SUPRTOOL™ 5.5

Database Handyman
for HP e3000 and HP-UX

Quick Reference Guide

Suprtool Commands by Function

In/Out	Process	Select	Control
Add	Clean	Define	Edit
Base	Delete	Duplicate	Export
Chain	Extract	If	Link
Get	Key	Item	Q
Input	List	Table	Reset
Numrecs	Put		Userpause
Open	Sort		Xeq
Output	Total		=calc
Select	Update		:o/s cmd

Dbedit / Suprlink / STExport

Dbedit	Suprlink	STExport	
Add	Input	Columns	Input
Change	Join	Clean	Output
Delete	Link	Date	Quote
File	Output	Decimal	Reset
List	Reset	Delimeter	Sign
Modify	Xeq	Escape	Spaces
Q		Floating	Xeq
		Heading	Xml
		HTML	Zero

Commands Common to All Modules

Before	Form	Redo	Use
Do	Help	Set	Verify
Exit	Listredo		

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The following list describes the commands that Suprtool understands at the ">" prompt. Continue command lines with "&" and combine commands on one line with ";". Shorten command names to the substring printed in capitals (e.g., BA for Base). You can use CI !variables in commands on MPE and $environment variables on HP-UX.

Add   *tablename*

Add   ownername.*tablename*

The Add command inserts records into an Oracle table. Before records can be added, an Oracle database must be open. You can specify just the tablename or the ownername.tablename combination. The specified table name must be a valid table, not a view. For adding records to an Eloquence database please see the Put command.

```
>add customer
```

BAse   [[host][:service]/]database

Open an Eloquence database (close current base). Base command also follows value of Eloquence variable EQ_DBSERVER.

```
base sample,5

base :eloqdb/sample,5

base hostname.robelle.com:eloqdb/sample,5
```

BAse   [*system#*] *base* [*mode*] [*pass*]

Open an IMAGE database (close current base). Specify remote base with system# prefix. Use "?" for pass to prompt with no echo in batch. (Default: logon = system, mode = 1, pass = ";")

```
>base actrec.dat        {mode = 1, pass = ";"}
>base actrec.dat,5,reader
>base sys2#act.db,5     {remote on sys2}
```

Before   [*start* [/*stop*]] | *string* | [ALL | @]

Redo commands with chance to modify. (Default: previous)

Clean [SPECIAL | <string> <range>]

Specifies what characters to clean when using the $Clean function. The SPECIAL keyword means characters from Decimal 0 to Decimal 31. Characters that match those defined with the Clean command, will be replaced by the value defined by Set CleanChar, which defaults to space. Clean characters can be defined with decimal notation "^" and/or the actual character as a string. To find records with specific characters see the $findclean function in the IF command.

```
>in mysdfile
>clean special,"^128:^190","^255","}"
>extract byte-field = $clean(byte-field)
```

Chain   *setname search-field* = [*key-values* | *table*]

Read an IMAGE or Eloquence dataset by search path, TPI, or B-tree and select specific records (masters) or chains of records (details) for explicit key values; requires previous Base command. Specify the key values either

Legend: MPE version only   HP-UX version only

by an explicit list of values separated by commas or by a table name (see
Table command on page 9.)

```
>chain d-sales,customer="12345"
>table slist,customer,file,slist.db
>chain d-sales,customer=slist
>chain d-sales,part-no="3YJ "
```

Define   *field byteposition sublen* [*type*][*subcount*]

Define a new data field (name <33 characters) by specifying an absolute
location and format. First byte of input record is 1. See Data-Types on
page 12. (Default: type = byte, subcount = 1)

```
>define city,11,10        {byte type}
>define TransType,1,2,int   {1 = first}
>def amt,11,2,int,12     {amt repeats 12 times}
```

Define   *field fieldname* [*qualifier*]

Define a new data field that is relative to the position of an existing
database or Defined field. The qualifier equals

[(*subscript***)] [[***offset***]] [***sublen***] [***type***] [***subcount***]**

The (subscript) specifies one sub-item of a compound item such as 5J2; 1
is the first and default sub-item. The offset specifies a byte offset from the
existing location of fieldname; 1 is the default. The sublen and type
override the existing size and data-type. See Data-Types on page 12. When
you specify a subcount, the sublen is the byte-length of each subfield.

```
>define itemcount,status,2,int
>define costtotal,status[2],4,ieee
>define middle,name(2)
```

DELete

Delete selected records from IMAGE or Eloquence input dataset using
DBDELETE.

DO   [*start* [*/stop*]] | *string* | [ALL | @]

Repeat previous commands without modifying them.

```
>do 5/9     {repeat several commands}
>do if      {repeat last If command}
```

DUplicate   ONLY | NONE KEYS [*num*] | RECORD
[COUNT] [TOTAL *field* ...]

Include or exclude duplicate records for the output file. There are options
to count the duplicate output records, and to total up to fifteen fields.

```
>duplicate none keys            {remove dups}
>duplicate only keys            {keep only dups}
>duplicate none keys 1          {first sort level}
>duplicate none keys count    {count dups}
>duplicate none keys total sales-amt, units-sold
```

EDit

Edit a database (see Dbedit Subsystem on page 18). Use the Base
command before using the Edit command.

Legend: MPE version only   HP-UX version only

Exit   [ABORT | SUSPEND | XEQ]

Perform task and return to parent process. Exit Abort abandons task.
Suspend lets you return to task later.

```
>exit              {default = Xeq}
>exit suspend    {stop without executing}
```

EXPort   [*stexport-command*]

Invoke STExport/MPE as a son process or pass a command to STExport.

```
>export input sdfile
```

You cannot use Suprtool/UX's Export command to invoke STExport/UX,
but you can run STExport/UX by itself.

```
>/opt/robelle/bin/stexport
```

EXTract   *field* [(*subscript*)]
[= *value* | = *field2* | = *expression*]
[,..]

Create output records by stringing together fields from the input record and
constant values. Extracts are cumulative; you can use multiple extract
commands. Extract can use dates (see Item command on page 6) and
expressions (one per command, must be at the end of the command).

```
>ext custnum,transtable(3)
>ext CustTotal=15000
>ext CustName," ",CustAddr
>ext SalePrice = (SalePrice * 1.10)
>ext Day = (date-field mod 100)
>ext ByteField = ^7    {=^G (bell)}
>ext c = (6000 - cost)
>ext yesterdate = $today(-1)
>ext date-field = $date(*/*/*-1)
>ext ccyymmdd-i2 = $stddate(date-mmddyy)
>ext date-field = $stddate($days(date-field) +7)
>ext num-days = ($days(date1) - $days(date2))
>ext positive = $abs(num-expression)
>ext packed-field = $signed(integer-field)
>ext int-field = $truncate(real-expression)
>ext full-name = ($trim(first-name) + " " + &
                  $trim(last-name))
>ext lowercase = $lower(city)
>ext uppercase = $upper(city)
>ext $ETOA(ByteField) {EBCDIC to ASCII}
>ext field = $lookup(table,key,tabledata)
>ext new-price=$number(new-price-ascii)
>ext dbl-count=$counter
>ext first-name=$split(full-name,first,"/")
>ext address(1)=$clean(address(1))
>ext mytotal=$total(sales-dollars)
>ext mysub=$subtotal(sales-dollars,order-number)
>ext int-field=$number(byte-number)
>ext edit-amount=$edit(sales-amount,"$$,$$$.99-")
```

EXTract   *field1* [(*subscript1*)] \ *field2* [(*subscript2*)]

Specify an inclusive range of fields to extract.

```
>ext ProductNo \ SalesQty
>ext SalesAmt(4) \ SalesAmt(6)
```

Legend: MPE version only   HP-UX version only

Form [SETS | ITEMS | PATHS | *dataset* | *data-item* | *filename*]

Show information about IMAGE or Eloquence database, datasets, items, or self-describing files. On HP-UX output goes to $stdlist. On MPE output goes to Formout file, defaulting to $stdlist.

```
>form sets              {list the datasets}
>form d-cust            {details on d-cust set}
>form sdfile            {fields in self-describing file}
```

Get *setname* [*subset*]

Select an IMAGE or Eloquence dataset as input source; requires previous Base command. Subset options select only part of dataset. (Default: read the entire dataset.)

[(*startrec/endrec*)]   **{range of record numbers}**

[(#*n*)]   **{selects every nth record}**

```
>get dtrans
>get dtrans(100/200)    {first record is 1}
>get dtrans(#4)         {every 4th record}
```

Help [*command-name* | *keyword* [,*section*]]

Provide access to the on-line user manual. Type a keyword (e.g., Help Access) or a command-name. HQ for brief help.

```
>help              {default is browse}
>hq list           {quick summary of List command}
```

IF *expression*

Select a logical subset of the input source through an expression that tests one or more fields. See Record Selection on page 13 for details.

```
>if TransCode="01" and amount>1000
>if $upper(City)="VANC","SEAT","PORT"
>if StatWord.(4:1)=1 and addr=="@BC@"
>if a = alpha
>if $lookup(part-no-table,partno)
>if date=$today
>if TotalPrice <> (SalesTotal + Taxes)
>if $null(salestotal)
>if not $null(salestotal)
>if $invalid(date-field)
>if $stddate(dt-mmyydd) < $stddate(dt-aammdd)
>if (date-field mod 100) = 01
>if InDate <= $date(*/*-6/*)          {6 months ago}
>if ($days(ship-date) - $days(order-date)) > 14
>if $abs(oldprice - newprice) > 10
>if $truncate(total / months) > 10
>if $lower(city) = "niagara falls"
>if $ltrim(last-name) = "Armstrong"
>if $findclean(last-name)
>if $lookup(mytable,char-field,id-field)=id-field
```

Input *file* [= *dataset*] [*subset*]

Select an MPE or KSAM file as input source. The file can be the name of an existing disc file or a reference to a :File equation (*name). The =set option requires an open base because the file is assigned the same record format as the IMAGE set. The first record is 0, except for some KSAM files where it is 1. Subset options select only part of the file.

[(*startrec/endrec*)]   **{range of record numbers}**

5

```
>input log23        {disc file}
>input *            {$stdinx}
>input trans(#5)    {every 5th record}
```

Input *file* [*fileinfo*] [*subset*]

The file is the name of an HP-UX file. The fileinfo options are Reclen, LF, and NOLF. The Reclen option must be followed by the record length (in bytes) of each data record. Subset options select only part of the file.

[(*startrec/endrec*)]   **{range of record numbers}**

[(#n)]   **{selects every nth record}**

```
>input uxfile,reclen 80,nolf
>input sdfile              {requires ".sd" file}
```

ITem *itemname* DATE | DECIMAL *attribute*

Define the date format or implied decimal places for an item. For compound items, all sub-items are assigned the same date type or number of decimal places. The attribute is a string for Date and the number of decimal places for Decimal. The Date attributes describe the format of the date.

yymmdd	X6 Z6 J2 K2 P8
ddmmyy	X6 Z6 J2 K2 P8
mmddyy	X6 Z6 J2 K2 P8
yyyymmdd	X8 Z8 J2 K2 P10
ddmmyyyy	X8 Z8 J2 K2 P10
mmddyyyy	X8 Z8 J2 K2 P10
ASK	J1
PHdate	J1 K1 J2 K2
calendar	J1 K1
yymm	X4 Z4 J1 K1
yyymmdd	J2 P8
Oracle	X7
ccyymmdd	X8 Z8 J2 K2 P10
ccyymm	X6 Z6 J2 K2 P8
yyyymm	X6 Z6 J2 K2 P8
aamm	X4
aammdd	X6
mmddaa	X6
ddmmaa	X6
ccyy	X4 Z4 J1 K1
SRNChronos	X6
mmyyyy	X6 Z6 J2 K2 P8
yyddd	X5 Z5 J2 K2 P8
ccyyddd	X7 Z7 J2 K2 P10
HPCalendar	J2 K2
EDSDate	J2 P8
JulianDay	J2
PHdate8	J1 K1 J2 K2

```
>item UnitCost,decimal,2
>item InDate,date,ddmmyy
>extract InDate=$today(-1) {yesterday}
>if InDate<=$date(*/*-6/*) {6 months ago}
```

Legend: MPE version only   HP-UX version only

[Key] *byteposition bytelen* [*type*] [DESC]

Define an arbitrary sort field anywhere within the input record. See Data-Types on page 12. (Default: type = byte, ascending)

```
>key 1,10           {first ten bytes}
>key 21,4,double    {double integer}
>key 25,2,int,desc  {descending order}
>25,2,int,desc      {omitted the Key command name}
```

LINk   [*suprlink-command*]

Invoke Suprlink as a son process or pass a command to Suprlink .

```
>link input sdfile
```

You cannot use Suprtool/UX's Link command to invoke Suprlink/UX, but you can run Suprlink/UX by itself.

```
/opt/robelle/bin/suprlink
```

List   [STANDARD]
        [RECORD]
        [DUPLEX]
        [TITLE "*string*" [DATE *format*]]
        [HEADING "*string*" ["*string*"...]]
        [ONEPERLINE]
        [LABEL]
        [PCL *format*]
        [NOREC]
        [NONAME]
        [NOSKIP]
        [OCTAL | HEX | DECIMAL]
        [CHAR]
        [LEFTJUSTNUM]
        [RIGHTJUSTNUM]
        [TIME *format*]
        [FILE *name* APPEND RECLEN *size*]
        [LP]
        [DEVICE *name*]

Report selected records to Suprlist file, defaulting to $stdlist. Report selected records to $stdlist to an LP device or to a file using the FILE option and control the size with the RECLEN option. Standard produces a columnar report, but the default is either a formatted listing or Octal/Char if the file is unstructured. Use Title and Heading to customize the listing. Record prints on attached printer, and Duplex prints two sided.

```
>list standard record {to attached printer}
>list stand title "Overdue Accounts"
```

LISTREDO [*start*[*/stop*]] | [ALL | @] *string*]
       [;ABS | ;REL | ;UNN] [;OUT *file*]

Display previous commands; ",," is shortcut. (Default: last 20 commands)

```
>listredo 10/40
>listredo input {all Input commands}
```

Legend: MPE version only   HP-UX version only

Numrecs *number | percentage%*

Specify size of input, output and Sortscr files as an absolute number of entries or as a percent of input size. Required for input tape files.

```
>numrecs 100000
>numrecs 5%        {5% of the input}
```

OPen ALLBASE dbename owner
ORACLE username password

Open an SQL database. Allbase is supported on MPE and HP-UX. Oracle is supported on HP-UX only.

```
>open allbase inventory anne
>open oracle scott tiger
>open oracle scott/tiger@machine
```

Output *file* [*format*] [APPEND | ERASE | TEMP]

Define the name of the output file as one of the following: a new disc file (default), an existing disc or KSAM file (Append or Erase option), "*" for $stdlist, a reference to a :File equation (*name), or =Input to sort a file into itself. If you use List, Put, or Total, output defaults to $null. Output produces the same record format as the input source (adjusted by Extract commands), unless you override with format keywords:

DATA	default
ELSE	Records not qualified by if condition
KEY	sort keys only
PRN	PC file format
QUERY	self-describing
LINK	better self-describing format
ASCII	convert from numeric
DISPLAY	convert to display
NUM	J2 input record number only
NUM,KEY	J2 input record number & sort keys
NUM,DATA	J2 input record number & data record
NUM,QUERY	"numbers" format
NOLF	Do not write out line feeds to end of record
LF	Write out line feeds to end of record

Converted ASCII fields have a trailing sign (usually blank for positive values). Size depends on the binary field's format:

E2 R2	12 bytes	E4 R4	23 bytes
I1 J1	06 bytes	I2 J2	11 bytes
I3 J3	16 bytes	I4 J4	20 bytes
K1	05 bytes	K2	10 bytes
Zn	n+1 bytes	Pn	n bytes

```
>output newfile          {build newfile}
>output newfile,temp     {build temp file}
>output *,ascii          {$stdlist display}
>output =input           {sort into itself}
>output cleanfl,erase    {existing file}
>output ksamfl,erase     {load KSAM file}
>output trans1,append    {append to file}
>output sdfile,link      {self-describing}
>output lotus,prn        {ready to download}
```

Put *set* [,[host][:service]/]database]

Put the output records to an Eloquence dataset by using DBPUT.

Legend: MPE version only   HP-UX version only

```
            Put trans
            Put dtrans,sample,5
            Put dataset,:eloqdb/sample,5
            put dataset,hostname.robelle.com:eloqdb/sample,5
```

Put   *set* [,*base* [,*mode* [,*password*]]]

Put the output records to an IMAGE dataset by using DBPUT.

```
>put dtrans,actrec,4      {another base}
>get curmonth;put history {same base}
```

Q   ["*string*"]

Print a string on the CRT. (Default: print blank line)

```
>q "Sorting customer records" {quoted}
```

REDO   [*start*[/*stop*]] | *string* | [ALL | @]

Redo command lines; modify using MPE control codes.

```
>redo input      {repeat previous Input command}
```

Reset   [[ALL | @] | *command* [...]]

Reset aspects of the current task. Reset All resets all input and output commands, but not Define and Set options. (Default: Reset Delete, Sort, Key, If, List)

```
>reset if    {reset If command}
>reset all
```

SELect   *statement*

Specify an input source with an SQL select statement. Some processing options can be specified on the Select statement or with other Suprtool commands.

Using SQL to sort:

```
>select * from user.acct@emp order by name
```

Using Suprtool to sort:

```
>select * from user.acct@emp
>sort name
```

Set   *option-name value*

Enable/disable options. See Configuration Options on page 14. Verify Set shows current values.

```
>set statistics off
```

SOrt   *field* [(*subscript*)] [DESCending]

Specify a field or a Defined field as a sort field. For compound items, the first sub-item is the default.

```
>sort CustNumber     {default ascending sort}
>sort total desc   {descending order}
>sort StreetAddress(2)
```

TAble   *tablename itemname keyword qualifier*

Build a table of values for testing in the If and Chain commands, or for extracting from the table with the Extract command. The tablename (up to 16 characters) must be unique. Itemname is a database item or a Defined

Legend: MPE version only   HP-UX version only

field, or a field in a self-describing file. For compound items, Table uses the first sub-item. The keyword is one of ITEM, FILE, or SORTED. The format of qualifier depends on keyword: for ITEM, a list of explicit data values; for FILE and SORTED, a filename whose data is unsorted or sorted by itemname, followed by an optional HOLD keyword and an optional Data keyword indicating a list of data fields to be loaded from the self-describing file.

Keyword	Qualifier
ITEM	*value* [*value ...*]
FILE or SORTED	*filename* [HOLD] [DATA (*fieldlist*)]

```
>table select,ccode,item,"ABCD","FILM"
>chain m-customer,ccode=select

>table select,ccode,file,extract.file,hold
>if $lookup(select,ccode)

>table t,ccode,file,sdfile,data(updatefield)
>update
>extract dbfield=$lookup(t,ccode,updatefield)

>table t,ccode,file,sdfile,data(updatefield)
>if dbfield=$lookup(t,ccode,updatefield)
```

Total   *field* [(*subscript*)] [*decplaces*]
$FILE *file* [APPEND | ERASE | TEMP]
$FILE $LIST

Compute sum total of a numeric field value in all selected records and print the result with a specified number of decplaces (default is 0 unless specified in Item command). The $file option prints the totals to a file or to the List device ($list). (Default: subscript = 1)

```
>total cust-balance,2
>total $file tothist,append
```

UPdate   [CIUPDATE]

Update IMAGE or Eloquence fields specified by subsequent Extract commands.

```
>update
>extract status-code="OLD"
```

Use[Q]   *filename*

Execute commands from a Text file or a Qedit file.

```
>use define6.usefile
```

USERpause   "*string*"

Print prompt string; wait for any key.

```
>userpause "Press Return"
```

Verify   [ALL | @ | VERSION | *command* [...]]

Show current specifications.

```
>verify input     {print name of input file}
```

Xeq

Perform the specified task, then wait for more commands.

Legend: MPE version only   HP-UX version only

More Suprtool Functions

O/S commands

```
>purge abc
>run myprog
>!rm abc
>!chmod 777 myfile
```

Calculations

```
>=312/4        {try "=?" for help}
```

Sort keys

```
>10,2,integer
```

Comments

```
>{this is a comment in braces}
```

Modify Functions In The Before Command

Printing characters replace; control keys edit. Move with the spacebar. Press the Return key after each function. ^ means Control.

^A	Append to end of line (also ^L).
^B	Insert before a column (^^ on console).
^D	Delete (default = end of line).
^G	Restart with original line.
^O	Overwrite characters (default).
^T	Stop current editing mode.
^A,^D	Delete from end of line, then add.

Calling Suprtool2

User programs can call Suprtool via the interface routine Suprtool2 (see St2usl.Pub.Robelle, St2xl.Pub.Robelle,/opt/robelle/lib). The user program calls Suprtool2 repeatedly, passing in Suprtool commands via a control record (COBOL definition in Cobol.Qlibsrc.Robelle). The last command passed to a user program must be Exit. Normally, Suprtool creates an output file which the user program then reads. To avoid typing mistakes, copy the control record from the file. Be careful to :Prep or :Link program with Cap=PH.

Suprtool Fields

Suprtool recognizes fields in databases and self-describing files. The Define command can define new fields or redefine existing fields into new sizes or data-types so that you can name and use important parts of existing fields. Refer to the Defined field in other commands (e.g., Extract, If, etc.). Select one element of a compound field by specifying a subscript in parentheses. The first element is (1).

> ***field-name* (*subscript*)**

The default subscript is the first sub-item for Total, Define, Sort, and If, but the entire compound item for Extract. Table does not allow subscripts; it always uses one (1). The If command's syntax uses up to 3 subscripts, so you can refer to subfields without using Define (see user manual).

```
>define two,address(2),20,byte
>extract two      {20 bytes of 2nd line}
>define trans,partnum[7],2
>if trans="XT"   {last 2 bytes of X8}
```

Legend: MPE version only   HP-UX version only

Data-Types

The data-types for the Define and Key commands:

Byte	ASCII characters	packed	packed-decimal
Integer	two's complement	packed*	last nibble unused
Double	two's complement	display	zoned-decimal
Real	floating-point	logical	unsigned integer
Long	floating-point	character	for NLS
Ieee	IEEE floating-point		

The Suprtool definitions for the IMAGE data-types:

IMAGE Type	Bytes	COBOL Declaration	SUPRTOOL Definition
I1	2	S9(4)comp	>def a,1,2,integer
I2	4	S9(9)comp	>def a,1,4,double
I4	8	S9(18)comp	>def a,1,8,integer
J1	2	S9(4)comp	>def a,1,2,integer
J2	4	S9(9)comp	>def a,1,4,double
J4	8	S9(18)comp	>def a,1,8,integer
Un	n	A(n)	>def a,1,n,byte
Xn	n	X(n)	>def a,1,n,byte
Zn	n	9(n)	>def a,1,n,display
Pn	n/2	S9(n-1) comp-3	>def a,1,n/2,packed
K1	2		>def a,1,2,logical
K2	4		>def a,1,4,logical
R2	4		>def a,1,4,real
R4	8		>def a,1,8,real
E2	4		>def a,1,4,ieee
E4	8		>def a,1,8,ieee

The Suprtool definitions for PowerHouse data types:

IMAGE	PowerHouse	Suprtool
U or X	Character	Byte (Character for NLS)
R	Float (non-IEEE)*	Real or Long
E	Float (IEEE)*	IEEE
K	Integer Unsigned	Logical
J	Integer Signed	Integer or Double
P	Packed	Packed
Z	Zoned	Display

- * IEEE or Non-IEEE depends on whether "float IEEE" or "float NONIEEE" was declared under "System Options" in your System Dictionary

- Use QSHOW to view the attributes of a subfile.

The Suprtool definitions for the Allbase data types:

Allbase Data-Type	Suprtool Data-Type
Integer	Double
Smallint	Integer
Binary	Not Supported
Char	Byte
Varchar	Byte
Real	IEEE-32
Float	IEEE-64
Decimal	Packed
Numeric	Packed
TID	Not Supported
Date	Byte

Legend: MPE version only   HP-UX version only

Time	Byte
Datetime	Byte
Interval	Byte
Varbinary	Not Supported
Long binary	Not Supported
Long varbinary	Not Supported

The Allbase date and time fields are returned as byte-type fields with the following lengths:

Data-Type	Length
Date	10
Time	8
Datetime	23
Interval	8

The Suprtool definitions for the Oracle data types:

Oracle Data-Type	Suprtool Data-Type
Varchar2	Byte
Number	Varies, see Precision below*
Long	Not supported
Rowid	Not supported
Date	Oracle Date
Raw	Not supported
Long raw	Not supported
Char	Byte
Mislabel	Not supported

The following table describes the translation for each case:

*Precision	Decimal Places	Suprtool Data Type
None	Any	8-byte IEEE
1-4	Zero	2-byte Integer
5-9	Zero	4-byte Integer
1-9	Non-zero	Packed-decimal
10-27	Any	Packed-decimal
28-38	Any	8-byte IEEE

You can change the Suprtool format for certain fields using the command Set Oracle Integer On, which when extracted will give the following Suprtool Data types:

Precision	Decimal Places	Suprtool Data-Type
1-4	Any	2-byte Integer
5-9	Any	4-byte Integer
10-27	Any	8-byte Integer

Record Selection

The If command lets you select a subset of the input source based on field values in the entries, and it allows you to combine tests. Operator precedence is parentheses, NOT, AND, OR, unary minus, multiply and divide, add and subtract.

field relop value   {relop: = < > <= >= <>}
field == "pattern"   {see Pattern Matching on page 16}
byte-field = **NUMERIC | ALPHA | SPECIAL**
field = value-list   {If A=1,2,3}
field = field
(expression)   {parentheses}
NOT *expression*   {reverse test}

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Legend: MPE version only   HP-UX version only

expression **AND** *expression*
expression **OR** *expression*
$INVALID(*date-field*)
$STDDATE(*date-field*)
$LOOKUP(*tablename*,*field*)
$LOOKUP(tablename,field,data)
date-field = **$TODAY**   {see Item command on page 6}
date-field = **$DATE**(*yy*/*mm*/*dd*){see Item command on page 6}
word-field.(*bit*:*count*)   {bit extracts}
                        {bits go from 0 to 15, left to right}
byte-field = **^7**   {Control-G}
$READ
$NULL(*fieldname*)

Configuration Options

Override Suprtool's default options with Set commands.

Set Option Name	Sub-Option	Value	Default
ALLBASE	ROWS	number	100
ARITHMETIC		CLASSIC | IEEE	see manual
AMXW	PERFWRITE	ON|OFF	OFF *
AMXW	EXTERNALSD	ON| OFF	OFF *
BASECLOSE		ON | OFF	OFF
BLOCKSIZE		size	<none>
BUFFER		size	14,336 or 24,576
CLEANCHAR		<string> "<null>"	<space> for no string
CURRENCYSYMBOL		<string>	$
DATE	CUTOFF	size	10
DATE	FORCECENTURY	ON | OFF	OFF
DATE	IFYY2000ERROR	ON | OFF	ON
DATE	MAPTOPHDATE8	ON | OFF	OFF
DECIMALSYMBOL		<string>	.
DEFER		ON | OFF	OFF
DUMPONERROR		ON | OFF	ON
EOFREAD		ON | OFF	OFF
EDITSTOPERROR		ON | OFF	OFF
FASTREAD		ON | OFF	ON (OFF)*
FILECODE		number	0
FILENAME	Help | Link | Edit | Hint | Export | Outcount	filename	
FIRSTREC		0 | 1	see manual
HINTS		ON | OFF	ON
HPUXCMDERR		<string>	<none>
IFCHECK		ON | OFF	ON
IGNORE		ON | OFF	OFF
INITEXTENTS		ON | OFF	OFF
INTERACTIVE		ON | OFF	depends
ITEMABBREVIATEDATE		ON | OFF	ON
ITEMLOCK		<string>	<none>
LABELLEDTAPEREWIND		ON | OFF	ON
LIMITS	MPE	ON | OFF	ON
LIMITS	READONLY	ON | OFF	OFF
LIMITS	TABLE	size	1(CM)
LIMITS	TABLE	size	2,047(NM) 500(UX)
LOCK		0 | 1 | number	1
MAKEABSENT		ON|OFF	OFF
NLS		number	0, Nldatalang

Legend: MPE version only   HP-UX version only

NUMBUG		ON | OFF	OFF
OPENMODE		number	1
ORACLE	ROWS	number	100
ORACLE	DATABUG	ON | OFF	OFF
ORACLE	INTEGER	ON | OFF	OFF
ORACLE	OPENFIX	ON | OFF	OFF
ORACLE	PASSSHIFT	ON | OFF	ON
ORACLE	SPACENULL	ON|OFF	OFF
ORACLE	ZERONULL	ON | OFF	OFF
PATTERN		NEW | OLD	NEW
PREFETCH		number	0 (MPE/iX)
PRIVMODE		ON | OFF	ON
PROGRESS	PERCENT	number	5
PROGRESS	MINIMUM	records	10,000 (MPE V); 50,000 (MPE/iX)
PROMPT		character	>
REALMAP		ON | OFF	ON
RECOVER		ON | OFF	OFF
REDO		filename	<temp>
SDEXTNAME		ON | OFF	OFF
SQUEEZE		ON | OFF | <none>	<none>
SORTFAST		ON | OFF	ON
STATISTICS		ON | OFF	OFF
SUBSYSTEM		ON | OFF	OFF
SUSPEND		ON | OFF	varies
THOUSANDSYMBOL		<string>	,
USERLABELS		ON | OFF	ON
VARSUB		ON | OFF	OFF
VARSUBCOMPAT		ON | OFF	OFF
VARSUBDEBUG		ON | OFF	OFF
WARNINGS		ON | OFF	ON
LIST	TIME	format	1
LIST	DATE	0-4 0 = Sep 20, 1994 1 = 94/09/20 2 = 09/20/94 3 = 20/09/94 4 = 20 Sep 94	0
FORMFEED		ON | OFF	OFF
LIST	PCL	number (see below)	0

- Suprtool for HP-UX
- Fastread default is On for regular Suprtool for HP-UX and Off for the Dynamic Image loading version. (uses ROBELLELIB_IMAGE variable)

List PCL Number (+1,000 = ASCII, +2,000 = A4)	Letter-size (cols/lines)	A4 paper (cols/lines)
0 default font	80 x 60	
1 Landscape-tiny	175 x 60	188 x 58
2 Landscape-Courier	100 x 45	110 x 43
3 Standard Courier	80 x 60	77 x 64
4 Portrait-tiny	132 x 80	128 x 85
5 Courier A4 "tight"	80 x 60	80 x 64
6 Landscape-legal-tiny	223 x 60	223 x 60

Legend: MPE version only   HP-UX version only

Ways to Run Suprtool/MPE

:Run Suprtool.Pub.Robelle [;parm=value] [;info="string"]

Parm=	Meaning
1,2	Not used
4	Execute Info = string
8	Repeat Info = string on every activate
16	Copy file input to output
32	Default Set Suspend to Off
64	Verify Exit with user

Job Control Words (JCW)

Suprtool sets the system JCW to a fatal state when Suprtool fails in a batch job. Suprtool sets a JCW named SuprtoolOutCount to the number of output records. SuprtoolOutCount has a maximum number of 65,535. On MPE/iX, Suprtool sets a variable named SuprtoolFullCount to the number of output records.

Suprmgr files

This usefile is executed every time Suprtool runs:

Suprmgr.Pub.Sys

/opt/robelle/suprmgr

Ways to Run Suprtool/UX

/opt/robelle/bin/suprtool [option]

Option	Meaning
-c	Execute specified command string.
-lw	Execute and print any loader warnings
-v	Exit with verify.
-oc	Write count to specified file.

Pattern Matching

The If command can search a byte field for a pattern of characters.

>**if** *bytefield* == **"pattern"**   {match}

>**if** *bytefield* >< **"pattern"**   {does not match}

@   Zero or more characters (any)   &   Escape character

~   Zero or more blanks   !   Reserved for future use

?   One alphanumeric character   ^   Reserved for future use

One numeric character

```
>if item-desc >< "@bolt@"
>if address=="&#101@"    {look for # sign}
```

Suprlink

Suprlink can access multiple files, produce a sorted disc file with a composite record of related fields from up to 7 files, and feed the merged file into your report program. Suprlink accepts only one command per line, but commands can be continued on the next line with an ampersand (&). The prompt character is "+", not ">."

```
:run Suprlink.Pub.Robelle
```

Legend: MPE version only   HP-UX version only

```
/opt/robelle/bin/suprlink
```

Before

See Suprtool section, page 2.

DO

See Suprtool section, page 3.

Exit   [ABORT | SUSPEND | XEQ]

Perform task specified, and return to O/S or parent process. (:Run Suprlink/MPE with Parm=64 to verify on exit.)

```
+exit              {default = Xeq}
+exit suspend      {stop without executing}
```

Form   [*filename*]

Display the fields in a self-describing file.

```
+form          {default = show fields in the input file}
+form customer
```

Help   [*command-name* | *keyword* [,*section*]]

Access the on-line user manual.

```
+help              {default is browse all}
+help input        {explain Input command}
```

Input   *filename* [BY *key-field*]

Select the primary input source. There is an option to specify the key-field by which the file is sorted.

```
+input invoices by cust-no
```

Join   *filename* [BY *link-keys* [FROM *input-keys*]] [REQUIRED | OPTIONAL]

Join two files that have multiple keys in both the input file and the Join file.

```
+join custfile
```

Link   *filename* [BY *link-keys* [FROM *input-keys*]] [REQUIRED | OPTIONAL]

Link the input file to another link file, maximum of seven.

```
+link custfile
+link sales by customer-no
```

LISTREDO

See Suprtool section, page 7.

Output   *filename* [TEMP] [ERASE] [DATA] [LINK]

Specify output file name and whether it is temporary.

```
+output custsale   {default file name = Output}
```

Legend: MPE version only   HP-UX version only

REDO

See Suprtool section, page 9.

Reset

Cancel the current task.

```
+reset          {reset everything}
```

Set   *option-name value*

Set configurable options.

```
+set mapped on
+set statistics on
+set varsub on
+set warnings off   {batch only}
```

Use[Q]   *filename*

Execute commands from a Text or Qedit file.

```
+use cap2.infile
```

Verify

Show current specifications.

```
+verify         {show everything}
```

Xeq

Perform the current Suprlink task.

```
+xeq
```

Ways to Run Suprlink/UX

/opt/robelle/bin/suprlink [option]

Option	Meaning
-v	Turn on Variable Substitution
-oc	Write count to specified file.
-cv	Turn on VarsubCompat

Dbedit Subsystem

Edit records in an IMAGE, Eloquence or Oracle (with IMAX library) database. Most Dbedit commands prompt for a key value, then process matching entries. Dbedit accepts one command per line. Command abbreviations are shown in capitals. The Dbedit prompt character is "#". The generic format of a Dbedit command is

command [file] [;option [;option]]

The *file* parameter consists of *dataset:fieldlist*. See page 20 for details.

Add   [*file*] [;*options*]

Add new entries to a dataset manually.

```
#add m-customer          {add to master}
#add d-address;limit=1   {only 1 record}
```

Legend: MPE version only   HP-UX version only

Before

See Suprtool section, page 2.

Change   [*file*] [;*options*]

Replace a key value in a master and all related details.

```
#change m-customer   {must be master}
```

Delete [*file*] [;*options*]

Remove selected entries from a dataset.

```
#delete m-cust      {prompts for key}
#d d-address;key=cust-no
```

DO

See Suprtool section, page 3.

Exit

Return control to the main part of Suprtool.

```
#exit           {leave Dbedit subsystem}
```

File [*file*] [;*options*]

Establish the current file and field list as a default for other commands.
(Default: none)

```
#file d-address       {entire entry}
#file m-cust:cur-bal  {only 1 field}
```

Form [SETS | ITEMS | PATHS | *dataset* | *data-item* | *filename*]

Show information on items and sets of database. (Default: datasets in
database or fields in current dataset)

```
#form sets          {list datasets}
#fo d-cust          {details on d-cust set}
```

Help   [*command-name* | *keyword* [,*section*]]

Access the help file.

```
#help list   {explain List command}
#hq form     {quick summary of Form}
```

List   [*file*] [;*options*]

Display entries from a dataset or a group of related datasets.

```
#list d-address      {prompts for key}
#l m-cust;related    {linked details too}
#l d-control;all     {serial dump}
```

LISTREDO

See Suprtool section, page 7.

Modify   [*file*] [;*options*]

Change field values in a dataset.

```
#modify d-address
```

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```
#m m-cust;updatekey    {critical fields!}
#m d-address;key=city {alternate key}
```

Q [*string*]

Print a literal message on the screen. (Default: none)

```
#q Add a new customer to the files:
```

REDO

See Suprtool section, page 9

Set *option-name value*

Configure Dbedit options such as the prompt character or underlining input
fields. See Dbedit Configuration Options below.

```
#set reset off {retain Key = options}
```

Use[Q] *filename*

Do commands from a Keep or Qedit file. (Default: none)

```
#use selfile
```

Verify [ALL | BASE | DSET | SET | CIUPDATE]

Show the Dbedit specifications and options. (Default: Base, Dset,
CIUpdate, changed Set values)

```
#verify all
```

Dbedit File Parameter

The file parameter consists of a dataset name with an optional list of fields.
(Default: same as previous command)

> *dataset* [**:** *field*, ...]

You can use the :File command to set up the current values.

```
#delete m-customer
#list m-customer:name,address
```

Dbedit Command Options

The options come after the file parameter and can be combined with
semicolons:

n	Limit prompts to n times.
ALL	Process an entire dataset.
KEY=field	Change search field prompt order.
LIMIT=count	Limit entries per key value.
RELATED	List related entries in linked datasets.
UNDER	Prompt with underlines.
UPDATEKEY	Modify search and sort fields.

Dbedit Configuration Options

Set Option-Name	Value	Default
LP	ON | OFF	OFF
PROMPT	character	#
QUIET	ON | OFF	OFF
RESET	ON | OFF	ON
UNDERLINE	ON | OFF	ON

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VERIFY	ON | OFF	ON

```
>edit                {enter Dbedit first}
#set quiet on        {reduce screen output}
#set verify off      {don't list new records}
```

Dbedit Subcommands

Enter subcommands when Dbedit prompts for field values.

//	Stop the current command immediately (same as \\)
?	Describe the current field
<	Go back one field in the list (<3 for 3 fields)
<<	Return to the first field in the list
>	Go forward one field in the list (>3 for 3 fields)
>>	Skip the rest of the fields in the list
'	Use blanks for the field (useful in batch)
*	Use the last value for this field
[	Force what follows "[" to be a value, not a subcommand
@F	Search for field F (e.g., @bin-no)
=	Calculator

STExport

STExport reads a self-describing input file and applies formatting rules to create an output file, which is suitable for importing into other applications. STExport accepts only one command per line, but commands can be continued on the next line with an ampersand (&). The STExport prompt character is "$", not ">."

```
:run STExport.Pub.Robelle
```

```
/opt/robelle/bin/stexport
```

Before

See Suprtool section, page 2.

Columns   FIXED | NONE

Specify whether fields are formatted into variable- or fixed-length columns.

Clean [SPECIAL | <string> <range>]

Specifies what characters to clean from byte type fields. Characters that match those defined with the Clean command, will be replaced by the value defined by Set CleanChar, which defaults to space.

```
$in mysdfile
$clean special,"^128:^190","^255","}"
$out prnfile
```

Date   NONE | *date-format* ["*separator*"]
| INVALID [ASTERISKS | NULL | "*string*"]

Specify a date format for all dates and how to process invalid dates.

DECimal   PERIOD | COMMA

Specify which symbol will be used to indicate the decimal place in numeric fields.

Legend: MPE version only   HP-UX version only

DElimiter   NONE | COMMA | TAB | "*string*"

Specify which delimiter character, if any, is to appear between each formatted field.

EScape delimeter quote eol "*string*"

The Escape command will take the defined delimiter, quote and Eol and escape with a "/", if found in any byte type field. This is for easier importing for some SQL Import programs.

```
escape delimeter quote eol "/"
```

DO

See Suprtool section, page 3.

Exit   [ABORT | SUSPEND | XEQ]

Perform specified task, and return to O/S or parent process. (:Run STExport/MPE with Parm=64 to verify on exit.)

```
$exit              {default = Xeq}
$exit suspend    {stop without executing}
```

FLoating   DEFAULT | FIXED *decimal-places* | SCIENTIFIC *decimal-places*

Specify the format and the number of decimal places for floating-point fields.

Form   [*filename*]

Display the fields in a self-describing file.

```
$form          {default = show fields in the input file}
$form customer
```

HEAding   NONE | FIELDNAMES | "*string*" | ADD "*string*"| COLUMN "*string*"|

Specify which heading, if any, is to appear as the first record of the output file.

HElp   [*command-name* | *keyword* [,*section*]]

Access the on-line user manual.

```
$help              {default is browse all}
$help input      {explain Input command}
```

HTML NONE | PREFORMATTED | TABLE
[TITLE "*string*"]
[HEADING "*string*"]

Use HTML to format Web pages for either Internet or intranet applications.

```
$html table title "Product Listing"
```

Input   *filename*

Select a file to read and format.

```
$input invoices
```

Legend: MPE version only   HP-UX version only

LISTREDO

See Suprtool section, page 7.

Output   * | *filename* [TEMP] [LF | NOLF] [ERASE]

Specify output file name and whether it is temporary.

```
$output custsale   {default file name = Output}
```

Quote   NONE | DOUBLE | SINGLE

Specify which quote character, if any, is to be used around byte-type fields.

REDO

See Suprtool section, page 9.

Reset

Resets the Input and Output files, cancels the task in progress. Does not reset formatting commands such as Delimiter, Head, Spaces, etc.

```
$reset
```

Set   *option-name value*

Set configurable options.

```
$set cleanchar " "
$set mapped on
$set statistics on
$set varsub on
$set warnings off   {batch only}
$set xmltagchar "_"
$set zonedfix on
```

SIgn   NONE | FLOATING | LEADING | TRAILING

Specify what should be done with the sign character for numeric fields.

SPaces   NONE | TRAILING

Specify whether byte-type fields have trailing spaces.

Use[Q]   *filename*

Execute commands from a Text or Qedit file.

```
$use cap2.infile
```

Verify

Show current specifications.

```
$verify         {show everything}
```

Xeq

Perform the current STExport task.

```
$xeq
```

Legend: MPE version only   HP-UX version only

XML   VERSION "*string*"
     DOCTYPE "*string*" | *filename*
     FILE "*string*"
     RECORD "*string*"

Generate output consisting of well-formed XML output.

```
$xml
$xml doctype myfile.xml
```

Zero   NONE | LEADING

Specify whether numeric fields have leading zeros.

Ways to Run STExport/UX

/opt/robelle/bin/stexport [option]

Option	Meaning
-v	Turn on Variable Substitution
-oc	Write count to specified file.
-cv	Turn on VarsubCompat

Speed Demon

For large datasets, replace DBGET mode-2 calls in your programs with Speed Demon calls (native or compatibility mode), which should be 2-5 times faster than DBGET. Restrictions: database cannot be open in modes-3 or -7, requires full-read access, cannot be remote, and cannot update or delete after Get. See Cobol2.Qlibsrc.Robelle for sample code.

SPDEEXPLAIN *status*

Print a three-line message based on the status array.

SPDEDBINIT *base, set, mode, status, control, list*

Initialize Speed Demon and specify what dataset to read. For partial field lists, specify mode-2. If your dataset may change during the read, specify mode-3 to read to end-of-file.

SPDEDBSCAN *base, status, buffer, dummy*

Read the next entry in the set specified in SPDEDBINIT, returning it in the buffer.SPDEDBSHUT *base, set, mode, status, dummy*

Mode-1: Close the Speed Demon environment (this must be done before reading another dataset). Mode-2: Close the environment and print statistics about the read operation.

SUPRTOOL TIPS AND TECHNIQUES

Converting Numeric Data Types

Suprtool does not change the data type in the input file, but it can change the data type as it copies numeric data to the output file.

To convert a field from Integer to Packed:

```
define my-packed-field,1,size,packed
extract my-packed-field = integer-field
```

Legend: MPE version only   HP-UX version only

To convert a numeric field from ASCII to binary:

```
define ascii-field,start,length,display
define binary-field,1,size,integer
extract binary-field = ascii-field
```

To convert a numeric field from ASCII to binary with sign and decimal place :

```
define ascii-field,start,length,display
define binary-field,1,size,integer
extract binary-field = $number(ascii-field)
```

Update Fields in A Dataset

Update a field in a dataset, using replacement values stored in a self-describing file. (Create the self-describing file using the Link option of Suprtool or Suprlink.) Load the self-describing file into a Suprtool table, then update the dataset field with the values loaded in the table. E.g., to update credit-balance with new values found in myfile:

```
get dataset
table t,acct-no,file,myfile,data(new-balance)
if $lookup(t,acct-no)
update
extract credit-balance = &
    $lookup(t,acct-no,new-balance)
xeq
```

Counting Values Found in A File

Use the Duplicate command to list all the different values in a field, and to count how many times each value occurs. E.g., to list how many shipments we have made, by state:

```
get ship-dataset
sort state-code
extract state-code
duplicate none keys count
list standard
xeq
```

Subtotaling A Field

Use the Duplicate command to total a field based on a sort key. E.g., to report the sales figures by date:

```
get invoices
sort invoice-date
extract invoice-date
duplicate none keys total sales-amount
list standard
xeq
```

Searching For Records in One File Based on Selection Criteria in Another File

E.g., to select all invoices for customers in California, when state-code is not in the invoices file:

```
get customer-master
if state-code = "CA"
extract acct-no
output myfile,link
xeq
```

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Legend: MPE version only   HP-UX version only

```
get invoices
table t,acct-no,file,myfile
if $lookup(t,acct-no)
```

Finding the Intersection of Two Files

If a Suprlink input record does not have a matching link record, that input record does not appear in the output file. Use this to find the "intersection" of two files. E.g., list all the invoices over $1,000 for customers in California:

```
get invoices
item sales-total,decimal,2
if sales-total > 1000.00
sort cust-no
output inv1000,link
xeq

get customer-master
if state-code = "CA"
sort cust-no
output custca,link
xeq

link    input inv1000
link    link custca
link    output cagt1000
link    xeq
```

Suprlink Tips and Rules-of-Thumb

- You can have only one Input file, but up to seven Link files.

- All the files must be self-describing, created using the Link or Query option.

- All the files must be sorted by a common linking field.

- The common linking field must have the same size, data type, and content in all the files.

- Input records without matching link records will be dropped from the output file, unless the Optional keyword is used on the Link command.

- In general, the input file is made up of "detail-like" records, and the link file is made up of "master-like" records, even though they may not actually come from masters and details.

- Specifically, the input file will be the file that has multiple records with the same key value (the common linking field), and the link file will be the file that has only one record with a given key value.

- To improve speed, try to reduce the files before feeding them to Suprlink. When creating the files with Suprtool, select only the desired records using the If command, and select only the needed fields using the Extract command.

- If both the Input file and the Link file have multiple key values then you should use the Join command instead of the Link command.

Legend: MPE version only   HP-UX version only