

DATATRIEVE-11 Summary Description

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This manual provides an overview of DATATRIEVE-11. It contains a glossary of DATATRIEVE concepts and terms and a master index to the documentation set.

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RSX11M-PLUS
RSTS/E
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VMS with VAX-11 RSX

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How to Use This Manual

This manual provides an overview of DATATRIEVE–11. It contains a documentation directory, a glossary of DATATRIEVE concepts and terms, and a master index to the documentation set.

Intended Audience

This manual is intended for people who want to know:

- What DATATRIEVE is
- What DATATRIEVE does
- What software works with DATATRIEVE
- Where to find information about DATATRIEVE

Structure

This book is divided into two chapters, a glossary, and a master index:

Chapter 1	Provides an overview of DATATRIEVE–11.
Chapter 2	Outlines the DATATRIEVE–11 documentation set.
Glossary	Defines terms used throughout DATATRIEVE–11 documentation.
Master Index	Contains references to subjects in all DATATRIEVE–11 documentation.

DATATRIEVE-11 Overview **1**

This chapter gives you an overview of DATATRIEVE-11. It explains when to use DATATRIEVE, how to use DATATRIEVE to define and manipulate your data, and how the special features of DATATRIEVE allow you to manage data. If any of the terms are unfamiliar to you, refer to the glossary. If you want detailed information about subjects discussed here, consult the master index.

This chapter is not intended to serve as an interactive session with DATATRIEVE. Examples in this chapter include only the text of DATATRIEVE commands, statements, and output, without system prompts and other information that appears on your screen when you actually use DATATRIEVE. See the *Introduction to DATATRIEVE-11* or *DATATRIEVE-11 User's Guide* for more information on using DATATRIEVE.

In this manual, the DATATRIEVE-11 software is referred to as DATATRIEVE.

1.1 What Is DATATRIEVE?

DATATRIEVE is a comprehensive data management tool. It provides the following capabilities:

- A query language for defining, storing, updating, and displaying data
- A facility for writing reports
- Interactive and program-callable access to data
- Access to data distributed on a network connected by DECnet

1.2 Who Is DATATRIEVE For?

DATATRIEVE is designed for use by people with little or no computer experience and by people who are experienced users of computers.

Typical tasks DATATRIEVE-11 performs range from answering a casual question to creating a complex report. For example, using DATATRIEVE, you can query a personnel data file to determine which employees work in a particular department. You can use the same personnel file to produce a report with a statistical analysis of employee compensation by experience level.

You can also use DATATRIEVE-11 in a distribution facility with an order processing system. In this setting, you might want to extract sales data by territory and print a report using that data.

1.3 How Is DATATRIEVE Different from COBOL or BASIC?

DATATRIEVE is a "fourth-generation" language. This means that its syntax is more like English than that of BASIC or COBOL. DATATRIEVE executes commands and statements as you type them. You can tell DATATRIEVE what information you want by name, instead of specifying how to obtain the information as you would in COBOL or BASIC.

In COBOL or BASIC, each program describes the structure of the data it uses. DATATRIEVE lets you define data structures and stores those definitions separately. You can retrieve the data and use it in any number of ways without redefining the data each time.

DATATRIEVE also handles other common language functions automatically, without the need for language statements. For instance, DATATRIEVE:

- Finds data files and opens them
- Performs input and output operations
- Formats data for output
- Converts data types

As a result, you save many lines of code and applications run faster. In addition, the code is much more readable than COBOL or BASIC. For example, a typical programming language might retrieve the records of all employees named Perry like this:

```
LOOP:  READ EMPLOYEE-FILE.  
        AT END EXIT  
        IF LAST_NAME NOT = "PERRY"  
            GO TO LOOP  
        PRINT FIRST_NAME, LAST_NAME, ADDRESS...  
        GO TO LOOP
```

In DATATRIEVE, this becomes:

```
PRINT EMPLOYEES WITH LAST_NAME = "PERRY"
```


1.4 Information Management with DATATRIEVE

DATATRIEVE is a tool for managing data. Using DATATRIEVE, you can:

- Define data in a way that fits your information management needs
- Store and modify data
- Retrieve data and display it on a terminal, record it in a file, or print it on paper
- Format data in reports
- Use a text editor to correct typing and syntax errors
- Access data files that are distributed across a network
- Call any of the information services of DATATRIEVE from a program written in a high-level programming language such as COBOL or BASIC

1.4.1 Data Definition

To create a DATATRIEVE-11 information management application, follow these two steps. First, define the data that you will use with DATATRIEVE commands. You need to define data only once to establish the foundation on which to build your applications. Second, use DATATRIEVE statements to process the data associated with these definitions.

The data definition process involves creating DATATRIEVE domains. Domains represent relationships between actual physical data and descriptions of data. DATATRIEVE performs all data management in terms of domains.

1.4.1.1 Simple Domains — In its simplest form, a DATATRIEVE domain definition consists of the name of the domain and the names of the record definition and data file associated with it. Here is an example of a domain definition:

```
DEFINE DOMAIN PERSONNEL USING PERSONNEL_RECORD ON PERSON.DAT;
```

The record definition, `PERSONNEL_RECORD`, describes the data you want to use. The data file, `PERSON.DAT`, contains the data. The domain you created, `PERSONNEL`, connects the description with the data.

To use a domain, first get access to it with the `READY` command:

```
READY PERSONNEL
```

After you ready a domain, you can instruct DATATRIEVE to display data with a statement such as:

```
PRINT FIRST 2 PERSONNEL
```

In response to this statement, DATATRIEVE checks the record definition, gets the data requested from the file, and displays the following lines on your terminal:

ID	STATUS	FIRST NAME	LAST NAME	DEPT	START DATE	SALARY	SUP ID
00012	EXPERIENCED	CHARLOTTE	SPIVA	TOP	12-SEP-1972	\$75,892	00012
00891	EXPERIENCED	FRED	HOWL	F11	9-APR-1976	\$59,594	00012

If you want to put this information in a file, you can specify an output file:

```
PRINT FIRST 2 PERSONNEL ON FILE.DAT
```

You can send the information to a line printer using this statement:

```
PRINT FIRST 2 PERSONNEL ON LP:
```

1.4.1.2 View Domains — A view domain is a special type of domain that allows you to include any combination of fields and records from one or more domains. This means that you can define a view that selects information from a number of domains. View domains provide a way to reorganize data without changing the files storing the information. You can use a view domain just as you use a simple domain.

1.4.1.3 The Application Design Tool — The Application Design Tool (ADT) is a DATATRIEVE utility that simplifies the process of defining domains. ADT operates interactively and queries you for information. Your responses to the questions enable ADT to define a domain, define a record format, and create a data file. To start the Application Design Tool, type ADT.

1.4.2 Data Storage

Information management applications require that files be filled with data. Use the DATATRIEVE STORE statement for this purpose. When you enter a STORE statement, DATATRIEVE prompts you for field values. Before accepting input, DATATRIEVE also performs any validation checks specified by the record format.

1.4.3 Data Retrieval

You use data to make decisions, generate reports, and make your work easier. DATATRIEVE allows you to retrieve stored data with a set of statements. You need not be concerned with the underlying data structure or with the physical location of the data.

Data retrieval statements in DATATRIEVE consist of verbs modified by record selection expressions (RSEs). An RSE is a phrase that allows you to specify only the records you want from one or more domains. One DATATRIEVE statement can get the answer to a casual query or produce a detailed report.

A typical data retrieval statement is:

```
FIND PERSONNEL WITH START_DATE GT "01-Jan-1982"
```

This statement establishes a collection of records. It might yield a response such as:

```
[50 records found.]
```

Subsequent FIND statements can narrow down this CURRENT collection of 50 records. For example:

```
FIND CURRENT WITH DEPARTMENT EQUAL "SALES" OR "MARKETING" AND  
ZIP_CODE EQUAL 02138
```

DATATRIEVE may respond with:

```
[4 records found.]
```

You can then use the PRINT statement to display the collected data on the terminal screen, record it in a file, or print it on paper. For example, to display the data on your terminal screen:

```
PRINT ALL NAME, ADDRESS, PHONE
```

1.4.4 Procedures

With the DEFINE PROCEDURE command, you can specify sequences of DATATRIEVE-11 commands and statements and store them in a data dictionary for later use. You can invoke procedures by themselves and embed them in other procedures. You can use a procedure interactively or have an applications program invoke the procedure.

1.4.5 The Report Writer Facility

The DATATRIEVE Report Writer provides a set of formatting options for producing printed reports with page and column headings, page numbers, totals, sub-totals, and other summary information.

You can tell the Report Writer what data and records to include in the report, what to title the report, what headings to print at the top of each page, and what summary lines to include. You can also tell the Report Writer to perform mathematical operations and can include the results of these operations in your report.

The following example shows how the Report Writer formats a page. The page has the date and page number in the upper right corner. In this example, the Report Writer automatically sets the page width to 80 columns, spacing the fields of each record for you. Use the REPORT statement to invoke the Report Writer:

```
REPORT PERSONNEL WITH DEPT = "F11"
SET REPORT_NAME = "DEPARTMENT F11: EMPLOYEES"
PRINT ID, STATUS, NAME, START_DATE
END_REPORT
```

The Report Writer formats your report as follows:

DEPARTMENT F11: EMPLOYEES				23-Jul-81
ID	STATUS	FIRST NAME	LAST NAME	START DATE
00891	EXPERIENCED	FRED	HOWL	9-Apr-76
32432	TRAINEE	THOMAS	SCHWEIK	7-Nov-81
78923	EXPERIENCED	LYDIA	HARRISON	19-Jun-79
87701	TRAINEE	NATHANIEL	CHONTZ	28-Jan-82

1.4.6 Guide Mode

DATATRIEVE provides a self-teaching facility named Guide mode. To invoke Guide mode, issue the SET GUIDE command. Guide mode helps you through a DATATRIEVE session with a series of questions. At any time in this mode of operation, you can request a list of commands, statements, names, or value expressions that you can enter.

Guide mode is particularly useful to the inexperienced user who wants assistance during a DATATRIEVE session.

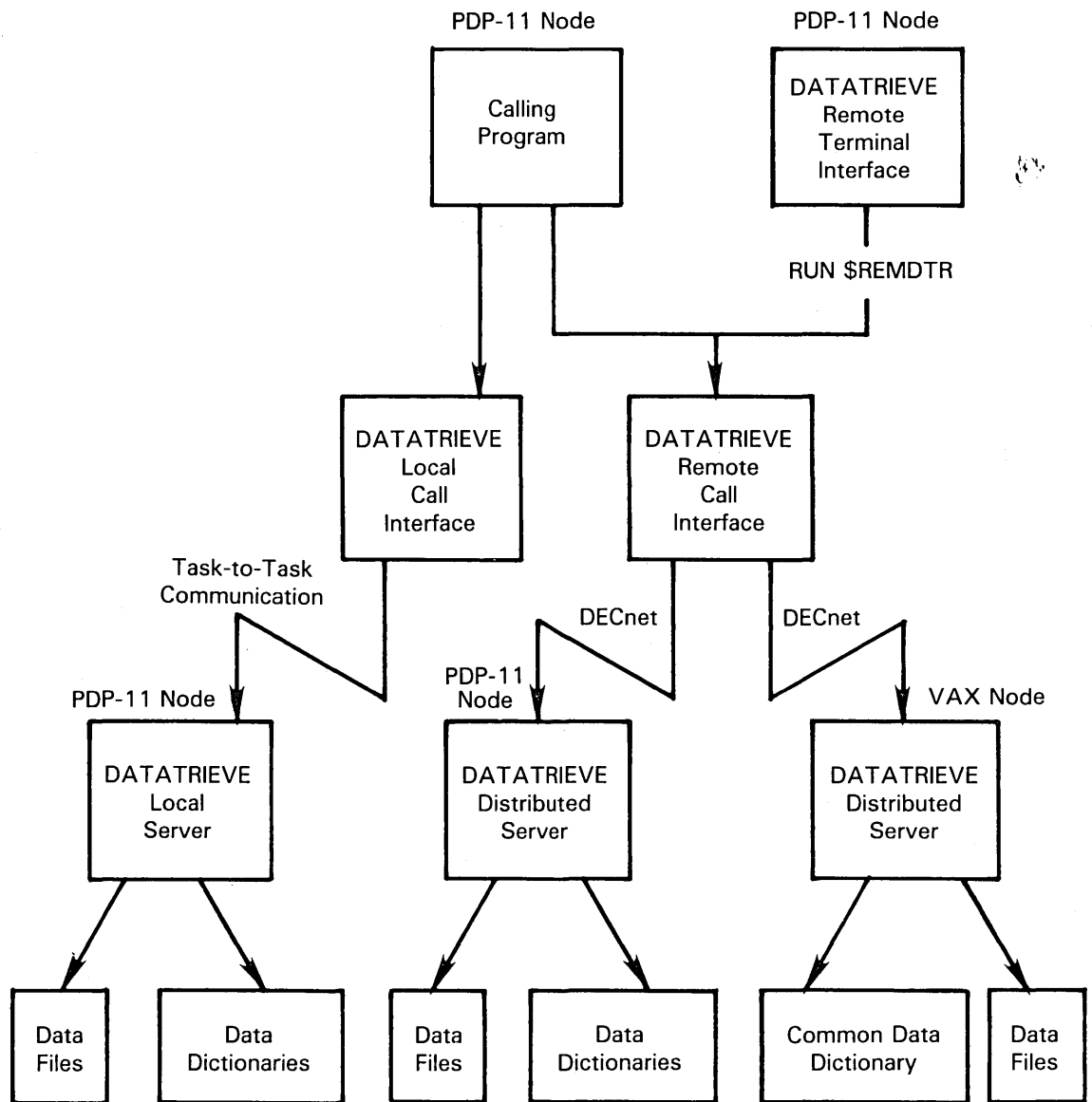
1.4.7 The DATATRIEVE Editor

The DATATRIEVE Editor allows you to modify existing domain, record, procedure, and table definitions stored in your current data dictionary. You can substitute characters and insert, replace, delete, and display lines in a dictionary definition.

Any mistakes you make while modifying your definitions are not checked by the DATATRIEVE Editor, however. You may want to define your DATATRIEVE elements as procedures or command files. You can then modify them as many times as necessary, and invoke the procedure or command file to store each version of the definition in DATATRIEVE.

1.4.8 Distributed Data Access and Call Interface

The DATATRIEVE Remote Terminal Interface and Call Interface give you access to distributed data and allow you to call DATATRIEVE from programs in high-level languages. The Call Interface includes a Local Call Interface, for calls to DATATRIEVE on your local PDP-11 node and a Remote Call Interface, for calls to DATATRIEVE on another node connected to your system. Figure 1-1 shows this relationship.



ZK-6305-HC

Figure 1-1: Distributed Data Access and Call Interface

1.4.8.1 Remote Terminal Interface — The DATATRIEVE Remote Terminal Interface (REMDTR) gives you access to distributed data, enabling you to run DATATRIEVE interactively on another computer connected to yours by DECnet. If you are logged on to a PDP-11 system, you can run DATATRIEVE on a PDP-11 or VAX system by typing:

```
RUN $REMDTR
```

REMDTR prompts you for a node name. Enter the name of a VAX or PDP-11 system with DATATRIEVE installed. REMDTR logs you on to that system, and you can have an interactive DATATRIEVE session at the remote system.

1.4.8.2 Call Interface — The Call Interface allows you to call the data management services of DATATRIEVE-11 from programs in high-level languages such as BASIC, COBOL, and FORTRAN. You can make calls from a high-level language program to DATATRIEVE services on your local node or on a remote node or computer connected to your system by DECnet. You do not need DECnet to make a local call.

DATATRIEVE-11 Documentation Directory **2**

This chapter describes the elements of the DATATRIEVE-11 documentation set and summarizes the objective, intended audience, and contents of each element.

2.1 DATATRIEVE-11 Installation Guide

Objective

To show how to install DATATRIEVE-11.

Audience

Those responsible for maintaining the operating system or installing DATATRIEVE-11.

Summary

The Installation Guide explains how to install DATATRIEVE-11 on different PDP-11 operating systems.

2.2 DATATRIEVE-11 Online Release Notes

Objective

To provide supplemental information about DATATRIEVE-11.

Audience

All DATATRIEVE-11 users.

Summary

The online Release Notes that come with your installation kit provide information about the current version of DATATRIEVE-11 not included in the printed documentation set.

2.3 DATATRIEVE-11 Summary Description

Objective

To provide an overview of DATATRIEVE-11, to briefly explain the utilities for data management, and to guide users through the documentation set.

Audience

All users of DATATRIEVE-11.

Summary

This book offers an overview of DATATRIEVE-11. A documentation directory describes the manuals in the set, a glossary defines terms used in the documentation, and a master index facilitates access to specific concepts and features throughout the documentation.

2.4 Introduction to DATATRIEVE-11

Objective

To introduce DATATRIEVE to new users.

Audience

People who are unfamiliar with DATATRIEVE. Readers should be able to log in to a PDP-11 computer and display the contents of the default directory. If you need to review how to do that, consult the user's guide for your operating system.

Summary

The manual begins with a brief overview of information management and then, using examples, interactively guides you through the basic DATATRIEVE tasks. These include defining, storing, retrieving, and modifying data and using ADT and Guide mode.

2.5 DATATRIEVE-11 User's Guide

Objective

To describe the interactive use of DATATRIEVE-11.

Audience

People who:

- Are thoroughly familiar with the material covered in the *Introduction to DATATRIEVE-11*
- Have previous experience using DATATRIEVE
- Have experience in application programming but are unfamiliar with DATATRIEVE

Summary

The manual begins by explaining how to set up your DATATRIEVE environment. It then explains how to use the DATATRIEVE-11 data dictionaries and how to use DATATRIEVE to define, retrieve, modify, and restructure data.

2.6 DATATRIEVE-11 Guide to Writing Reports

Objective

To explain how to produce reports using DATATRIEVE-11.

Audience

Users who want to produce reports based on data managed by DATATRIEVE. The reader should be familiar with the material covered in the *Introduction to DATATRIEVE-11* and some topics discussed in the *DATATRIEVE-11 User's Guide*.

Summary

The manual begins with examples of DATATRIEVE-11 reports and then describes how to write the instructions that specify the format and content of a report. Subsequent chapters discuss more advanced techniques of report writing.

2.7 DATATRIEVE-11 Call Interface Manual

Objective

To explain how to write high-level language programs that call DATATRIEVE, and how to use the DATATRIEVE-11 Remote Terminal Interface and Call Interface to access data on remote systems as well as the local system.

Audience

Applications programmers who are familiar with DATATRIEVE.

Summary

The manual explains how to call DATATRIEVE-11 from within programs written in high-level programming languages such as FORTRAN, COBOL, and BASIC. It also explains how to use DATATRIEVE to access data on remote PDP-11 and VAX systems.

2.8 DATATRIEVE-11 Reference Manual

Objective

To provide comprehensive reference information about DATATRIEVE-11.

Audience

Users who have a working knowledge of DATATRIEVE or know the basic concepts of data processing and are familiar with their operating systems.

Summary

The manual explains in detail the rules governing the use of DATATRIEVE–11. It describes value expressions, Boolean expressions, functions, record selection expressions, and record and field definition clauses. It presents full descriptions of the commands and statements that compose the DATATRIEVE–11 language.

2.9 DATATRIEVE–11 Pocket Guide

Objective

To provide quick reference information on the syntax and elements of the DATATRIEVE–11 language.

Audience

Experienced users of DATATRIEVE.

Summary

The guide lists the formats of DATATRIEVE–11 commands, statements, clauses, and value expressions and contains basic information about their use.

Glossary

Access control list (ACL)

A table that lists which users are allowed access to the domain, record, procedure, or table definitions stored in data dictionaries. Each definition in a data dictionary has an associated ACL. An entry in an ACL consists of:

- A way to identify users
- An access key
- A list of access rights

Application Design Tool (ADT)

A utility that aids you in creating domains, record definitions, and files by asking you questions and prompting you for the information.

Arithmetic operator

A symbol used to perform arithmetic operations. DATATRIEVE-11 operators include addition (+), subtraction (-), multiplication (*), and division (/).

Boolean expression

An expression that tells DATATRIEVE how to compare records and what values to use in the comparison. DATATRIEVE evaluates Boolean expressions as either true or false. In the statement `PRINT PERSONNEL WITH STATUS = "TRAINEE"`, the expression `STATUS = "TRAINEE"` is a Boolean expression.

Boolean operator

A keyword that enables you to combine or negate Boolean expressions. Boolean operators are AND, OR, NOT, and BUT. For example, the expression STATUS = "TRAINEE" AND SALARY > 20000 contains the Boolean operator AND.

Call Interface

A DATATRIEVE-11 facility that allows you to call the data management services of DATATRIEVE from within a high-level language.

See also Local Call Interface and Remote Call Interface.

Calling program

A program written in a high-level programming language that uses the data management capabilities of DATATRIEVE.

Collection

A group of records gathered together from a larger group of records with the FIND statement. You can name a collection and can have several named collections available at once.

Column header

The heading that labels a column of data in a report or in the output of a PRINT statement. DATATRIEVE uses the field name as a column header unless the field definition includes a QUERY_HEADER clause.

Command

A valid combination of words that starts with a DATATRIEVE verb and that deals with a dictionary or its contents. Examples of commands are: DEFINE, SET, SHOW, FINISH, RELEASE, and READY. You cannot join commands or include them in statements.

See also Statement.

Command file

A file with a default file type .CMD that contains DATATRIEVE commands and statements. You tell DATATRIEVE to execute the commands in the file by typing the at sign (@) and the file name. DATATRIEVE then displays and executes each statement and command in the file as though you were entering them.

CURRENT

The keyword that identifies the most recently formed collection.

See also Collection.

Condition clause

A component of a record selection expression that tells DATATRIEVE the characteristics of records you want in a record stream. It consists of the word WITH and a Boolean expression.

Data dictionary

A file that contains information about your data and its organization. DATATRIEVE automatically connects you to your default dictionary when you enter DATATRIEVE. To display the name of the dictionary you are using, type SHOW DICTIONARY. To create a data dictionary, use the DEFINE DICTIONARY command. To change your current dictionary, use the SET DICTIONARY command.

Data file

A set of records stored as a unit on a storage medium, such as a disk. To create a data file, use the DEFINE FILE command.

See also Indexed file and Sequential file.

Database

Information maintained on a computer and organized to facilitate inquiry and update.

DECnet

The DIGITAL software facility that enables a user to access information on a remote computer through telecommunications lines. DECnet enables the operating system to function as a network node.

Detail lines

The formatted data lines that are the output of a Report Writer PRINT statement. Detail lines contain information from individual records in a report.

Domain

A named data structure that associates a data file and a record definition. Use the domain name to gain access to information in the data file as interpreted by the record definition. For example, the domain PERSONNEL associates the file PERSON.DAT and the record definition PERSONNEL_REC.

Edit string

A character or group of characters that instructs DATATRIEVE to use a specified format to display and print field values.

Elementary field

A record segment containing one item of information. Elementary fields do not contain other fields. For example, in an employee record, an elementary field might be the employee's last name.

See also Field and Group field.

Field

A segment of a record that contains data. A field can consist of a single data item such as a state abbreviation, or a combination of data items such as a street number and name. Related fields comprise a record.

See also Elementary field and Group field.

Field definition clause

A phrase that describes the data stored in a record field. The field definition clauses provided by ADT include PIC, USAGE IS, EDIT_STRING, and QUERY_NAME. You can specify other field definition clauses by using the DEFINE RECORD command.

Field tree

A hierarchical model of the fields in a record, based on the record definition in the data dictionary. Related fields are stored on the same branch of the tree to make data retrieval efficient.

File

See Data file.

Group field

A record segment containing one or more elementary or group fields. In the record definition PERSONNEL_REC, the group field NAME contains two elementary fields, LAST_NAME and FIRST_NAME.

See also Field and Elementary field.

Guide mode

An interactive tutorial tool. Guide mode helps you work step-by-step through a DATATRIEVE session and saves you typing time by providing additional prompts and information as you type in commands and statements. To use Guide mode, type SET GUIDE.

Index key

A field that DATATRIEVE uses to locate records in an indexed file. You define the primary index key and any alternate keys in the DEFINE FILE command. You cannot change the value of a primary index key; however, you can change the values of alternate index keys. For example, a good primary key for the records in a personnel file is an employee ID number because it uniquely identifies each employee. An example of an alternate key for the same group of records might be department number.

Indexed file

A file of records in which each record is identified by at least one index key. You can delete records from an indexed file, but you cannot change the primary index key.

Information management

A process you use to organize and manage information. DATATRIEVE is an information management tool that helps you organize information accurately and efficiently.

Interactive processing

A mode of computer operation in which you control the actions of the computer by entering commands and data at a terminal rather than by using a program. When you communicate with DATATRIEVE, you are using interactive processing.

Keyword

A word that has a specific meaning for DATATRIEVE. Examples of keywords are DEFINE, SET, and REPORT. The names that you define for domains and tables cannot exactly match a DATATRIEVE keyword.

Literal

A value expression that is either a character string enclosed in quotation marks or a number.

Local Call Interface

A Call Interface that allows you to access DATATRIEVE data management services from within a high-level language program on the same node without using DECnet.

See also Call Interface and Calling program.

Name clause

A component of an RSE that tells DATATRIEVE what to name a record stream.

See also Record selection expression (RSE).

Primary key

The index key whose value determines the order of records in an indexed file. You cannot modify or erase the value in a primary key field.

See also Index key.

Print list

Value expressions such as keywords, symbols, and field names that are used to display and format record fields. Some Report Writer print list items include SKIP, COL, SPACE, and (-) and are used to format detail and summary lines in a report.

Privilege

Access to data and data definitions for a specific purpose. There are four privileges to a definition in a data dictionary: R (read), W (write), M (modify), and E (execute or extend).

Privileges are defined in the access control list (ACL) for a dictionary definition. Users must have C (control) privilege to access an ACL.

See also Access control list (ACL).

Procedure

A named sequence of statements and commands that you store in a data dictionary to perform certain functions. To create a procedure, use the DEFINE PROCEDURE command. To execute a procedure, type a colon (:) and the procedure name. DATATRIEVE executes a procedure as though you had just typed the commands and statements it contains.

Prompt

A character or phrase that DATATRIEVE displays on your terminal to let you know it is waiting for input. The DTR> prompt indicates that you should type in commands and statements that tell DATATRIEVE what to do next. Other types of prompts, such as CON>, DFN>, RW>, and Enter, help you know what DATATRIEVE expects from you. The prompts QED> or IN> appear when you are using the DATATRIEVE Editor.

Prompting expression

An expression you can specify to prompt for input when a statement executes.

Query header

A name that DATATRIEVE uses as a column header when displaying or printing values. You define a column header with the QUERY_HEADER clause. For example, STATUS is the column header for values from the field EMPLOYEE_STATUS in the record PERSONNEL_REC.

If you do not use the QUERY_HEADER clause to specify a column header, DATATRIEVE uses the field name.

Query name

A synonym for a field name, usually a shorter word. You define a field name synonym with the `QUERY_NAME` clause and can use the synonym anywhere you can use the field name.

Record

A collection of related fields stored as a unit. For example, one employee record may include an employee's name, address, department, salary, and starting date.

See also `Field`.

Record definition

A description of record fields that is stored in a data dictionary. A record definition tells `DATATRIEVE` how to identify and store information when it accesses a file.

Record selection expression (RSE)

A phrase defining conditions that individual records must meet before they are retrieved from data files. For example, the statement `PRINT PERSONNEL WITH STATUS = "TRAINEE"` contains the record selection expression `PERSONNEL WITH STATUS = "TRAINEE"`.

Record source

A component of an RSE that tells `DATATRIEVE` the name of the domain or collection containing the records you want to include in a record stream.

Record stream

A temporary group of records formed by a record selection expression.

See also `Record selection expression (RSE)`.

Relational operators

Symbols used to compare values. For example, the `DATATRIEVE` statement `FIND PERSONNEL WITH SALARY > 10000` contains the relational operator "`>`" (greater than).

Remote Call Interface

A Call Interface that allows you to access `DATATRIEVE` data management services on another node from within a high-level language program. The other node must be connected to your system by `DECnet`.

See also `Call Interface` and `Calling program`.

Remote Terminal Interface (REMDTR)

A program that enables you to invoke `DATATRIEVE` on remote `PDP-11` and `VAX` systems through `DECnet`.

Report header

The heading of a Report Writer report. Some report header options are page number and date in the top-right corner of the report and a centered title.

Report specification

A series of Report Writer statements that creates and formats a report.

Report Writer

A component of DATATRIEVE-11 that allows you to create, format, and print reports. The Report Writer can also include the results of mathematical operations in the report.

Restriction clause

A phrase in a record selection expression that tells DATATRIEVE which records to include in a record stream.

RSE

See Record selection expression (RSE).

Selected record

The one record in a collection that is available for display or modification without specifying a record selection expression. Use the SELECT statement to indicate a selected record.

Sequential file

A file whose records are stored and accessed in the order they are written to the file. A sequential file does not have an index. You cannot delete records from a sequential file.

See also Data file and Indexed file.

Sort key

A field that forms the basis for sorting. For example, in the statement PRINT PERSONNEL SORTED BY START_DATE, START_DATE is the sort key.

Statement

A valid combination of words starting with a DATATRIEVE verb that performs query, report, or data manipulation functions. A statement can contain other statements, but it cannot contain commands.

See also Command.

Statistical functions

Keywords, such as COUNT, AVERAGE, and TOTAL, that tell DATATRIEVE or its Report Writer to perform a particular calculation.

Substitution directive

An expression in a command or statement passed to DATATRIEVE-11 from a calling program. The substitution directive is replaced by parameters given in the program. For example, the program can prompt for the name of a domain and read it in:

```
      READ (5, 40) DOMAIN
40    FORMAT (A)
```

You pass the name of the domain with the !CMD substitution directive:

```
CALL DTR$COMMAND (DAB, 'READY !CMD', DOMAIN)
```

Summary line

A line in a report that summarizes information included in the report. Use the AT TOP and AT BOTTOM statements to create summary lines.

Top-level field

The first field in a record definition. All records have a top-level field that includes all other fields in the record. The top-level field always has a name and the lowest field level number (usually 01).

Value expression

A string of symbols that specifies a value for DATATRIEVE to use when executing a statement. Character-string and numeric literals, arithmetic expressions, qualified field names, and variables are some of the DATATRIEVE value expressions you can use.

Variable

A value expression created by a DECLARE statement. For example, the following statement creates a variable, X, which can be assigned any 1- or 2-digit numerical value:

```
DECLARE X    PIC 99.
```

View domain

A special type of domain that allows you to include any combination of fields and records from one or more domains. To users accessing data with a view domain, the results are the same as if they used a simple domain.

View domains are most useful for:

- Restricting access to sensitive parts of the database
- Making the results of frequently used selections and joins permanent

Virtual field

A field that appears in the record definition but not in the physical record. In DATATRIEVE, you create virtual fields with the COMPUTED BY clause. For example, you can add the field called WEEKLY_SALARY to PERSONNEL_REC by adding the following to the record definition:

```
05 WEEKLY_SALARY    COMPUTED BY SALARY/52  
                   EDIT_STRING IS $$,$$$.
```

Because the value of a COMPUTED BY field is computed when a statement executes, it occupies no space in the record.

Workspace

The maximum amount of memory you can use during a DATATRIEVE session. Use the SHOW SPACE command to display information about your DATATRIEVE workspace.

Master Index

This index contains entries for the entire DATATRIEVE-11 document set. Manuals are indicated by the following abbreviations:

INTRO	Introduction to DATATRIEVE-11
REPORT	Guide to Writing Reports
UG	User's Guide
REF	Reference Manual
CALL	Call Interface Manual

Page numbers followed by a "t" contain tables; those followed by "f" contain figures. For example, a reference to *REF* 5-3t would indicate a table on page 5-3 of the Reference Manual.

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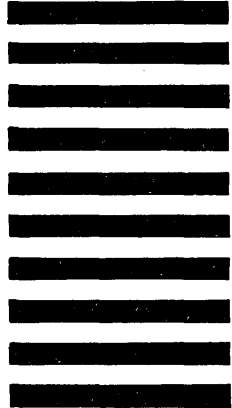
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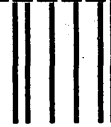
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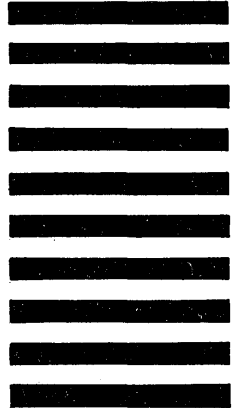
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