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This manual contains the information needed to install DATATRIEVE-11 on: IAS V3.0, RSX-11M V3.2, RSX-11M-PLUS V1.0, RSTS/E V7.0, and VMS V2.0.

DATATRIEVE-11 Installation Guide

AA-H169B-TC

OPERATING SYSTEMS AND VERSIONS:	IAS	V3.0
	RSX-11M	V3.2
	RSX-11M-PLUS	V1.0
	RSTS/E	V7.0
	VMS	V2.0
SOFTWARE VERSION:		2.0

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Appendix A Acceptance Test

Commercial Engineering Publications typeset this manual using DIGITAL's TMS-11 Text Management System.

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Preface

This manual is for use by the system manager responsible for installing DATATRIEVE-11 Version 2.0 on the following systems:

1. IAS V3.0 (with “T” kit installed)
2. RSX-11M V3.2
3. RSX-11M-PLUS V1.0
4. RSTS/E V7.0
5. VMS V2.0

CHAPTER 1 explains general installation procedures and customization of DATATRIEVE-11.

CHAPTER 2 describes installation procedures for DATATRIEVE-11 on an IAS system.

CHAPTER 3 describes installation procedures for DATATRIEVE-11 on RSX-11M and RSX-11M+ systems.

CHAPTER 4 describes installation procedures for DATATRIEVE-11 on a RSTS/E system.

CHAPTER 5 describes installation procedures for DATATRIEVE-11 on a VMS system.

APPENDIX A contains the acceptance test dialogue.

Documentation Conventions

The following conventions are used throughout this manual to show the DATATRIEVE installation procedures:

- ⓇⓔⓂ** The symbol **ⓇⓔⓂ** represents the nonprinting carriage return key.
- lowercase** Lowercase text indicates variable information you provide.
- UPPERCASE** Uppercase text indicates literal information you enter as shown.
- color** Information you type during the installation procedure is indicated in red.
- ^** The circumflex (^) represents a control character. Thus, **ⓈⓐⓂⓔ** means the same thing as ^Z.

Chapter 1

General Information

1.1 General Installation Procedures

The installation procedure for DATATRIEVE is essentially the same for all operating systems. In all cases, you must use a privileged account to access needed system directories. The general installation procedure follows:

1. Log in to a privileged account.
2. Physically mount the distribution medium.
3. Copy the installation tape or disk cartridge.
4. If you decide to customize DATATRIEVE, as outlined in Section 1.2, edit the file QD.MAC.
5. Execute the DATATRIEVE-11 installation command file, or, on RSTS/E, execute the BUILD program. Executing this file installs DATATRIEVE-11 V2.0 and executes the DATATRIEVE Acceptance Test on all systems except RSTS/E.
6. If the DATATRIEVE Acceptance Test was not executed as part of the build procedure, invoke DATATRIEVE and execute the command file DTR.TST.

1.2 DATATRIEVE Customization

Some DATATRIEVE options can be set at installation time. If you wish to change any options from the default, you must edit the file QD.MAC before execution of the DATATRIEVE installation command file. The options are:

1. The name (and location) of the DATATRIEVE Data Dictionary. On all systems except RSTS/E the default file specification is LB:[1,2]QUERY.DIC. On RSTS/E the default file specification is LB:QUERY.DIC. If you want to move the dictionary to some other device or account, replace LB:[1,2]QUERY.DIC with the file specification that you want to use. If you do not want to have a central dictionary, change the dictionary file specification to SY:QUERY.DIC, and DATATRIEVE will look in each user's directory for a dictionary.

2. The name and location of the DATATRIEVE message file. On all systems except RSTS/E the default file specification is LB:[1,2]QUERY.MSG. On RSTS/E the default file specification is LB:QUERY.MSG. If you want to move the message file to some other device or account, change the message file specification. The message file specification is referenced both by QDICT (which creates the message file at installation time) and DATATRIEVE itself.
3. The action DATATRIEVE takes when it reads a shorter-than-expected RMS record. As a default, DATATRIEVE sends a warning message to the user's terminal. The other option is that no warning message be sent.
4. The default form for dates. As a default, dates will be interpreted as month / day. The other option is to interpret the date as day / month.
5. Whether line-printer spooling is to be enabled (RSX-11M only). As a default, all output references to LP: are spooled. The other option is to have DATATRIEVE send output to LP: directly.
6. The action to be taken for division by zero. As a default, DATATRIEVE sends a warning message and returns -1 as a value. The other option is to have DATATRIEVE return the value 0 with no warning message.
7. The default terminal type for Guide mode. As a default, DATATRIEVE determines the terminal type at run time. The other options are to assume that all terminals are VT52's or that all terminals are VT100's.
8. Whether ADT is enabled or not. The default is that ADT is enabled.
9. The default protection for dictionary objects. DATATRIEVE Version 1.1 generated a protection code giving all privileges only to the creator of a dictionary object. In Version 2.0, however, there are three available options: (1) all privileges are given to the creator's group (default), (2) all privileges are given only to the creator (as in Version 1.1), or (3) all privileges are given to all users of DATATRIEVE.
10. The default for columns per page. The default value is 80. To change this, edit the line COLPAG == 80.

Instructions for setting each option are in QD.MAC.

Chapter 2

IAS V3.0 Installation Procedures

2.1 System Requirements

You need the software and hardware listed in Sections 2.1.1 and 2.1.2 to install DATATRIEVE-11 V2.0.

2.1.1 Software Requirements

Before you can install DATATRIEVE-11, your computer must have:

- IAS Version 3.0 with "T" kit
- RMS-11K Version 1.8 (for RMS Indexed Record I/O)

If your system does not have RMS-11K software, you must install it before installing DATATRIEVE-11. Get the kit with the RMS-11K software, and use the *RMS-11 Installation Guide* to install it.

2.1.2 Hardware Requirements

You need the following system configuration to install DATATRIEVE-11 V2.0:

CPU	PDP-11 with EIS hardware
MEMORY	64K bytes above the minimum operating system requirements
TERMINAL	A supported terminal (hard copy terminal preferred)
TAPE	One 9-track magnetic tape drive
or	
DISK	RK05, RK06, RK07, RL01, or RL02 drive
DISK SPACE	2300 free blocks available in the target account

2.2 Procedures for Installing DATATRIEVE-11 on IAS V3

The installation procedure has the following steps, which are described in detail in Sections 2.2.1 through 2.2.5:

1. Log in to a privileged account of the form [1,x].
2. Mount the distribution medium.
3. Copy the distribution files into your account.
4. Dismount the distribution medium.
5. Edit files, if necessary.
6. Execute the command file DTRIAS.
7. Log off the system.

2.2.1 Mount the Distribution Medium

Physically mount the distribution medium onto a free tape or disk drive.

For magnetic tape distribution, type the command:

```
MOUNT/FOR/NOOP dev: DTR11 RET
```

For disk cartridge distribution, type the command:

```
MOUNT/NOOP dev: DTR11 RET
```

The argument `dev:` stands for the device specification of the drive containing the distribution medium.

2.2.2 Copy the Distribution Files

To copy the data on a magnetic tape into the target account, type the command:

```
COPY dev:[1;1]***/DOS *.* RET
```

To copy the data on a disk cartridge into the target account, type the command:

```
COPY dev:[1;1]** *.* RET
```

2.2.3 Dismount the Distribution Medium

To logically dismount the distribution medium, type the command:

```
DISMOUNT dev: RET
```

When your terminal displays the DISMOUNT COMPLETE message, remove the distribution magnetic tape or disk cartridge, and store it in a safe place. The installation dialogue to this point for magnetic tape distribution is shown in the following example. The dialogue for disk distribution is similar.

```
PDS> MOUNT/FOR/NOOP MM1: DTR11
MOUNT-**VOLUME INFORMATION**
      DEVICE      =MM1
      CLASS       =FOREIGN
      UIC         =[1,1]
      ACCESS      =[RWED,RWED,RWED,RWED]
      CHARAC      =[FOR,ATCH,DCF]

PDS> COPY MM1:[1,1]*,*/DOS *,*

PDS> DISMOUNT MM1:
DMD -- MM1: ** DISMOUNT COMPLETE **

PDS>
```

2.2.4 Edit Files, if Necessary

If you wish to customize DATATRIEVE as outlined in Section 1.2, edit the file QD.MAC. Instructions for editing are in the file.

2.2.5 Execute the Command File

To execute the command file, type:

```
@DTRIAS RET
```

DTRIAS is the command file that installs DATATRIEVE-11 into your system. As your computer executes this file, a series of messages informs you that the query dictionary and message file are being created. The last part of this command file is the execution of the DATATRIEVE Acceptance Test, which verifies whether DATATRIEVE has been properly installed. Your terminal lists the DATATRIEVE Acceptance Test, including prompts for input. Follow the directions displayed at the terminal. A copy of the DATATRIEVE Acceptance Test is in Appendix A.

2.3 DATATRIEVE-11 Files

After DATATRIEVE-11 has been installed, the following files are in the indicated UICs. Note that the [SELF] designation represents your privileged account. Files marked with an asterisk may be deleted.

UIC	File Name	Description
* [1,1]	DTRLIB.OLB	DATATRIEVE object library
[1,2]	QUERY.DIC	Data dictionary
[1,2]	QUERY.MSG	Message file
[1,2]	YACHT.DAT	Acceptance test data file
[1,2]	OWNER.DAT	Acceptance test data file
* [11,130]	DTRIAS.LNK	DATATRIEVE task-build command file
* [11,130]	DTRIAS.ODL	DATATRIEVE overlay description file
* [11,130]	QCIAS.LNK	COMPRESS program task-build command file
* [11,130]	QCIAS.ODL	COMPRESS program overlay description file
* [11,130]	QEIAS.LNK	EXTEND program task-build command file
* [11,130]	QEIAS.ODL	EXTEND program overlay description file
* [11,130]	RMSIAS.ODL	RMS overlay description file
[11,1]	DTR.TSK	DATATRIEVE task image
[11,1]	QCPRS.TSK	Dictionary COMPRESS program
[11,1]	QDEXT.TSK	Dictionary EXTEND program
* [111,130]	DTR.MAP	DATATRIEVE map file
* [111,130]	QCPRS.MAP	Dictionary COMPRESS program map file
* [111,130]	QDEXT.MAP	Dictionary EXTEND program map file
* [311,130]	QD.MAC	Dictionary filename source module
* [SELF]	DTR.TST	Acceptance test command file
* [SELF]	MSG.SEQ	Message file (distribution format)
* [SELF]	QDIAS.LNK	Dictionary build program task-build command file
* [SELF]	QDIAS.ODL	Dictionary build program overlay description file
* [SELF]	QDICT.MAP	Dictionary build program map file
[SELF]	QDICT.TSK	Dictionary build program
* [SELF]	YACHT.SEQ	Acceptance test data file (distribution format)
* [SELF]	OWNER.SEQ	Acceptance test data file (distribution format)
[SELF]	FAMILY.DAT	Acceptance test data file (distribution format)

Chapter 3

RSX-11M V3.2 and RSX-11M-PLUS V1.0 Installation Procedures

3.1 System Requirements

You need the software and hardware listed in Sections 3.1.1 and 3.1.2 to install DATATRIEVE-11 V2.0.

3.1.1 Software Requirements

Before you can install DATATRIEVE-11, your computer must have:

1. RSX-11M Version 3.2 Mapped System
2. RSX-11K Version 1.8 (for RMS Indexed Record I/O)

If your system does not have RMS-11K software, you must install it before installing DATATRIEVE-11. Get the kit with the RMS-11K software, and use the *RMS-11 Installation Guide* to install this software.

3.1.2 Hardware Requirements

You need the following system configuration to install DATATRIEVE-11 V2.0:

CPU	PDP-11 with EIS hardware
MEMORY	64K bytes above the minimum operating system requirements
TERMINAL	A supported terminal (hard copy terminal preferred)
TAPE	One 9-track magnetic tape drive
	or
DISK	RK05, RK06, RK07, RL01, or RL02 drive
DISK SPACE	2300 free blocks available in the target account

3.2 Procedures for Installing DATATRIEVE-11 on RSX-11M V3

The installation procedure has the following steps, which are described in detail in Sections 3.2.1 through 3.2.7:

1. Log in to a privileged account of the form [1,x].
2. Physically mount and allocate the distribution medium.
3. Mount the distribution medium (except for magnetic tape on RSX-11M).
4. Copy the distribution medium into your account.
5. Dismount the distribution medium (except when using magnetic tape on RSX-11M).
6. Deallocate the distribution device.
7. Edit files if necessary.
8. Execute the command file DTR11M.
9. Log off the system.

3.2.1 Physically Mount and Allocate the Distribution Medium

Physically mount the distribution medium onto a free tape or disk drive.

Give the command:

```
ALL dev: 
```

The argument dev: stands for the device specification of the drive containing the distribution medium.

3.2.2 Logically Mount the Distribution Medium

Mounting the distribution medium is necessary except when using a magnetic tape to install DATATRIEVE-11 on RSX-11M.

For disk cartridge distribution, type the command:

```
MOU dev: DTR11 
```

For magnetic tape distribution on RSX-11M-PLUS, type the command:

```
MOU dev:/FOR 
```

3.2.3 Copy the Distribution Files

For disk cartridge distribution, copy the data into your account with the command:

```
PIP SY:/NV=dev:[1,1]*.* 
```

For magnetic tape distribution, copy the data into your account with the command:

```
FLX SY:/RSX=dev:[1,1]*.*/DOS (RET)
```

3.2.4 Dismount the Distribution Medium (Except RSX-11M Magnetic Tape)

To logically dismount the distribution medium, type the command:

```
DMD dev: (RET)
```

When your terminal displays the DISMOUNT COMPLETE message, remove the distribution medium and store it in a safe place.

3.2.5 Deallocate the Distribution Device

Deallocate the distribution device by typing the command:

```
DEA dev: (RET)
```

The following example shows the installation dialogue to this point for disk distribution. The dialogue for magnetic tape distribution is similar.

```
>ALL DK1:  
>MOU DK1:DTR11  
>PIP SY:/NV=DK1:[1,1]*.*  
>DMD DK1:  
>DEA DK1:  
>
```

3.2.6 Edit Files, if Necessary

If you wish to customize DATATRIEVE as outlined in Section 1.2, edit the file QD.MAC. Instructions for editing are in the file.

3.2.7 Execute the Command File

To execute the command file, type:

```
@DTR11M (RET)
```

DTR11M is the command file that installs DATATRIEVE-11 into your system. As your computer executes this command file, a series of messages informs you that the query dictionary and message file are being created. The last part of the command file is the execution of the DATATRIEVE Acceptance Test, which verifies whether DATATRIEVE has been installed properly. Your terminal displays the DATATRIEVE Acceptance Test as it executes, including prompts for input. Follow the directions displayed at the terminal. A copy of the DATATRIEVE Acceptance Test is in Appendix A.

3.3 DATATRIEVE-11 Files

After DATATRIEVE-11 has been installed, the following files are in the indicated UICs. Note that the [SELF] designation represents your privileged account. Files marked with an asterisk can be deleted.

UIC	File Name	Description
* [1,1]	DTRLIB.OLB	DATATRIEVE object library
[1,2]	QUERY.DIC	Data dictionary
[1,2]	QUERY.MSG	Message file
[1,2]	YACHT.DAT	Acceptance test data file
[1,2]	OWNER.DAT	Acceptance test data file
[1,2]	FAMILY.DAT	Acceptance test data file
* [1,24]	DTR11M.ODL	DATATRIEVE overlay description file
* [1,24]	DTR11M.TKB	DATATRIEVE task-build command file
* [1,24]	QC11M.ODL	COMPRESS program overlay description file
* [1,24]	QC11M.TKB	COMPRESS program task-build command file
* [1,24]	QE11M.ODL	EXTEND program overlay description file
* [1,24]	QE11M.TKB	EXTEND program task-build command file
* [1,24]	RMS11M.ODL	RMS overlay description file
* [1,34]	DTR.MAP	DATATRIEVE map file
* [1,34]	QCPRS.MAP	Dictionary COMPRESS program map file
* [1,34]	QDEXT.MAP	Dictionary EXTEND program map file
[1,54]	DTR.TSK	DATATRIEVE task image
[1,54]	QCPRS.TSK	Dictionary COMPRESS program
[1,54]	QDEXT.TSK	Dictionary EXTEND program
* [SELF]	DTR.TST	Acceptance test command file
* [SELF]	MSG.SEQ	Message file (distribution format)
* [SELF]	QD.MAC	Dictionary filename source module
* [SELF]	QD11M.ODL	Dictionary build program overlay description file
* [SELF]	QD11M.TKB	Dictionary build program task-build command file
* [SELF]	QDICT.MAP	Dictionary build program map file
* [SELF]	QDICT.TSK	Dictionary build program
* [SELF]	YACHT.SEQ	Acceptance test data file (distribution format)
* [SELF]	OWNER.SEQ	Acceptance test data file (distribution format)

Chapter 4

RSTS/E Installation Procedures

4.1 System Requirements

You need the software and hardware listed in Sections 4.1.1 and 4.1.2 to install DATATRIEVE-11 V2.0.

4.1.1 Software Requirements

You must have the following software to install DATATRIEVE-11:

- RSTS/E Version 7.0 with Monitor RSX Emulation
- RT11.RTS - The RT-11 Run-Time System
- RSX.RTS - The RSX Run-Time System
- SYSLIB.OLB - The RSX system object library
- PIP.SAV - Peripheral Interchange program located in account LB:
- TKB.TSK - The Task-builder in account LB:
- MAC.TSK - The MACRO-11 assembler in account LB:
- RMS11.RTS - The RMS-11 Run-Time System
- RMS-11 Version 1.8 (for RMS indexed Record I/O)

If your system does not have RMS-11 software, you must install it before installing DATATRIEVE-11. Get the kit with the RMS-11 software, and use the procedures presented in *RMS-11 Installation Guide* to install the software.

4.1.2 Hardware Requirements

You need the following system configuration to install DATATRIEVE-11 V2.0:

CPU	PDP-11 with EIS hardware
MEMORY	64K bytes above the minimum operating system requirements
TERMINAL	A supported terminal (hard copy terminal preferred)
TAPE	One 9-track magnetic tape drive
or	
DISK	RK05, RK06, RK07, RL01, or RL02 drive
DISK SPACE	2300 free blocks available in the target account

4.2 Procedures for Installing DATATRIEVE-11 on RSTS/E

The installation procedure has the following steps, which are described in detail in Sections 4.2.1 through 4.2.5:

1. Log in to a privileged account of the form [1,x].
2. Physically mount and logically assign the distribution medium.
3. Copy the distribution medium into your account.
4. Deallocate the distribution device.
5. Edit files if necessary.
6. Execute the BUILD program.
7. Run the DATATRIEVE Acceptance Test.
8. Log off the system.

4.2.1 Mount and Assign the Distribution Medium

Physically mount the distribution medium onto a free tape or disk drive.

For magnetic tape distribution, type the command:

```
ASSIGN dev:.DOS RET
```

For disk cartridge distribution, type the command:

```
MOUNT dev:DTR11/RONLY RET
```

The argument `dev:` stands for the device specification of the drive containing the distribution medium.

4.2.2 Copy the Distribution Files

Copy the data on the distribution medium into your account with the commands:

```
RUN $PIP.SAV 
**,*=dev:[1,1]** 
*^Z
```

At this time, data on the distribution medium is copied into your account. Your terminal displays the prompt READY when the copying operation is complete.

4.2.3 Deassign the Distribution Device

To logically deassign a magnetic tape, type the command:

```
DEASSIGN dev:
```

For disk distribution, type the command:

```
DISMOUNT dev:DTR11 
```

When your terminal displays the READY prompt, remove the distribution medium and store it in a safe place. The installation dialogue to this point for disk distribution is shown in the following example. The dialogue for magnetic tape distribution is similar.

```
Ready

MOUNT DK1:DTR11/ROONLY

Ready

RUN $PIP.SAV
**,*=DK1:[1,1]**
*^Z

Ready

DISMOUNT DK1:

Ready
```

4.2.4 Edit Files, if Necessary

If you wish to customize DATATRIEVE, as outlined in Section 1.2, edit the file QD.MAC. Instructions for editing are in the file.

4.2.5 Execute the BUILD Program

To execute the BUILD program, type:

```
RUN $BUILD 
```

PPN	File Name	Description
* LB:	DTRLIB.OLB	DATATRIEVE object library
LB:	DTR.TSK	DATATRIEVE task image
LB:	QCPRS.TSK	Dictionary COMPRESS program
LB:	QDEXT.TSK	Dictionary EXTEND program
LB:	QUERY.DIC	Data dictionary
LB:	QUERY.MSG	Message file
LB:	YACHT.DAT	Acceptance test data file
LB:	OWNER.DAT	Acceptance test data file
LB:	FAMILY.DAT	Acceptance test data file
* [SELF]	DTR.MAP	DATATRIEVE map file
* [SELF]	DTR.TST	Acceptance test command file
* [SELF]	DTRSTS.ODL	DATATRIEVE overlay description file
* [SELF]	DTRSTS.TKB	DATATRIEVE task-build command file
* [SELF]	MSG.SEQ	Message file (distribution format)
* [SELF]	QCPRS.MAP	Dictionary COMPRESS program map file
* [SELF]	QCRSTS.ODL	COMPRESS program overlay description file
* [SELF]	QCRSTS.TKB	COMPRESS program task-build command file
* [SELF]	QDEXT.MAP	Dictionary EXTEND program map file
* [SELF]	QDICT.MAP	Dictionary build program map file
* [SELF]	QDICT.TSK	Dictionary build program
* [SELF]	QD.MAC	Dictionary filename source module
* [SELF]	QDRSTS.ODL	Dictionary build program overlay description file
* [SELF]	QDRSTS.TKB	Dictionary build program task-build command file
* [SELF]	QERSTS.ODL	EXTEND program overlay description file
* [SELF]	QERSTS.TKB	EXTEND program task-build command file
* [SELF]	RMSRST.ODL	RMS overlay description file
* [SELF]	YACHT.SEQ	Acceptance test data file (distribution format)
* [SELF]	OWNER.SEQ	Acceptance test data file (distribution format)

Chapter 5

VAX/VMS Installation Procedures

5.1 System Requirements

VAX/VMS V2.0 contains the necessary hardware and software to install DATATRIEVE-11 Version 2.0.

5.2 Procedures for Installing DATATRIEVE-11 on VMS V2.0

The installation procedure has the following steps, which are described in detail in Sections 5.1.2 through 5.1.6:

1. Log in to a privileged account of the form [1,x].
2. Assign logical names and defaults.
3. Invoke the command procedure to start installation.
4. Mount distribution media when asked to.
5. Edit files if customizing DATATRIEVE.
6. Enter data for DATATRIEVE Acceptance Test.
7. Replace standard console medium.
8. Logout.

5.2.1 Assign Logical Names and Defaults

1. Make sure that logical name SYS\$DISK is assigned to the disk that contains the current version of VAX/VMS. This disk contains the command procedure that starts the new installation/update procedure. Note that SYS\$DISK need not be (and if possible, should not be) SYS\$SYSTEM.
2. Assign logical name LB: to the device on which DATATRIEVE is to be built. For example:

```
$ ASSIGN DBB2: LB:
```

When you invoke DATATRIEVE, your computer uses the logical name LB: by default. Therefore, you must assign it to the device on which DATATRIEVE is being built.

3. Set default UIC and default directory by typing:

```
$ SET UIC [1,4]
$ SET DEFAULT LB: [SYSUPD]
```

5.2.2 Start the Installation Procedure

Type the command:

```
$ @LB:[SYSUPD]VMSUPDATE 
```

The system's command procedure (VMSUPDATE) prints the following message on the terminal:

```
This command procedure performs VAX/VMS software updates and unbundled software installations...
```

```
During this sequence, the standard console medium will not be present in the console drive.
```

```
Therefore, the system is vulnerable to power failure or other fatal crash. If a system crash should occur during this time the update sequence can be restarted at the beginning of the first incomplete update.
```

```
Dismount the current console medium.
```

```
Please place the first medium of the kit in the console drive.
```

If there is no medium mounted, you receive a device-not-mounted message, which should be ignored.

5.2.3 Mount Distribution Media

Remove the console medium. If you are using flexible diskettes, note the direction the console diskette is facing. Diskettes from the distribution kit must be inserted in the drive so they face the same direction. (The label is on the front side of the diskette.) Place the first medium in the drive, and answer Y to the query:

```
ARE YOU READY TO CONTINUE? Y
```

To install DATATRIEVE answer I to the query:

```
Do you wish to install or patch Datatrieve? I
```

Continuation of the installation is indicated by the message:

```
>...copying first medium...
```

This phase of the installation is complete when you receive the message:

```
Please put the second Datatrieve kit medium in the drive.
```

Remove the first medium from the console drive and replace it with the second medium. Type Y in response to the query:

```
Are you ready to continue? Y
```

The following message indicates that the installation is continuing:

```
>...copying second medium...
```

This phase of the installation is complete when you receive the message:

```
Please put the third Datatrieve kit medium in the drive.
```

Remove the second medium from the console drive and replace it with the third medium. Type Y in response to the query:

```
Are you ready to continue? Y
```

The following message indicates that the installation is continuing:

```
>...copying third medium...
```

5.2.4 Edit QD.MAC if Customizing DATATRIEVE

If you wish to customize DATATRIEVE, then answer Y to the query:

```
Do you want to edit QD.MAC before installing Datatrieve? Y
```

If you type in Y, the computer responds with the line:

```
Enter command string without file-spec to invoke editor
```

Type in the command string you normally use to invoke the text editor you want to use. Do not type in a file name, however, for the command file will invoke the editor with QD.MAC as the input file. When you finish editing QD.MAC, exit from your editor, and the installation procedure continues. The next query gives you another chance to edit QD.MAC:

```
Do you want to re-invoke the editor?
```

If you have made any mistakes in trying to invoke the editor, or in editing QD.MAC, respond with Y, and you can re-invoke the editor.

The next series of messages tells you that the query dictionary and message file are being created. When this phase is complete, the DATATRIEVE Acceptance Test is run.

5.2.5 Enter Data for Acceptance Test

Your terminal displays the DATATRIEVE Acceptance Test as it runs, including prompts for input. Follow the directions displayed at the terminal. The Acceptance Test verifies whether DATATRIEVE has been properly installed. A copy of the Acceptance Test is in Appendix A.

Completion of this phase is signaled by the messages:

```
>...cleaning up [SYSUPD]...
>...Datatrieve installation/update completed...
```

5.2.6 Replace Standard Console Medium

If you are not making any further updates, respond N to the query:

```
ARE THERE ANY MORE KITS TO PROCESS? N
```

You should then restore the standard console medium to the console drive. The console medium is mounted when you respond Y to the query:

```
ARE YOU READY TO CONTINUE? Y
```

Finally, after installing DATATRIEVE, you should back up the volume SYS\$DISK and save the original for future updates.

5.3 DATATRIEVE Files

When DATATRIEVE-11 has been installed, the following files are in the indicated UICs. Note that the [SELF] designation represents your privileged account. Files marked with an asterisk may be deleted.

UIC	File Name	Description
* [1,1]	DTRLIB.OLB	DATATRIEVE object library
[1,2]	DTR.EXE	DATATRIEVE task image
[1,2]	QCPRS.EXE	Dictionary COMPRESS program
[1,2]	QDEXT.EXE	Dictionary EXTEND program
[1,2]	QUERY.DIC	Data dictionary
[1,2]	QUERY.MSG	Message file
[1,2]	YACHT.DAT	Acceptance test data file
[1,2]	OWNER.DAT	Acceptance test data file
[1,2]	FAMILY.DAT	Acceptance test data file
* [SELF]	DTR.MAP	DATATRIEVE map file
* [SELF]	DTR.TST	Acceptance test command file
* [SELF]	DTRVAX.ODL	DATATRIEVE overlay description file

(continued on next page)

UIC	File Name	Description
* [SELF]	DTRVAX.TKB	DATATRIEVE task-build command file
* [SELF]	MSG.SEQ	Message file (distribution format)
* [SELF]	QCPRS.MAP	Dictionary COMPRESS program map file
* [SELF]	QCRVAX.ODL	COMPRESS program overlay description file
* [SELF]	QCRVAX.TKB	COMPRESS program task-build command file
* [SELF]	QDEXT.MAP	Dictionary EXTEND program map file
* [SELF]	QDICT.MAP	Dictionary build program map file
* [SELF]	QDICT.TSK	Dictionary build program
* [SELF]	QD.MAC	Dictionary filename source module
* [SELF]	QDVAX.ODL	Dictionary build program overlay description file
* [SELF]	QDVAX.TKB	Dictionary build program task-build command file
* [SELF]	QEVAX.ODL	EXTEND program overlay description file
* [SELF]	QEVAX.TKB	EXTEND program task-build command file
* [SELF]	RMSRSX.ODL	RMS overlay description file
* [SELF]	YACHT.SEQ	Acceptance test data file (distribution format)
* [SELF]	OWNER:SEQ	Acceptance test data file (distribution format)

Appendix A

Acceptance Test

```
!  
! CLEAN UP FROM POSSIBLE PREVIOUS RUNS OF TEST  
!  
DELETE FAMILIES;  
"FAMILIES" has not been defined in the dictionary  
DELETE FAMILY-REC;  
"FAMILY-REC" has not been defined in the dictionary  
DELETE KETCHES;  
"KETCHES" has not been defined in the dictionary  
DELETE OWNERS-SEQUENTIAL;  
"OWNERS-SEQUENTIAL" has not been defined in the dictionary  
DELETE OWNERS;  
"OWNERS" has not been defined in the dictionary  
DELETE OWNER-RECORD;  
"OWNER-RECORD" has not been defined in the dictionary  
DELETE SAILBOATS;  
"SAILBOATS" has not been defined in the dictionary  
DELETE YACHTS-SEQUENTIAL;  
"YACHTS-SEQUENTIAL" has not been defined in the dictionary  
DELETE YACHTS;  
"YACHTS" has not been defined in the dictionary  
DELETE YACHT;  
"YACHT" has not been defined in the dictionary  
DELETE PRICE-PER-POUND  
"PRICE-PER-POUND" has not been defined in the dictionary  
DELETE VERIFY;  
"VERIFY" has not been defined in the dictionary  
DELETE LOA-REPORT;  
"LOA-REPORT" has not been defined in the dictionary  
DELETE RIG-TABLE;  
"RIG-TABLE" has not been defined in the dictionary  
!  
!DEFINE RECORD  
!  
DEFINE RECORD YACHT USING  
01 BOAT,  
    03 TYPE,  
        06 MANUFACTURER PIC X(10)  
        QUERY-NAME IS BUILDER.  
        06 MODEL PIC X(10)  
    03 SPECIFICATIONS  
        QUERY-NAME SPECS,  
        06 RIG PIC X(6)  
        VALID IF RIG EQ "SLOOP","KETCH","MS","YAWL".
```

(continued on next page)

```

06 LENGTH-OVER-ALL PIC XXX
VALID IF LOA BETWEEN 15 AND 50
QUERY-NAME IS LOA.
06 DISPLACEMENT PIC 99999
QUERY-HEADER IS "WEIGHT"
EDIT-STRING IS ZZ,ZZ9
QUERY-NAME IS DISP.
06 BEAM PIC 99.
06 PRICE PIC 99999
VALID IF PRICE>DISP*1.3 OR PRICE EQ 0
EDIT-STRING IS $$$,$$$ .
;
[Record YACHT is 41 bytes long]
!
! DEFINE DOMAINS
!
DEFINE DOMAIN YACHTS-SEQUENTIAL USING YACHT ON YACHT.SEQ ;
DEFINE DOMAIN YACHTS USING YACHT ON YACHT.DAT;
!
! DEFINE THE ACTUAL FILE FOR YACHTS
!
DEFINE FILE YACHTS KEY=TYPE(NO DUP),KEY=MODEL(DUP,NO CHANGE),
ALLOCATION=30, SUPERSEDE
!
! MAKE YACHTS ACCESSIBLE BY OTHERS
!
DEFINEP YACHTS 2,PW,"SHHHH",W ! PASSWORD FOR WRITE
DEFINEP YACHTS 3,UIC,[*,*],R ! EVERYONE ELSE GETS READ
DEFINEP YACHT 2,UIC,[*,*],R ! GIVE ACCESS TO RECORD DEFINITION, TOO
SHOWP YACHTS
1,UIC, [311,*], "RWMEC"
2,PW, "SHHHH", "W"
3,UIC, [*,*], "R"
!
! DEFINE PROCEDURES
!
DEFINE PROCEDURE PRICE-PER-POUND
PRICE*1.00/DISP ("PRICE"/"PER"/"POUND") USING $$,99
END-PROCEDURE
DEFINEP PRICE-PER-POUND 2,UIC,[*,*],RE
!
DEFINE PROCEDURE VERIFY
VERIFY USING
BEGIN
PRINT
DISPLAY "CONFIRM WITH Y IF OK"
IF *.CONFIRM NOT CONTAINING "Y" THEN ABORT "UPDATE ABORTED"
END
END-PROCEDURE
DEFINEP VERIFY 2,UIC,[*,*],RE
!
! COPY DATA FROM SEQUENTIAL TO INDEXED FILE
!
READY YACHTS WRITE
SHOW FIELDS
YACHTS
BOAT
TYPE [Indexed field]
MANUFACTURER (BUILDER) [Character string, indexed key]
MODEL [Character string, indexed key]

```

(continued on next page)

```

SPECIFICATIONS (SPECS)
  RIG [Character string]
  LENGTH-OVER-ALL (LOA) [Character string]
  DISPLACEMENT (DISP) [Number]
  BEAM [Number]
  PRICE [Number]
READY YACHTS-SEQUENTIAL
SHOW READY
Ready domains:
  YACHTS-SEQUENTIAL: RMS SEQUENTIAL, PROTECTED READ
  YACHTS: RMS INDEXED, PROTECTED WRITE
!
FOR YACHTS-SEQUENTIAL STORE YACHTS USING BOAT=BOAT
!
FINISH YACHTS-SEQUENTIAL;
!
! TEST STORE
!
! PLEASE SUPPLY THE FOLLOWING VALUES:
! MANUFACTURER: HINKLEY
! MODEL: BERMUDA 40
! RIG: YAWL
! LENGTH-OVER-ALL: 140
! LENGTH-OVER-ALL: 40
! DISPLACEMENT: 20000
! BEAM: 12
! PRICE: 82000 AND XX/100
! PRICE: 82000
! CONFIRM: N
!
STORE YACHTS :VERIFY
Enter MANUFACTURER: HINKLEY
Enter MODEL: BERMUDA 40
Enter RIG: YAWL
Enter LENGTH-OVER-ALL: 140
Validation error for LENGTH-OVER-ALL
Re-enter LENGTH-OVER-ALL: 40
Enter DISPLACEMENT: 20000
Enter BEAM: 12
Enter PRICE: 82000 AND XX/100
Non-digit in string "82000 AND XX/100", ignoring character(s)
Re-enter PRICE: 82,000

MANUFACTURER  MODEL      RIG      LENGTH
              OVER
              ALL      WEIGHT  BEAM    PRICE
HINKLEY      BERMUDA 40  YAWL    40      20,000  12     $82,000

DISPLAY: CONFIRM WITH Y IF OK
Enter CONFIRMATION:N
ABORT: STORE ABORTED
Execution terminated by "ABORT" statement
!
!
! CHANGE READY MODE FOR READ ACCESS
!
READY YACHTS
FIND YACHTS WITH PRICE NE 0
[52 records found]

```

(continued on next page)

SORT BY LOA,DESC DISPLACEMENT
 SHOW ALL
 Domains:
 YACHTS YACHTS-SEQUENTIAL
 Records:
 YACHT
 Procedures:
 PRICE-PER-POUND VERIFY
 Collections:
 CURRENT
 Ready domains:
 YACHTS: RMS INDEXED, PROTECTED READ
 SHOW CURRENT
 Collection CURRENT
 Domain: YACHTS
 Number of records: 50
 No selected record
 Sort order: LENGTH-OVER-ALL,DISPLACEMENT
 PRINT ALL

MANUFACTURER	MODEL	RIG	LENGTH	WEIGHT	BEAM	PRICE
			OVER ALL			
WINDPOWER	IMPULSE	SLOOP	16	650	07	\$3,500
CAPE DORY	TYPHOON	SLOOP	19	1,900	06	\$4,295
VENTURE	21	SLOOP	21	1,500	07	\$2,823
VENTURE	222	SLOOP	22	2,000	07	\$3,564
EASTWARD	H0	M/S	24	7,000	09	\$15,900
ISLANDER	BAHAMA	SLOOP	24	4,200	08	\$6,500
IRWIN	25	SLOOP	25	5,400	12	\$10,950
CAPE DORY	25	SLOOP	25	4,000	07	\$8,995
SALT	19	SLOOP	25	2,600	07	\$6,590
WESTERLY	CENTAUR	SLOOP	26	6,700	08	\$15,245
GRAMPIAN	26	SLOOP	26	5,600	08	\$11,495
AMERICAN	26-MS	M/S	26	5,500	08	\$18,895
TANZER	26	SLOOP	26	4,350	09	\$11,750
ALBIN	79	SLOOP	26	4,200	10	\$17,900
AMERICAN	26	SLOOP	26	4,000	08	\$9,895
HUNTER	27	SLOOP	27	6,500	09	\$14,999
ALBIN	VEGA	SLOOP	27	5,070	08	\$18,600
CAPE DORY	28	SLOOP	28	9,000	09	\$21,990
SABRE	28	SLOOP	28	7,400	09	\$22,000
GRAMPIAN	28	SLOOP	28	6,900	10	\$14,475
TANZER	28	SLOOP	28	6,800	10	\$17,500
ISLANDER	28	SLOOP	28	5,994	10	\$15,908
NORTHERN	29	SLOOP	29	7,250	09	\$20,975
IRWIN	30	SLOOP	30	10,000	10	\$19,950
HUNTER	30	SLOOP	30	9,500	10	\$21,500
GRAMPIAN	30	SLOOP	30	8,600	09	\$17,775
ISLANDER	30	SLOOP	30	8,600	10	\$20,990
ALBIN	BALLAD	SLOOP	30	7,276	10	\$27,500
RYDER	S. CROSS	SLOOP	31	13,600	00	\$32,500
BOMBAY	CLIPPER	SLOOP	31	9,400	11	\$23,950
WRIGHT	SEAWIND II	SLOOP	32	14,900	00	\$34,480
CHALLENGER	32	SLOOP	32	12,800	11	\$31,835
O'DAY	32	SLOOP	32	11,000	00	\$29,500
BAYFIELD	30/32	SLOOP	32	9,500	10	\$32,875

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GRAMPIAN	34	KETCH	33	12,000	10	\$29,675
GRAMPIAN	2-34	SLOOP	34	11,800	10	\$29,675
CARIBBEAN	35	SLOOP	35	18,000	11	\$37,850
CHRIS-CRAFT	CARIBBEAN	SLOOP	35	18,000	11	\$37,850
CHALLENGER	35	SLOOP	35	14,800	12	\$39,215
I. TRADER	37	KETCH	36	18,600	12	\$39,500
ISLANDER	36	SLOOP	36	13,450	11	\$31,730
ALBERG	37 MK II	KETCH	37	20,000	12	\$36,951
IRWIN	37 MARK II	KETCH	37	20,000	11	\$36,950
NORTHERN	37	KETCH	37	14,000	11	\$50,000
LINDSEY	39	M/S	39	14,500	12	\$35,900
CHALLENGER	41	KETCH	41	26,700	13	\$51,228
GULFSTAR	41	KETCH	41	22,000	12	\$41,350
ISLANDER	FREEPORT	KETCH	41	22,000	11	\$54,970
COLUMBIA	41	SLOOP	41	20,700	11	\$48,490
OLYMPIC	ADVENTURE	KETCH	42	24,250	13	\$80,500

SELECT FIRST
PRINT

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE
WINDPOWER	IMPULSE	SLOOP	16	650	07	\$3,500

SELECT
PRINT BOAT, :PRICE-PER-POUND

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE	PRICE PER POUND
CAPE DORY	TYPHOON	SLOOP	19	1,900	06	\$4,295	\$2.26

!
!

! DEFINE REPORT PROCEDURE

!

DEFINE PROCEDURE LOA-REPORT

REPORT ON *.FILE

SET REPORT-NAME="JIM'S VERY OWN LISTING "/"OF"/"INTERESTING SAILBOATS"/
"(BY LENGTH)"

SET LINES-PAGE=55, COLUMNS-PAGE=72

AT TOP OF LOA PRINT LOA ("LENGTH")

PRINT TYPE, RIG, DISP, BEAM USING Z9 , PRICE

AT BOTTOM OF LOA PRINT SKIP, COL 32, "*** AVERAGE ***",

AVERAGE DISP, AVERAGE BEAM, AVERAGE PRICE

AT BOTTOM OF REPORT PRINT SKIP, "REPORT AVERAGES",

AVERAGE DISP, AVERAGE BEAM, AVERAGE PRICE

AT BOTTOM OF PAGE PRINT SKIP, COL 20,

""ANOTHER SERVICE OF QUERY ENTERPRISES""

END-REPORT

END-PROCEDURE

!

! INVOKE REPORT (SUGGEST OUTPUT ON TI:)

!

:LOA-REPORT

Enter FILE: TI:

(continued on next page)

JIM'S VERY OWN LISTING
OF
INTERESTING SAILBOATS
(BY LENGTH)

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LENGTH	MANUFACTURER	MODEL	RIG	WEIGHT	BEAM	PRICE
16	WINDPOWER	IMPULSE	SLOOP	650	7	\$3,500
		*** AVERAGE ***		650	07	\$3,500
19	CAPE DORY	TYPHOON	SLOOP	1,900	6	\$4,295
		*** AVERAGE ***		1,900	06	\$4,295
21	VENTURE	21	SLOOP	1,500	7	\$2,823
		*** AVERAGE ***		1,500	07	\$2,823
22	VENTURE	222	SLOOP	2,000	7	\$3,564
		*** AVERAGE ***		2,000	07	\$3,564
24	EASTWARD ISLANDER	HO	M/S	7,000	9	\$15,900
		BAHAMA	SLOOP	4,200	8	\$6,500
		*** AVERAGE ***		5,600	08	\$11,200
25	IRWIN CAPE DORY SALT	25	SLOOP	5,400	12	\$10,950
		25	SLOOP	4,000	7	\$8,995
		19	SLOOP	2,600	7	\$6,590
		*** AVERAGE ***		4,000	08	\$8,845
26	WESTERLY GRAMPIAN AMERICAN TANZER ALBIN AMERICAN	CENTAUR	SLOOP	6,700	8	\$15,245
		26	SLOOP	5,600	8	\$11,495
		26-MS	M/S	5,500	8	\$18,895
		26	SLOOP	4,350	9	\$11,750
		79	SLOOP	4,200	10	\$17,900
		26	SLOOP	4,000	8	\$9,895
		*** AVERAGE ***		5,058	08	\$14,196
27	HUNTER ALBIN	27	SLOOP	6,500	9	\$14,999
		VEGA	SLOOP	5,070	8	\$18,600
		*** AVERAGE ***		5,785	08	\$16,799
28	CAPE DORY SABRE GRAMPIAN TANZER	28	SLOOP	9,000	9	\$21,990
		28	SLOOP	7,400	9	\$22,000
		28	SLOOP	6,800	10	\$14,475
		28	SLOOP	6,800	10	\$17,500

"ANOTHER SERVICE OF QUERY ENTERPRISES"

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JIM'S VERY OWN LISTING
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LENGTH	MANUFACTURER	MODEL	RIG	WEIGHT	BEAM	PRICE
	ISLANDER	28	SLOOP	5,994	10	\$15,908
		*** AVERAGE ***		7,218	09	\$18,374
29	NORTHERN	29	SLOOP	7,250	9	\$20,975
		*** AVERAGE ***		7,250	09	\$20,975
30	IRWIN	30	SLOOP	10,000	10	\$19,950
	HUNTER	30	SLOOP	9,500	10	\$21,500
	GRAMPIAN	30	SLOOP	8,600	9	\$17,775
	ISLANDER	30	SLOOP	8,600	10	\$20,990
	ALBIN	BALLAD	SLOOP	7,276	10	\$27,500
		*** AVERAGE ***		8,795	09	\$21,543
31	RYDER	S. CROSS	SLOOP	13,600	0	\$32,500
	BOMBAY	CLIPPER	SLOOP	9,400	11	\$23,950
		*** AVERAGE ***		11,500	05	\$28,225
32	WRIGHT	SEAWIND II	SLOOP	14,900	0	\$34,480
	CHALLENGER	32	SLOOP	12,800	11	\$31,835
	O'DAY	32	SLOOP	11,000	0	\$29,500
	BAYFIELD	30/32	SLOOP	9,500	10	\$32,875
		*** AVERAGE ***		12,050	05	\$32,172
33	GRAMPIAN	34	KETCH	12,000	10	\$29,675
		*** AVERAGE ***		12,000	10	\$29,675
34	GRAMPIAN	2-34	SLOOP	11,800	10	\$29,675
		*** AVERAGE ***		11,800	10	\$29,675
35	CARIBBEAN	35	SLOOP	18,000	11	\$37,850
	CHRIS-CRAF	CARIBBEAN	SLOOP	18,000	11	\$37,850
	CHALLENGER	35	SLOOP	14,800	12	\$39,215
		*** AVERAGE ***		16,933	11	\$38,305
36	I. TRADER	37	KETCH	18,600	12	\$39,500
	ISLANDER	36	SLOOP	13,450	11	\$31,730
		*** AVERAGE ***		16,025	11	\$35,615

"ANOTHER SERVICE OF QUERY ENTERPRISES"

(continued on next page)

JIM'S VERY OWN LISTING
OF
INTERESTING SAILBOATS
(BY LENGTH)

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PAGE 1

LENGTH	MANUFACTURER	MODEL	RIG	WEIGHT	BEAM	PRICE
37	ALBERG	37 MK II	KETCH	20,000	12	\$36,951
	IRWIN	37 MARK II	KETCH	20,000	11	\$36,950
	NORTHERN	37	KETCH	14,000	11	\$50,000
		*** AVERAGE ***		18,000	11	\$41,300
39	LINDSEY	39	M/S	14,500	12	\$35,900
		*** AVERAGE ***		14,500	12	\$35,900
41	CHALLENGER	41	KETCH	26,700	13	\$51,228
	GULFSTAR	41	KETCH	22,000	12	\$41,350
	ISLANDER	FREEPORT	KETCH	22,000	13	\$54,970
	COLUMBIA	41	SLOOP	20,700	11	\$48,490
		*** AVERAGE ***		22,850	12	\$49,009
42	OLYMPIC	ADVENTURE	KETCH	24,250	13	\$80,500
		*** AVERAGE ***		24,250	13	\$80,500
REPORT AVERAGES				10,409	09	\$25,388
"ANOTHER SERVICE OF QUERY ENTERPRISES"						

```
!
! INVOKE REPORT (SUGGEST OUTPUT ON LP:)
!
:LOA-REPORT
Enter FILE: LP:
```

```
!
! RATTLE UPDATE
!
FIND YACHTS WITH BEAM=0
[5 records found]
PRINT ALL
```

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE
METALMAST	GALAXY	SLOOP	32	9,500	00	
O'DAY	32	SLOOP	32	11,000	00	\$29,500
RYDER	S. CROSS	SLOOP	31	13,600	00	\$32,500
TA CHIAO	FANTASIA	SLOOP	35	23,200	00	
WRIGHT	SEAWIND II	SLOOP	32	14,900	00	\$34,480

SELECT FIRST;PRINT

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE
METALMAST	GALAXY	SLOOP	32	9,500	00	

(continued on next page)

READY YACHTS MODIFY
!
! RESPOND WITH 47 (OR SOMETHING)
!
MODIFY BEAM

Enter BEAM: 47
PRINT TYPE, BEAM
MANUFACTURER MODEL BEAM

METALMAST GALAXY 47

!
! RESPOND WITH 48 (OR SOMETHING)
!
MODIFY ALL BEAM
Enter BEAM: 48
!
PRINT ALL BEAM

BEAM

48
48
48
48
48

!
! RESPOND EACH TIME WITH 0 (PLEASE)
!
FOR CURRENT PRINT TYPE THEN MODIFY BEAM

MANUFACTURER MODEL
METALMAST GALAXY
Enter BEAM: 0
O'DAY 32
Enter BEAM: 0
RYDER S. CROSS
Enter BEAM: 0
TA CHIAO FANTASIA
Enter BEAM: 0
WRIGHT SEAWIND II
Enter BEAM: 0

READY YACHTS READ
PRINT ALL

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE
METALMAST	GALAXY	SLOOP	32	9,500	00	
O'DAY	32	SLOOP	32	11,000	00	\$29,500
RYDER	S. CROSS	SLOOP	31	13,600	00	\$32,500
TA CHIAO	FANTASIA	SLOOP	35	23,200	00	
WRIGHT	SEAWIND II	SLOOP	32	14,900	00	\$34,480

!
! CHECK MULTIPLE COLLECTIONS AND STATISTICAL FUNCTIONS
!

(continued on next page)

```

FIND SMALLS IN YACHTS WITH LOA<24 AND PRICE NE 0
[4 records found]
!
FIND BIGGIES IN YACHTS WITH LOA>40 AND PRICE NE 0
[5 records found]
!
SHOW COLLECTIONS
Collections
    BIGGIES (also CURRENT)
    SMALLS
!
PRINT AVERAGE DISP

WEIGHT
23,130
!
PRINT MAX DISP

WEIGHT
26,700

!
PRINT AVERAGE PRICE OF BIGGIES,AVERAGE PRICE OF SMALLS

    PRICE    PRICE
$55,307    $3,545

!
SORT SMALLS BY LOA,DISP
SORT BIGGIES BY LOA,DISP
SELECT FIRST SMALLS
SELECT LAST BIGGIES
PRINT SMALLS,BOAT,SKIP,BIGGIES,BOAT

```

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE
WINDPOWER	IMPULSE	SLOOP	16	650	07	\$3,500
OLYMPIC	ADVENTURE	KETCH	42	24,250	13	\$80,500

```

!
! FINAL GALA TEST!
!
PRINT YACHTS WITH LOA EQ MAX LOA OF YACHTS

```

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE
OLYMPIC	ADVENTURE	KETCH	42	24,250	13	\$80,500
PEARSON	419	KETCH	42	21,000	13	

```

!
! TEST OF HIERARCHIES AND VIEW
!
DEFINE DOMAIN FAMILIES
    USING FAMILY-REC ON FAMILY.DAT;
DEFINE RECORD FAMILY-REC

```

(continued on next page)

```

01 FAMILY,
  03 PARENTS,
    06 FATHER PIC X(10),
    06 MOTHER PIC X(10),
  03 NUMBER-KIDS PIC 99 EDIT-STRING IS Z9,
  03 KIDS OCCURS 0 TO 10 TIMES DEPENDING ON NUMBER-KIDS,
    06 EACH-KID,
      09 KID-NAME PIC X(10) QUERY-NAME IS KID,
      09 AGE PIC 99 EDIT-STRING IS Z9,

```

```

;
[Record FAMILY-REC is 142 bytes long]
!
! PERFORM A FEW NIFTY OPERATIONS ON FAMILIES
!

```

```

READY FAMILIES
SHOW FIELDS FOR FAMILIES
  FAMILY
    PARENTS
      FATHER [Character string]
      MOTHER [Character string]
    NUMBER-KIDS [Number]
    KIDS [List]
      EACH-KID
        KID-NAME (KID) [Character string]
        AGE [Number]

```

```
PRINT FAMILIES
```

FATHER	MOTHER	NUMBER KIDS	KID NAME	AGE
JIM	ANN	2	URSULA	7
			RALPH	3
JIM	LOUISE	5	ANNE	31
			JIM	29
			ELLEN	26
			DAVID	24
			ROBERT	16
JOHN	JULIE	2	ANN	29
			JEAN	26
JOHN	ELLEN	1	CHRISTOPHR	0
ARNIE	ANNE	2	SCOTT	2
			BRIAN	0
SHERMAN TOM	SARAH ANNE	1 2	DAVID	0
			PATRICK	4
BASIL	MERIDETH	6	SUZIE	6
			BEAU	28
			BROOKS	26
			ROBIN	24
			JAY	22
			WREN	17
ROB	DIDI	0	JILL	20
JEROME	RUTH	4	ERIC	32
			CISSY	24
			NANCY	22
			MICHAEL	20
TOM	BETTY	2	MARTHA	30
			TOM	27
GEORGE	LOIS	3	JEFF	23
			FRED	26
			LAURA	21
HAROLD	SARAH	3	CHARLIE	31
			HAROLD	35
			SARAH	27

(continued on next page)

FIND FAMILIES WITH KIDS WITH AGE>25
 [7 records found]
 PRINT ALL SKIP, PARENTS, ALL KIDS SORTED BY AGE

FATHER	MOTHER	KID NAME	AGE
JIM	LOUISE	ROBERT	16
		DAVID	24
		ELLEN	26
		JIM	29
		ANNE	31
JOHN	JULIE	JEAN	26
		ANN	29
BASIL	MERIDETH	WREN	17
		JILL	20
		JAY	22
		ROBIN	24
		BROOKS	26
JEROME	RUTH	MICHAEL	20
		NANCY	22
		CISSY	24
		ERIC	32
		TOM	32
TOM	BETTY	TOM	27
		MARTHA	30
GEORGE	LOIS	LAURA	21
		JEFF	23
		FRED	26
HAROLD	SARAH	SARAH	27
		CHARLIE	31
		HAROLD	35

```

FINISH
!
! DEFINE A VIEW OT THE DOMAIN YACHTS
!
DEFINE DOMAIN KETCHES
  OF YACHTS BY
01 KETCH OCCURS FOR YACHTS WITH RIG EQ "KETCH".
   03 TYPE FROM YACHTS.
   03 LOA FROM YACHTS.
   03 PRICE FROM YACHTS.
;
!
!SHOW OFF KETCHES
!
READY KETCHES
PRINT KETCHES

```

MANUFACTURER	MODEL	LENGTH OVER ALL	PRICE
ALBERG	37 MK II	37	\$36,951
CHALLENGER	41	41	\$51,228
FISHER	30	30	
FISHER	37	37	
GRAMPIAN	34	33	\$29,675
GULFSTAR	41	41	\$41,350

(continued on next page)

I, TRADER	37	36	\$39,500
IRWIN	37 MARK II	37	\$36,950
ISLANDER	FREEPORT	41	\$54,970
NORTHERN	37	37	\$50,000
OLYMPIC	ADVENTURE	42	\$80,500
PEARSON	365	36	
PEARSON	419	42	

FINISH

!
! DEFINE A DOMAIN AND FILE OF SAILBOAT OWNERS
!

```

DEFINE DOMAIN OWNERS
  USING OWNER-RECORD ON OWNER.DAT;
DEFINE RECORD OWNER-RECORD
01 OWNER,
  03 NAME PIC X(10) QUERY-HEADER IS "OWNER"/"NAME"
    EDIT-STRING IS X(5),
  03 BOAT-NAME PIC X(17) QUERY-HEADER IS "BOAT NAME",
  03 TYPE,
    06 BUILDER PIC X(10),
    06 MODEL PIC X(10),
;
[Record OWNER-RECORD is 47 bytes long]
DEFINE DOMAIN OWNERS-SEQUENTIAL USING OWNER-RECORD ON OWNER.SEQ;
DEFINE FILE FOR OWNERS KEY=TYPE(DUP), SUPERSEDE
READY OWNERS WRITE
READY OWNERS-SEQUENTIAL
FOR OWNERS-SEQUENTIAL STORE OWNERS USING OWNER=OWNER
FINISH OWNERS-SEQUENTIAL
!
! PRINT OUT THE OWNERS FILE
!
PRINT OWNERS

```

OWNER NAME	BOAT NAME	BUILDER	MODEL
SHERM	MILLENNIUM FALCON	ALBERG	35
STEVE	DELIVERANCE	ALBIN	VEGA
HUGH	IMPULSE	ALBIN	VEGA
JIM	EGRET	C&C	CORVETTE
ANN	EGRET	C&C	CORVETTE
BOB	FIESTA	CAL	28
JIM	REGRET	CHEAP	DINK
NEIL	JARGES PRIDE	CROCKER	33
GERAR	KESTREL	ERICSON	39
ARNE	CHIMERA	HINKLEY	BERMUDA 40
JIM	POTEMKIN	ISLANDER	BAHAMA
ANN	POTEMKIN	ISLANDER	BAHAMA
STEVE	POTEMKIN	ISLANDER	BAHAMA
HARVE	MANANA	ISLANDER	BAHAMA
TOM	LONE TRAVELLER	PEARSON	10M
DICK	PURSUIT	PEARSON	26
CHRIS	VANITY	PEARSON	ARIEL
JOHN	STRIDER	RHODES	SWIFTSURE

FINISH

!
! DEFINE THE MIGHT, MULTIPLE FILE VIEW OF YACHTS AND OWNERS
!

```

DEFINE DOMAIN SAILBOATS
  OF YACHTS, OWNERS BY
01 SAILBOAT OCCURS FOR YACHTS.

```

```

03 BOAT FROM YACHTS.
03 SKIPPERS OCCURS FOR OWNERS WITH TYPE EQ BOAT.TYPE.
05 NAME FROM OWNERS.
;
!
! EXERCISE SAILBOATS A LITTLE
!
READY SAILBOATS
SHOW FIELDS
SAILBOATS
    SAILBOAT
        BOAT
            TYPE [Indexed field]
            MANUFACTURER (BUILDER) [Character string, indexed key]
            MODEL [Character string, indexed key]
            SPECIFICATIONS (SPECS)
                RIG [Character string]
                LENGTH-OVER-ALL (LOA) [Character string]
                DISPLACEMENT (DISP) [Number]
                BEAM [Number]
                PRICE [Number]
            SKIPPERS [List]
                NAME [Character string]

```

PRINT FIRST 5 SAILBOATS

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE	OWNER NAME
ALBERG	37 MK II	KETCH	37	20,000	12	\$36,951	
ALBIN	79	SLOOP	26	4,200	10	\$17,900	
ALBIN	BALLAD	SLOOP	30	7,276	10	\$27,500	
ALBIN	VEGA	SLOOP	26	5,070	08	\$18,600	STEVE
AMERICAN	26	SLOOP	26	4,000	08	\$9,895	

FIND SAILBOATS WITH ANY SKIPPERS
[6 records found]
PRINT ALL

MANUFACTURER	MODEL	RIG	LENGTH OVER ALL	WEIGHT	BEAM	PRICE	OWNER NAME
ALBIN	VEGA	SLOOP	27	5,070	08	\$18,600	STEVE HUGH
C&C	CORVETTE	SLOOP	31	8,650	09		JIM ANN
ISLANDER	BAHAMA	SLOOP	24	4,200	08	\$6,500	JIM ANN STEVE HARVE
PEARSON	10M	SLOOP	33	12,441	11		TOM
PEARSON	26	SLOOP	26	5,400	08		DICK
RHODES	SWIFTSURE	SLOOP	33	14,000	10		JOHN

```

!
! CHECK OUT TABLES
!
DEFINE TABLE RIG-TABLE
"SLOOP" : "ONE MAST",
"KETCH" : "TWO MASTS, BIG ONE IN FRONT",
"YAWL" : "SIMILAR TO KETCH",
"M/S" : "SAILS AND BIG MOTOR",
ELSE "SOMETHING ELSE"

```

(continued on next page)

END-TABLE

!

READY YACHTS

FIND YACHTS WITH RIG IN RIG-TABLE

[108 records found]

PRINT ALL TYPE, RIG, RIG VIA RIG-TABLE USING X(30)

MANUFACTURER	MODEL	RIG	RIG
ALBERG	37 MK II	KETCH	TWO MASTS, BIG ONE IN FRONT
ALBIN	79	SLOOP	ONE MAST
ALBIN	BALLAD	SLOOP	ONE MAST
ALBIN	VEGA	SLOOP	ONE MAST
AMERICAN	26	SLOOP	ONE MAST
BAYFIELD	30/32	SLOOP	ONE MAST
BLOCK I.	40	SLOOP	ONE MAST
BOMBAY	CLIPPER	SLOOP	ONE MAST
BUCCANEER	270	SLOOP	ONE MAST
BUCCANEER	320	SLOOP	ONE MAST
C&C	CORVETTE	SLOOP	ONE MAST
CABOT	36	SLOOP	ONE MAST
CAL	2-27	SLOOP	ONE MAST
CAL	2-34	SLOOP	ONE MAST
CAL	29	SLOOP	ONE MAST
CAL	3-30	SLOOP	ONE MAST
CAL	35	SLOOP	ONE MAST
CAPE DORY	25	SLOOP	ONE MAST
CAPE DORY	28	SLOOP	ONE MAST
CAPE DORY	TYPHOON	SLOOP	ONE MAST
CAPITAL	NEWPORT	SLOOP	ONE MAST
CARIBBEAN	35	SLOOP	ONE MAST
CHALLENGER	32	SLOOP	ONE MAST
CHALLENGER	35	SLOOP	ONE MAST
CHALLENGER	41	KETCH	TWO MASTS, BIG ONE IN FRONT
CHRIS-CRAF	CARIBBEAN	SLOOP	ONE MAST
COLUMBIA	35	SLOOP	ONE MAST
COLUMBIA	41	SLOOP	ONE MAST
COLUMBIA	PAYNE 9.6	SLOOP	ONE MAST
DOUGLAS	32	SLOOP	ONE MAST
DOWN EAST	32	SLOOP	ONE MAST
DOWN EAST	38	SLOOP	ONE MAST
DUFOUR	25	SLOOP	ONE MAST
ENCHILADA	20	SLOOP	ONE MAST
ENDEAVOR	32	SLOOP	ONE MAST
ERICSON	23/SPECIAL	SLOOP	ONE MAST
ERICSON	CRUISING/3	SLOOP	ONE MAST
FISHER	30	KETCH	TWO MASTS, BIG ONE IN FRONT
FISHER	37	KETCH	TWO MASTS, BIG ONE IN FRONT
GRAMPIAN	2-34	SLOOP	ONE MAST
GRAMPIAN	26	SLOOP	ONE MAST
GRAMPIAN	28	SLOOP	ONE MAST
GRAMPIAN	30	SLOOP	ONE MAST
GRAMPIAN	34	KETCH	TWO MASTS, BIG ONE IN FRONT
GRAMPIAN	41	KETCH	TWO MASTS, BIG ONE IN FRONT
HUNTER	27	SLOOP	ONE MAST
HUNTER	30	SLOOP	ONE MAST
I. TRADER	37	KETCH	TWO MASTS, BIG ONE IN FRONT
IRWIN	25	SLOOP	ONE MAST
IRWIN	30	SLOOP	ONE MAST
IRWIN	37 MARK II	KETCH	TWO MASTS, BIG ONE IN FRONT
IRWIN	HALF TON	SLOOP	ONE MAST
ISLANDER	28	SLOOP	ONE MAST
ISLANDER	30	SLOOP	ONE MAST
ISLANDER	36	SLOOP	ONE MAST

(continued on next page)

ISLANDER	BAHAMA	SLOOP	ONE MAST
ISLANDER	FREEPORT	KETCH	TWO MASTS, BIG ONE IN FRONT
MARIEHOLD	32	SLOOP	ONE MAST
METALMAST	GALAXY	SLOOP	ONE MAST
NAUTOR	SWAN 41	SLOOP	ONE MAST
NEWPORT	27S	SLOOP	ONE MAST
NEWPORT	30 II	SLOOP	ONE MAST
NEWPORT	41 S	SLOOP	ONE MAST
NICHOLSON	33	SLOOP	ONE MAST
NORTHERN	29	SLOOP	ONE MAST
NORTHERN	37	KETCH	TWO MASTS, BIG ONE IN FRONT
O'DAY	27	SLOOP	ONE MAST
O'DAY	32	SLOOP	ONE MAST
OLYMPIC	ADVENTURE	KETCH	TWO MASTS, BIG ONE IN FRONT
ONTARIO	32	SLOOP	ONE MAST
ONTARIO	VIKING	SLOOP	ONE MAST
PACESHIP	26	SLOOP	ONE MAST
PEARSON	10M	SLOOP	ONE MAST
PEARSON	26	SLOOP	ONE MAST
PEARSON	26W	SLOOP	ONE MAST
PEARSON	28	SLOOP	ONE MAST
PEARSON	30	SLOOP	ONE MAST
PEARSON	35	SLOOP	ONE MAST
PEARSON	36	SLOOP	ONE MAST
PEARSON	365	KETCH	TWO MASTS, BIG ONE IN FRONT
PEARSON	39	SLOOP	ONE MAST
PEARSON	419	KETCH	TWO MASTS, BIG ONE IN FRONT
RANGER	26	SLOOP	ONE MAST
RANGER	28	SLOOP	ONE MAST
RANGER	29	SLOOP	ONE MAST
RANGER	33	SLOOP	ONE MAST
RHODES	SWIFTSURE	SLOOP	ONE MAST
ROBERTS	29	SLOOP	ONE MAST
ROBERTS	36	SLOOP	ONE MAST
RYDER	S. CROSS	SLOOP	ONE MAST
S2	8M AFT	SLOOP	ONE MAST
S2	8M MID	SLOOP	ONE MAST
SABRE	28	SLOOP	ONE MAST
SALT	19	SLOOP	ONE MAST
SAN JUAN	21	SLOOP	ONE MAST
SAN JUAN	26	SLOOP	ONE MAST
SCAMPI	30	SLOOP	ONE MAST
SOLNA CORP	SCAMPI	SLOOP	ONE MAST
TA CHIAO	FANTASIA	SLOOP	ONE MAST
TANZER	26	SLOOP	ONE MAST
TANZER	28	SLOOP	ONE MAST
VENTURE	21	SLOOP	ONE MAST
VENTURE	222	SLOOP	ONE MAST
WESTERLY	CENTAUR	SLOOP	ONE MAST
WESTSAIL	32	SLOOP	ONE MAST
WINDPOWER	IMPULSE	SLOOP	ONE MAST
WRIGHT	SEAWIND II	SLOOP	ONE MAST

SHOW TABLES

Tables loaded:

RIG-TABLE

Tables:

RIG-TABLE

```

!
! DECLARE A GLOBAL VARIABLE TO SIMPLIFY TABLE LOOK UP
!
DECLARE RIG-DESCRIPTION COMPUTED BY RIG VIA RIG-TABLE
      EDIT-STRING IS X(30),
!
PRINT TYPE, RIG-DESCRIPTION OF FIRST 10 YACHTS

MANUFACTURER  MODEL                RIG
                                     DESCRIPTION
ALBERG        37 MK II  TWO MASTS, BIG ONE IN FRONT
ALBIN         79          ONE MAST
ALBIN         BALLAD    ONE MAST
ALBIN         VEGA      ONE MAST
AMERICAN      26          ONE MAST
AMERICAN      26-MS     SOMETHING ELSE
BAYFIELD      30/32     ONE MAST
BLOCK I.      40          ONE MAST
BOMBAY        CLIPPER   ONE MAST
BUCCANEER     270         ONE MAST

!
! RELEASE TABLE AND GLOBAL COMPUTED BY VARIABLE FROM MEMORY
!
RELEASE RIG-TABLE
!
! AS A KIND GESTURE, MAKE ALL OF THE EXAMPLES SHARABLE
!
DEFINEP RIG-TABLE 2,UIC,[*],RE
DEFINEP FAMILIES 2,UIC,[*],R
DEFINEP FAMILY-REC 2,UIC,[*],RE
DEFINEP KETCHES 2,UIC,[*],R
DEFINEP OWNERS 2,UIC,[*],R
DEFINEP OWNER-RECORD 2,UIC,[*],RE
DEFINEP LOA-REPORT 2,UIC,[*],RE
DEFINEP SAILBOATS 2,UIC,[*],R
!
! END OF INSTALLATION TEST
!

```

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