ENQUIRE

Demonstration Manual

Version 3.1

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About this manual

This manual, when used in conjunction with the demonstration database and programs supplied, will give the user an introduction to SUPERDEX and its companion product, ENQUIRE. The demo programs let you experiment with the various types of retrievals which SUPERDEX performs while using search criteria provided by the user.

No knowledge of either the SUPERDEX or ENQUIRE packages is assumed for this demonstration.

This manual is arranged in the following format:

Section 1 gives an *Introduction* of the demonstration package and explains how to set up the demo environment.

Section 2 reviews the ENQUIRE package and its capabilities by using an *ENQUIRE demo*. Data values are suggested but you may use data of your own. The ENQUIRE demo uses search profiles that emulate the COBOL demo programs. An explanation which includes data structures and program operation is given for each demo.

Section 3 reviews the SUPERDEX index structures used in the demonstration database and explains how they are utilized throughout the demos. Then, you are walked through the configuration of a new SUPERDEX access path.

Section 4 guides you through the process of *Defining a search profile* by utilizing SUPERDEX structures that were defined in the previous section. Advanced ENQUIRE functions are also discussed here.

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Section 1 Introduction

Features

This demonstration will give you the ability to interactively experience SUPERDEX's enhanced data retrieval capabilities through ENQUIRE. The capabilities included are:

- multiple keys in master and detail datasets
- concatenated keys containing multiple fields
- sorted sequential retrieval
- automatic keywording and keyword retrieval
- generic and partial-key retrieval
- grouping of functionally-equivalent fields
- multiple value lookup
- relational access across multiple fields, datasets, and databases

ENQUIRE demonstration search profiles

The features are demonstrated through the use of six ENQUIRE search profiles which use prepared menu-driven inquiry screens. The profiles illustrate how the same retrieval capabilities which are achieved by writing cumbersome programs can be accomplished simply by defining search profiles through ENQUIRE's user-friendly definition process.

In a later section, you'll actually create a new SUPERDEX path and define an ENQUIRE search profile to access it.

Demonstration database

A small demonstration database is provided to facilitate the interactive demos. It is a partial order entry database (called **OEDB**) which contains only four datasets; they are used as follows:

CUSTOMERS	Stand-alone manual master containing 1000 customer entries; IMAGE search item is CUSTOMER-NUMBER.
ORDER-HEADERS	Manual master, related to ORDER-LINES, containing 2620 order headers; IMAGE search item is ORDER-NUMBER.
ORDER-LINES	Detail dataset, related to ORDER-HEADERS, containing 10245 line items; IMAGE search item is ORDER-NUMBER.
SI	Stand-Alone detail dataset in which all SUPERDEX index structures are maintained. Contains only the item **SI**.

A complete database layout is contained in *Appendix A* of the SUPERDEX demonstration manual.

Database access

Although the entries in this database could be accessed by their IMAGE search items, this demonstration utilizes SUPERDEX access techniques only.

Loading the software

Load the SUPERDEX/ENQUIRE software from the installation tape by following the separate *SUPERDEX loading instructions*.

Log on :

```
:HELLO MGR.SUPERDEX,DEMO
```

The SUPERDEX/ENQUIRE demonstration is now ready to be run.

Running the demonstrations

The ENQUIRE search profiles utilize VPLUS forms so you must use a terminal or a terminal emulator that supports VPLUS.

Remember to TAB between fields and use the ENTER key when you're done with a screen. If you want to clear a value entered in a field, type SPACEs over the old value or press the CLEAR DISPLAY key.

Online help facility

There is a corresponding help form for each input and output form in ENQUIRE. The corresponding help form provides explanatory information; it can be displayed from any regular form by pressing the f1 function key, which is labelled HELP. To return to the regular form, press f8.

Section 2 ENQUIRE demo

About ENQUIRE

ENQUIRE is a data inquiry tool that utilizes SUPERDEX index structures to perform pre-defined types of retrievals. The retrievals are accomplished by defining *search profiles* that perform the retrievals on data values which have been supplied by the user.

Therefore, ENQUIRE permits powerful inquiries to be performed quickly with no programming and without the need for users to learn special syntax or commands.

ENQUIRE has many useful features, including:

- retrieval only: users may not modify data entries
- extensive reporting capabilities
- output in various popular microcomputer formats
- entirely menu-driven, both definition and execution
- supports both SUPERDEX and IMAGE data structures

Running the demonstrations

The ENQUIRE search profiles did not require any programming; they have been defined to emulate the COBOL demo programs through a few simple configuration steps. In other words, the ENQUIRE demos access the same SI-paths as the COBOL demo programs.

To run the ENQUIRE demonstrations, type

```
:ENQUIREDEMO
```

at the MPE colon prompt (do not type the :). The following menu will be displayed:

```
SUPERDEX/ENQUIRE :  Main Execution Menu




Search profile name ..... _____________
           password ..... [           ]
```

Six separate ENQUIRE search profiles may be executed from this main menu; they are described on the following pages.

Simple key demo

About the demo

This demo is equivalent to the COBOL Simple Key Demo and it illustrates the use of a *simple* SI-key to locate customers in the CUSTOMERS master dataset.

Running the demo

Type

SIMPLE

in the `Profile name` field and press **ENTER** to proceed to the Simple Key Demo.

The following screen is displayed:

```
SUPERDEX/ENQUIRE:  Input Selection Value(s)

-> Enter a selection value for each field :

Enter customer name ______________________________________________














Entry limit: ________    Output file: ___________________________
                       entries qualify
```

(For now, do not worry about the two fields Entry limit ans Outputfile at the bottom of the screen or the function key S. These are explained in *Section 4* of this demo manual.)

Type

UNITED@

in the field and press **ENTER**. ENQUIRE displays the number of qualifying entries at the bottom of the screen.

Press the **f2** key to display the qualifying entries:

```
SUPERDEX/ENQUIRE :      Display Qualifying Entries

Customer name                        Customer number

------------------------------------------------------------------------
UNITED AIRLINES                      2112949
UNITED ALLOYS & STEEL                2100649
UNITED BUSINESS EQUIPMENT            2100652
UNITED CEREBRAL PALSY ASSN           2100400
UNITED CHURCH HOME                   2100304
UNITED FUND BUFF & ERIE              2100401
UNITED IMPORT MOTORS INC             2100700
UNITED PRESB CHURCH                  2100509
```

As you can see, ENQUIRE can perform a partial-key retrieval and return entries in sorted sequential order. The **@** character tells ENQUIRE to match zero or more characters in the position where specified. Characters following the **@** are ignored. If you specified a customer of just **@**, ENQUIRE would retrieve 1000 entries all the entries in the dataset.

Press the **f7** key to return to the Selection form. Now, enter

UN@:UNI@

in the `customer name` field and press **ENTER**. This performs a range retrieval of all the entries that begin with "UN" through "UNI," inclusive. Press **f2** to display the 11 qualifying entries:

```
UNDERWRITERS SALVAGE CO          2100347
UNITARIAN CHURCH                 2100207
UNITED AIRLINES                  2112949
UNITED ALLOYS & STEEL            2100649
UNITED BUSINESS EQUIPMENT        2100652
UNITED CEREBRAL PALSY ASSN       2100400
UNITED CHURCH HOME               2100304
UNITED FUND BUFF & ERIE          2100401
UNITED IMPORT MOTORS INC         2100700
UNITED PRESB CHURCH              2100509
UNIVERSITY BOOKSTORE             2100606
```

Further demonstration

Try out additional values to further experiment with ENQUIRE's handling of a simple SI-key. You may use the **?** match code described in the COBOL Simple Key Demo for performing generic retrievals and the following ENQUIRE operators in your values to tailor your selections:

> *value*	greater-than retrieval
>=*value*	greater-than or equal-to retrieval
< *value*	less-than retrieval
<=*value*	less-than or equal-to retrieval

To return to the Selection form and perform another retrieval, press **f7**. If more than 18 entries qualify use the function keys **f2** and **f3** to skip between the pages. Press **f8** to return to the Main Menu when you are done.

Concatenated key demo

About the demo

This demo is equivalent to the COBOL Concatenated Key Demo and it illustrates the use of a *concatenated* SI-key to locate order line items in the ORDER-LINES detail dataset.

Running the demo

Type

CONCATENATED

in the `Profile name` field and press **ENTER** to proceed to the Concatenated Key Demo.

The following screen is displayed:

```
SUPERDEX/ENQUIRE:  Input Selection Value(s)

-> Enter a selection value for each field :

Enter order number _____________________________________________
Enter part number  _____________________________________________









Entry limit: ________   Output file: ____________________________
                     entries qualify
```

Specify an `order number` of

701257

and a `part number` of

SCM@

and press ENTER. ENQUIRE returns the number of qualifying entries at the bottom of the screen.

Press f2 to display the entries found:

```
 SUPERDEX/ENQUIRE :  Display Qualifying Entries

Order no.  Part number   Part description

--------------------------------------------------------------------------
 701257     SCM1312       FOLDER MANILA LTR 1/  1120
 701257     SCM1511       COPYSETS CANARY CA9B  1065
 701257     SCM153-ST     PADS TELEPHONE MESSA  1250
 701257     SCM835-ST     PAD SCRATCH 3X5 9120  1230
 701257     SCM858-ST     PAD SCRATCH 5X8  912  1235
 701257     SCM870        PAD STENO GREGG RULE  1240
 701257     SCM8784       PAD STENO PITMAN RUL  1245
 701257     SCM9014-ST    PAD LEGAL CANARY PER  1215
 701257     SCM911-ST     PAD LETTER CANARY 81  1210
 701257     SCMA1312      FOLDER MANILA LGL 1/  1125
```

Further demonstration

To return to the Selection form and perform another retrieval, press f7. Since the field `order number` is of numeric type ? and @ are not allowed. Press f8 to return to the Main Menu when you are done.

Keyworded key demo

About the demo

This demo is equivalent to the COBOL Keyworded Key Demo and it illustrates the use of a *keyworded* SI-key to locate customers stored in the CUSTOMERS master dataset. It is the same type of retrieval as in the Simple Key Demo, but against a keyworded SI-key.

Running the demo

Type

KEYWORD

in the `Profile name` field and press **ENTER** to proceed to the Keyworded Key Demo.

The following screen is displayed:

```
SUPERDEX/ENQUIRE:  Input Selection Value(s)

-> Enter a selection value for each field :

Enter Customer word ______________________________________________









Entry limit: ________   Output file: __________________________
                      entries qualify
```

Enter the name

FRANK@

in the input field and press **ENTER**. ENQUIRE returns the number of entries that contain a word beginning with "FRANK" at the bottom of the screen.

Press **f2** to display the entries found:

```
 SUPERDEX/ENQUIRE :  Display Qualifying Entries

Customer name                    Customer #

--------------------------------------------------------------------------------
CIMINELLI FRANK CONST                300057
RIPPLE J FRANK                      1800510
FRANKENSTEIN WM D                    600628
```

Further demonstration

To return to the Selection form and perform another retrieval, press **f7**. Press **f8** to return to the Main Menu when you are done.

Grouped key demo

About the demo

This demo is equivalent to the COBOL Grouped Key Demo and it illustrates the use of a *grouped* SI-path to locate customers stored in the CUSTOMERS master dataset by either address or city. These two fields are combined to form a group; the group is configured as keyworded to allow access to any word in either field.

Running the demo

Type

GROUPED

in the `Profile name` field and press **ENTER** to proceed to the Grouped Key Demo.

The following screen is displayed:

```
SUPERDEX/ENQUIRE:  Input Selection Value(s)

-> Enter a selection value for each field :

Enter Location word ________________________________________________









Entry limit: ________    Output file: __________________________
                        entries qualify
```

Type

KENMORE

in the input field and press **ENTER**. ENQUIRE returns the number of qualifying entries at the bottom of the screen.

Press **f2** to display the entries found:

```
SUPERDEX/ENQUIRE : Display Qualifying Entries

Company name                  Address                  City

-------------------------------------------------------------------------
 BARBER-COLMAN CO             1249 MILITARY RD         KENMORE
 CASSETTA AGENCY CO INC       810 KENMORE AVE          BUFFALO
 C B N                        3174 DELAWARE AVE        KENMORE
 CEGLIA LAWRENCE              2070 SHERIDAN DR         KENMORE
 C S F DESIGNS INC            61 GARDENWOOD LANE       KENMORE
 CENTURY 21 GOLD JACKET       3411 DELAWARE AVE        KENMORE
 CECOS ENVIRONMENTAL INC      2321 KENMORE AVENUE      BUFFALO
 CHECKERCAR CLUB OF AMERICA   4693 TERMAINE AVE.       KENMORE
 CHECKPOINT FOREIGN CAR       487 KENMORE AVE          BUFFALO
 F B L ASSOCIATED AGENCIES    860 ENGLEWOOD AVE        KENMORE
 FASO CHARLES P. AGENCY       860 ENGLEWOOD AVE        KENMORE
 HOOD COMPANY INC             2225 KENMORE AVENUE      BUFFALO
 IMMCO DIAGNOSTICS INC        963 KENMORE AVE          BUFFALO
 KOCH RICHARD J CPA           1026 ENGLEWOOD AVE.      KENMORE
 LAKELAND AUTOMOTIVE          536 NIAGARA FALLS BLVD   KENMORE
 LOEFFLER F.H. COMPANY INC.   328 KENMORE AVE.         BUFFALO
 OTIS ELEVATOR                1175 MILITARY RD         KENMORE
```

Further demonstration

To return to the Selection form and perform another retrieval, press **f7**. Press **f8** to return to the Main Menu when you are done.

Relational access demo - multiple fields & values

About the demo

This demo illustrates selection by both multiple values for a single field and multiple fields in a single dataset. In this demo, customers are qualified by name and city.

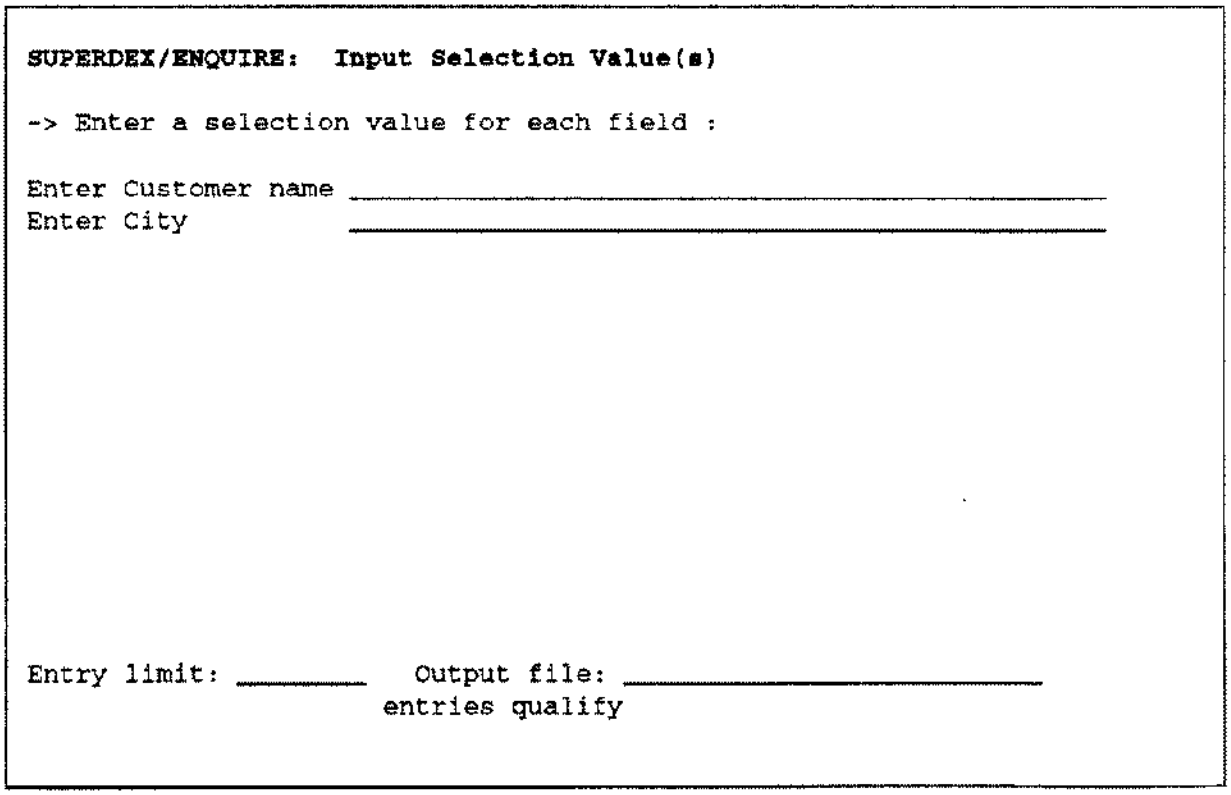
Running the demo

Type

MULTIFIELD

in the `Profile name` field and press **ENTER** to proceed to the multi-field Relational Access Demo.

The following screen is displayed:



Type

B@-BUFFALO

in the first field and

BUFFALO

in the second field and press **ENTER**. ENQUIRE returns the number of qualifying entries at the bottom of the screen.

Press **f2** to display the entries found:

```
SUPERDEX/ENQUIRE :  Display Qualifying Entries

Customer # Customer name                    City

-------------------------------------------------------------------------
999        JOE B                            BUFFALO
204125     BAILEY CONTROLS                  BUFFALO
204145     BRADY, DR. GEORGE                BUFFALO
204420     BENLIN DIST SERVICES             BUFFALO
204455     BIO ENGINEERING CO               BUFFALO
204544     BROCK, J. C. CORP.               BUFFALO
204550     BERG COLOR TONES                 BUFFALO
204641     BROWN, HAROLD C. & CO.           BUFFALO
204722     BARILL REALTOR                   BUFFALO
204749     BRUENING BEARINGS, INC.          BUFFALO
204760     BISON BASEBALL INC               BUFFALO
216348     BETTER BUSINESS BUREAU           BUFFALO
300014     CHURCH BULLETIN OF BFLO          BUFFALO
300049     COHENS BAKERY INC AL             BUFFALO
300068     CELLO-PACK CORP OF BFLO          BUFFALO
300170     CHRISTEL & BEAN                  BUFFALO
300209     CENTRAL BFLO PROJECT CORP.       BUFFALO
300215     COTTRELL BUS                     BUFFALO
```

Further demonstration

To return to the Selection form and perform another retrieval, press **f7**. Press **f8** to return to the Main Menu when you are done.

Relational access demo - multiple datasets

About the demo

This demo is equivalent to the COBOL multiple dataset Relational Access Demo. It will find all the order line items containing a specified part number that exist for a specified customer. As before, a logical relationship must be formed via the ORDER-HEADERS master dataset using *relational access*.

Running the demo

Type

`RELATIONAL`

in the `Profile name` field and press **ENTER** to proceed to the multi-set Relational Access Demo.

The following screen is displayed:

```
SUPERDEX/ENQUIRE:  Input Selection Value(s)

-> Enter a selection value for each field :

Enter customer name ________________________________________
Enter part number   ________________________________________










Entry limit: ________   Output file: __________________________
                      entries qualify
```

Type

```
UNITED CHURCH@
```

in the first field and

```
33@
```

in the second field and press **ENTER**. ENQUIRE returns the number of qualifying entries at the bottom of the screen.

Press **f2** to display the entries found:

```
SUPERDEX/ENQUIRE :  Display Qualifying Entries

Customer # Order no  Part no.     Part description        Qty.

-------------------------------------------------------------------------
 2100304   701193    331-01-BLU-M  WRITE BROS                24
 2100304   701193    332-01-RED-M  WRITE BROS                12
 2100304   701193    334-01-GRN-M  PEN                       12
 2100304   928312    334-01-GRN-M  PEN,BALLPOINT,MED PT,GN   12
```

Further demonstration

To return to the Selection form and perform another retrieval, press **f7**. Press **f8** to return to the Main Menu when you are done.

Lotus interface demo

About the demo

The purpose of this demo is to show you how to run ENQUIRE from a standard PC application. The ENQUIRE part of the demo is equivalent to the Concatenated Demo.

To run the demo, REFELCTION and LOTUS are required.

Preparation

Use REFLECTION to download two files from the HP 3000 to the PC into your LOTUS directory

```
SDXCMD.DEMO--> SDX.CMD
SDXWK1.DEMO--> SDX.WK1
```

Running the demo

Start REFLECTION and log on to the HP 3000.

Switch to the Lotus directory by pressing **f5** and enter the command **CD \LOTUS.**

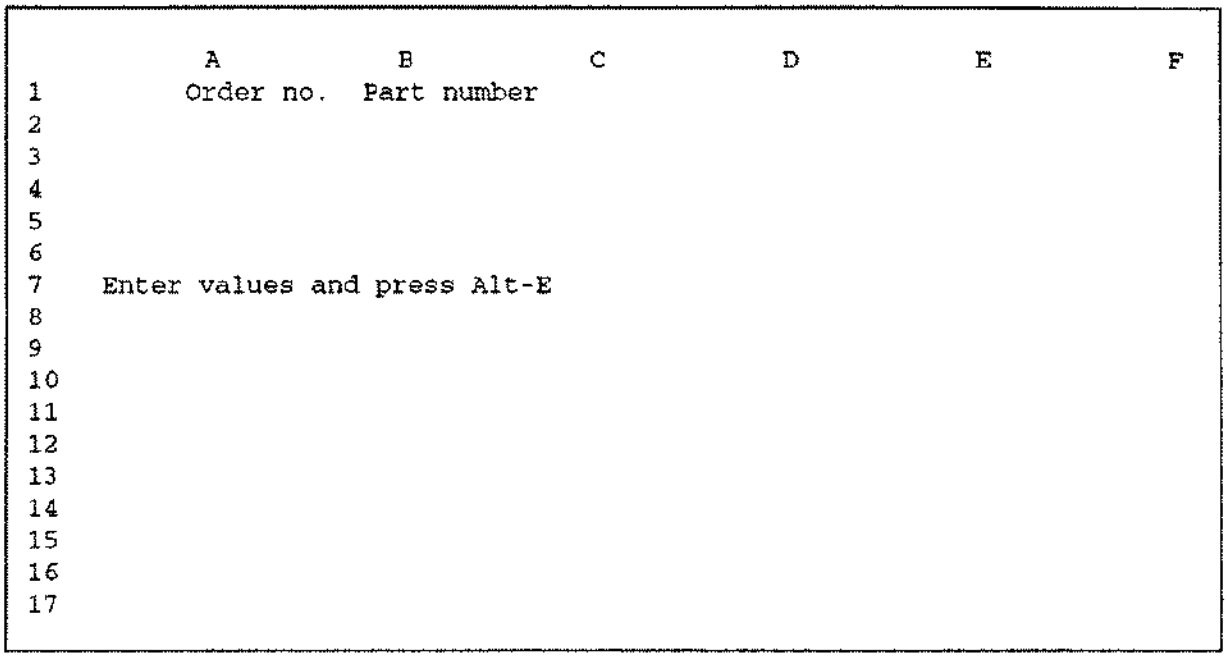
Start the background command file by entrering the command **SDX.CMD**.

You should now see the DOS prompt in the Lotus directory **C: \LOTUS>**.

Type

```
123 -WSDX
```

This starts Lotus and displays the worksheet:



	A	B	C	D	E	F
1	Order no.	Part number				
2						
3						
4						
5						
6						
7	Enter values and press Alt-E					
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Specify an order number of

701257

in cell **A2** and a part number of

SCM@

in cell **B2**

Press ALT-E to invoke the macro \E which sends a search request to the HP 3000.

After the second beep press ALT-R to invoke the macro \R which integrates the worksheet in your current worksheet with the following result:

```
      A              B              C              D              E              F
1     Order no.      Part number
2     701257         SCM@
3
4
5
6
7     Order no.      Part number    Part description
8     701257         SCM1312        FOLDER MANILA LTR 1/  1120
9     701257         SCM1511        COPYSETS CANARY CA9B  1065
10    701257         SCM153-ST      PADS TELEPHONE MESSA  1250
11    701257         SCM835-ST      PAD SCRATCH 3X5 9120  1230
12    701257         SCM858-ST      PAD SCRATCH 5X8  912  1235
13    701257         SCM870         PAD STENO GREGG RULE  1240
14    701257         SCM8784        PAD STENO PITMAN RUL  1245
15    701257         SCM9014-S      PAD LEGAL CANARY PER  1215
16    701257         SCM911-ST      PAD LETTER CANARY 8-1  1210
17    701257         SCMA1312       FOLDER MANILA LGL 1/  1125
```

Further demonstration

Since the background command file is still active, you may enter new values for order number and part number. A numeric part number must be preceded by a quote.

The simple command file provided for this demo does not include error handling. If ENQUIRE does not retrieve any entries the command file aborts, since it does not find a file to be transferred. The command file can easily be modified to test for the existence of the file and either to transfer a dummy file or to display a message to the user.

How the demo works

The following command file is executed in the background:

```
BACKGROUND
:START
IF EXIST("SDX.PRN")
  SEND SDX.PRN TO ENQIN ASCII DELETE
  ERASE SDX.PRN
  TRANSMIT "FILE DBENQ=DBENQ.DEMO.SUPERDEX"
  TRANSMIT "RUN ENQUIRE.PUB.SUPERDEX,BATCH;STDIN=ENQIN^M"
  WAIT FOR "^Q"
  RECEIVE ENQ.WK1 FROM ENQTEMP BINARY DELETE
  PTRANSMIT "PURGE ENQIN"
  PTRANSMIT "PURGE ENQTEMP"
ENDIF
WAIT 0:0:5
GOTO START
```

It waits in a loop until a file SDX.PRN is created. When it finds this file

- it transfers it to the HP 3000
- it starts ENQUIRE in batch mode, using the file transferred as STDIN
- it transfers the file produced by ENQUIRE back to the HP 3000.

The SDX worksheet includes the macros \E and \R

```
                        F                          G
1   \E              {WINDOWSOFF}
2                   {OPEN SDX.PRN,W}
3                   {WRITELN "CONCATENATED"}
4                   {WRITELN @STRING(A2,0)}
5                   {WRITENL B2}
6                   {WRITELN ""}
7                   {WRITELN "ENQTEMP"}
8                   {CLOSE}
9                   {BLANK TBLRANGE}
10                  {GOTO}TBLRANGE}~
11                  Press ALT-R after second beep~
12                  {HOME}{DOWN}
13
14  \R              {WINDOWSOFF}
15                  {GOTO}TBLRANGE~
16                  /FCCEENQ~
17                  {HOME}{DOWN}
```

Macro \E

1 stabilizes screen
2 opens the new microcomputer file SDX.PRN for write access
3 writes the search profile name "CONCATENATED" to the SDX.PRN file
4 converts the first search value (from cell A2) from numeric to ASCII with no decimal digits and writes it to the SDX.PRN file
5 writes the second search value (from cell B2) to the SDX.PRN file
6 writes a blank line to the SDX.PRN file
7 writes the HP3000 output file name ``ENQTEMP" to the SDX.PRN file
8 closes the SDX.PRN file
9 clears old table from the screen
10 repositions cursor
11 displays a message for the user
12 repositions cursor to first cell (A2)

Macro \R

14 stabilizes screen
15 repositions cursor
16 gets the file ENQ.WK1
17 repositions cursor to first cell (A2)

Section 3 SUPERDEX index structures

SUPERDEX paths

Now that we've seen the quick and powerful retrievals that may be accomplished by SUPERDEX, let's take a look at the index structures used to facilitate what we've seen.

To do so, exit to MPE and type

SIMAINTLIST

and hit RETURN. When prompted, enter the database name

OEDB

and RETURN to list the SUPERDEX structures:

```
RUN SIMAINT.PUB.SUPERDEX,LIST

 SIMAINT.PRIV VERSION 3.1 (23JAN92) COPYRIGHT DR. MATT / IABG (1988,1991)

 DATABASE >OEDB
 THE FOLLOWING SI-PATHS AND ITEMS ARE DEFINED:
  DATASET     SI-PATH              ITEMS/LENGTHS

   10001      KWEXCLUDE                          4
 CUSTOMERS
   10002      CUSTOMER-NAME        CUSTOMER-NAME    15
   10003      CUSTOMER-NAME-KW/K   CUSTOMER-NAME     8
   10004      ADDRESS1-CITY-KW/K   ADDRESS-1        4
   10004      ADDRESS1-CITY-KW/K   CITY             4
 ORDER-LINES
   10005      ORDER-PART           ORDER-NUMBER     2       PART-NUMBER  7
   10006      PART-ORDER           PART-NUMBER      7       ORDER-NUMBER 2
 ORDER-HEADERS
   10007      CUSTOMER-NUMBER      CUSTOMER-NUMBER  2

 TOTAL TIME :                                      CPU 0:00:02.2  Elapsed 0:00:04
 END OF PROGRAM
 DEMO.SDX31:27> PSCREEN
```

Listed here are seven SI-paths which relate to eight SI-keys in the database. They are as follows:

KWEXCLUDE	Special standalone SI-path used for excluding unneeded words from keywording, such as for excluding "CORP" and "INC" in the Keyworded Key Demos.
CUSTOMER-NAME	Simple SI-path used for generic, partial-key, range, and other retrievals by CUSTOMER-NAME in the CUSTOMERS dataset. Used in the Simple Key Demos.
CUSTOMER-NAME-KW	Same as CUSTOMER-NAME, but configured as keyworded (as noted by the **/K** following the SI-path name) with a keyword length of 8 words (16 characters). Used in the Keyworded Key Demos.
ADDRESS1-CITY-KW	Grouped SI-path consisting of the ADDRESS-1 and CITY fields, shown as two separate entries above. Note the **/K** indicating that it is also configured as keyworded. Used in the Grouped Key Demos.
ORDER-PART	Concatenated SI-path consisting of the ORDER-NUMBER and PART-NUMBER for each line item in the ORDER-LINES dataset. Used in the Concatenated Key Demos.
PART-ORDER	Same as ORDER-PART, but order of items is reversed. Used in the dataset Relational Access demo.
CUSTOMER-NUMBER	Simple SI-path related to the ORDER-HEADERS dataset, consisting of the CUSTOMER-NUMBER. Used in the Relational Access Demo using multiple datasets.

Configuring SI-paths

The SI-paths shown, which were used in both the COBOL and ENQUIRE demonstrations, were already created using SUPERDEX's configuration program, **SIMAINT**. This program establishes the required index structures in a single dataset in the database (named **SI**) and creates the required indices for the data entries which currently exist in the database.

Now, let's create a new SI-path to see how the SIMAINT program works.

Creating a new SI-path

The CUSTOMERS dataset contains three fields for phone numbers:

PHONE-AREA-CODE	phone number area code (first three digits)
PHONE-PREFIX	phone number prefix (middle three digits)
PHONE-SUFFIX	phone number suffix (last four digits)

Let's create a grouped SI-path which groups together PHONE-PREFIX and PHONE-SUFFIX, which will permit a customer to be located by either value using a single prompt in a single operation (just like by address and city in the Grouped Key Demo). This grouped SI-path will also permit all the customers with a specified prefix to be identified, useful for certain demographic information.

First, lets run the SIMAINT program by typing:

SIMAINT

and pressing **RETURN**. Then, specify the database name

OEDB

and press **RETURN**. SIMAINT lists the datasets that have related SI-paths, and prompts for a dataset:

```
RUN SIMAINT.PUB.SUPERDEX

SIMAINT.PRIV VERSION 3.1 (23JAN92) COPYRIGHT DR. MATT / IABG (1988,1991)

DATABASE >OEDB
SI-PATHS EXIST FOR THE FOLLOWING SETS:
   - BLANK -
CUSTOMERS
ORDER-LINES
ORDER-HEADERS
ENTER NAME OF SET TO BE MODIFIED OR NEW NAME
DATASET >
```

Specify the

CUSTOMERS

dataset and press **RETURN**. Its related SI-paths are displayed, and an SI-path name is prompted for:

```
DATASET >CUSTOMERS
THE FOLLOWING SI-PATHS AND ITEMS ARE DEFINED:
CUSTOMER-NAME       CUSTOMER-NAME L =15
CUSTOMER-NAME-KW/K CUSTOMER-NAME L = 4
ADDRESS1-CITY-KW/K ADDRESS-1      L = 4
ADDRESS1-CITY-KW/K CITY           L = 4
ENTER SI-PATH WITH OPTION /D /R /G OR NEW NAME
SI-PATH >
```

Specify the new SI-path name

PHONE-PRFX-SUFX

and **RETURN**, and type a

?

and **RETURN** when prompted for an item name:

```
SI-PATH >PHONE-PRFX-SUFX
ITEM 1 >?
CUSTOMER-NUMBER CUSTOMER-ABBR CUSTOMER-NAME ADDRESS-1     ADDRESS-2
CITY            STATE         ZIP-CODE      PHONE-AREA-CODE   PHONE-PREFIX
PHONE-SUFFIX

ITEM 1 >
```

This causes SIMAINT to list the items in the dataset and reprompt. Now, specify the first item

PHONE-PREFIX

to be included in the group and **RETURN** twice:

```
ITEM 1 >PHONE-PREFIX
ITEM 2 >RETURN
```

When prompted for the next SI-path, enter the same SI-path name as before but append **/G**, like

PHONE-PRFX-SUFX/G

This indicates that you are configuring the SI-path as grouped:

```
SI-PATH >PHONE-PRFX-SUFX/G
ITEM 1 >
```

Now, specify the second item to be included in the group

PHONE-SUFFIX

as shown:

```
ITEM 1 >PHONE-SUFFIX
SI-PATH >
```

You have just configured a grouped SI-path! Press **RETURN** for the next two prompts, and wait a few moments while the SI-path is created:

```
SI-PATH >RETURN
DATASET >RETURN
PROCESSING SI-PATH PHONE-PRFX-SUFX  OF CUSTOMERS    # OF ENT: 1003
        INPUT:     1003 RECORDS 100%     CPU 0:00:03.2 ELAPSED 0:00:03
        SORT:      2006 INDICES          CPU 0:00:00.9 ELAPSED 0:00:01
        OUTPUT:    1700 INDICES 100%     CPU 0:00:01.9 ELAPSED 0:00:02
TOTAL TIME:                              CPU 0:00:09.8 ELAPSED 0:02:06

END OF PROGRAM
```

Now, let's move on to create and execute an ENQUIRE search profile using our newly-defined SI-path.

Section 4 Defining a search profile

Main menu

To define a new search profile using the SI-path we created in the COBOL demonstration, type:

ENQUIREDEF

This will run the ENQUIRE program in a special mode which permits search profiles to be defined and executed:

```
SUPERDEX/ENQUIRE :  Main Definition Menu


Select an option ..... __        D = define new Search profile or
                                     modify existing Search profile

                                 B = define new Database profile or
                                     modify existing Database profile

                                 C = copy existing Search profile
                                     under new name and modify

                                 X = execute existing Search profile


Profile name ..... __________
    password .....[          ]   (existing profile only)

New profile name ..... __________    (Copy option only)
```

Type

D

in the `option` box and

PHONE

in the `Profile name` field. Press ENTER.

Defining the database and output

After completing the Main Menu, a form for defining the databases to access and the output format for the search profile is displayed:

```
SUPERDEX/ENQUIRE :  Define Database(s) and Global Attributes

Database name(s) ...  ________  ________  ________  ________
     password(s) ... [        ] [        ] [        ] [        ]


Custom forms ? ..... N    Y = custom user-defined forms
                          N = standard pre-defined forms

Output format ...... _    _ = screen and printer only
                          1 = BINARY : binary format for HP3000
                          2 = SD     : self-describing format for HP3000
                          3 = ASCII  : comma/quote-delimited for PC wps
                          4 = WK1    : work file for Lotus 1-2-3 on PC
                          5 = DBF    : DBF file for dBASE on PC
                          6 = MAC    : tab-delimited for Apple Macintosh

Profile password ... _____(optional)


Delete ? ........... N    Y = delete this search profile
                          N = modify this search profile
```

This form may be filled in with:

- up to four databases to access
- a password for each database
- whether the forms should be generated by ENQUIRE or if custom forms have already been prepared
- the format in which to output the data
- the optional search profile password
- whether to modify or delete the current profile.

Defining the demo database and password

Type

OEDB

in the first database name field. TAB over and type

ACCT

in the password field immediately beneath it. The password is not echoed for security reasons.

Other fields

Leave the other fields blank for this demo.

Note that by default, ENQUIRE will generate standard forms for entering and displaying data when the search profile is executed. However, the capability for using custom-defined VPLUS forms does exist.

Also note that ENQUIRE can output entries that have been selected when executing the search profile in one or more of the following ways:

- display on the terminal screen
- list on a printer
- store to a binary-format file for use on the HP3000
- store to a self-describing (SD) file for use on the HP3000 or for conversion to a DIF file on a PC
- store to a WK1-format file for use on a PC in Lotus 1-2-3
- store to a DBF-format file for use on a PC in dBASE
- store in TAB-delimited format for use on an Apple Macintosh.

Access to the search profile can be restricted by assigning an arbitrary password of up to eight characters. The password must be specified whenever the search profile is executed.

Press ENTER to proceed to the next form.

Defining datasets to access

After the database/output form has been completed and saved, a separate dataset definition form is displayed for each database specified in the previous form. This form defines:

- the datasets to access
- the order in which to access them

```
SUPERDEX/ENQUIRE :  Define Dataset(s)                          base: OEDB

-> Select up to 16 datasets and specify order by marking a letter (A - Z)

 _ M CUSTOMERS              _ D ORDER-HEADERS          _ D ORDER-LINES
   D SI
```

Each dataset is indicated by name and prefixed with a code defining the dataset type (A=automatic master, M=manual master, D=detail). Datasets may be selected by entering an **X** (or other alphabetic character) in the box to the left of each. Since this demo will use only the CUSTOMERS dataset, type an

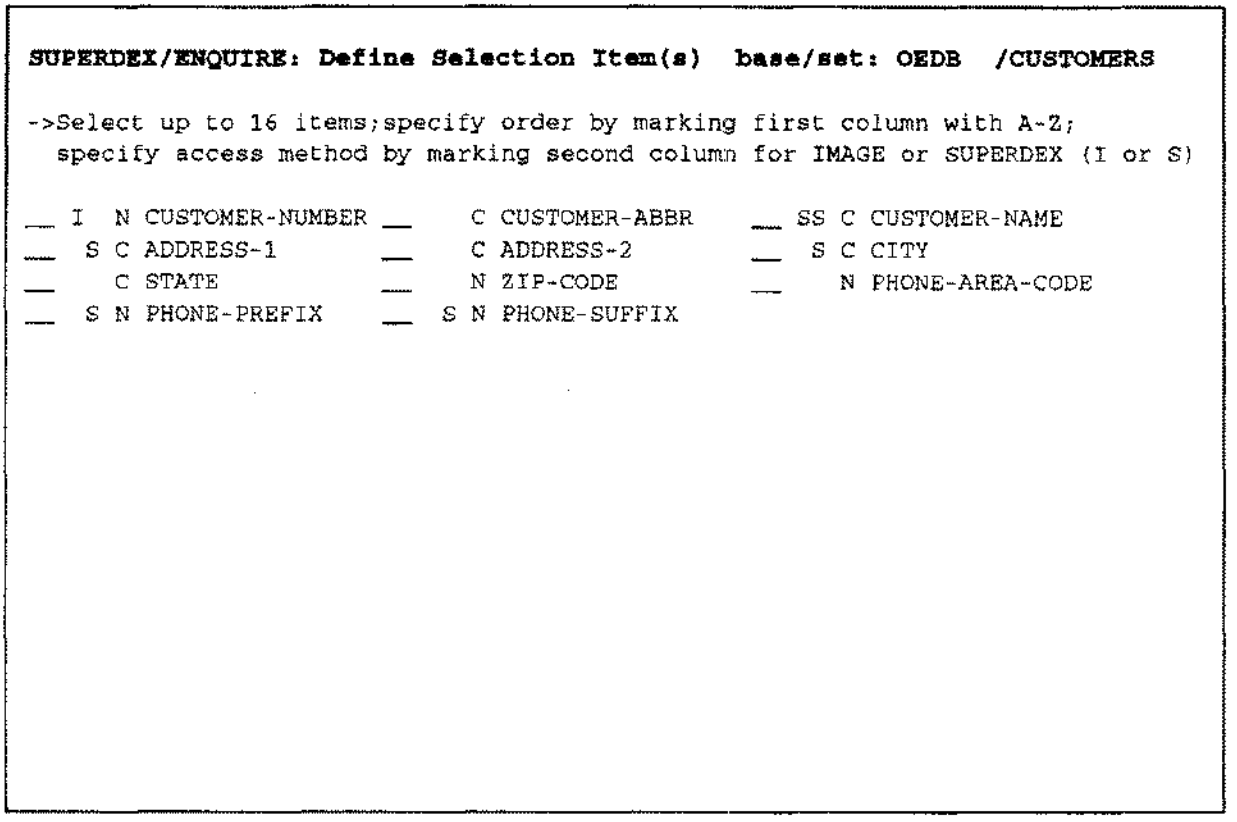
X

in the input box to the left of the CUSTOMERS dataset, and press **ENTER** to proceed to the next form.

Defining fields for selection

After you have completed and saved the dataset definition form, a separate field definition form is displayed for the dataset selected in the previous form. This form defines:

- the fields to access
- the order in which to access them
- the type of access for fields that are used as IMAGE search fields or SUPERDEX SI-keys or SI-subkeys



Fields are listed in the order in which they appear in the dataset item list. Each field is indicated by a prefix of either **C** or **N** and its item name. The prefix indicates what format the data is represented in, where:

C = character (alphanumeric IMAGE data types U and X)
N = numeric (IMAGE data types I, J, K, P, R and Z)

Fields that are used as IMAGE or SUPERDEX keys have another prefix that indicates how the keys are used, whereby:

```
I   = IMAGE search field
S   = one SUPERDEX SI-key
IS  = IMAGE search field and one or more SUPERDEX SI-keys
SS  = multiple SUPERDEX SI-keys.
s   = second SI-subkey in a concatenated SUPERDEX SI-key
```

There is a maximum number of keys that can be selected for each dataset in a search profile:

```
one type "I" key and two type "S" keys   or
one type "I" key and one type "s" key   or
one type "I" key, one type "S" key
```

Additionally, a type "s" key may be selected for the first dataset only.

A maximum of 16 items to be searched at execution time may be indicated for the search profile. You must specify at least one field per dataset to be searched. Select only the fields which are necessary to satisfy the search requirements.

Fields are selected by specifying one or more letters in the box to the left of each field. In the first column of the box, enter an alphabetic character (A-Z). Letters may be used to specify the order in which the datasets are to be accessed (A is first, B is second, etc.). The same letter may be assigned to multiple datasets; this causes ENQUIRE to sequence the fields in the order shown on the form (the sequence of the dataset's item list).

The second column of the box is used to indicate the type of access desired for fields that are used as keys in IMAGE or SUPERDEX. Specify I for IMAGE, S for SUPERDEX, or a blank for non-key access. Fields that are defined as SUPERDEX SI-keys inherit their SUPERDEX attributes. Only one SI-subkey defined in the SI-path of grouped SI-keys needs to be a selection field. If I or S are not specified in any selection fields of a dataset, the dataset is read sequentially.

Type

```
AS
```

in the box to the left of the item PHONE-PREFIX, and press ENTER. Because PHONE-PREFIX and PHONE-SUFFIX were grouped together in the same SI-key, both fields will automatically be searched when this search profile is executed--even though PHONE-SUFFIX is not being selected explicitly. We have specified that SUPERDEX access be performed for this SI-path.

Defining fields for output

After you have completed and saved the field definition form, a separate output field definition form is displayed. The base and set names are indicated in the upper right corner. This form (one per dataset) defines:

- the fields to output
- the order in which to output them

```
 SUPERDEX/ENQUIRE : Define Output Field(s) base/set:   OEDB   /CUSTOMERS

-> Select up to 128 fields and specify order by marking with letter(A-Z)


_ N CUSTOMER-NUMBER      _ C CUSTOMER-ABBR        _ C CUSTOMER-NAME
_ C ADDRESS-1            _ C ADDRESS-2            _ C CITY
_ C STATE                _ N ZIP-CODE             _ N PHONE-AREA-CODE
_ N PHONE-PREFIX         _ N PHONE-SUFFIX
```

Each field is indicated by its item name and prefixed with its IMAGE data type. Fields are listed in the order in which they appear in the dataset item list.

Fields are selected by entering a character in the box to the left of each field. Valid characters are A-Z which specify the order in which the fields are to be listed (A is first, B is second, etc.). You may want to reorder the fields for reporting requirements. To list the fields in the order in which they appear in the form, just assign the same letter to each. Type

X

in the field to the left of each of the following items:

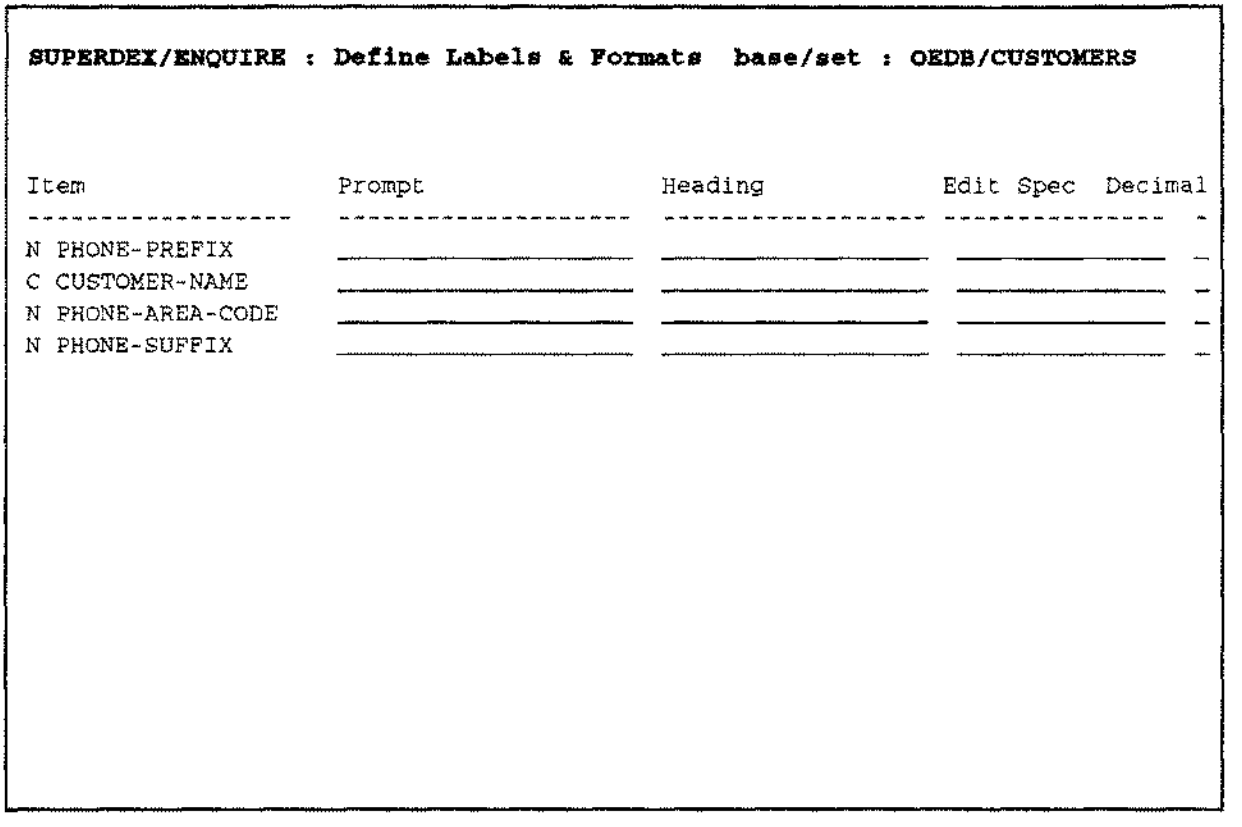
CUSTOMER-NAME
PHONE-AREA-CODE
PHONE-PREFIX
PHONE-SUFFIX

Then press **ENTER**.

Defining input and output field attributes

After you have completed and saved the output field definition form, a separate input/output field attribute definition form is displayed. This form defines:

- the prompt to be displayed for each input field
- the heading to be displayed for each output field
- edit mask specifications for alphanumeric and numeric fields
- the decimal point position for numeric fields



Each output field selected in the previous forms is indicated by its item name and listed in the order specified in the previous form.

Enter the values shown below in the `Prompt` and `Heading` fields, and press ENTER:

```
Item                Prompt                Heading
------------------- --------------------- ------------------------
N PHONE-PREFIX      Enter phone # value   Prefix
C CUSTOMER-NAME                           Customer name
N PHONE-AREA-CODE                         A.C.
N PHONE-SUFFIX                            Suffix
```

You should now be back at the Main Menu.

Executing the search profile

Main menu

To execute the search profile just created, type

X

in the Option box and press ENTER.

```
SUPERDEX/ENQUIRE :  Main Execution Menu

Select an option ..... __        D = define new Search profile or
                                     modify existing Search profile

                                 B = define new Database profile or
                                     modify existing Database profile

                                 C = copy existing Search profile
                                     under new name and modify

                                 X = execute existing Search profile


Search profile name ..... ____________
           password .....[           ]
```

Specifying values to search for

A prompt is issued for every field defined for selection: in this particular case, it is one field. The selection field is labelled with the `Prompt` defined previously (if none was specified, the item name would be displayed):

```
  SUPERDEX/ENQUIRE:  Input Selection Value(s)

-> Enter a selection value for each field :

Enter phone # value _____________________________________________


Entry limit: _____   Output file: _____________________________
                    entries qualify
```

Type

854

in the input field and press **ENTER**. ENQUIRE returns the number of qualifying entries at the bottom of the screen.

Press the f2 key to display the entries found:

```
SUPERDEX/ENQUIRE :  Display Qualifying Entries

Customer name                    A.C.   Prefix  Suffix

-------------------------------------------------------------------------
BROWN, HAROLD C. & CO.           716     854     2500
CLAXTON ASBESTOS CO              716     854     7555
FRONTIER AMUSEMENT CORP          716     854     6752
LADY MAC CORSET CO               716     854     1034
LOVALLO MATUSICK                 716     854     1111
MOHAWK TRUCK RENTAL INC          716     854     2828
```

Since both PHONE-PREFIX and PHONE-SUFFIX are included in a grouped SI-key, it is also possible to search for an entry based on the suffix (last four digits) of a phone number. Press f7 to return to the selection form and type

2828

and press ENTER. ENQUIRE locates the one matching entry. Press f2 to display the entry:

```
MOHAWK TRUCK RENTAL INC          716    854    2828
```

Press f7 to go back to the selection menu.

Specifying a limit on number of entries to returned

You may impose a limit on the number of entries to be located and returned by specifying a number in the `Entry limit` field. Leave the value blank for an unlimited search.

Outputting entries

ENQUIRE can output the entries found in several ways:

- display entries on the terminal screen (press **f2**)
- display only common values and totals on the screen (press **f3**)
- print to a line printer (press **f4**)
- store to a file in the pre-defined **store** format (press **f5**)

Reporting entries or totals only to screen

As we have seen, all qualifying entries may be displayed by pressing the **f2** key. Alternatively, only the totals of any numeric fields may be displayed by pressing the **f3** function key.

Printing entries on a printer

The entries are printed on the printer by pressing the **f4** function key. By default, output is sent to the system line printer (device class LP), but this may be redirected to another printer by a file equation for **ENQLIST**.

Entries are printed one per line, with a two-line heading. If the printer width is not sufficient to contain the entire entry, it is split onto multiple lines. The split will occur after column 132.

Storing entries to a file

The entries are written to the file specified in the `Output file` name box by pressing the **f5** function key. If the file already exists and the *append* option (file name suffixed with **/A**) was not specified, a message is displayed and a different file name may be entered. Or, you may overwrite the existing file by pressing **f5** again.

The format in which the entries are stored is pre-defined in the search profile (either ASCII, BINARY, DBF, SD, WK1/WKS, or MAC) for use with word processors, dBASE, Lotus, other microcomputers or HP3000 programs.

Uploading stored files to a microcomputer

Files that have been created by ENQUIRE's store option may be transferred to a PC, Macintosh, or other microcomputer by various programs, such as Reflection, AdvanceLink, or Business Session. Since these products are normally also used to emulate block mode, their file transfer facilities should be readily available.