon - correlative element separator.
TAMC2	to attribute mark count 2 - the system name of the attribute in data list 2 under which the values specified by FAMC1 will be stored. Entries must be in the ascending sequence of data list 2.
,	comma - separates TAMC2 and Y function.
Ynnn	the Y correlative for the process method to be applied to the FAMC1 value when it is stored in TAMC2. Correlative restrictions appear in the JB definition.
:	colon - immediately precedes each data list 1 attribute, FAMC1, used in the correlative specification.
FAMC1	from attribute mark count 1 - the system name of the attribute in data list 1 from which the values will be taken for storage in TAMC2.
{,m(CON)n}	optional segment, used when the FAMC1 attribute is concatenated and only a portion of it is to be used.

When the attribute in data list 2 (TAMC2) is to be concatenated, the section: :FAMC1 {,m(CON)n} must be repeated for each data list 1 attribute to be selected. In such a case only one of the FAMC1's can have multiple values. The sequence of the FAMC1 entries in the B correlative will determine the sequence of stored values in TAMC2. The ITDS will supply the (CON) concatenator between the concatenated value

segments created in TAMC2. Only values which will function as item I.D.'s or D1 associative values in data list 2 can be concatenated.

Each data list 2 to be indirectly updated by the updating of the same data list 1 must have a separate B correlative in the data list 1 DL/ID item. A data list 2 can not be used to update a third level data list indirectly.

The bridge correlative defines at the data list ID level all of the relationships between data list 1, the data list to be directly updated, and data list 2, the data list to be indirectly affected as a result of data list 1 being referenced. However, the J(JOINT) correlatives actually join the attributes of data list 1 to data list 2. There are two J correlatives, each of which is stored in the appropriate attribute definition items of the involved data list 1 attributes.

The forms of the J correlative are:

JOINT BRIDGE:

JBDATA LIST ID2

JB	constant - the joint bridge correlative identifier.
DATA LIST ID2	same as DATA LIST ID2 in the related B correlative, Identification Section.

The joint bridge is stored in the attribute definition item of each BAMC1 attribute specified in the bridge section of the B correlative.

The method correlative of the BAMC1 attribute must be either a Y111 (non redundant store) or Y213 (single value reject). If the BAMC1 attribute is concatenated and has a Y111 correlative, it can only function as a bridge in its entirety.

JOINT STORE:

JSDATA LIST ID2;TAMC2

JS	constant - the joint store correlative identifier.
DATA LIST ID2	same as DATA LIST ID2 in the related B correlative, Identification Section.
;	correlative element separator.
TAMC2	same as TAMC2 in the related B correlative, Update Section.

A joint store is stored in the attribute definition item of each FAMC1 attribute specified in the update section of the B correlative. The V/MAX and V/TYPE update parameters for the TAMC2 attribute value will be those of the attribute bearing the JS correlative. No JS with an arithmetic post correlative is legal unless the V/TYPE is RN in both the FAMC1 and TAMC2 attribute definitions.

The FAMC1 and TAMC2 attributes may have any Y method correlative in the primary data list and B correlative with the following exceptions:

Y CORRELATIVE OF:

FAMC1attribute	to	TAMC2,Ymmm
Ynnn		Y113,Y313,Y314,Y323,Y324
Y112		Y111,Y101
Y113		Y111,Y101 (Updates may not process as expected in CHANGE or DELETE statements with other Y correlatives because no values have been stored in the primary.)
Y211		Y111,Y112,Y101,Y102
Y311,312,321,322		concatenated attributes Ynnn
concatenated Y111		Y111,Y101 (if not an equal concatenation)

In addition, the following restrictions are placed upon primary D1-D2 attributes which are to joint store:

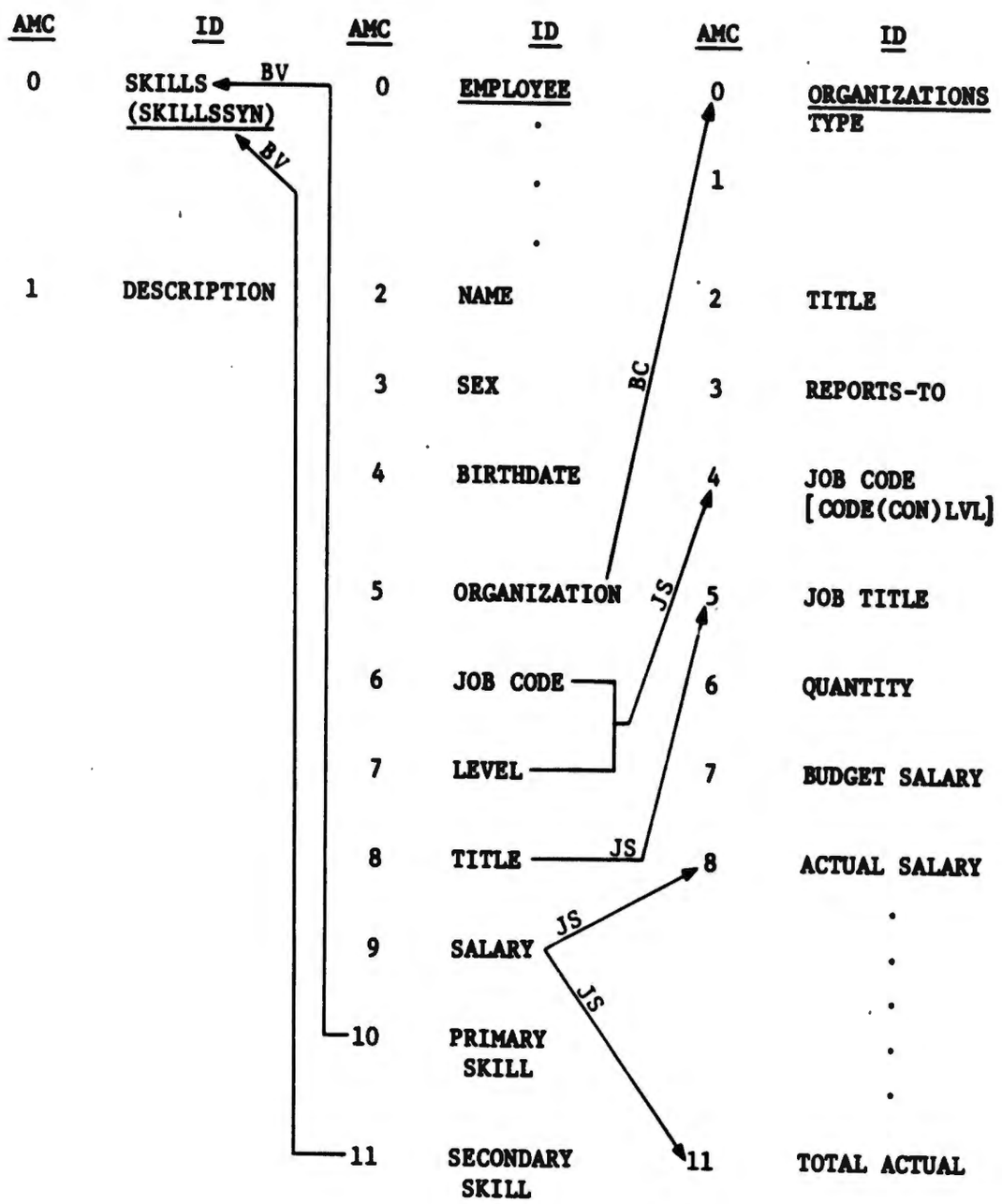
1. An FAMC1 attribute with a D1 definition can not have a JS to a TAMC2 which has a D2 definition in the secondary.

2. An FAMC1 attribute with a D2 definition can only have a JS to a TAMC2 which has a parallel D2 definition in the secondary.

3. If only a portion of a concatenated FAMC1 attribute with a D1 definition is to be a JS to a TAMC2, the primary Y correlative must be a Y213.

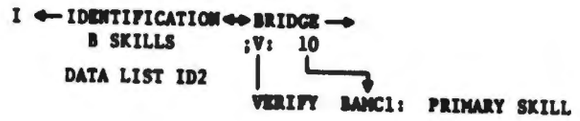
Example

An Employee Data List contains attributes which are used to update related attributes in an organizations data list and also attributes whose values must be verified for accuracy in a skills data list before they can be stored. The appearance of the data list is:

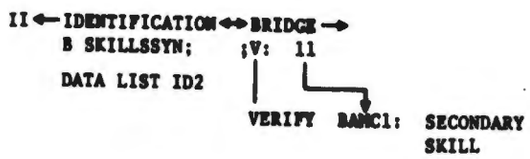


The correlative entries will appear as follows:

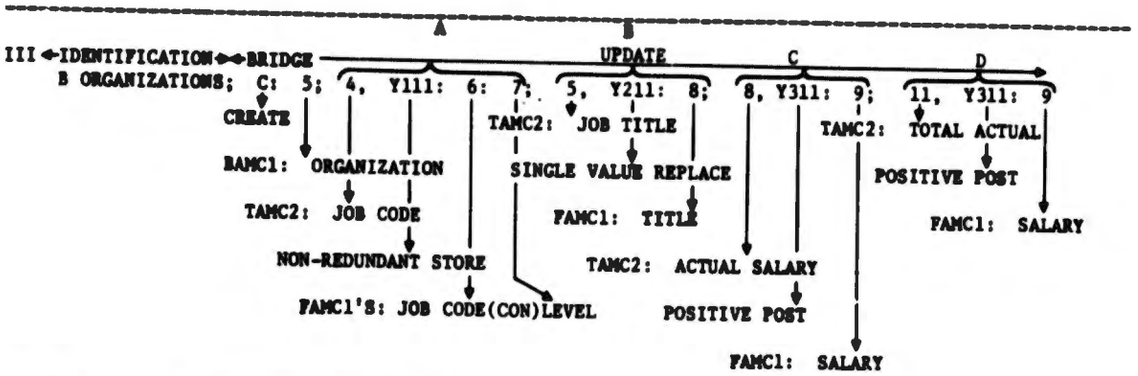
EMPLOYEE DL/ID ITEM CORRELATIVES:



A matching skill value must be found as an Item I.D. in the skills data list or the primary skill value being entered will not be stored.



Same purpose as above. A synonym data list I.D. was necessary because this is the second reference to the same data list 2.



EMPLOYEE DATA LIST ATTRIBUTE CORRELATIVES:

User/Name	AMC	J Correlatives	
ORGANIZATION	5	JB ORGANIZATIONS	Works with III BRIDGE
JOB CODE	6	JS ORGANIZATIONS;4	Works with III A UPDATE
LEVEL	7	JS ORGANIZATIONS;4	Works with III A UPDATE
TITLE	8	JS ORGANIZATIONS;5	Works with III B UPDATE
SALARY	9	JS ORGANIZATIONS;8(AM) JS ORGANIZATIONS;11	Works with III C UPDATE Works with III D UPDATE
PRIMARY SKILL	10	JB SKILLS	Works with I BRIDGE
SECONDARY SKILL	11	JB SKILLSSYN	Works with II BRIDGE

1.6.2 S Correlative (Span)

The S correlative is used to allow the attributes of a second data list to be simultaneously retrieved with the directly accessed attributes of a first data list. The S (SPAN) correlative operates in conjunction with the R (RETRIEVAL) correlatives; both must be present and in agreement for the established correlations to be executed.

The form of the S correlative is

SDATA LIST ID2;SAMC1 { ,m(COM)n}.....;RAMC2$_1$;....RAMC2$_n$

IDENTIFICATION — SPAN — RETRIEVAL

(In the following definitions, data list 1 = the directly accessed data list in which the correlatives are stored.

Data list 2 = the data list to which the span is made and from which the indirect retrievals will be made.)

SDATA LIST ID2; IDENTIFICATION SECTION

S	constant - the span correlative identifier
DATA LIST ID2	the user/name of the second data list, the data list to be indirectly accessed. Each span reference from data list 1 to the same data list 2 requires a separate synonym name* for data list 2. (*Established by a DICT/CODE "D" M/DICT attribute definition item.)
;	semicolon - the special character used as the separator of the correlative elements.

SAMC1 {,m(CON)n} : ... SPAN SECTION

SAMC1	span attribute mark count - the system name (equal to the A/AMC of the item's DICT/CODE "A" attribute definition item) of the data list 1 attribute whose value must equal the item I.D. in data list 2 and for which the indirect retrievals from data list 2 will be made.
{,m(CON)n}	optional segment, used when the SAMC1 attribute is concatenated and only a portion of it is to be used.
,	comma - separates the concatenated value selection criteria from SAMC1.
m	the number of concatenators (CON) which precede the first segment value to be selected. If selection is to begin with the first segment this parameter may be omitted, e.g., (CON)n.
(CON)	concatenator - separates the selection parameters. This must be present, even when m is omitted.
n	the number of contiguous concatenated segments to be selected.
:	colon - separates each SAMC1 which appears in this section if there are multiple.

When the item I.D. in data list 2 is concatenated, the section SAMC1 {m(CON)n}: must be repeated for each data list 1 attribute to be used. In such a case only one of the SAMC1's can have multiple values.

;$RAMC2_1$;.....$RAMC2_n$ RETRIEVAL SECTION

;	semicolon - correlative element separator.
RAMC2	retrieval attribute mark count - the system name of the attribute in data list 2 to be simultaneously retrieved with a data list 1 attribute.

This section is repeated for each data list 2 attribute to be retrieved with the data list 1 SAMC1 attribute. The RAMC2 entries must be in ascending AMC sequence.

Each data list 2 to provide indirect retrieval values to the same data list 1 must have a separate S correlative in the data list 1 DL/ID item. An indirectly retrieved attribute in a data list 2 can not be used to retrieve a third level data list indirectly.

Each attribute in data list 1 which is to cause retrieval of attributes in the same data list 2 must have a separate S correlative stored in the DL/ID item with a synonym DATA LIST ID2.

The span correlative defines at the data list ID level all of the relationships between data list 1, the data list to be directly accessed, and data list 2, the data list from which attribute values will be simultaneously retrieved. However, the retrieval correlatives actually establish the data list 1 attribute relationships to data list 2 attributes. There are two R correlatives, each of which is stored in the appropriate attribute definition items of the involved data list 1 attributes.

The forms of the R correlative are:

RETRIEVAL LINK:

RLDATA LIST ID2

RL	constant - the retrieval link correlative identifier.
DATA LIST ID2	same as DATA LIST ID2 used in the identification section of the corresponding S correlative.

The RL correlative is stored in the attribute definition item of each data list 1 attribute referenced in the span section (SAMC1 entries) of the corresponding S correlative. The RL is activated on a LIST statement only when a value is present in the attribute bearing the RL and that attribute is referenced. An attribute which has a D2 correlative can not also have an RL correlative.

RETRIEVAL ITEM

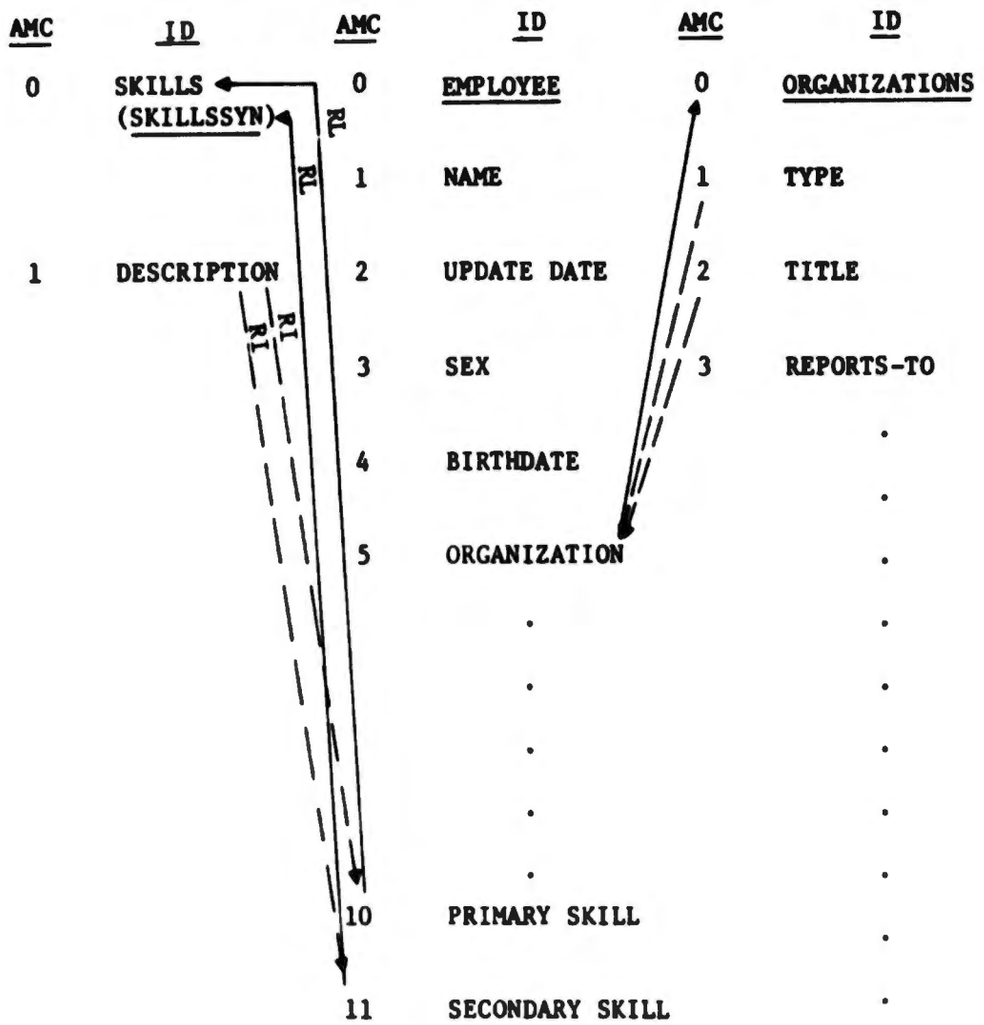
RIDATA LIST ID2;RAMC2$_1$;.....RAMC2$_n$

RI	constant - the retrieval item correlative identifier.
DATA LIST ID2	same as DATA LIST ID2 used in the identification section of the corresponding S correlative.
RAMC2	same as RAMC2 used in the retrieval section of the corresponding S correlative. The RAMC2 entries must be in ascending sequence.

The RI correlative is stored in the attribute definition item of the attribute for which the retrievals are made, normally this will be a SAMC1 attribute of the span section of the corresponding S correlative. The RI is activated whenever the attribute ID which bears the RI is referenced in a list statement.

Example

An employee data list contains attributes which will normally require further description when they are retrieved. Rather than multistore data, the S and R correlatives are employed to provide the desired additional information by indirect retrieval. The appearance of the data lists is:



The correlative entries will appear as follows:

EMPLOYEE DL/ID ITEM CORRELATIVES:

Identification→Span → Retrieval

I SORGANIZATIONS: 5 ; 1 ; 2

DATA LIST ID2

SAMC1:ORGANIZATION

RAMC1:TYPE

RAMC1:TITLE

An item I.D. in the organizations data list must match the organization attribute 5 value in data list 1 when it is requested; then the type and title values from the item in data list 2 will be retrieved with the data list 1 attribute.

Identification ← Span → Retrieval

II SSKILLS ; 10 ; 1

DATA LIST ID2

SAMC1:PRIMARY SKILL

RAMC1:DESCRIPTION

An item I.D. in the skills data list must match the primary skill-attribute 10 value in data list 1 when it is requested; then the description from the data list 2 item will be retrieved with the data list 1 attribute.

Identification→Span→Retrieval

III SSKILLSSYN ; 11 ; 1

DATA LIST ID2

SAMC1:SECONDARY SKILL

RAMC1: DESCRIPTION

Same general operation as II. A synonym name is required for data list ID2 because this is the second reference to it from data list 1.

EMPLOYEE DATA LIST ATTRIBUTE CORRELATIVES:

User/Name	AMC	R Correlatives	
ORGANIZATION	5	RLORGANIZATIONS(AM) RIORGANIZATIONS;; ; 2	Works with I
PRIMARY SKILL	10	RLSKILLS(AM)RISKILLS: ;	Works with II
SECONDARY SKILL	11	RLSKILLSSYN(AM) RISKILLSSYN; 1	Works with III

2. BATCH PROCESSING

2.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the ITDS Generalized Processing Program.

2.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem: Generalized Processing Program, Programming Documentation

2.3 Procedures

a) The functional department completes the ITDS User Request Form for the execution of the desired batched statements by the Generalized Processing Program.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user requests and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards along with all other batch processing requests in the generalized processing. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things: 1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction. 2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section.

h) The Data Operations Input/Output Control Section logs out the reports and subsequently sends them to the functional department that requested them.

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APPENDIX B
APPLICATIONS REPORT PROGRAMS PROCEDURES

1. SCOPE

These procedures encompass those manual steps necessary to direct the processing of the Applications Report Programs.

2. APPLICABLE DOCUMENTS

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem: Applications Programs, Programming Documentation

3. PROCEDURES

The Applications Report Program procedures are composed of the following sequential operations:

a) The respective functional departments are required to complete the following two steps:

   1) Complete ITDS User Request Form for desired report.

   2) Fill out load sheets for data cards necessary to process the report.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things: The first is whether the job was aborted for any reason. The only error that a PC is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. The Data Operations Input/Output Control Section logs out the reports and subsequently sends them to the functional department that requested them.

APPENDIX C
APPLICATIONS EXTRACT/LOAD PROGRAMS

1. GENERALIZED INPUT PROGRAM

1.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the Generalized Input Program.

1.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Descripiton, Part II: Product Description

ITDS Computer Subsystem: Applications Programs, Programming Documentation

1.3 Procedures

a) The functional department completes the following steps in order to execute the program.

   1) Complete ITDS User Request Form for the execution of the desired Generalized Input Program.

   2) Fill out loadsheets for the necessary field select cards for each field to be extracted.

b) The functional department then forwards the above items to the Data Operations Subsystem Control section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations Control functions have been performed the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing

2. PERT/TIME EXTRACT/LOAD PROGRAM

2.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the PERT/Time Extract/Load Program.

2.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Applications Programs, Programming Documentation

2.3 Procedures

a) The functional department completes the following steps in order to execute the program:

   1) Complete ITDS User Request Form for the execution of the desired PERT/Time programs.

   2) Fill out loadsheets for the necessarry selected Time Item card and a card for the desired Summary Level to be extracted.

b) The functional department then forwards the above items to the Data Operations Subsystem Control section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations Control functions have been performed the user request form and accomapnying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things. The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to whom the job should be referred to for further correction.

If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. The Data Operations Input/Output Control Section logs out the reports and subsequently sends them to the functional department that requested them.

3. PERT/COST EXTRACT/LOAD PROGRAM

3.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the PERT/Cost Extract/Load Program.

3.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Applications Programs, Programming Documentation

3.3 Procedures

a) The functional department completes the following steps in order to execute the program:

1) Complete ITDS User Request Form for the execution of the desired PERT/Cost programs.

2) Fill out loadsheets for the necessary selected Cost Item Cards.

b) The functional department then forwards the above items to the Data Operations Subsystem Control section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations control functions have been performed the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things. The first is whether the job was aborted for any reason. The only error that a Prodcution Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to who the job should be referred to for further correction.

If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section who log out the reports and subsequently send them to the functional department that requested them.

4. SCIOLIST EXTRACT/LOAD PROGRAM

4.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the SCIOLIST Extract/Load Program.

4.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Performance Requirements

ITDS Computer Subsystem, Applications Programs, Programming Documentation

4.3 Procedures

a) The functional department completes the following steps in order to execute the program.

   1) Complete ITDS User Request Form for the execution of the desired SCIOLIST program.

   2) Fill out Loadsheets for the necessary FF select cards and the FC select cards.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations control functions have been performed the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things. The first is whether the job was aborted for ary reason. The only error that a Production Coordiantor is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to whom the job should be referred to for further correction.

   If there have not been any processing errors, the program coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. The Input/Output Control Section logs out the reports and subsequently sends them to the functional department that requested them.

5. MAST EXTRACT/LOAD PROGRAM

5.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the MAST Extract/Load Program.

5.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Applications Programs, Programming Documentation

5.3 Procedures

a) The functional department completes the following steps in order to execute the program.

   1) Complete ITDS User Request Form for the execution of the desired MAST programs.

   2) Fill out loadsheets for the necessary MAST select cards.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations control functions have been performed the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things. The first is whether the job was aborted for any reason. The only error that a PC is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to whom the job should be referred to for further correction.

If there have not been any processing errors, the program coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. The Input/Output Control Section logs out the reports and subsequently sends them to the functional department that requested them.

6. ACTION ITEM SYSTEM EXTRACT/LOAD PROGRAM

6.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the Action Item System Extract/Load Program.

6.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Applications Programs, Programming Documentation

6.3 Procedures

a) The functional department completes the ITDS User Request Form for the execution of the desired Action Item System program.

b) The functional department then forwards the above items to the Data Operations Subsystem Control section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations control functions have been performed the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things. The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

   If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

7. MEADS EXTRACT/LOAD PROGRAM

7.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the MEADS Extract/Load Program.

7.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Applications Programs, Programming Documentation

7.3 General

The MEADS Extract/Load Program has been segmented into seven separate subprograms.

a) MEADS Extract

b) QG -- Bulk

c) QA -- Bulk

d) AV -- Bulk

e) QM -- Bulk

f) QS -- Bulk

g) 5 -- Card Bulk

The above subprograms may be run separately or combined as long as the following hierarchy is preserved.

a) MEADS Extract must be executed prior to the execution of QA-Bulk, AV-Bulk, QM-Bulk, and QS-Bulk.

b) If any new Functional Group Codes (FGC's) have been added to the MEADS interim system, QG-Bulk must be executed before either QM-Bulk or QS-Bulk.

7.4 Procedures

a) The functional department completes the ITDS User Request Form for the execution of the desired MEADS subprograms. The required sequence of execution of the subprograms should be stated exactly.

b) Control cards are necessary in only the following two subprograms.

   1) MEADS Extract requires a constant card as the next to the last card in the program deck. The constant requires that the first six card columns should be filled with six numeric control numbers.

   2) 5-Card Bulk requires the insertion of five cards, which are to be bulk added into the data base, into the program deck just before the last card.

c) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the Computer Subsystem for processing.

d) Once the Data Operations control functions have been performed, the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

e) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

f) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

g) The Production Coordinators perform a limited quality control check to ascertain two things.

   1) The first is whether the job was aborted for any reason. The only error that a PC is permitted to rectify is a data card error. Any other error is referred to the Data Processing Operations manager for resolution as to who the job should be referred to for further correction.

   2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

h) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

APPENDIX D
PERIPHERAL SYSTEM

1. MEADS SYSTEM

1.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the MEADS System.

1.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Peripheral Programs, Programming Documentation

1.3 Procedures

a) The functional department completes the following steps in order to execute the program:

   1) Completes the ITDS User Request Form for the execution of the desired MEADS peripheral system. The required sequence of execution of the subprograms should be stated exactly.

   2) Fills out loadsheets for the necessary Label Date cards for the card to Disk and Audit I input subprograms.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things:

1) The first is whether the job was aborted for any reason. The only error that a PC is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to who the job should be referred to for further correction.

2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

2. ENGINEERING FACT SHEET

2.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the Engineering Fact Sheet.

2.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Peripheral Programs, Programming Documentation

2.3 Procedures

a) The functional department completes the following steps in order to execute the program.

1) Completes the ITDS User Request Form for the execution of the desired Engineering Fact Sheet program.

2) Completes the necessary control cards in accordance with the IBM Text/360 Programming manual.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things.

   1) The first is whether the job was aborted for any reason. The only error that a PC is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to who the job should be referred to for further correction.

   2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

3. ENGINEERING PROBLEM NARRATIVES

3.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the Engineering Problem Narrative Program.

3.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Peripheral Programs, Programming Documentation

3.3 Procedures

a) The functional department completes the following steps in order to execute the program:

   1) Complete ITDS User Request Form for the execution of the desired Engineering Problem Narrative program.

   2) Complete necessary control cards in accordance with the IBM Text/360 Programming manual.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things:

   1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations manager for resolution as to whom the job should be referred to for further correction.

2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

4. PERT/TIME SYSTEM

4.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the PERT/Time System.

4.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Peripheral Programs, Programming Documentation

4.3 Procedures

a) The functional department completes the following steps in order to execute the program.

1) Complete ITDS User Request Form for the execution of the desired PERT/Time System.

2) Complete necessary control cards in accordance with instructions in the IBM PERT/Time Programming Manual.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the program outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things:

1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The PC's then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

5. PERT/COST SYSTEM

5.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the PERT/Cost System.

5.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Peripheral Programs, Programming Documentation.

5.3 Procedures

a) The functional department completes the following steps in order to execute the program.

   1) Complete ITDS User Request Form for the execution of the desired PERT/Cost System.

   2) Complete necessary control cards in accordance with the instructions in the IBM PERT/Cost Programming Manual.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the computer subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things:

   1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

   2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

6. MAST SYSTEM

6.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the MAST System.

6.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Peripheral Programs, Programming Documentation

6.3 Procedures

a) The functional department completes the following steps in order to execute the program:

   1) Complete ITDS User Request Form for the execution of the desired MAST subprograms.

   2) Fill out loadsheets for the necessary Data Card Types 1 through 4 for input to the MAST Edit and Update subprogram.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the user request and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the program outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things:

1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.

7. SCIOLIST SYSTEM

7.1 Scope

These procedures encompass those manual steps necessary to direct the processing of the SCIOLIST Program.

7.2 Applicable Documents

ITDS System Description, Part I: Performance Requirements

ITDS System Description, Part II: Product Description

ITDS Computer Subsystem, Applications Programs, Programming Documentation

7.3 Procedures

a) The functional department completes the following steps in order to execute the program:

1) Complete ITDS User Request Form for the execution of the desired SCIOLIST program.

2) Fill out loadsheets for the necessary SCIUP control cards.

b) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the User Request and accompanying loadsheets to the Computer Subsystem for processing.

c) Once the Data Operations control functions have been performed, the User Request Form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

d) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

e) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the program outputs to the Production Coordinators for processing.

f) The Production Coordinators perform a limited quality control check to ascertain two things.

   1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

   2) If there have not been any processing errors, the Production Coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

g) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department analyst that requested them.

h) Once the functional department's analyst has reviewed the output of SCIUP, the analyst decides whether to continue with the rest of the execution of the SCIOLIST System or to retrace steps a) through g) to correct the input run.

i) The functional department completes the following steps in order to execute the program:

   1) Complete ITDS User Request Form for the completion of the execution of the remainder of the SCIOLIST System. The required sequence of execution of the subprograms should be stated exactly.

   2) Complete the loadsheets for the report table cards and the control card for SCIREP5.

j) The functional department then forwards the above items to the Data Operations Subsystem Control Section for control purposes prior to forwarding the User Request and accompanying loadsheets to the Computer Subsystem for processing.

k) Once the Data Operations control functions have been performed, the user request form and accompanying data cards are forwarded to the Computer Subsystem Production Coordinators for further processing.

l) The Production Coordinators then complete the Computer Service Request Form and insert the necessary data cards into the required program decks. This completes the necessary elements of the manual process prior to forwarding these elements to the Computer Subsystem Operations Section.

m) Computer Subsystem Operations executes the program according to Computer Service Request Form instructions and returns the completed forms, program decks, and the programs outputs to the Production Coordinators for processing.

n) The Production Coordinators perform a limited quality control check to ascertain two things:

   1) The first is whether the job was aborted for any reason. The only error that a Production Coordinator is permitted to rectify is a date card error. Any other error is referred to the Data Processing Operations Manager for resolution as to whom the job should be referred to for further correction.

   2) If there have not been any processing errors, the program coordinators should check the printed outputs to determine if the reports conform to the requisite printer set-up instructions.

o) The Production Coordinators then send the program outputs to the Data Operations Input/Output Control Section. This section logs out the reports and subsequently sends them to the functional department that requested them.